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KURRI KURRI LATERAL PIPELINE PROJECT

Submissions Report

FINAL

September 2022

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Submissions Report

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Prepared by
Umwelt (Australia) Pty Limited
on behalf of
APA Group

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Acknowledgement of Country

APA and Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.

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1.0 Introduction

1.1 Background

Snowy Hydro Limited (Snowy Hydro) is developing a gas-fired peaking power station, referred to as the Hunter Power Project (HPP), at the site of the former Hydro Australia Pty Ltd (Hydro) aluminium smelter at Kurri Kurri. The HPP aims to provide up to 750 megawatts (MW) of 'on-demand' electricity to supplement Snowy Hydro's generation portfolio with dispatchable capacity when the needs of electricity consumers are highest. The HPP was approved, subject to conditions, by the Secretary of the Department of Planning, and Environment (DPE) on 17 December 2021 and by the Commonwealth Minister for the Environment on 6 February 2022.

APA Transmission Pty Limited, a wholly owned subsidiary of APA Group (APA), has been engaged by Snowy Hydro to develop a gas supply solution for the HPP. Accordingly, APA has proposed the Kurri Kurri Lateral Pipeline (KKLP) Project (the Project) to supply gas for the HPP from the existing Sydney to Newcastle Pipeline (SNP - formally referred to as the Jemena Gas Networks (JGN) Northern Trunk).

The Project would involve the construction, operation and maintenance of a medium pressure transmission pipeline, compressor station, high pressure storage pipeline, delivery station, and other ancillary surface facilities, as further discussed in **Section 1.2**.

The Environmental Impact Statement (EIS) for the Kurri Kurri Lateral Pipeline Project (Umwelt, 2022a) was placed on public exhibition from 13 April to 10 May 2022. During public exhibition, 38 submissions were made on the Project. These comprised 17 government agency submissions and 21 community / public organisations submissions. The 21 submissions received from the community / public organisations included 19 submissions objecting to the Project and two submissions providing comment on the Project. An analysis of the submissions is provided in **Section 2.0**.

In correspondence dated 11 May 2022, the Department of Planning and Environment (DPE) requested that a Submissions Report, detailing the response to issues raised in the submissions and agency advice, be prepared and submitted.

This Submissions Report has been prepared by Umwelt Australia Pty Ltd (Umwelt) on behalf of APA in accordance with the *State significant infrastructure guidelines – preparing a submissions report* (DPE, 2021) to address the key issues raised in the submissions and agency advice.

1.2 The Project as Described in the EIS

The Project, as presented in the EIS, comprises the following primary components:

- A buried, steel, medium diameter (outer diameter of 355.6 mm), medium pressure (up to 6.9 megapascal (MPag)) transmission pipeline of approximately 20.1 km in length to provide a gas supply from the existing Sydney to Newcastle Pipeline (SNP), via offtake and delivery facilities, to the Hunter Power Project (HPP) site.
- A compressor station at the termination of the transmission pipeline to boost gas pressure prior to transfer to a storage pipeline.

- A buried, steel, medium diameter (outer diameter of 355.6 mm), high pressure (up to 15.3 MPag) interconnect pipeline of approximately 1.3 km in total length, providing an interface between the compressor station, storage pipeline and delivery station.
- A buried, steel, large diameter (outer diameter of 1067mm), high pressure (up to 15.3 MPag) storage pipeline of approximately 24 km in total length downstream of the compressor station with approximately 70 terajoules (TJ) of useable gas storage ready to supply the HPP.
- A delivery station to receive gas from the storage pipeline and control temperature, pressure and flow rate prior to delivery of gas to the HPP.

The compressor station and delivery station are located within the HPP project site boundary.

A compressor station and storage pipeline are required as part of the Project as the SNP does not provide sufficient gas volumes or pressure to meet the supply requirements of the HPP. As such, a direct pipeline connection between the SNP and the HPP is not a viable solution for gas supply to the HPP.

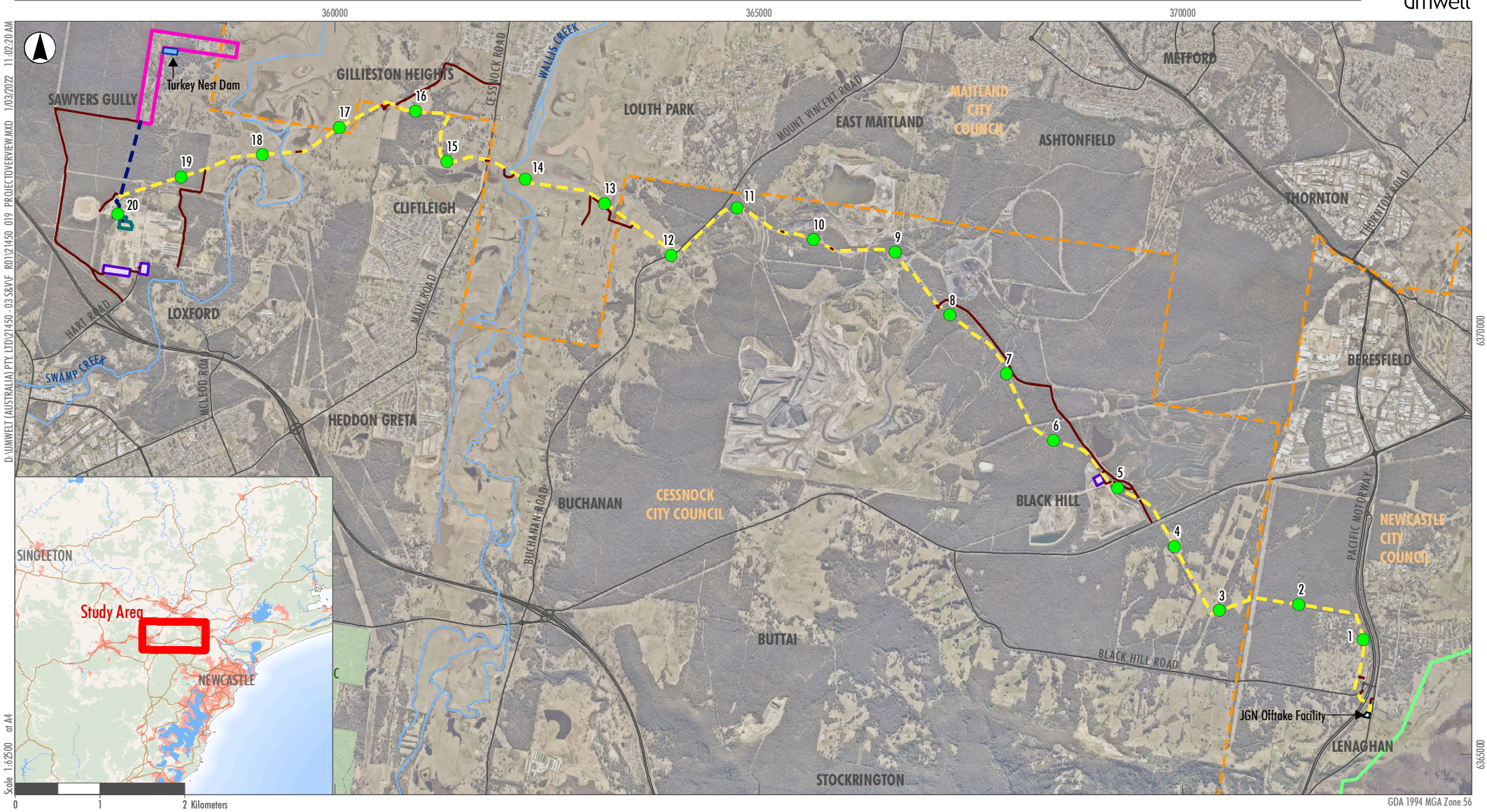
The Project has also been designed to allow gas flow from the storage pipeline back into the SNP, which may ameliorate pipeline capacity constraints in the region by providing a significant gas source near the northern termination of the SNP.

APA will not own gas transferred between the SNP and the HPP but will own the infrastructure proposed for the Project that enables this transfer.

The Project will be designed, constructed, commissioned and operated in accordance with the requirements of AS 2885 Pipelines – Gas and liquid petroleum. The transmission pipeline will also 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 hydrogen in the east coast gas network.

Environmental management for the Project will be in accordance with the *Australian Pipelines and Gas Association Code of Environmental Practice* (2017), which provides pipeline industry tested environmental standards for planning, design, construction, operation and decommissioning. The Code of Practice is recognised nationally by the various State and Territory Governments as a guide to environment and heritage management of gas pipeline projects.

An overview of the Project, as presented in the EIS is provided in **Figure 1.1**. A detailed description of the Project is provided in Section 2 of the EIS.



Legend

- Transmission Pipeline Alignment
- Interconnect Pipeline
- Sydney to Newcastle Pipeline (JGN Northern Trunk)
- Local Government Area Boundary
- Kilometre Point
- Compressor and Delivery Station
- Pipe Laydown Areas
- Storage Pipeline
- Turkey Nest Dam
- JGN Offtake Facility
- NSW Conservation Estates
- Access Tracks
- Roads
- Watercourses

FIGURE 1.1

Project Location

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

1.3 Proposed Amendments

Since submission of the EIS for the Project in March 2022, APA has continued to consult with directly affected landholders and stakeholders more broadly. Ongoing consultation has led to several design amendments, as summarised in **Section 3.1** of this Submissions Report.

An Amendment Report (Umwelt, 2022b) has been prepared separately to this Submissions Report and further details Project amendments, provides an updated project description, revised assessment of impacts supported by relevant updated technical reports and an updated summary of management and mitigation measures. This Submissions Report should be read in conjunction with the Amendment Report.

1.4 Structure of This Report

In accordance with the DPIE Guideline (2021), this Submissions Report is structured as follows:

- **Section 1.0** – provides a brief summary of the Project to provide context for the submissions
- **Section 2.0** – provides an analysis of the issues and themes raised in the submissions
- **Section 3.0** – summarises the actions taken since the exhibition
- **Section 4.0** – provides a detailed response to the issues raised in the agency submissions
- **Section 5.0** – provides a detailed response to the issues raised in the community and public organisation submissions
- **Section 6.0** – provides an updated justification and evaluation of the merits of the Project
- **Section 7.0** – references.
- **Appendix A** – submission register.

2.0 Analysis of Submissions

2.1 Breakdown of Submissions

The EIS was placed on public exhibition from 13 April 2022 to 10 May 2022. During the public exhibition period 38 submissions were made on the Project, comprised of 17 government agency submissions and 21 community / public organisation submissions. **Table 2.1** provides a breakdown of the submissions received for the Project. **Appendix A** provides the Register of Submitters.

Table 2.1 Breakdown of Submissions Received

Category	Number of Submissions
State government departments / Agencies	14
Local Council	3
Public Organisations	9
Community members / individuals	12
Total	**38**

2.1.1 Agency Submissions

As outlined in **Table 2.1**, 14 state government departments / agency submissions and three local council submissions were received. Agencies that lodged a submission are as follows:

- Biodiversity Conservation Division (BCD)
- Crown Lands
- Department of Planning and Environment (DPE) – Water
- Department of Primary Industries (DPI) – Agriculture
- Department of Primary Industries (DPI) – Fisheries
- Fire and Rescue NSW
- Heritage NSW
- Heritage Council of NSW
- Hunter Water Corporation
- Department of Regional NSW – Mining, Exploration and Geoscience (MEG)
- Environmental Protection Agency (EPA)
- Rural Fire Service (RFS)
- Transport for NSW

- Ausgrid
- Cessnock City Council
- City of Newcastle
- Maitland City Council.

These submissions are further detailed and addressed in **Section 4.0**. None of the agencies identified whether they oppose or support the Project.

2.1.2 Community and Public Organisation Submissions

Of the 21 submissions from community members and public organisations, 19 (90.5 %) were objections and 2 (9.5 %) provided comment (refer to **Graph 2.1**).

The breakdown of submissions received from the community and public organisations are provided in **Table 2.2**.

Table 2.2 Breakdown of Community and Public Organisations Submissions

Group	Objections	Comments
Community	12	0
Public Organisations	7	2
Total	**19**	**2**

Submissions were analysed based on proximity to the Project Area to assess the level of interest in the Project. The categories include:

- **local** – being residences within 5 km from the Project Area including the suburbs of Loxford, Kurri Kurri, Cliftleigh, Gillieston Heights, Heddon Greta, Buchanan, Black Hill and Lenaghan
- **regional areas** – being residences between 5 and 100 km from the Project Area
- **broader community** – being residences more than 100 km away from the Project Area.

Of the community and public organisation submissions received, 10 (47.6 %) were received from the regional areas and 11 (52.4 %) from the broader community.

While there were significant similarities in a number of submissions, with some content using the same wording at times, no submissions were considered to be form letters due to minor differences. These submissions have been conservatively considered in the analysis as unique submissions and are identified in **Appendix A**.

2.1.2.1 Objecting Submissions

As outlined above, a total of 19 submissions objected the Project, including 12 community members and 7 public organisations. Based on the analysis, 10 (47.6 %) of objections were received from the regional area (between approximately 5 km and 100 km) and 11 (52.4 %) from the broader community (more than 100 km).

Of the 19 objections to the Project from the regional area, 12 were from community members and seven were from public organisations. These submissions are further detailed and addressed in **Section 5.0**.

2.1.2.2 Providing Comment Submissions

A total of two submissions were received from public organisations that provided comment for the Project. One submission was received from the regional area while the other submission was received from the broader community. These submissions are further detailed and addressed in **Section 5.0**.

2.2 Categorisation of Issues

A content analysis was undertaken to categorise the issues raised in community submissions. Objections, supporting submissions or comment on the Project were analysed separately, as the themes within the submissions were distinct.

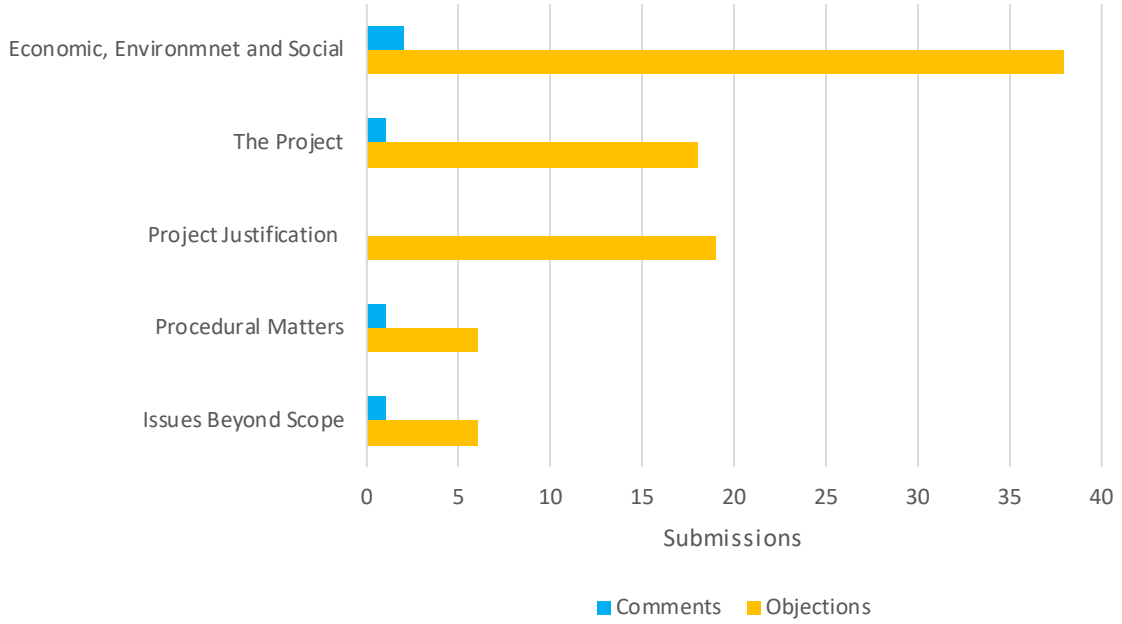
In accordance with the *DPE Guideline (2021)*, issues have been categorised into the following broad groups:

- economic, environmental and social impacts of the Project (e.g. impacts to the community including noise, land use and public health and safety; socio-economic impacts; biodiversity; greenhouse gas; hazards and risks)
- the Project (e.g. specific to the project design and costs)
- procedural matters (e.g. the approvals and assessment processes as well as the level or quality of engagement)
- the justification and evaluation of the Project as a whole (e.g. consistency of project with Government plans, policies or guidelines)
- issues beyond the scope of the project or not relevant to the Project (e.g. broader policy issues).

These broad issues categories were then divided into themes and sub-themes where relevant in order to provide greater definition of the issues raised. Further details of the categorisation of issues are provided in the following sections.

2.2.1 Objecting Submissions

Economic, environmental and social impacts of the Project were the most frequent issue group in the 19 objecting submissions (refer to **Graph 2.1**). Issues with the Project and Project justification were the next most frequent issue groups and were raised in a similar number of submissions. Justification of the Project, issues beyond the scope of the Project and procedural matters were the least frequently raised issue groups. It should be noted that many submissions raised multiple issue groups and multiple themes and sub-themes within each issue group.



Graph 2.1 Categorisation of Objecting Submissions

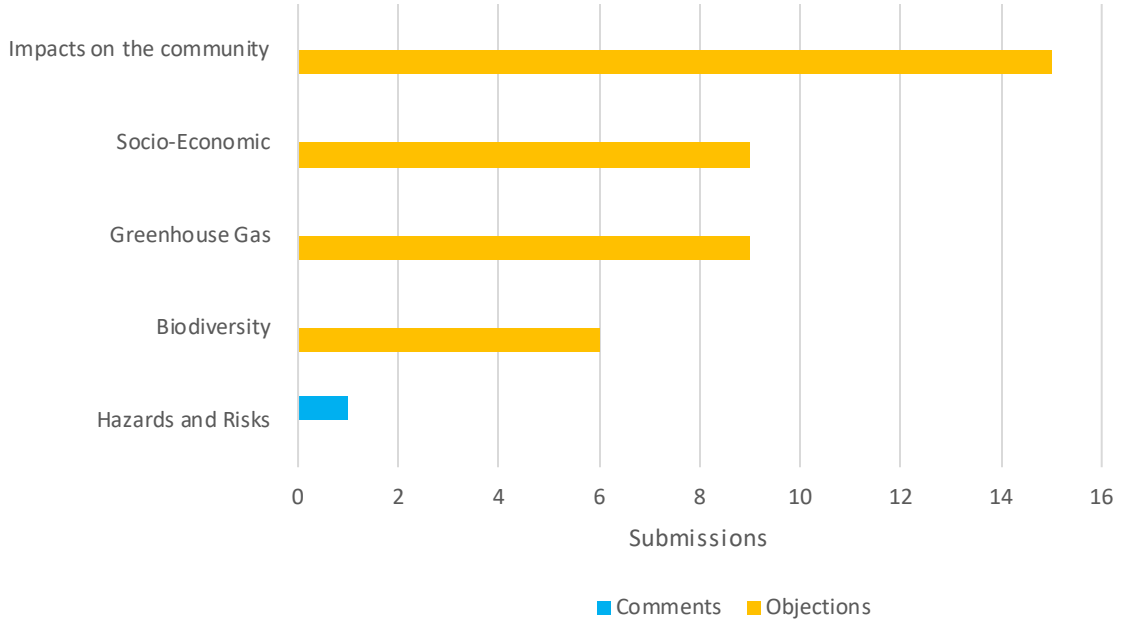
2.2.1.1 Economic, Environmental and Social Issues

There were five key themes to the economic, environmental and social issues raised in the objecting submissions, as follows:

- impacts to the community
- hazard and risks
- biodiversity
- greenhouse gas
- socio-economic.

The most frequently raised theme was impacts to the community (n=15) (refer to **Graph 2.2**) with key concerns relating to land use, noise, public health and safety and soil.

Socio-economic impacts and Greenhouse Gas impacts were the second most frequently raised themes (n=9) (refer to **Graph 2.2**).



Graph 2.2 Economic, Environmental and Social Issues

Responses to objections raised in relation to the Project are addressed in **Section 5.1**.

2.2.1.2 The Project

The key theme raised in submissions in relation to the Project was commentary regarding potential to use hydrogen to fuel the HPP (n=9). A total of six objecting submissions from community and public organisations raised issues relating to the costs of the Project. Responses to objections raised in relation to the Project are addressed in **Section 5.1.5**.

2.2.1.3 Justification and Evaluation of the Project

There were 19 submissions that raised concerns about the merits of the Project, with 12 submissions advocating for alternative sources of electricity generation and storage, specifically renewable energy and battery storage. Responses to objections raised in relation to the justification and evaluation of the Project are addressed in **Section 5.3**.

2.2.1.4 Procedural Matters

The key issues raised in relation to procedural matters was the adequacy of assessments, the separation of the HPP and KKLP assessment processes and purported inadequate stakeholder consultation. Responses to objections raised in relation to procedural matters are addressed in **Section 5.4**.

2.2.1.5 Beyond the scope of the Project

There were six submissions that raised concerns beyond the scope of the Project, with two of these objecting that the HPP is not necessary and a further two submission raising concerns regarding the adequacy of the assessment of the HPP. Responses to objections raised beyond the scope of the Project are addressed in **Section 5.5**.

3.0 Actions Taken Since Exhibition

Since the exhibition of the Project, a number of actions have been taken based on the submissions received during the exhibition period and ongoing consultation with directly affected landholders and stakeholders more broadly. These include:

- project amendments to address issues raised during consultation with landholders and in EIS submissions (refer to **Section 3.1**)
- further assessment of project amendments and issues raised in submissions (refer to **Section 3.2**)
- further consultation with affected landholders, broader community and key stakeholders and relevant agencies (refer to **Section 3.3**).

3.1 Project Amendments

Several design amendments have been made in response to ongoing consultation with affected landholders, progression of detailed design and submissions received during the exhibition period. These include:

- Relocation of the JGN offtake facility to the eastern side of Lenaghans Drive.
- Amendments to the alignment of the transmission pipeline following ongoing consultation with affected landholders. These include Transport for NSW (TfNSW), Donaldson Coal, Ashtonfields and Bloomfield.
- Extension of the southern boundary of the compressor station and delivery station footprint.
- Inclusion of four additional access tracks.

A detailed description and assessment of the project amendments are provided in Section 3 and Section 6 of the Amendment Report (Umwelt, 2022b).

3.2 Further Assessment

As a result of the Project amendments and submissions received during the exhibition of the EIS, the following specialist reports have been updated and attached as appendices to the Amendment Report:

- Site Contamination Assessment Addendum Report (see Appendix C1 of the Amendment Report).
- Surface Water and Hydrology Assessment Addendum (see Appendix C2 of the Amendment Report).
- Updated Biodiversity Development Assessment Report (BDAR) (see Appendix C3 of the Amendment Report).
- Aboriginal Cultural Heritage Assessment (ACHA) Addendum (see Appendix C4 of the Amendment Report).
- Air Quality Impact Assessment Addendum (see Appendix C5 of the Amendment Report).

- Noise and Vibration Assessment Addendum (see Appendix C6 of the Amendment Report).
- Traffic Impact Assessment Addendum (see Appendix C7 of the Amendment Report).
- Preliminary Hazard Analysis Addendum (see Appendix C8 of the Amendment Report).
- Updated Visual Impact Assessment including updated photomontages (see Section 6.10 of the Amendment Report).

3.3 Ongoing Consultation

Since submission of the EIS during March 2022, APA has continued to consult with directly affected landholders and stakeholders more broadly. APA has also undertaken further consultation with government agencies in response to the submissions received during exhibition of the EIS. Details of the ongoing consultation following the EIS exhibition are provided in Section 5 of the Amendment Report.

4.0 Response to Agency Submissions

Government agencies make submissions relating to their areas of responsibility and typically relate to technical matters as well as matters the agency considers require consideration by the consent authority or to be addressed by conditions should development consent be granted.

As noted in **Section 2.1.1**, submissions were received from a total of 17 government agencies. These submissions have been responded to in **Section 4.1** to **Section 4.17**.

The following section responds to the specific matters raised by each agency submission. The issues raised in the agency submissions are identified in the following sections in text boxes, with a response provided following each text box.

4.1 Biodiversity and Conservation Division

4.1.1 Water Resources

BCD has reviewed the Environmental Impact Statement (EIS) including its appendices for this project in relation to site constraints including biodiversity and flooding. BCD identified no issues with the assessment of flooding and water quality for this stage of the project and notes that potential erosion and sedimentation, and acid sulphate soils may be issues during the construction stage, but further details on their management will be provided in the Construction Environmental Management Plan.

Response

Comment from BCD is noted.

4.1.2 Biodiversity

Further details of survey effort for 34 threatened plants

The BDAR does not provide enough detail about how the targeted survey effort for 34 threatened plant species meets BCD's threatened plant survey guidelines (Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method', April 2020). Section 2.1 'Targeted threatened species surveys' of the BDAR provides a summary of threatened species surveys for the project. Appendix A 'Methods' of the BDAR provides a summary of targeted survey methodology and Section A1.2.3 'Targeted threatened species searches' states that parallel transects 10 to 20 metres apart were used to search for threatened plant. No details are provided of the density of the groundcover, how much of the potentially suitable habitat was covered, or how species with small growth forms that require more closely-spaced transects were covered. Section A1.2.4 states that meandering transects were also used, which will fill some gaps between transect survey lines. Section 2 states that 1.14 hectares of the project area was not assessable, and thus on-ground surveys were not possible of that land.

Ten to twenty metre spaced transects do not meet BCD's flora survey guidelines (EES, 2020) for several potentially occurring threatened plants, where dense vegetation was present. The information presented in the BDAR does not show that all potential suitable habitat was surveyed. Also, where further surveys are planned, it is not clear how much of the project area has been adequately surveyed for those species. Thus, further details of threatened plant surveys are required as follows:

Trees, mallee trees and tall shrubs (6 metres) – BCD survey requirements are for transects up to 40 metres apart in open vegetation or up to 20 metres apart in dense vegetation. However, details of survey effort in areas of suitable habitat, and how they meet BCD survey guidelines are required for the following species: *Acacia pendula; Angophora inopina; Eucalyptus camaldulensis; Eucalyptus castrensis; Eucalyptus glaucina; Eucalyptus parramattensis subsp. Decadens; Eucalyptus pumila; Melaleuca biconvexa; Melaleuca groveana; Rhodamnia rubescens; Rhodomyrtus psidioides*

Medium shrubs (1–6 metres) – BCD survey requirements are for transects up to 20 metres apart in open vegetation, or up to 10 metres apart in dense vegetation. However, details of transect spacing and vegetation density are required. Transects less than 20 metres apart are too far apart in any areas of dense vegetation for the following species: *Callistemon linearifolius; Grevillea parviflora ssp. Parviflora; Ozothamnus tesselatus; Persoonia pauciflora; Pomaderris queenslandica; Prostanthera cineolifera; Tetratheca juncea.*

Subshrubs – BCD survey requirements are for transects up to 15 metres apart in open vegetation or up to 10 metres apart in dense vegetation. However, details of survey effort, and how it covers all areas of suitable habitat are required for: *Acacia bynoeana.*

Herbs and forbs – BCD survey requirements are for transects up to 10 metres apart in open vegetation or up to 5 metres apart in dense vegetation. However, transects already undertaken are too far apart. Details of survey effort undertaken in areas of suitable habitat and how much survey work is required is needed for the following species: *Asperula asthenes; Monotaxis macrophylla; Persicaria elatior; Rutidosis heterogama; Thesium austral.*

Orchids, epiphytes, climbers and aquatic herbs – BCD survey requirements are for transects up to 10 metres apart in open vegetation or up to 5 metres apart in dense vegetation. However, transects already undertaken are too far apart. Details of survey effort undertaken in areas of suitable habitat and how much survey work is required is needed for the following species: *Corybas dowlingii; Cryptostylis hunteriana; Cynanchum elegans; Cymbidium canaliculatum; Diuris pedunculata; Diuris tricolor; Maundia triglochinoides; Prasophyllum petilum; Pterostylis chaetophora; Pterostylis gibbose; Zanichellia palustris*.

<u>Recommendation 1</u>

BCD recommends that further information on threatened flora survey effort is provided that describes how BCD's threatened plant survey guidelines have been met for the species listed in this letter, particularly in relation to width of survey transect, the density of the vegetation, survey methodology, the extent of suitable habitat covered, and the dates of the surveys. It should be clarified if the dates given in Table A.2 mean that each survey type listed were done on every day in the date range. Survey requirements from the Threatened Biodiversity Data Collection, where available, will also need to be followed. Further, if several different species were searched for along the same transect at the same time, then details are required of how many species were searched for and how they fall within Section 5.1 'Undertaking field traverses' in BCD's threatened flora survey guidelines (BCD, 2020). If BCD's survey guidelines have not been met, further survey may be required, or an Expert Report may be prepared. BCD notes that several plant species are currently assumed to be present, and that further surveys are planned. Those surveys will need to meet BCD's survey requirements or those species will need to remain assumed present or be covered by an Expert Report.

Response

BCD comments have been addressed with an updated Biodiversity Development Assessment Report (BDAR), submitted as Appendix C3 of the Amendment Report, including further information on survey effort for threatened plants.

Clarification of fauna survey effort and results in the BDAR

The BDAR does not demonstrate how the targeted survey effort for 39 threatened fauna species meets BCD's threatened fauna survey guidelines. Section A1 'Methods' of the BDAR summarises the targeted fauna surveys done for the project, but it does not specify what the survey requirements are for each species (such as the minimum number of hours, nights or days of survey), number of people who did the survey, or whether additional survey requirements apply from the TBDC. BCD recommends that the information about threatened fauna survey is revised and presented as per Chapter 5 'Habitat suitability for threatened species' in the Guidance for the Biodiversity Development Assessment Report Template (EES, April 2022). This can include new survey data for the (then) proposed new surveys for species credit species proposed in Appendix C of the BDAR. New surveys were planned for the wallum froglet, green and golden bell frog, green thighed frog, brush-tailed phascogale and the southern myotis.

Recommendation 2

BCD recommends that the section on threatened fauna survey effort is revised, with further details provided about how much the survey meets BCD's survey requirements.

Response

The updated BDAR, provided in Appendix C3 of the Amendment Report, provides further details on threatened fauna survey efforts and how these meet BCD's survey requirements.

More information on the process of species selection for survey

The BDAR does not clearly outline how the steps from predicted species, to candidate species, to those selected for targeted survey were taken. This does not meet the requirements of Sections 5.1 and 5.2, or Appendix K of the BAM. For example, BAM-C reports of predicted species and candidate species are not provided. Ecosystem credit species and species credit species additional to the BAM-C lists are not clearly identified. Data and justification for including or excluding species are too brief.

Recommendation 3

BCD recommends the further information is provided that explains how the initial list of predicted threatened species for the project area was reduced to the number considered in the BAM assessment.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report, including further information outlining how the initial list of predicted threatened species for the project area was reduced to the number considered in the BAM assessment.

Assessment of SAII impacts for the Swift Parrot

The swift parrot is a candidate species for serious and irreversible impacts (SAII) as per Section 9.1 of the BAM. Where mapped 'important habitat' of this species occurs in the development footprint occurs then this triggers an assessment of SAII. Section 4.0 'Avoidance and Minimisation of Impacts' in the BDAR states that a small amount of 'Important Area' mapped for the swift parrot will be impacted. However, it also states that the mapped area was the former carpark for the Kurri Kurri aluminium smelter and that it has been incorrectly mapped. An assessment of SAII impacts for the swift parrot, as per Section 9.1.2 is still required.

Recommendation 4

BCD recommends that an assessment of SAII impacts for the swift parrot is provided.

Response

It is noted that the area of mapped important habitat is the cleared carpark of the former aluminium smelter, with no canopy vegetation present. Nonetheless, the revised construction footprint for the Project avoids use of this area, including mapped important habitat, therefore an assessment of SAII impacts for this species is not required. This revision to the Project has been included in the updated BDAR provided in Appendix C3 of the Amendment Report.

The pipeline component of the BAM-C needs to be re-run as a linear assessment

As described in Table 1.1 'Development Footprint Location in the Landscape' in the BDAR, the BAM-C assessment of this project was run as a site-based assessment in which all components had a 1500-metre-wide buffer applied. No reason for this was given. According to Section 3.1.2 of the BAM 2020, the pipeline component, and should be run as a linear assessment type with a 500-metre-wide buffer applied to the centre line. BCD recommends that the pipeline component of the project is reassessed with the BAM-C set to a linear based assessment, to be consistent with the BAM.

Recommendation 5

BCD recommends that the BAM-C assessment is re-run as a linear-type assessment for the pipeline component of the project to be consistent with the BAM.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report, including re-running the BAM-C assessment as a linear-type assessment.

The Accredited Assessor should update, finalise and re-submit the credit calculator via the NSW BAAS prior to finalising the Response to Submissions Report

The proponent intends to update the BAM-C file in response to new targeted surveys that are discussed in the table of predicted species-credit species in the BDAR. BCD also recommends changes to the BAM-C based on this review. These changes may change the credit obligation to be offset. Therefore, BCD recommends that the proponent updates the BAM-C with new data, finalises the file, and submits it to the Biodiversity Accredited Assessor System (BAAS). BCD will then be able to access and review the BAM-C file. BCD recommends that this is done prior to finalising the Response to Submissions Report.

Recommendation 6

BCD recommends the accredited assessor updates then finalises the BAM-C file and submits the file to the NSW Biodiversity Accredited Assessor System (BAAS) prior to the submission of Response to Submissions Report.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report, including an updated BAM-C assessment. The BAM-C file will be submitted separately to the NSW BAAS with the updated BDAR.

Further details of the species polygons in the assessment

The BDAR does not clearly describe the process of the generation of species polygons in the assessment. BCD recommends that the unit of measure is given for all species covered by species polygons, that all species measured by species polygons are shown, and the features used to map the polygons, including the TBDC are described.

Recommendation 7

BCD recommends the further information is provided that explains how the species polygons were developed for this assessment.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report, including further detail on how species polygons were developed.

Revise the map of survey effort in the BDAR

Figure 2.1 'Survey Effort' in the BDAR does not clearly show all information related to survey effort. BCD recommends that the map is revised to show the following:

- give the dates for the survey tracks
- show the location of stag watching surveys
- label plots with plot number.

Recommendation 8

BCD recommends the accredited assessor updates Figure 2.1 'Survey Effort' so that it shows when targeted survey transects were conducted, where stag watching was conducted, and labels each of the vegetation plots.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report, including survey effort figures.

Provide copies of plot field data sheets The plot field data sheets have not been included in the BDAR. BCD understands that copies of the field sheets have been uploaded with the BAM-C file in BAAS. However, as the BAM-C file is unfinished and thus not accessible to BCD, BCD are unable to access copies of the plot field data sheets. Providing field data sheets is a requirement under the BAM (2020, see Appendix K). BCD reviews the plot field data sheets to ensure consistency between the data sheets, the BDAR and the credit calculator.
Recommendation 9 BCD recommends the accredited assessor provides copies of the plot field data sheets of the vegetation quadrats used for this assessment.

Response

Field data sheets have been appended to the updated BDAR in Appendix C3 of the Amendment Report.

Provide copies of GIS shapefiles BCD have been unable to access GIS shapefiles for the project. BCD understands that copies of the GIS shapefiles have been uploaded with the BAM-C file in BAAS. However, as the BAMC file is unfinished and thus not accessible to BCD, BCD are unable to access the GIS shapefiles. Providing GIS shapefiles is a requirement under the BAM (2020, see Appendix K).
Recommendation 10 BCD recommends the accredited assessor provides the GIS shapefiles used for maps in the BDAR.

Response

Updated GIS shapefiles will be provided to BCD separate to the updated BDAR.

Details are required of the construction footprint versus the operational footprint of the project The BDAR does not clearly describe the operational footprint of the project or identify temporary features. For example, what is the planned fate of the pipe laydown yards? Access tracks? Truck turnarounds? How long will these features be used? How are temporary/ancillary works defined? Where native vegetation is cleared for temporary infrastructure, will the land be revegetated to the same PCT? This type of information is required to meet Chapters 2 and 3 of the BAM.
Recommendation 11 The construction and operational footprints for the project must be clearly defined.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report, including definitions of construction and operational footprints for the Project and relevant figures showing the Project Area.

More information on the general description of the subject land

The BDAR does not include all of the required information about the subject land. The subject land for the project is not defined. A general description of the subject land is also required, that gives the topographic and hydrological setting and details of the geology and the soils. This would meet the requirements set out in Table 24 (page 116) of the BAM.

Recommendation 12

BCD recommends that the subject land is defined and further information is provided about the landscape context to meet requirements of the BAM.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report, including further definition of the subject land and further information about landscape context within Section 2.3.

Clarify the native vegetation extent for the project

Table 3.1 'Landscape Features in the Development Footprint' in the BDAR gives the native vegetation extent within the assessment area as 50% and states that this is 'predominantly comprised of woodland areas in various conditions from regrowth to intact'. It is unclear if nonwoody vegetation has been included in the assessment of native vegetation extent. Further, the mix of woody and non-woody native vegetation may change when the BAM-C for the pipeline is re-run as a linear-based project. The revised BDAR will require further information to meet the requirements of Section 3.2 'Assess native vegetation cover' in the BAM.

Recommendation 13

BCD recommends that the assessment of native vegetation cover is revised to meet Section 3.2 of the BAM and that both woody and non-woody components are described.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report, including further detail on woody and non-woody components.

A review of existing information on native vegetation is required

Section 3.2 'Native Vegetation within the Development Footprint' in the BDAR does not include a review of existing information on native vegetation on or adjacent to the assessment area. For example, the Vegetation of the Cessnock-Kurri Region: Survey, Classification & Mapping, Cessnock LGA, New South Wales by Bell and Driscoll (2008), or vegetation assessments on the Donaldson Coal Mine, or the Hunter Power Project. This information would meet the requirements of Appendix K of the BAM.

Recommendation 14

BCD recommends that the revised BDAR includes an assessment of existing information of native vegetation on the subject land assessment and assessment area to meet requirements of the BAM.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report.

Information on additional landscape features from the SEARs is required

The Secretary's Environmental Assessment Requirements (SEARs) (on page 16) identifies additional landscape features to be described in the BDAR: Landscape health of rivers & floodplains (nutrient flow, aquatic connectivity, habitat for spawning and refuge – river benches). However, that information does not appear to have been provided in the BDAR. BCD recommends that if the information has been provided in the EIS that its location is given. If the information has not yet been provided, then BCD recommends that it is included in the revised BDAR.

Recommendation 15

BCD recommends that information about additional landscape features, as described in the SEARs, are provided in the BDAR.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report, including further information about additional landscape features.

Additional features on maps

The BDAR does not fully meet the requirements of the BAM with respect to features not shown on maps. These requirements are described in Appendix K of the BAM. BCD recommends that either existing maps are revised, or new maps are produced (and shapefiles) with the following features:

- The final footprint
- Temporary / ancillary works
- The subject land
- The buffer applied to the subject land
- Wetlands and important wetlands
- Locations of known or potential acid sulfate soils
- Direct and Indirect impact zones
- Prescribed impact locations
- The extent of threatened ecological communities at risk of SAII
- The location of threatened species at risk of SAII
- Areas not requiring BAM assessment.

Recommendation 16

BCD recommends that existing maps are revised, or new maps are prepared that show all features required by the BAM.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report. The relevant maps within the BDAR have been updated to show the above features recommended by BCD.

Additional information is required to be presented in Tables in the BDAR

The BDAR does not fully meet the requirements of the BAM with respect to information presented in Tables. These requirements are described in Appendix K of the BAM. BCD recommends that either existing tables are revised, or new tables are produced with the following information:

- The biodiversity risk weighting for all species-credit species.
- Threatened entities that may be dependent upon, or may use habitat features associated with any of the prescribed impacts.
- Measures to mitigate and manage impacts – with details of action, outcome, timing and responsibility (perhaps revise Table 9.1?).
- Credit class and matching credit profile.

Recommendation 17

BCD recommends that existing tables are revised, or new tables are prepared that provide all of the information required by the BAM.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report. Tables within the BDAR have been updated to provide the above recommended information required in terms of the BAM.

More details are required about indirect impacts

Section 5.1.2 'Indirect Impacts' requires further information to meet the requirements of Section 8.2 of the BAM. Specifically, details are required on the frequency, duration and timing of indirect impacts. Identify any threatened ecological communities or threatened species likely to be affected by indirect impacts.

Recommendation 18

BCD recommends that information is provided about the frequency, duration and timing of indirect impacts from the project, and which threatened communities or species may be affected.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report. Section 5.1.2 of the updated BDAR provides further information about the frequency, duration and timing of indirect impacts from the project, and which threatened communities or species may be affected.

Mitigation measures for prescribed impacts on biodiversity are required Mitigation measures for prescribed impacts have not been provided. Section 5.2 'Prescribed Impacts' of the BDAR describes likely prescribed impacts to biodiversity by the project but does not include any mitigation measures. This information is required to meet the requirements of Section 8.4.2 of the BAM.
Recommendation 19 BCD recommends that details of mitigation measures for prescribed impacts are provided so as to meet the requirements of the BAM.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report. Section 5.2 of the updated BDAR provides further mitigation measures for prescribed impacts.

Details of adaptive management strategies to mitigate and manage impacts on biodiversity values The BDAR does not describe adaptive management strategies to mitigate and manage impacts on biodiversity values. This is required to meet Section 8.4.0.2 of the BAM (page 37).
Recommendation 20 BCD recommends that details of proposed adaptive management strategies are provided.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report. Section 8.7 of the updated BDAR details of proposed adaptive management strategies.

Maps need to be presented at the appropriate scale and as jpeg files Figure 1.2 'Development Footprint' and Figure 1.3 A-H 'Landscape Features' are not presented at the correct scale in the BDAR. Figure 1.2 is presented at 1:62,500 (at A4) and Figure 1.3 at 1:18,000 (at A4). To meet the requirement of the BAM both figures would need to be presented at no more than 1:10,000 scale. Further, Appendix K of the BAM states that all maps from the BDAR are required to be provided as separate jpeg files.
Recommendation 21 BCD recommends that Figure 1.2 and 1.3 are redrawn at no more than 1:10,000 scale and that all maps from the BDAR are provided as jpeg files. Both actions would meet BAM requirements.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report.

Data in Appendix C and Appendix D is transposed The data in Appendix C 'Predicted Threatened Species and Appendix D 'Vegetation Integrity Data' is transposed in the current version of the BDAR. Further, the vegetation integrity data for plots Q28 and Q29 appears to have the function data out of alignment.
Recommendation 22 BCD recommends that edits are made to Appendices C and D.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report.

4.1.3 Matters of National Environmental Significance

Additional information for the assessment of MNES In order for BCD to complete its assessment of MNES, BCD recommends that the following information is provided:

• Background and Description of Action
  ○ The MNES report refers to the BDAR to describe the action in relation to MNES. The BDAR covers impacts to all vegetation types and both NSW and Commonwealth-listed species and makes it difficult to understand the project in relation to MNES. BCD recommends that the operational and construction footprints of the project are described in relation to impacts to MNES.
  ○ More details are required on the staging and timing of the project and its impacts on MNES. This is particularly so for any temporarily cleared areas (e.g., tracks, pipe laydown areas, the turkey nest dam, truck turnaround bays, underground boring locations etc).

• Landscape Context of MNES   ○ Further details are required, as per the BDAR assessment (above).

• EPBC Act Listed Threatened Species & Communities
  ○ New maps are required that show only MNES entities – they are not clearly shown in the maps in the BDAR.
  ○ Survey requirements for MNES entities must be spelt out, including any DAWE survey requirements, and species-specific survey requirements in the Threatened Species Data Collection. This will enable survey effort to be measured against survey requirements.
  ○ Demonstrate the process of identifying areas of Plant Community Type (PCT) 1594 'Cabbage gum – Rough-barked apple grassy woodland on alluvial floodplains of the lower Hunter' that meet the definition of the Commonwealth listed 'River-flat Eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria Critically Endangered Ecological Community' (as briefly discussed in Section 2.1.1 of the MNES report). Demonstrate how the condition class assessment for vegetation identified as this CEEC was done (as indicated on page A-3 of the MNES report).

Additional information for the assessment of MNES In order for BCD to complete its assessment of MNES, BCD recommends that the following information is provided:
• Avoidance, Minimisation, Mitigation & Management o A discussion of prescribed impacts on MNES is required.
• Impact Assessment o The BAM-C has not yet been finalised, and so the final credit obligation to be offset has not yet been finalised. The BAM-C will need to be re-run to include the results of recent targeted surveys, and to consider advice in this letter. o Further details are required of the type, timing and location proposed rehabilitation of MNES impacted by temporary clearing.
• Other Considerations o Demonstration of how Approved Conservation Advice, Listing Advice and Threat Abatement Plans have been considered for this assessment, including proposed actions for each MNES entity.
Recommendation 23 BCD recommends that further information is provided about likely impacts on Matters of National Environmental Significance to enable BCD to undertake the Bilateral Assessment.

Response

BCD comments have been addressed with an updated BDAR, submitted as Appendix C3 of the Amendment Report.

4.2 Crown Lands

4.2.1 Crown Road Closure

The Department of Planning and Environment – Crown Lands has reviewed the proposal and notes that infrastructure is proposed on a Crown waterway, being Wallis Creek adjoining Lot 2 DP 71130 and Lot 19 DP 998606, and a Crown road adjoining the eastern boundary of Lot 317 DP 755231. The Department is currently considering an application from the adjoining landowner to close and purchase the affected Crown road. The road closure process can be lengthy with no guarantee as to the outcome. The Proponent will require establishment of an easement over the affected Crown waterway & road to secure the right to use the land.

Response

Comment from Crown Lands is noted.

4.2.2 Native Title Act

The Proponent must demonstrate how the proposal complies with the *Native Title Act 1993*. The Department requires documentation of the determination under the Act before any easements can be granted.

Response

Comment from Crown Lands is noted. Relevant documentation will be provided prior to easement granting.

4.3 Department of Planning and Environment – Water

4.3.1 Water Resources

All works within waterfront land should be in accordance with the Guidelines for Controlled Activities, this should include the culvert crossing proposed for Wallis Creek and the construction areas for the horizontal directional drilling. Insufficient information has been provided in regard to the proposed turkeys nest dam. DPE Water recommends installation and operation be assessed as part of the SSD assessment process to avoid the need to obtain approvals separately under the Water Management Act 2000. The proponent should provide details for the dam including water source, use, volume and if there are relevant exemptions. The proposal notes a possible shallow groundwater table between Wallis Creek and Swamp Creek. Should groundwater be intercepted a Water Access Licence (WAL) under the Water Management Act 2000 must be obtained unless the take is less than or equal to 3ML of water per year for any aquifer interference activities listed in Clause 7 of Schedule 4 of the Water Management (General) Regulation 2018.
Recommendations – Prior to Determination • The construction points for the horizontal directional drilling should be setback from the watercourse in accordance with the Guidelines for Controlled Activities. • Provide details of the proposed turkeys nest dam including volume, use and where water will be sourced.

Response

Setback From Watercourse

All HDD exit and entry workspaces for the amended Project design as presented in the Amendment Report are set back at least 40 m from the high bank of named watercourses with a stream order greater than one. These setback distances are presented in **Table 4.1** below.

Table 4.1 Horizontal Directional Drilling Setback Distance from Watercourse High Bank

HDD crossing	Distance from high bank (m)	
	HDD entry workspace	HDD exit workspace
Weakleys Flat Creek	>60	>300
Buttai Creek (bank of main channel)	>200	>150
Wallis Creek (bank main channel)	>400	>300
Swamp Creek	>200	>140
Black Waterholes Creek (interconnect pipeline)	>600	>200

Turkeys Nest Dam

The proposed use of the turkeys nest dam, as described in Section 2.3.6.4 of the EIS, is to store water prior to and during the hydrotest of the storage pipeline.

Following the exhibition of the EIS, APA has made a decision to internally line the storage pipeline. This means that water can be reused between test sections of the storage pipeline, reducing the total volume of water required for hydrotesting from 23 ML to 14.5 ML. The volume of water storage provided by the turkeys nest can therefore be reduced and is proposed to be 14.5 ML.

Full details of changes to hydrotesting and the turkeys nest dam design are provided in Section 3.0 of the Amendment Report.

Further discussions have been held with Hunter Water Corporation regarding supply of water for hydrotesting and general construction activities for the storage pipeline. Hunter Water Corporation have confirmed that sufficient capacity is available for supply.

4.3.2 Post Approval

- Ensure entitlements are held for any water take including groundwater interference unless an exemption applies.
- Ensure all works on waterfront land are in accordance with the Guidelines for Controlled Activities (NRAR 2018), including the proposed watercourse crossing of Wallis Creek.

Response

Due to the design amendments outlined in **Section 3.1** of this report, the length of trenching in the Wallis Creek floodplain, which is the area of highest risk for intercepting shallow groundwater, has been reduced from approximately 1,000 m to 670 m. It is not expected that groundwater interception during construction will be greater than 3 ML, and no groundwater take is expected during operations. As such, a licence for groundwater interference is not being sought.

Prepare a Dewatering Management Plan to implement in the event of excavations encountering ephemeral or temporary groundwater, including:

- shoring to minimise groundwater inflows
- water quality requirements before discharge
- any recommended treatment
- discharge location and method
- monitoring requirements
- permits and records required.

Response

A dewatering procedure that includes pipeline trenches will be prepared, as described in mitigation measure WA07 of the EIS, and incorporated into the Project Construction Environmental Management Plan (CEMP).

- Prepare and implement an Acid Sulfate Soils Management Plan as part of the Construction Environmental Management Plan (CEMP) in accordance with the Acid Sul fate Soil Manual (ASSMAC, 1998) in line with EIS recommendations.

Response

An Acid Sulfate Soils Management Plan will be prepared, as described in mitigation measure SC03 of the EIS, and incorporated into the Project CEMP.

4.4 Department of Primary Industries – Agriculture

DPI have no comments on this Project's EIS.

Response

The comment from Department of Primary Industries – Agriculture is noted.

4.5 Department of Primary Industries – Fisheries

4.5.1 Aquatic Ecosystems

DPI Fisheries offers the following comments on the EIS:

- The EIS and Biodiversity Assessment do not adequately assess aquatic ecosystems. DPI Fisheries recommends that the Biodiversity Assessment be revisited by a REAP with aquatic ecology specialisation.

- The EIS does not consider the potential distribution of any threatened species listed under the Fisheries Management Act 1994, including the Southern Purple Spotted Gudgeon.

DPI Fisheries offers the following comments on the EIS: • The EIS and Biodiversity Assessment do not adequately assess aquatic ecosystems. DPI Fisheries recommends that the Biodiversity Assessment be revisited by a REAP with aquatic ecology specialisation.
• In assessing the 21 waterway crossings, the EIS does not identify whether the waterways are Key Fish Habitat.
• The EIS does not assess the habitat features of each waterway in accordance with the DPI Policies and Guidelines for Fish Habitat Conservation and Management.
• The EIS does not identify the fish species that are likely to exist in each of the impacted waterways.

Response

In response to the submission from DPI Fisheries, the aquatic ecology assessment has been updated as part of the revised BDAR (refer Appendix C3 of the Amendment Report). Targeted aquatic habitat assessment and qualitative sampling was undertaken within appropriate aquatic habitats within the Project's construction footprint.

No aquatic flora or fauna species listed under the *Fisheries Management Act (1995)* (FM Act) were recorded within the KKLP Project Area, however potential habitat for the purple spotted gudgeon (*Mogurnda adspersa*) may exist in Swamp Creek and Wallis Creek.

No nationally listed threatened aquatic species, TECs or aquatic migratory species are expected to occur in the watercourses within the KKLP Project Area and no impacts are predicted.

A more detailed summary of the findings of the aquatic ecology assessment is provided in Section 6.3 of the Amendment Report and the BDAR included in the Amendment Report.

4.5.2 Key Fish Habitat

Any pumps extracting or diverting water from a natural waterway should include a gauze or mesh cover on the pump intake to prevent fish and eggs from being drawn in. The gauze or mesh should have a maximum aperture of 5mm.

Response

As described in Section 2.8.1.11 of the EIS, extraction of water from a natural waterway would only occur where watercourse crossings are constructed using open trenching with flow diversion. This scenario would only occur during periods of high rainfall as all watercourses proposed to be crossed by open trenching are ephemeral. Extracted water would be returned to the watercourse downstream of the crossing location. If open trenching with flow diversion is required, mesh covers with apertures of 5 mm or less will be installed on the inlet pipe. Additional text has been added to the relevant mitigation measure (MM-WA03) to specify the aperture size for mesh covers. Updated mitigation measures have been included in the Amendment Report.

All waterway crossing sites should be rehabilitated to pre-construction conditions, or enhanced conditions. Creek banks should be revegetated with native riparian vegetation to provide bank stability immediately after construction.

Response

Comment from Department of Primary Industries – Fisheries is noted. Mitigation measure WA03 of the EIS requires that: *Crossings will be reinstated such that bank stability at the crossing location is the same or better than prior to construction. Stabilising materials such as rock armouring, hydro mulch, jute matting, or other suitable geotextile materials will be applied to watercourse banks where necessary*.

DPI Fisheries has a preference for bridges or box culverts over pipe culverts for temporary crossings. These crossing types enable more natural flows and fish passage.

Response

Comment from Department of Primary Industries – Fisheries is noted. As highlighted in Section 2.8.1.11 of the EIS, a box culvert is likely to be the most appropriate design for the temporary crossing of Wallis Creek, although pipe culverts will require less disturbance to the bed and banks of the watercourse during construction. DPI Fisheries will be consulted during design of the crossing.

4.6 Fire and Rescue NSW

4.6.1 Adequate separation distance

Adequate separation distance to be maintained around surface infrastructure (such as offtake facility and compressor station) to negate the radiant heat effects from worst credible scenario events as described in the PHA.

Response

Worst case credible radiation impacts associated with jet fires at the Project surface facilities were assessed as part of the Preliminary Hazard Analysis (PHA). Modelling predicted that harmful (fatality and injury) thermal radiation impacts could extend off-site beyond the boundary of the JGN Offtake Facility but not the Compressor Station and Delivery Station.

While there is the potential for harmful radiation impacts to extend off-site beyond the boundary of the JGN Offtake Facility from a worst-case credible event, the likelihood of this event occuring is low.
A numerical assessment of the frequency of a jet fire undertaken for the PHA indicated a frequency of 7.5×10^{-7} events/year. Assuming exposure to the jet fire radiation impacts results in fatality 100 % of the time gives a risk adjacent to the JGN Offtake Facility 7.5×10^{-7} fatalities or injuries per year.

Hazardous Industry Planning and Advisory Paper No 4 Risk Criteria for Land Use Safety Planning (HIPAP 4) (NSW Department of Planning, 2011) provides individual risk criteria for fatality and injury. The land use surrounding the JGN Offtake Facility is considered to be active open space which has an individual fatality risk criteria of 10×10^{-10} and an individual injury risk criteria of 50×10^{-6}. The individual fatality and the individual injury risk associated with worst case thermal radiation impacts at the JGN Offtake Facility are less than the respective HIPAP 4 criteria and therefore, the risk is considered to be tolerable. As such, no additional separation distance is between JGN Offtake Facility infrastructure and the site boundary is required.

4.6.2 Post Approval

A comprehensive Emergency Response Plan (ERP) is to be developed for the site in accordance with HIPAP No.1.

Response

Bushfire threat assessment and management is described in Section 7.12.2.2 of the EIS. Bushfire management measures applicable to the construction and operations of the Project will be included in an Emergency Management Plan, which will be developed in accordance with *Hazardous Industry Planning Advisory Paper No.1 Emergency Planning (HIPAP 1)* (Department of Planning, 2011) and *Planning for Bushfire Protection* (NSW RFS, 2019). The Emergency Management Plan will be developed in consultation with the Rural Fire Service and DPE Hazard Team.

An Emergency Services Information Package (ESIP) is to be prepared in accordance with FRNSW fire safety guideline – Emergency services information package and tactical fire plans.

Response

Comment from Fire and Rescue NSW is noted. APA will liaise with Fire and Rescue NSW to develop necessary emergency response documents prior to operations commencing.

An Emergency Information Cabinet is located at the entry to each of the surface sites and copies of the ESIP and ERP are located in the cabinets.

Response

Comment from Fire and Rescue NSW is noted. APA will liaise with Fire and Rescue NSW to develop necessary emergency response documents and design storage requirements for these documents prior to operations commencing.

4.7 Heritage NSW

4.7.1 Aboriginal Cultural Heritage Assessment

The Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared in reference to the relevant guidelines as required by the SEARs (Requirement 9). Heritage NSW agrees with the current Management Recommendation ACHAR outcomes, based on the current state of the archaeological investigation.

Response

Comment from Heritage NSW is noted.

Heritage NSW provides to following recommendations in addition to the management and mitigation measures included in the ACHAR and EIS:
Recommendation 1 Heritage NSW requires the track logs and/or location of transects surveyed to assess the thoroughness of the archaeological survey. Please provided detailed mapping of the extent of survey units, landforms surveyed, and the areas within the units subject to survey. These maps should be presented at an appropriate scale to the survey unit.

Response

An updated survey map, including survey tracklogs and survey unit details, is provided in the ACHA Addendum (refer to Figures 4.1A to 4.1F in Appendix C4 of the Amendment Report). It is noted that only the archaeologists participating in the survey were carrying GPS devices and the areas were surveyed, with the Registered Aboriginal parties spaced at appropriate intervals (as described in detail in the ACHA Addendum) to ensure adequate coverage.

Recommendation 2 Please clarify the areas not subject to survey and outline provisions within the Aboriginal Cultural Heritage Management Plan for the thorough and complete assessment of the proposed development

Response

Figures 4.1A to 4.1F of the ACHA Addendum (refer to Appendix C4 of the Amendment Report) have been produced to clearly delineate areas that were not surveyed during the ACHAR fieldwork stage.

These were areas that had previously been subject to the ACHA process and approved for disturbance as part of previous developments or were within the same landforms as Potential Archaeological Deposits (PAD) recorded as part of the Project and could reasonably be assumed to also be PAD. The rationale for not surveying these areas has been discussed in Section 5 of the ACHAR (refer to Appendix 6 of the EIS).

As described in Section 5 of the ACHA, the areas of PAD will be investigated through the Aboriginal Cultural Heritage Management Plan (ACHMP) process, with investigations to be completed prior to Project disturbance in those areas. The ACHMP will also include a protocol for unexpected finds to be implemented during the construction phase. It is noted that this approach was outlined in the ACHA which was provided to the RAPs for comment and no feedback was provided on this approach.

Recommendation 3

Heritage NSW generally recommends that all assessment should be undertaken prior to the approval of impacts to Aboriginal cultural heritage. Without adequate and complete assessment, in this instance subsurface testing, to establish the cultural significance it cannot be demonstrated that more places of significance or places which may further enhance the significance of the known Aboriginal cultural heritage in the area will not be found. The Registered Aboriginal Parties (RAPs) could also not have provided informed comments on the project. However, in this instance Heritage NSW, in consultation with DPE and the proponent – will allow test excavations to occur post approval and as per the Aboriginal Cultural Heritage Management Plan (ACHMP).

Response

Comment from Heritage NSW is noted.

4.7.2 Post Approval

Recommendation 4

Heritage NSW recommends the ACHMP should be included in the Conditions of Approval and that an ACHMP be created and approved by Department of Planning and Environment prior to any development activities occurring within the project area.

Response

Comment from Heritage NSW is noted. A commitment to develop and implement a CHMP in consultation with relevant stakeholders is included in the EIS as mitigation measure AH02.

4.8 Heritage Council of NSW

4.8.1 Historic Heritage

The subject site is not listed on the State Heritage Register (SHR), nor is it in the immediate vicinity of any SHR items. Further, the site does not contain any known historical archaeological relics. Therefore, no further heritage comments are required. The Department does not need to refer subsequent stages of this proposal to the Heritage Council of NSW.

Response

Comment from the from Heritage Council of NSW is noted.

4.9 Hunter Water Corporation

4.9.1 Consultation

Hunter Water notes that in terms of Consultation, the EIS should: (a) Describe the consultation that has been carried out in association with the proposed development and preparation of the EIS; (b) Identify the issues raised during this consultation; and (c) Explain how these issues have been addressed. The Proponent formally met with Hunter Water on the 31 March 2021 to provide a preliminary briefing of the Project with further meetings occurring in 2022 to discuss Hunter Water's requirements for the Project. Hunter Water advised the Proponent to submit a Development Application in accordance with Section 49 of the Hunter Water Act 1991 (the Act) to allow a full assessment of the impacts of the Project on Hunter Water's assets and land holdings. The Proponent submitted an Application on the 23 March 2022. The Application is currently being assessed and in accordance with Section 50 of the Act, Hunter Water will issue a Notice of Requirements letter to the Proponent that will include specific requirements for the development. The Notice letter will also provide guidance on how the requirements can be met. At this time, Hunter Water has not finalised our determination of these requirements.
At this stage, Hunter Water has determined that the proposed route of the gas transmission pipeline has potential to impact our assets and land holdings. The pipeline alignment runs parallel with and will cross critical water assets which provide the principal water supply to approximately 20 % of our customer base. Hunter Water requests that the Department require the Proponent to revise the EIS to: i. Detail the requirements that will be included in the Notice letter to satisfy the SEARs Consultation objectives as per point (b) above; ii. Explain how these requirements have and will be addressed to satisfy the SEARs Consultation objectives as per point (c) above; and iii. To address the need for obtaining land owners consent from Hunter Water to facilitate the submission and determination of the DA.

Response

Consultation with Hunter Water Corporation (Hunter Water) commenced in April 2021 and has been ongoing since the submission of the EIS as outlined in Section 5.2.3 of the Amendment Report. Preliminary and detailed designs for pipeline crossings of Hunter Water infrastructure have been provided by APA and in principle agreement has been reached for access to Hunter Water Corporation land during construction and operations.

At the request of Hunter Water, APA has utilised the Hunter Water development assessment system for assessment of proposals under Section 49 of the *Hunter Water Act 1991* (the Act) in order to formalise ongoing consultation regarding detailed designs for crossings and measures to protect Hunter Water assets during construction and operation of the Project. Whilst having no statutory bearing, given the CSSI status of the Project, the Hunter Water development assessment process provides a structured and traceable framework for agreeing measures that enable the Project to be delivered in the best interests of both parties.

Thank you for the opportunity to provide comment on the EIS for this Project. In the event it is proposed to issue development consent to the Project, Hunter Water requests a further opportunity to provide comment and input to the approval process.

Response

Comment from Hunter Water Corporation is noted.

4.10 Department of Regional NSW – Mining, Exploration & Geoscience

4.10.1 Biodiversity Offset

MEG notes that within Section 7.5.5 of the EIS that it is likely the majority of or all biodiversity offset obligations will be met by payment into the Biodiversity Conservation Trust.

Response

Comment from Department of Regional NSW - Mining, Exploration & Geoscience is noted.

4.10.2 Landholder Consultation

MEG is satisfied with the consultation undertaken with the affected title holders (Yancoal and The Bloomfield Group) and has no resource sterilisation issues to raise.

Response

Comment from Department of Regional NSW - Mining, Exploration & Geoscience is noted.

4.11 Environmental Protection Authority

Upon review, the EPA considers that the construction or operation of the pipeline do not constitute a Scheduled Activity under Schedule 1 of the Protection of the Environment Operations Act 1997 (POEO Act). As such, the EPA does not consider that the project will require an Environment Protection Licence under the POEO Act. The EPA also understands that the proposal is not being undertaken by or on behalf of a NSW Public Authority nor is the proposed activity any other activity for which the EPA is the appropriate regulatory authority.

If the project is approved, the proponent must take all necessary precautions to prevent, control, abate or mitigate pollution and protect human health and the environment from harm during the construction and operational phases. The EPA has no further comments to provide on the project.

Response

Comment from the EPA is noted.

4.12 Rural Fire Service

4.12.1 Asset Protection Zones

Recommended Condition 1: Asset Protection Zones

Intent of measures: to minimise the risk of bush fire attack and provide protection for emergency services personnel and others assisting firefighting activities.

From the start of building works, the land around the Jemena Gas Network Off-take Facility infrastructure as well as around the Compressor and Delivery Station infrastructure must be managed as an inner protection area (IPA) for a distance of 10 metres, excepting where limited by property boundaries, in accordance with the requirements of Appendix 4 of *Planning for Bush Fire Protection 2019*. When establishing and maintaining an IPA the following requirements apply:

- tree canopy cover should be less than 15 % at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2m above the ground;
- tree canopies should be separated by 2 to 5m;
- preference should be given to smooth barked and evergreen trees;
- large discontinuities or gaps in vegetation should be provided to slow down or break the progress of fire towards buildings;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover;
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.
- grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- leaves and vegetation debris should be removed.

Response

The compressor station and delivery station are located on the hardstand of the former Hydro aluminium smelter. The northern and eastern boundaries of the compressor station and delivery station adjoin the Hunter Power Project. The southern and western boundaries adjoin an access road to the Hydro containment facility, runoff capture dams and other hardstand areas. As such, there is no tree or shrub vegetation within 10m of the boundaries of the compressor station and delivery station and IPA requirements are met.

The JGN offtake facility is located in a predominantly cleared paddock on the eastern side of Lenaghans Drive (Photo 4.1). The eastern boundary adjoins the JGN delivery facility (owned and operated by Jemena), and the southern boundary adjoins a minor watercourse and cleared paddock. The western boundary adjoins a proposed access track and cleared land which provides a 10m separation to the Lenaghans Drive road reserve. The northern boundary adjoins the lot boundary, with the land in the adjoining lot to the north comprised or a cleared paddock. As such, IPA requirements are met at the JGN offtake facility.

Vegetation screens are proposed on the western side of the JGN offtake facility to mitigate visual impacts to users of Lenaghans Drive. Any vegetation screens will be designed such that the IPA requirements are met.

Photo 4.1 JGN Offtake Facility Location at KP0, view to the south from the near the north-west corner of the facility with Lenaghans Drive to the west

4.12.2 Emergency Management Plan

Recommended Condition 2: Emergency Management Planning

Intent of measures: to minimise the risk of bush fire attack and provide protection for emergency services personnel and others assisting firefighting activities.

A Bush Fire Emergency Management and Operations Plan should be developed, identifying all relevant risk and mitigation measures associated with the construction and operation of the pipeline and related infrastructure. This must include:

- detailed measures to prevent or mitigate fires igniting;
- work that should not be carried out during total fire bans;
- availability of fire-suppression equipment, access and water;
- storage and maintenance of furls and other flammable materials;
- notification of the local NSW Rural Fire Service Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during a bush-fire danger period to ensure weather conditions are appropriate; and,
- appropriate bush fire emergency management planning.

Response

As outlined in Section 7.12.2 of the EIS, bushfire management measures applicable to the construction and operations phase of the Project will be included in the Emergency Management Plan that will be prepared for the Project. The Emergency Management Plan will be developed consistent with *Hazardous Industry Planning Advisory Paper No. 1 Emergency Planning* (HIPAP 1) and *Planning for Bushfire Protection 2019*. The Emergency Management Plan will be developed in consultation with the RFS and DPE Hazard Team.

4.13 Transport for NSW

4.13.1 Consultation

The application is Critical State Significant Infrastructure (CSSI) under Division 5.2 of the EP&A Act. At this time, it is understood Roads Act s. 138 consent for work within the M1 Motorway must be obtained from TfNSW as the roads authority. Additionally, concurrence is to be obtained from TfNSW under s. 138 prior to works within other classified roads. EP&A Act s. 5.24(1)(f) also provides that a Roads Act s. 138 consent must be substantially consistent with any CSSI approval.

The M1 Pacific Motorway (road #6003), John Renshaw Drive (MR588) and Cessnock / Main Road (MR195) are classified State Roads. TfNSW is the roads authority for the M1 Motorway, and Council is generally the roads authority for other classified and unclassified public roads affected by the CSSI project, in accordance with Section 7 of the Roads Act 1993.

TfNSW has been working closely with the proponent APA Group since prior to issue of the Secretary's Environmental Assessment Requirements (SEARs) in mid-2021, to facilitate a design for the KKLP which is responsive to the long-term construction and operational needs of several nationally and regionally significant road and rail corridors and projects in this area.

Response

Comment from Transport for NSW is noted.

TfNSW provides the following advice and requests further information for consideration as part of the Response to Submissions (RtS) assessment phase. The methodology and infrastructure alignment generally appear to be capable of compatibility with transport requirements.

Review of the KKLP detailed design drawings by TfNSW in relation to public rail and State Road corridor crossings is to be initiated by the proponent and substantially concluded as soon as practicable prior to any Pipeline Licence determination. The applicant may submit to TfNSW under s. 138 of the Roads Act 1993 separate detailed designs for each of the crossings of classified road or rail corridors, to enable review and approval / concurrence outside of the KKLP project's critical path. Given the compressed schedule for approvals and construction of the KKLP, TfNSW requests detailed designs be provided as soon as practicable. Designs can be submitted for interim or progressive review (e.g. at 50% and 100%) prior to CSSI approval, further amendments can be made to approved designs upon request, and there is no application fee for each TfNSW review.

Response

Following the exhibition of the EIS, APA has progressively supplied detailed design for public rail and State Road corridor crossings to Transport for NSW as designs have become available. APA will continue to liaise with Transport for NSW on crossing designs.

All public rail and State Road corridor crossings are to be by trenchless methods (e.g. thrust boring or directional drilling). Open trenching as a contingency would pose adverse impacts for high-risk, high-speed traffic operations and road infrastructure asset integrity along the State Roads affected by this application. All such crossings are to be encased in an outer sleeve pipe. For long term durability and operational requirements any annular voids between the soil and sleeve, or the sleeve and main carrier pipe, shall be filled with nonshrink grout unless otherwise accepted by TfNSW as part of the detailed design review for operational, renewal or decommissioning reasons.

Response

As discussed in detail in Section 2.8.1.12 of the EIS, all public rail and State Road corridor crossings will be constructed by trenchless methods.

TfNSW may specify construction verification, surveillance and administrative processes such as retention of bond securities to guarantee construction performance in line with the design plans and the parties' agreements. These processes may be administered under a separate Works Authorisation Deed (WAD) between TfNSW and the applicant for the duration of the construction phase and any applicable Defects Liability and Maintenance Period (DLMP). The current bond policy is generally 50% of the value of works within State Roads or the cost to mitigate risk exposure as otherwise agreed by TfNSW. The bond is normally partly refundable upon practical completion, and the remainder fully refundable upon performance and completion of the DLMP period.

Response

Comment from TfNSW is noted. APA will continue to consult with TfNSW regarding mechanisms for verification of construction works and applicability of work authorisation deeds.

To clarify long term operational and decommissioning rights and responsibilities in relation to sections of the KKLP within or adjacent to State Road reserves, TfNSW would require the applicant to enter into an Infrastructure Deed as a standard requirement for operating pipelines of this type. Registered easements over public classified road reserves will not be supported and are not necessary. Agreement preparation costs are to be fully funded by the applicant if required by TfNSW and further guidance on a Draft Deed will be provided shortly. The Deed is to deal with matters including:

- Work procedures for the operational KKLP (to satisfy TfNSW requirements).
- Work procedures for the operational M1 and LHFC corridors (to satisfy the KKLP operator's requirements).
- End of life renewal and decommissioning requirements for the pipeline including the trenchless sections.
- TfNSW is to be satisfied that its ability to upgrade or maintain its assets and respond to traffic operational incidents is not impacted by the long-term operational requirements for the pipeline, which is to be located at sufficient depth that KKLP approval processes (such as work permits, gas protection officers etc.) are not required in normal work circumstances (which are to be clarified).

Response

Comment from Transport for NSW is noted. APA will continue to consult with TfNSW regarding the applicability of infrastructure deeds.

4.13.2 TfNSW Lower Hunter Freight Corridor (LHFC) and M1 Pacific Motorway

The EIS describes at s.5.3.1.2 alignment alternatives near the LHFC under consideration. TfNSW notes the preferred KKLP alignment Option 2 along the western side of the publicly exhibited LHFC and existing M1 Motorway corridor with an oblique crossing of both corridors by trenchless construction method at a significant depth below surface. The following site-specific advice is offered:

- The KKLP detailed design and geotechnical investigations may reveal conflicts or constraints with transport infrastructure on the Option 2 alignment. As such it is important any CSSI approval retains flexibility for the proponent to amend the final alignment crossing these transport corridors as part of the detailed design without significantly delaying the KKLP timeline, and in accordance with any requirements of DPE and TfNSW.
- The alignment crosses under areas of the LHFC where the landform is expected to be subject to significant changes in level. The applicant is to demonstrate the detailed design will achieve adequate cover beneath the likely future LHFC infrastructure, both for LHFC construction and operational requirements, and that of the KKLP itself. Embankment and foundation construction and the passage of trains as part of the LHFC may result in soil consolidation, vibration and surcharge loads and the applicant is to demonstrate (through suitable geotechnical observations, advice and modelling) the pipeline will be capable of sustaining these without compromising operational or safety requirements.

- The alignment passes under the Black Hill interchange road overpass. The applicant is to demonstrate (again with geotechnical observations, advice and modelling) the pipeline will not be affected by, and will not affect, the structural loading, integrity, serviceability or durability of the bridge abutments, piers, footings and piles. The applicant has been provided with bridge as-built details.
- The absolute minimum cover requirement for the M1 Motorway is 3m from top of pipeline to the existing or future surface (whichever is lower in level). However, design cover shall be increased as necessary to address the above points to the satisfaction of TfNSW.

Response

The amended crossing design for the M1 Pacific Motorway, Black Hill Interchange overpass and Lower Hunter Freight Corridor (LHFC) involves a HDD of approximately 600m length. This design was presented in Section 5.3.1.2 of the EIS as Option 2 for crossing the M1 and Lower Hunter Freight Corridor.

Following the exhibition of the EIS and selection of Option 2, APA has progressively supplied detailed designs for the M1 Pacific Motorway and LHFC crossing to TfNSW as they have become available.
In principle agreement has been reached with TfNSW on the amended design based on Option 2 for the crossing of the M1 Pacific Motorway, subject to ongoing review of engineering design and construction details. APA will continue to liaise with TfNSW on crossing design.

4.13.3 John Renshaw Drive (MR588)

Trenchless construction method and location is to be subject to detailed design review and concurrence (e.g. under Roads Act s. 138), with no less than absolute minimum cover of 1.5 m including the encasing pipe (or such greater depth as is required for TfNSW asset operational reasons). The crossing is to be made perpendicular to the road centreline. Also consult with Council as the roads authority under s.7 of that Act.

Response

Following the exhibition of the EIS, APA has progressively supplied detailed designs for the John Renshaw Drive crossing as designs have become available. APA will continue to liaise with TfNSW on crossing designs.

The M1 to Raymond Terrace (M12RT) extension project is underway immediately north of the proposed KKLP along the M1 Motorway and east along John Renshaw Drive. Project interactions are at this stage expected to be limited to possible construction scheduling and traffic management coordination, subject to the detailed design review phase. The applicant is to work with the M12RT project if required to minimise impacts on State Road traffic and construction operations.

Response

The alignment has been designed to avoid direct interaction with the construction footprint of the M12RT project. APA will liaise with the M12RT project regarding potential construction interfaces.

4.13.4 Cessnock Road/Main Road (MR195) TfNSW Testers Hollow Upgrade

The requirements are generally the same as with MR588 above. Trenchless construction method and location is to be subject to detailed design review and concurrence. Also consult with Council as the roads authority under s.7 of that Act.

Response

Since submission of the EIS, APA has progressively supplied detailed designs for the Main Road crossing as designs have become available. APA will continue to liaise with TfNSW on crossing designs.

It is noted the crossing is within the TfNSW Testers Hollow upgrade footprint. The project will have undergone an embankment consolidation phase, and construction of embankment, pavements and related road works by TfNSW will be underway in late 2022. The TfNSW upgrade design is to be considered in the detailed design review and construction scheduling may need coordination between the parties.

Response

Following the exhibition of the EIS, APA has progressively supplied detailed designs for the Main Road crossing as designs have become available. APA will continue to liaise with TfNSW on crossing designs.

APA will liaise with TfNSW regarding potential construction interfaces with the Testers Hollow upgrade project. The construction footprint has been refined to avoid direct surface interaction with the construction footprint of the Testers Hollow upgrade project.

4.13.5 Construction Traffic Management Plan

Prior to the commencement of works a Construction Traffic Management Plan (CTMP) including Driver Code of Conduct is to be prepared, maintained as current, and implemented by the applicant. Major revisions are to include consultation with relevant authorities (including TfNSW, Councils and DPE). Any temporary State Road works or operational impacts are to be to the satisfaction of TfNSW through its Roads Act s. 138 and Road Occupancy Licence (ROL) consent / concurrence processes as applicable. The CTMP and Driver Code of Conduct are to be communicated at induction and applied to all staff and contractors.

Response

As outlined in Section 7.11.4 of the EIS, a Traffic Management Plan (TMP) will be prepared for the Project, in consultation with TfNSW and local councils.

A draft/preliminary CTMP should be provided as soon as practicable (e.g. prior to or as part of the Response to Submissions) to facilitate more rapid TfNSW review closeout.

Response

A Table of Contents for the TMP has been supplied to Transport for NSW for review and feedback prior to lodgement of the Submissions Report. The TMP will be finalised with input from the construction contractor, once selected.

The CTMP is to outline management measures to address (but is not to be limited to) the following matters affecting public roads:

- Scope to include all workforce commuters to and from site, deliveries, construction and commissioning activities.
- Outline construction phases, stages and schedules for traffic management purpose.
- Outline the schedule overlaps and consideration of interactions with nearby major projects in vicinity of the project worksites, including TfNSW projects mentioned in this letter above.
- Specific commitments for the provision and use of buses and car-pooling during construction to limit peak hourly traffic in accordance with the approved Environmental Impact Statement (EIS) and conditions of consent. Plans and measures to manage the impacts of personal vehicle parking at pickup points (e.g. in towns) are to be detailed.
- Enforceable policy for staff and contractors to avoid sensitive road routes (e.g. on noise, safety or road maintenance grounds), where the journey is not unreasonably lengthened, and in accordance with any SSI approval conditions and the EIS and RTS.
- General details of material haulage origins, destinations, quantities, sizes and frequencies of vehicle movements, designated haul routes and site access/egress locations. Sub-plans may be used to maintain currency as the work front moves forward.
- Details of Hazardous Materials and Over Size Over Mass (OSOM) vehicle movement phases, loads and approved routes, in accordance with relevant transport codes. OSOM movements are to be subject to all required permits under the National Heavy Vehicle Regulation (NHVR) scheme.
- Scheduling of shift times and haulage vehicle movements to occur outside of daily commuter peak periods, local special event times, school bus (both in rural and town areas) and school zone operating hours.
- Active communication procedures for traffic on at-risk road routes or with traffic such as school buses or haulage vehicles from industry or quarry developments.
- Mitigation in response to local climate conditions that may affect road safety for vehicles (e.g. scheduling during daylight hours, or outside of fog, wet weather or frost/ice).
- High-level consultation principles or outcomes, giving of notice, and engagement with affected stakeholders, including regulatory authorities, landowners, businesses, bus operators and so forth.
- Dust suppression and mitigation measures on public roads, and within the site boundaries where public roads may be impacted. Truckloads are to be covered at all times when being transported, to minimise dust and loss of material onto roads which may form a traffic hazard.
- Measures to ensure responsible fatigue management and discourage driving under the influence of alcohol and/or drugs, dangers of mobile phone use and driving to the conditions, and adherence to posted speed limits.
- Incident reporting and toolbox meetings to facilitate continuous improvement initiatives and awareness.

Response

A Table of Contents for the TMP has been supplied to Transport for NSW for review and feedback prior to lodgement of the Submissions Report. The TMP will be finalised with input from the construction contractor, once selected.

4.14 Ausgrid

The assessment and evaluation of environmental impacts for a new development consent (or where a development consent is modified) is undertaken in accordance with requirements of Section 79C of the Environmental Planning and Assessment Act 1979. One of the obligations upon consent authorities is to consider the suitability of the site for the development which can include a consideration of whether the proposal is compatible with the surrounding land uses and the existing environment. In this regard, Ausgrid requires that due consideration be given to the compatibility of proposed development with existing Ausgrid infrastructure, particularly in relation to risks of electrocution, fire risks, Electric & Magnetic Fields (EMFs), noise, visual amenity and other matters that may impact on Ausgrid or the development.
Ausgrid requests ongoing consultation throughout the design process to ensure there will be no impact to Ausgrid's transmission and distribution infrastructure. Compliance must be achieved across all disciplines from an entire design perspective.
The proposed works will encroach into existing Ausgrid easements. Under the terms of Ausgrid's easement works cannot be undertaken within the easement site without Ausgrid's consent.
In assessing this proposal comment was sort from Ausgrid's internal stakeholders Ausgrid's major concern relates to the proposals close proximity to poles/structures and the associated safety implications particularly in the event of a fault on any of the distribution or transmission lines.
Ausgrid will require a copy of detailed designs where shared easement use is proposed for assessment.

Response

Consultation with Ausgrid has been ongoing since the submission of the EIS as outlined in Section 5.2.3 of the Amendment Report. Preliminary and detailed designs for pipeline crossings of Ausgrid easements and infrastructure have been provided by APA as well as project updates.

Ausgrid wishes to provide the following design recommendations: • The pipeline infrastructure is to utilise the edge of the easement to create as much distance as possible from existing Ausgrid assets. • Any easement crossings are to cross as perpendicular as possible whilst maintaining a minimum of 20m from Ausgrid poles/structures. • Any proposed Main Line Valve infrastructure will need to be assessed on a case by case basis. • All Earthing related hazards to be assessed and mitigated. Consultation with Ausgrid earthing engineers required. • Any surface fittings associated with the pipeline installation should be installed as close to midway along any span of overhead mains as possible.

Response

The comment by Ausgrid is noted. As mentioned above, consultation with Ausgrid has been ongoing following the submission of the EIS to discuss Project crossing designs of Ausgrid easements and infrastructure and to provide updates on the Project.

Overhead Powerlines There are existing overhead electricity network assets along the proposed gas pipeline route . Safework NSW Document– Work Near Overhead Powerlines: Code of Practice, outlines the minimum safety separation requirements between these mains/poles to structures within the development throughout the construction process. It is a statutory requirement that these distances be maintained throughout construction. Special consideration should be given to the positioning and operating of cranes and the location of any scaffolding. The "as constructed" minimum clearances to the mains should also be considered. These distances are outlined in the Ausgrid Network Standard, NS220 Overhead Design Manual. This document can be sourced from Ausgrid's website, www.ausgrid.com.au Should the existing overhead mains require relocating due to the minimum safety clearances being compromised in either of the above scenarios, this relocation work is generally at the developers cost. It is also the responsibility of the developer to ensure that the existing overhead mains have sufficient clearance from all types of vehicles that are expected be entering and leaving the site.
Under ground Cables There are existing underground electricity network assets along the proposed gas pipeline route. Special care should also be taken to ensure that driveways and any other construction activities within the footpath area do not interfere with the existing cables in the footpath. Ausgrid cannot guarantee the depth of cables due to possible changes in ground levels from previous activities after the cables were installed. Hence it is recommended that the developer locate and record the depth of all known underground services prior to any excavation in the area. Safework Australia– Excavation Code of Practice, and Ausgrid's Network Standard NS156 outlines the minimum requirements for working around Ausgrid's underground cables.
Purpose Of Easements The easements were acquired for the transmission and distribution assets currently owned and operated by Ausgrid. The purpose of the easements is to protect the transmission and distribution assets and to provide adequate working space along the route of the lines for construction and maintenance work. The easements also assists Ausgrid in controlling works or other activities under or near the transmission lines which could either by accident or otherwise create an unsafe situation for workers or the public, or reduce the security and reliability of Ausgrid's network.

Response

The comment by Ausgrid is noted. As mentioned above, consultation with Ausgrid has been ongoing since the submission of the EIS. Preliminary and detailed designs for pipeline crossings of Ausgrid easements and infrastructure have been provided by APA as well as project updates.

The Following Conditions Apply for any Activities Within the Electricity Easement:

1. All construction works on or near the easement and/or powerlines must adhere to the Safework NSW – Work Near Overhead Powerlines: Code of Practice, 2006.
2. Safework Australia – Excavation Code of Practice, and Ausgrid's Network Standard NS156 outlines the minimum requirements for working around Ausgrid's underground cables.
3. Ausgrid is not responsible for the reinstatement of any finished surface within the easement site.
4. Ausgrid requires 24 hour access along the easement for plant and personnel. For the purpose of exercising its rights under the easement, Ausgrid may cut fences and/or walls and install gates in them. Where the easements on a site do not provide practical access to all of Ausgrid's infrastructure, a suitable right of access at least 5 m wide must be provided to each asset.
5. For shared easements the developer will need to provide evidence to show that the owners of the properties consent to the proposed installation of the gas pipeline on their property the subject of Ausgrid's easement.
6. Ausgrid's review and approval of the proposed property tenure to be granted by each owner of a property over the gas pipeline. Please provide us with a copy of the proposed property tenure document for our review.
7. Access driveways shall withstand the weight of a heavy rigid truck when fully laden weighing 30 tonne.
8. Access gates, minimum 4.5 metres wide, may be required in all fences crossing the transmission line easement.
9. No vehicles, plant or equipment having a height exceeding 4.6 metres are to be brought into the easement site without written approval from Ausgrid.
10. Vehicles brought into the easement, with a height less than 4.6m but having an extension capable of extending greater than 4.6m above ground, must not have that extension operated at all whilst within the easement.
11. Adequate removable protection must be installed to prevent vehicles inadvertently colliding with the transmission tower. This proposed form of protection must be forwarded to Ausgrid for review and consent.
12. Driveways and other vehicle access must be capable of supporting the heaviest vehicle likely to traverse the driveway without damaging Ausgrid's assets.
13. No machine excavation is permitted within the easement without Ausgrid's express permission.
14. No obstruction of any type shall be placed within 10 metres of any part of a transmission line structure except where installed to protect transmission structure from vehicle impacts when Ausgrid has approved such structures.
15. Care must be taken to prevent any damage to underground metalwork which can extend up to 15 metres away from the transmission line structure.
16. During building construction, adequate controls must be put in place to prevent vehicles and machinery from damaging the Ausgrid assets.
17. Bulk solids (e.g sand and gravels) are not to be stored within the easement area.
18. The storage of non-flammable materials is allowable provided access is maintained along the easement and subject to height limitations of 2.5 metres if climbable or 4.6 metres if not climbable. Lifting of materials within the easement area must consider the clearance requirements given in Safework NSW Code of Practice.
19. Any change to ground levels must be submitted to Ausgrid for approval.
20. The proposed finished ground levels within the easement must provide a minimum of 750mm cover to the Transmission Cables.

21. The proposed finished ground levels within the easement must provide a minimum of 600mm cover to the 11 kV Distribution Cables.

22. The proposed finished ground levels within the easement must provide a minimum of 500mm cover to the Low Voltage Cables.

23. No fill material or retaining walls are to be placed within the easement without Ausgrid's written approval.

24. Any excavation adjacent to the easement must utilise adequate shoring to prevent destabilisation or subsidence of the ground around the LV cable.

25. Trees, shrubs, or plants which have root systems likely to grow greater than 250mm below ground level are not permitted within the easement or close to the cable infrastructure. The planting of other vegetation is to ensure Ausgrid's access and maintenance requirements are maintained.

26. Trees, shrubs, or plants which have a mature height of greater than 3.0m, or climbable portions greater than 2.5m above ground, are not permitted within the easement. The planting of other vegetation is to ensure Ausgrid's access and maintenance requirements are maintained.

27. Electric power should not be connected to the easement site without permission from Ausgrid.

Response

The comment by Ausgrid is noted. As mentioned above, consultation with Ausgrid has been ongoing since the submission of the EIS. Preliminary and detailed designs for pipeline crossings of Ausgrid easements and infrastructure have been provided by APA as well as project updates.

4.15 Cessnock City Council

4.15.1 Future Planning

The alignment of the gas pipeline will traverse the Maitland/Cessnock LGA boundary to the north of Lot 22 DP 1181574. Lot 2 DP 1249763 and Lot 22 DP 1181574 are currently zoned RU2 Rural Landscape, but are located within an identified Growth Area in the HRP 2036. As a result, it is highly likely that the unconstrained portion of these allotments will be rezoned from RU2 to an urban zone in the future. Opportunities for future vehicle access to Lot 2 DP 1249763 and Lot 22 DP 1181574 are limited due to:

- TfNSW has previously advised that it will not support a direct road connection from Lot 2 DP 1249763 or Lot 22 DP 1181574 in the future.
- Land to the south of Lot 2 DP 1249763 is constrained by flooding.
- Land to the west of Lot 22 DP 1181574 is constrained by biodiversity.
- Land to the north of Lot 22 DP 1181574 is constrained by a watercourse

As a result, our preference for a future connection to Lot 2 DP 1249763 and Lot 22 DP 1181574 is along the same alignment proposed for the gas pipeline. If the pipeline is located in this area it may reduce opportunities for a future road access to Lot 2 DP 1249763 and Lot 22 DP 1181574 and may not be capable of supporting the weight of an access road of a suitable width for the expected development within Lot 2 DP 1249763 and Lot 22 DP 1181574.

Furthermore, it is suggested that the pipeline through this area be located so as to avoid any significant vegetation.

Response

The road access constraints for potential future residential developments on Lot 2 DP 1249763 and Lot 22 DP 1181574 are acknowledged. Following the exhibition of the EIS, APA has held further discussions with Cessnock City Council and preliminary designs for a pipeline co-located with the proposed road have been provided. Co-location of gas pipelines with other linear infrastructure, such as roads, is common and typically is a desirable outcome as impacts to surrounding land uses are minimised.

4.15.2 Biodiversity

From a biodiversity perspective, the following comments are made in relation to the Biodiversity Assessment Report:

- Additional targeted surveys are required for threatened flora and fauna species, given that there were survey limitations including restricted access to private property and being unable to meet seasonal survey requirements. The report indicates that additional surveys will be conducted. Council would requests that these be forwarded for review and comment when available.
- The report did not include an assessment of Koala habitat under the relevant State Environmental Planning Policy for Koala Habitat Protection. This is considered crucial given that the species is assumed present within the development footprint and the proposed development will impact 25 ha of suitable habitat for the species.
- The area of impact includes Mapped Important Area for the Swift Parrot. However, the report suggests that these areas of impact appear to be already cleared. Therefore, no assessment is required under Serious and Irreversible Impact (SAII), nor is biodiversity offsetting required under the Biodiversity Offset Scheme (BOS). Prior to any further assessment, a species polygon for the species must be provided, to support this.
- It appears as though subsurface works have been removed from the impact area assessed within the report. Given the potential for subsurface works to alter groundwater movement and the structural integrity of root systems, thus impacting native vegetation, all subsurface works should be included in the total impact area.
- Please note that the proposal has been referred under the *Environmental Protection and Biodiversity Conservation Act 1979* for its potential impact on the following entities: River Flat Eucalypt Forest, Koala, Grey-headed flying-fox, Regent honeyeater and the Swift Parrot. As of this date, no approval has been provided.

Response

Additional Targeted Surveys

The BDAR completed as part of the EIS noted that further seasonal surveys were required to ascertain whether additional species credits are required to offset the impacts of the Project. However, in the interim, the BDAR took a conservative approach and assumed that those species are present for the purposes of generating offset requirements, despite the high unlikelihood that they occur in the Development Footprint.

Seasonal surveys have continued to occur since the exhibition of the EIS and are reported in the updated BDAR attached in Appendix C3 of the Amendment Report.

Koala SEPP

It is noted that under Section 5.22 (3) of the *Environmental Planning and Assessment Act 1977* environmental planning instruments do not apply to State Significant Infrastructure projects. Therefore, the provisions of the Koala Habitat SEPP 2020 or 2021 do not apply to the Project. As described in Section 3.2.3.1 of the EIS, local councils are not the consent authority for the Project and neither the Cessnock, Maitland nor Newcastle LGAs have a Koala Plan of Management in place.

Subsurface Works and Total Impact Area

The EIS specifically states that that surface works are not proposed in areas where horizontal boring and HDD techniques are used. Any impacts to native vegetation in these areas would therefore not be in accordance with the project description for which approval is being sought.

Pipeline sections installed by HDD present minimal risk to surface vegetation, and impacts to surface vegetation above a HDD are not known to have occurred during operation of any pipeline operated by APA. The key reason for this is that sections of pipelines installed by HDD are typically greater than 10m below the ground surface, and beneath the root zones of most vegetation.

The entry and exit angles of the HDD are also designed using geotechnical assessments to prevent inadvertent release of drilling fluids to the surface, and so are typically steep. This means that the HDD reaches significant depth over a short horizontal distance. The annulus of the HDD is grouted with bentonite, which prevents the migration of water along the borehole such that impacts to groundwater levels and quality are minimal or non-existent.

As pipelines installed by HDD are at depth, excavation of the HDD pipeline section in the event of a major maintenance issue is not feasible. In this situation a new HDD crossing would be constructed adjacent to the existing pipeline and would be subject to any necessary planning approvals and consent conditions. As such, maintenance activities during operation of the Project are not considered to present a feasible risk of disturbing vegetation above any HDD proposed for the KKLP.

It also should be noted that HDD is significantly more expensive (around 5 times) than open trenching. This cost is balanced to some degree by the avoidance of biodiversity offset liabilities where vegetation disturbance is avoided above the HDD. If vegetation above a HDD is assessed as part of the total impact area, then a primary incentive to undertake HDD is removed. In this scenario it is far more likely that open trenching will be selected as the construction method, with subsequent significant increases in environmental impacts.

EPBC Matters

On 8 February 2022 the then Department of Agriculture, Water and the Environment (DAWE) (now Department of Climate Change, Energy, the Environment and Water (DCCEEW) confirmed that the Project constitutes a controlled action requiring approval from the Commonwealth Minister for the Environment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The controlling provision was listed as threatened species and ecological communities. The assessment path for this Project is the bilateral agreement between the Commonwealth and NSW Governments. DCCEEW has issued its assessment requirements which have been incorporated into the Planning Secretary's Environmental Assessment Requirements (SEARs) for the Project. These are attached to the EIS as Appendix 1. DCCEEW will assess the Project following receipt of an Assessment Report from the DPE, should the Project receive approval under the EP&A Act.

Important Habitat for the Regent Honeyeater and Swift Parrot

Avoidance of important habitat for the Swift Parrot and Regent Honeyeater, as mapped by DPE, has been specifically considered during Project design. As discussed in Section 5.3 and Table 5.2 of the EIS, one of the key factors influencing selection of the northern corridor and was that mapped important habitat for both these species could be almost entirely avoided. The central and southern corridors considered during the early design phase, by comparison would impact substantial areas of Swift Parrot important habitat between the Hunter Expressway and the buffer zone of the former Kurri Kurri aluminium smelter.

The interconnect pipeline design and storage pipeline footprint have been similarly designed to avoid impacts to extensive areas of remnant vegetation mapped as Regent Honeyeater important habitat in the buffer zone of the former Kurri Kurri aluminium smelter.

However, avoidance of all areas of mapped important habitat for both the Swift Parrot and Regent Honeyeater was not considered achievable during the EIS phase given the extensive occurrence in the landscape surrounding Kurri Kurri. Impacts have been minimised as far as practicable and are limited to around 0.2 ha of Swift Parrot habitat that has been incorrectly mapped within a cleared carpark of the former Kurri Kurri aluminium smelter and 0.46 ha of Regent Honeyeater important within the storage pipeline footprint.

The amended Project design presented in the Amendment Report no longer uses the former carpark as a laydown area, as such impacts to Swift Parrot important habitat are entirely avoided.

Impacts to Regent Honeyeater important habitat for the design presented in the EIS are limited to a very small fragment (0.46 ha) within the storage pipeline construction footprint. As described in Section 5.5.1 of the BDAR, this fragment is surrounded by matrix of cleared/regrowth vegetation. Large areas of remnant vegetation mapped as important habitat surrounding the matrix of cleared/regrowth vegetation adjoin the Development Footprint and have been deliberately avoided. There is approximately 1,728 ha of important habitat mapping within 10 km of the storage pipeline and therefore, the proposed impact represents a negligible reduction (0.03%) in the area of important habitat for the regent honeyeater in the local area.

Figure 7.12 G to H of the EIS displays important habitat and avoidance by the Development Footprint.

4.15.3 Construction Traffic

A Traffic Management Plan shall be prepared in relation to construction traffic management. This should be provided to the relevant roads authority for review and comment. Should any temporary road closures be required to facilitate construction works, the required permits and approvals shall be obtained.

Response

A Traffic Management Plan (TMP) for the Project will be prepared as a component of the Construction Environmental Management Plan, and all relevant permits and approvals will be obtained. Transport for NSW and Council will be consulted during the preparation of the TMP.

4.15.4 Water Resources

The alignment shows the pipeline going underneath and possible through waterbodies and defined water courses. Council recommends that the comments of the Natural Resources Access Regulator and any additional approvals be obtained.

Response

It is noted that the National Resources Access Regulator and the Department of Planning and Environment (DPE) Water have reviewed the EIS and have made submissions on the EIS. Responses to the submissions from the National Resources Access Regulator and the DPE Water are provided in **Section 4.3** of this report.

4.16 City of Newcastle

4.16.1 Black Hill Precinct Catalyst Area

The alignment of the proposed pipeline runs along the southern boundary of the Stevens Group Hunter Business Park and the EIS states that the 20m vegetation buffer along the southern boundary will be maintained. It is advised that in addition to the proposed Viney Creek crossing there is also a cul-de-sac along the southern boundary and the potential for an additional southern access road to be extended across the alignment of the pipeline. Consideration should be given to these road reserves with additional depth of cover of the pipeline to accommodate any future road reserves.

Response

The potential for the transmission pipeline to cross a cul-de -sac and southern access road along the southern boundary of the Stevens Group Hunter Business Park can be accommodated in pipeline detailed design. Appropriate design treatments may be an increased depth of cover or slabbing over the pipeline at the potential road locations.

4.16.2 Biodiversity

The project is supported by a Biodiversity Development Assessment Report (BDAR) which follows the requirements of the *Biodiversity Conservation Act 2017* (BCA) along with the principles of the Biodiversity Assessment Method (BAM) which is a part of the Biodiversity Offsets Scheme (BOS). The BDAR sets out the extent of each of the affected plant community types requiring removal resulting from the proposed development across the three LGAs. A total of 23.8 ha of native vegetation (10.9ha of non-native and 0.59ha of planted native vegetation) is proposed to be removed. Following the application of avoidance and mitigation measures (outlined in Section 4 of the BDAR) the BAM assessment has calculated the total Plant Community Type credits associated with the proposed clearing. Figures display the extent of clearing in the EIS area in respect to the 'design elements' of the development, plus the additional area of disturbance that will be required for *'...temporary construction area for vehicle turn around and laydown of materials prior to installation*'. It is noted that Section 3.3.3 of the BDAR states that *'Further threatened species surveys will be conducted in areas that have been subject to access restrictions and seasonal limitations to ascertain whether additional species credits area required to offset the impacts of the Project* '. It may be considered that these outstanding matters indicate the BDAR is not complete.

Throughout the BDAR references are made to partially completed surveys where the consultant has instead adopted a conservative approach using: *'A list of the ecosystemcredit species predicted to occur by the BAM Calculator and/or the literature review and whether they are considered likely to occur in the vegetation zones within the Development Footprint*' (Section 3.3.2).

The TCON notes The Biodiversity Credit Report in Section 7 has not been finalised is a requirement of the BCA. This matter remains outstanding whereby this report, in order to comply with the BCA, will need to be finalised.

Response

The BDAR completed as part of the EIS noted that further seasonal surveys were required to ascertain whether additional species credits are required to offset the impacts of the Project. However, in the interim, the BDAR took a conservative approach and assumed that those species are present for the purposes of generating offset requirements, despite the high unlikelihood that they occur in the Development Footprint.

Seasonal surveys have continued to occur since the exhibition of the EIS and are reported in the updated BDAR attached in Appendix C3 of the Amendment Report.

A full Biodiversity Credit Report is included as Appendix E, and summarised in Table 7.1, of the BDAR Report. This Biodiversity Credit Report will be updated and finalised following completion of seasonal surveys and targeted-credit species surveys.

4.16.3 Project Corridors

As indicated in the EIS, three potential corridors for a pipeline alignment between the Sydney to Newcastle Pipeline and the Hunter Power Project site were identified. These corridors are referred to as northern, central and southern.

The northern corridor being the preferred route. The northern and central corridor appear to use a road culvert along Lenaghans Drive which would be unsatisfactory for regular bridge inspections due to the risk of gas atmospheres in the creek lines. Any proposed crossing of Lenaghans Drive should be under bored.

The northern and central corridors intersect some Transport for New South Wales and CN drainage systems at the Black Hill Road overpass of the M1 Pacific motorway. These drainage systems will need to be accommodated for in any further design/investigations. Pre and post dilapidation close circuit television surveys should be required given the proximity to existing stormwater and construction loading. Plans of these drainage systems can be provided on request.

Response

Alignment corridors presented in the EIS are broad

The corridors referred to, as shown in Figure 5.1 of the EIS, represent transmission pipeline alignment options buffered by 400 m that were identified at the initial design phase of the Project, and presented in the scoping report dated 11 June 2021. The process of assessing corridors using multi-criteria analysis and defining the proposed alignment within the selected northern corridor is described in detail in Section 5.2 and Section 5.3 of the EIS.

Detailed maps of the construction footprint proposed for the Project are provided throughout the EIS, most notably in Figures ES1.1, Figure 1.1 and Figure 2.1A-E.

Impacts to a Road Culvert at Lenaghans Drive and Potential for Methane to Pool in Creek Lines

There is no proposal to use a road culvert along Lenaghans Drive for locating the transmission pipeline. The project design presented in the EIS has the JGN offtake facility and KP 0 of the transmission pipeline sited on the western side of Lenaghans Drive. As such no crossing of Lenaghans Drive was required for the Project design presented in the EIS.

The JGN offtake facility is now proposed to be located on the eastern side of Lenaghans Drive, as described in the Amendment Report, and a crossing of that road by the transmission pipeline will now be required. This will be a bored crossing, consistent with mitigation measure TT01 which states that all roads that are sealed at the time of the project approval and the South Maitland Railway will be crossed using trenchless construction techniques. Further explanation of the use of trenchless crossings for sealed roads is provided in the Executive Summary and section 7.11.3.1 of the EIS.

With regard to the potential for the gas transmission pipeline to leak, APA designs its gas transmission pipelines strictly in accordance with AS2885, which requires that "every pipeline shall be leak tight and have the necessary capability to safely withstand all reasonably predictable influences to which it may be exposed during the whole of its design life." The transmission pipeline will be pressure tested prior to commissioning to ensure that it is leak tight. This is done through a process called hydrotesting whereby sections of the pipeline are filled with water and then pressurised above the pipeline's maximum operating pressure.

Drains Adjacent to the M1 Near the Black Hill Road Overpass

Direct impacts to drains adjacent to the Black Hill Road overpass are avoided by the Project design presented in the Amendment Report. See Section 3.0 of the Amendment Report for full details.

4.16.4 Visual Impacts

According to Section 7.13.4 of the EIS, the Proponent is committed to establishing landscape screening at the Jemena Gas Networks offtake facility at Black Hill to '*...reduce the visibility of the facility to users of Lengahans Drive and nearby residences*.' Photomontages in the EIS provide indicative images of the likely visual impacts of the project with the landscaping. It is recommended the proponent be required to provide a landscape concept plan of the proposed screen plantings.

Response

The comment is noted.

4.16.5 Section 7.12 Newcastle Local Infrastructure Contributions Plan (Update Dec 2020)

CN's letter to the DPE dated 8 July 2021 regarding the draft Secretary's Environmental Assessment Requirements (SEARs) for the project requested that the SEARs consider the provisions of the Newcastle Local Infrastructure Contributions Plan (Dec 2020). A copy of this letter was attached to the SEARs dated 23 July 2021 issued by DPE. According to the EIS Pg 84), the specific government agency requirements have been considered and addressed where relevant throughout the EIS.

While Section 3.2.1.2 of the EIS identifies that the Environmental Planning and Assessment Regulation 2000 (Regulations) includes procedures for the 'levying of development contributions', no specific consideration of the relevant requirements of the Regulations and the above Infrastructure Contributions Plan have been undertaken.

The above plan was repealed by the City of Newcastle Section 7.12 Development Contributions Plan which became operational in January 2022.

Response

APA is required to develop an EIS that address the SEARS as issued on 23 July 2021. There is no reference in the SEARS to the Newcastle Local Infrastructure Contributions Plan (Dec 2020).

As described in Section 3.2 of the EIS, the Project is gazetted as Critical State Significant Infrastructure (CSSI) under the EP&A Act and the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). The Project is to be assessed and determined under Division 5.2 of the EP&A Act and the consent authority for the Project is the Minister for Planning and Homes.

As the Project is declared CSSI, the provisions of the SRD SEPP override the relevant Local Environmental Plans and the land use and development contribution provisions under local planning laws do not apply to the Project.

APA has consulted with the City of Newcastle Council as described in Section 5.2 of the Amendment Report.

4.17 Maitland City Council

Given the minimal impacts on the Maitland Local Government Area, and the likely jobs created, no objection is raised to the EIS

Response

Comment from Maitland City Council is noted.

5.0 Response to Community and Public Organisation Submissions

As outlined in **Section 2.0**, a total of 9 public organisations and 12 individual community members lodged submissions relating to the Project. A response to the issues raised in these submissions is included in the following sections grouped by theme.

The theme of the concern has been provided in bold in the text boxes below with some examples of specific quotes from the submissions provided in normal type to assist the reader, followed by the unique submitter identification number for each quote. Specific issues, that is, where an issue was raised only once have also been addressed.

5.1 Economic, Environment and Social Impacts of the Project

A total of 41 submissions were received that relate to the economic, environment and social impacts of the Project.

5.1.1 Impacts to the Community

5.1.1.1 Noise

Issues relating to noise were raised in three submissions.

Noise generated by the compressor station

- The compressor station needs to run for 24 hours to refuel the storage pipeline and the noise will be extremely disruptive for anyone living in the surrounding areas. S-41968383

Response

As described in Section 2.3.4.2 of the EIS, the compressors to be used for the compressor station will be electrically driven, enclosed and positioned to maximise distance to sensitive receptors.

A Noise and Vibration Impact Assessment (NVIA) was undertaken as part of the EIS to assess the noise and vibration impacts associated with the Project. A summary of the key findings of the NVIA is provided in Section 7.10 of the EIS and the full report is provided in Appendix 11 of the EIS.

The NVIA found that the noise contribution of the compressor station and delivery station is minor relative to the HPP. The predicted cumulative noise levels indicate that the simultaneous operation of the compressor station, delivery station and HPP results in a negligible change in cumulative noise levels at the nearby sensitive receivers compared to the operation of the HPP in isolation. The cumulative noise levels are predicted to comply with the recommended amenity noise levels at each of the nearby sensitive receptors. Results of the assessment show that the Project meets all noise criteria at nearby residences either in isolation or cumulatively with the delivery facility and HPP.

Simultaneous operation of the compressor station, delivery station and HPP is highly unlikely to occur. This scenario would require the compressor station to be discharging to the storage pipeline at the same time as gas is flowing out of the storage pipeline into the delivery station and HPP. Nevertheless, this scenario was considered for a conservative assessment of noise impacts.

Sensitive Receptors

- The EIS provides at section 7.10.1.1 that '*(t)he mining areas of Donaldson Coal and Ashtonfields have not been considered sensitive receivers in this assessment, as noise levels in many parts of these active mining areas will likely exceed the noise levels of construction and operational activities associated with the Project*', which does not recognise that Donaldson is not being mined, and operations at Ashtonfields (where the Bloomfield Coal Mine is located) are forecasted to cease in 2030. Both areas will be adapted for potentially sensitive uses once fully rehabilitated which has not been considered or assessed in the EIS. S-42537214 and S-41994973

Response

Construction of the Project is proposed for 2023, at which time no potentially sensitive land uses will have been established on the mining areas associated with the Donaldson Mine and Bloomfield Mine. During operations, the transmission pipeline will be buried and will not emit noise. The nearest operational noise source is the JGN offtake facility, some 3.5 km from the southern boundary of the Donaldson Mine.

The Noise and Vibration Impact Assessment undertaken during the EIS phase has concluded that night-time noise impacts meet the relevant noise criteria at a distance of approximately 200 m from the JGN offtake facility. No operational noise impacts to the Donaldson mine or Ashtonfields land are therefore anticipated, including theoretical impacts to potentially sensitive future uses once mines are fully rehabilitated, relevant planning processes are completed and sensitive land uses have been established.

5.1.1.2 Soil

Issues relating to soil were raised in three submissions.

- Heavy machine compacting soil with subsequent subsidence over the trench. S-42543632.
- The soil is compacted by heavy machinery. Years later little vegetation will grow over it, providing little cover for wildlife to hunt for food. The soil over the pipeline can become boggier than normal in wet conditions, limiting owner's access to their property. Subsidence over the pipeline can also be problematic for machinery and may cause rainwater to flow to areas it previously hasn't. S-41968383.
- It is 24 Kms of steel pipe, 1 m. through, holding gas under pressure, to be buried nearly a meter under soil. It will create uneven surfaces & will be prone to washout of soil around it, making harvesting crops with machinery difficult. S-42005141.

Response

Soil compaction during construction of pipelines is primarily restricted to the running track, which is used by vehicles to traverse along the Right of Way (ROW). Compaction relief will be implemented by ripping or scarifying areas of the construction footprint which have been compacted by construction activities. Particular attention will be given to areas subject to regular watering and high traffic volume.

Compaction is primarily a concern for land that is used for cropping. No such land is traversed by the transmission pipeline or storage pipeline.

As outlined in Table 7.4 of the EIS, specific erosion and sediment control plans will be developed for each Project component (JGN offtake facility, transmission pipeline, storage pipeline, compressor station and delivery station) following completion of geotechnical studies. Erosion and sediment control plans will be prepared in accordance with the APGA Code of Environmental Practice and will include the use of trench blocks (i.e. trench/sack breakers) and compaction of backfilled soils to prevent subsurface erosion and subsidence along the backfilled trench. Trench blocks are impermeable barriers placed in the trench during pipelaying to prevent erosion along the pipeline which can undermine the backfilled trench.

Pipeline surveillance is an essential activity in the operation of pipelines and is required by AS 2885.3. A routine inspection and maintenance program will be implemented for the transmission and storage pipelines during the operation of the Project. Inspection of the easements for issues such as subsidence will be undertaken on a regular basis by ground and aerial patrols.

5.1.1.3 Land Use

Issues relating to land use were raised in seven submissions.

Land Use and Soil Capability

- Once in place it will not be possible to plant any crops or plants that have roots deeper than 900 mm. S-42543632.
- The 50 m and 25 m wide construction footprint will involve the clearing of trees and bushland and will mean that any crops or plants with roots deeper than 900 mm cannot be planted above or near the pipeline. S-42153476.
- Properties may become less productive and management practices will need to change. S-41968383.
- The pipeline will connect Narrabri to Kurri Kurri through valuable farmland which is needed to produce food and will be badly damaged by the construction. S-42054177.

Response

One of the mechanisms for protecting operational gas transmission pipelines is to maintain the area directly above and adjacent to the pipeline clear of woody vegetation. This mitigates the potential for plant roots to damage the pipeline coating, which protects the pipeline from corrosion. Typically, 4m either side of a pipeline is maintained clear of woody vegetation. This approach is one contributing factor for the excellent safety record of Australian transmission pipelines.

Normal agricultural production, including planting of shallow rooted crops and other non-woody plants, can be undertaken directly above the transmission pipeline following construction. A standard approach to rehabilitation of pipeline construction footprints is the establishment of grass cover. Note that the land use assessment presented in Section 7.2 of the EIS, as well extensive landholder consultation, found that there is no history of cropping for any area of the Project construction footprint.

The transmission pipeline extends from Lenaghan to the HPP at Kurri Kurri, as described in detail in the EIS, and as such does not connect to Narrabri.

Impact to Mining Operations

- The alignment of the Pipeline which is ultimately approved across the Bloomfield Coal Mine and the Ashtonfields Land more generally must take into account the ongoing operations of the Bloomfield Coal Mine and the approved rehabilitation and monitoring commitments under Bloomfield Approval. S-41994973.
- The EIS provides at 7.2.5.4 that '(n)o material conflicts during construction or operation of the transmission pipeline are anticipated should the Abel Mine be brought back into production' without elaborating on how this conclusion has been reached. S-42537214 and S-41994973.
- The EIS provides at section 7.2.5.4 that '(n)o material conflicts with ongoing rehabilitation activities for the Donaldson open cut mine are anticipated during construction or operation of the transmission pipeline' but does not appropriately and fully assess or explain why this is considered the case. S-42537214.
- Yancoal requests any approval that may be granted for the Pipeline is granted subject to a condition requiring that 'construction shall not commence until the proposed Easement and APA Work areas are excised from the Yancoal Tenements and the Abel and Donaldson Approvals, or an agreed outcome is reached to the satisfaction of the Secretary of Planning.' S-42537214.

Response

The transmission pipeline alignment has been designed to traverse the Abel underground mine above previously mined areas, so as to avoid subsidence risk should the mine be brought back into production. Within the Donaldson open cut mining tenement, the transmission pipeline has been located primarily adjacent to the Hunter Water CTGM, which predates mining operations. Any crossings of mine access roads will be constructed so that continued use of heavy vehicles is accommodated.

The concerns of Yancoal regarding overlap of mining tenements and the pipeline easement is acknowledged. APA will continue consultation with Yancoal and seek to resolve concerns.

Future Development

- The area subject to Yancoal Interests has been collectively included within the 'National Pinch Point' area in the NSW Government's 'Draft Hunter Regional Plan 2014' dated December 2021 (Hunter Regional Plan). The Hunter Regional Plan contemplates that the 'National Pinch Point' area will include future land use development with a mix of residential, employment and open space uses. We consider the Pipeline has a material impact on implementing the land uses proposed for the 'National Pinch Point' area envisioned in the Hunter Regional Plan. S-42537214.

Response

Draft Hunter Regional Plan 2041 and the National Pinch Point

Regional plans set the framework, vision and direction for strategic planning and land use, planning for future needs for housing, jobs, infrastructure, a healthy environment and connected communities. Regional plans are required to be reviewed every five years, or earlier if required, and all regional plans in NSW are currently under review.

The in-force regional plan relevant to the Project area is the Hunter Regional Plan 2036. This plan is referenced in Attachment 1 of the Project SEARS and is addressed in Section 4.3.3.1 and of the EIS.

The draft Hunter Regional Plan 2041, which is not referenced in the Project SEARS, was publicly exhibited from 1 December 2021 to 4 March 2022. Currently the DPE website indicates that submissions of the draft plan are being considered with release of the final plan proposed for 'later in 2022'. Nevertheless, consideration of Project impacts to the National Pinch Point (NPP) as described under the draft Hunter Regional Plan 2041 (HRP) is provided below.

Part 3, page 75 of the draft HRP identifies the NPP as the convergence of national road and rail routes located between Hexham and Buchanan. The M1 Pacific Highway, Hunter Expressway, New England Highway, Main Northern Rail Line, North Coast Rail Line and the Hunter Valley Coal Chain collectively provide passenger and freight transport connections to Sydney, Brisbane, North Western NSW, the Central Coast and the Hunter.

There is no plausible risk that the Project will materially impact national road and rail routes that converge at the NPP. All sealed roads, including the M1, will be crossed by trenchless crossing techniques. The transmission pipeline has been sited adjacent to the western boundary of the M1 road reserve to minimise interaction with the Lower Hunter Freight Corridor, based on ongoing consultation with TfNSW. The M1 extension project, Hunter Expressway, New England Highway, Main Northern Rail Line, North Coast Rail Line, Hunter Valley Coal Chain and the Richmond Vale Rail Trail are all avoided by the transmission pipeline alignment.

The NPP extends over an area of greater than 15,000 ha, from Tomago Road to South Maitland and south to the Hunter Expressway. A multitude of land uses and tenures currently occur within the NPP including light industrial, residential, mining and quarrying operations, gas transmission pipelines, high voltage power lines, road and rail transport infrastructure, national parks, sport and recreation facilities and towns. An additional gas transmission pipeline and associated surface infrastructure, as proposed for the Project, places no greater restriction on potential future land uses within the NPP than other existing or proposed land uses. All such potential future land uses are required to follow planning processes stipulated by the NSW *Environmental Planning and Assessment Act* 1977.

The area within the NPP subject to Yancoal's interests north of John Renshaw Drive is described in the draft HRP as the Four Mile Creek growth area. Goals for the Four Mile Creek growth area described in the draft option are to:

- Encourage employment uses that leverage the access and proximity to M1 Pacific Motorway or rail infrastructure, including freight, warehousing and logistics, and that complement nearby centres.
- Repurpose existing infrastructure to support transition to new uses.
- Conserve high environmental value lands.

The potential land uses identified in the HRP for the Four Mile Creek growth area are land uses which are commonly encountered and accommodated when constructing and operating gas transmission pipelines, and linear infrastructure generally, throughout Australia. There is no transmission pipeline in Australia that has caused material impacts to these land uses that APA is aware of. A key reason for this, and as outlined in Section 7.2.4 of the EIS, is that gas transmission pipelines in Australia are designed in accordance with Australian Standard AS2885 Pipelines – Gas and liquid petroleum (AS2885), which requires consideration of current and reasonably foreseeable land uses adjacent to any proposed pipeline corridor, for the design life of the pipeline, as a central input to the pipeline design.

Section 7.2 of the EIS outlines land use considerations for transmission pipelines, and specifically Section 7.2.5 for information regarding compatibility with existing, approved or proposed resource and infrastructure projects. As described in Section 7.2.5 of the EIS, positioning of the transmission pipeline alignment adjacent to existing linear infrastructure (Hunter Water trunk mains) that will need to be accommodated by post mining land uses provides a sensible approach to minimising constraints on post mining land uses that currently have no detailed definition and are unapproved.

As stated above, APA is committed to dealing with all impacted stakeholders in an open and respectful manner to provide fair, adequate and equitable compensation in reaching agreement on a pipeline easement, based on relevant external advice from valuation professionals. APA will also agree to cover reasonable expenses related to legal and valuation advice incurred in negotiating the agreement.

The compensation payable for the easement will reflect impacts to the market value of the property arising from the registration of an easement over the affected land parcel. Easements and other encumbrances registered on land titles are commonplace for a range of infrastructure including power lines, water pipelines and other infrastructure. Information regarding pipeline easements and landholder compensation is provided in Section 7.2.4.4 of the EIS.

Consultation with Yancoal and other ML holders will be ongoing, in common with all directly affected landholders and will include approaches to minimise impacts to post mining land use.

5.1.1.4 Public Health and Safety

Issues relating to public health and safety were raised in three submissions.

Air Pollution

- Polluting industries near a town have an impact on resident's health and well-being, particularly small children. Clean industries are unlikely to establish businesses in a polluted town. Kurri Kurri families are destined to be stuck in a cycle of poverty, with no clean secure jobs and polluted air for the next 30 years if this project as it stands is approved. S-41968383.

Response

As part of the preparation of the EIS, an air quality impact assessment (AQIA) was completed for the Project to assessment potential air quality and odour impacts. The outcomes of the AQIA are summarised in Section 7.8 of the EIS with the full report available in Appendix 10 of the EIS.

The air quality impact assessment found that dust (specifically PM_{10}) during construction is considered the primary emission of concern. Dust control measures outlined in Section 7.8.4 of the EIS will be implemented to mitigate and manage dust appropriately. Furthermore, air quality impacts from the operation of the Project are expected to be minimal. The compressor station is electrically driven, so no combustion emissions will occur. Combustion of natural gas will occur during operation of water bath heaters for the delivery station; however, emissions are assessed as minor and unlikely to lead to any cumulative air quality impacts when the HPP is operating.

The results of the AQIA indicate that with implementation of appropriate mitigation measures (i.e. dust control during construction) emissions are within air quality criteria.

Gas leaks

- It will need to be monitored for safety for leaks, especially where it connects to narrower pipes leading to the compressor station. S-42005141.
- The proposed supply line bringing gas under pressure from Newcastle passes through several mine subsidence areas. This large volume of gas will then be stored close to residential areas. Both aspects seem to me to present unnecessary risks to the local population. S-42331026.

Response

All gas transmission pipelines in Australia are designed, constructed, operated and maintained in strict accordance with *Australian Standard AS2885 – Pipelines – Gas and Liquid Petroleum*. This standard exists to ensure protection of the pipeline, which in turn ensures the safety of the community, protection of the environment and security of gas supply to users. The application of this Standard has maintained an enviable safety record for gas pipeline operators in Australia.

A Preliminary Hazard Analysis (PHA) was prepared by Umwelt in accordance with the SEARs for the Project and relevant guidelines and legislative requirements. The PHA covered an assessment of the hazards and risk impacts likely to be associated with the Project, including gas leaks and transport, handling and management of dangerous goods. The analysis has demonstrated that the Project complies with the criteria of *Hazardous Industry Planning Advisory Paper No. 4– Risk Criteria for Land Use Safety Planning* (Department of Planning, 2011) in regard to the safety of adjacent properties. The report is attached as Appendix 13 to the EIS.

The transmission pipeline traverses three mine subsidence districts, as described in Section 2.3.1.6 of the EIS. In these areas the transmission pipeline will be designed and constructed, in consultation with Subsidence Advisory NSW to ensure risks associated with the transmission pipeline within the mine subsidence districts are appropriately mitigated.

APA will also develop a detailed monitoring program to ensure the integrity of the pipeline. Ongoing activities to maintain pipeline integrity will include mainline valve and scraper station inspection and maintenance, cathodic protection surveys and scheduled internal pipeline inspections. Monitoring of the mainline valve and scraper stations will typically occur monthly, or more frequently where required, where they will be tested to ensure they operate correctly.

5.1.2 Hazard and Risks

Operational safety

- APA propose to install 25 km of 42" Steel high pressure pipeline 15.3 MPa to be shallow buried on the site, to store up to 70 TJ of Natural Gas to support the Kurri Kurri Power Project (ref APA Project Update 19 October 2021). We believe this represents a high risk to the environment, operational safety. S-41677988.

Response

As outlined above, all gas transmission pipelines in Australia are designed, constructed, operated and maintained in strict accordance with *Australian Standard AS2885 – Pipelines – Gas and Liquid Petroleum*. This standard exists to ensure protection of the pipeline, which in turn ensures the safety of the community, protection of the environment and security of gas supply to users. The application of this Standard has maintained an enviable safety record for gas pipeline operators in Australia.

A PHA was prepared by Umwelt in accordance with the SEARs for the Project and relevant guidelines and legislative requirements. The PHA covered an assessment of the hazards and risk impacts likely to be associated with the Project, including gas leaks and transport, handling and management of dangerous goods. The analysis has demonstrated that the Project complies with the criteria of *Hazardous Industry Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning* (Department of Planning, 2011) in regard to the safety of adjacent properties. The report is attached as Appendix 13 to the EIS.

APA will also develop a detailed monitoring program to ensure the integrity of the pipeline. Ongoing activities to maintain pipeline integrity will include mainline valve and scraper station inspection and maintenance, cathodic protection surveys and scheduled internal pipeline inspections. Monitoring of the mainline valve and scraper stations will typically occur monthly, or more frequently where required, where they will be tested to ensure they operate correctly.

5.1.3 Biodiversity

Issues relating to biodiversity were raised in six submissions.

Vegetation Clearing

- (T)he clearance of trees and bushland within the construction of the pipeline, with an anticipated 65 ha of native vegetation being disturbed, including four endangered ecological communities. S-42543632.
- Before a pipeline can be laid, a 50 m or 25 m area of land has to be cleared, fragmenting wildlife's known food source areas. S-41968383.

Response

As highlighted throughout the EIS, the Project has been designed to avoid and minimise impacts to native vegetation by strategically locating project components on land that has been cleared and/or disturbed, is lawfully approved for clearing for other projects, or is adjacent to existing linear infrastructure, wherever practicable. As an example, the storage pipeline has been located within previously cleared areas of the buffer zone of the former Kurri Kurri aluminium smelter. As described in Section 7 of the EIS, historical aerial imagery indicates that the storage pipeline construction footprint was almost entirely cleared of vegetation between 1954 and 1976 with grassland maintained and regrowth controlled until around 2002 (see Photo 2.13 and Photo 7.1 of the EIS).

Trenchless crossings are also proposed to avoid impacts to high value vegetation. Notably, the HDD for the interconnect pipeline and transmission pipeline between KP18.7 and KP19.75 avoids surface impacts to the proposed stewardship area for the Regrowth Kurri Kurri project. Together these HDDs avoid impacting more than 4 ha of the Kurri Sand Swamp Woodland EEC and mapped important habitat for the regent honeyeater, as well as a population of around 269 individual small-flower Grevillea.

The construction footprint is also typically narrow with no above ground pipelines following construction, and so does not present a significant barrier for wildlife movement. Impacts to habitat connectivity will also be mitigated by strategic rehabilitation following construction. A specific mitigation measure (B08) has been included to allow understorey vegetation to 1.5 m high to regenerate across the transmission pipeline construction footprint between Four Mile Creek and Elwells Creek, but not within 4 m of the pipeline, to improve connectivity for ground-dwelling mammals, reptiles and small birds.

The area directly above and adjacent to the transmission and storage pipelines will be maintained clear of woody vegetation to prevent plant roots from damaging the pipeline coating. However, shallow-rooted vegetation can be re-established across the entire easement, providing cover and mitigating potential connectivity impacts.

Measures taken to avoid and minimise biodiversity impacts, including native vegetation, are summarised in Section 10.5.3 of the EIS and Section 4 of the BDAR. Where significant impacts to biodiversity are unavoidable, offsets will be provided in accordance with State and Federal law.

Impacts to Threatened Species and Habitat

- This will significantly negatively impact the fauna in those areas, including already endangered honey eater birds, swift parrots and koalas. S-41916079.
- The Biodiversity Assessment states "The Development Footprint occurs in a small (0.4 ha) area mapped as "important habitat" of the Regent honeyeater (*Anthochaera phrygia*)." Given this bird population is critically endangered, none of their habitat should be destroyed. It is simply not good enough to incrementally destroy the habitat of critically endangered animals and consider the impacts of this project on the Regent honeyeaters in isolation. S-42153476.
- (T)he Department of Agriculture, Water and the Environment also anticipated that there will be a significant impact on regent honeyeater and swift parrots, which are both critically endangered, and also on koalas and grey-head flying foxes, which are listed as endangered. S-42543632.

- Another major concern that I have with the project is that it will clear habitat of the regent honeyeater. Whilst I acknowledge that the amount of land being cleared is not very large, it is still incredibly concerning given that the regent honey eater is critically endangered. S-42158740.
- Page 110 under 5.3.1 Regent Honeyeater SAII Assessment states that "Important habitat identified in the Development Footprint comprises a very small fragment (0.46 ha) within the storage pipeline construction footprint surrounded by matrix of cleared/regrowth vegetation. Large areas of remnant vegetation mapped as important habitat surrounding the matrix of cleared/regrowth vegetation adjoin the Development Footprint and have been deliberately avoided. There is approximately 1,728 ha of important habitat mapping within 10 km of the storage pipeline and therefore, the proposed impact represents a negligible reduction (0.03 %) in the area of important habitat for the regent honeyeater in the local area". While this is true, each development is considered individually and at a static point in time whilst not considering other contiguous or future developments. For example much of the surrounding land is zoned as RU2 – Rural Landscape. There is no guarantee that it won't be cleared in the future. S-42307707.

Response

Avoidance of important habitat for the Swift Parrot and Regent Honeyeater, as mapped by DPE, has been specifically considered during Project design. As discussed in Section 5.3 and Table 5.2 of the EIS, one of the key factors influencing selection of the northern corridor and was that mapped important habitat for both these species could be almost entirely avoided. The central and southern corridors considered during the early design phase, by comparison, would impact substantial areas of Swift Parrot important habitat between the Hunter Expressway and the buffer zone of the former Kurri Kurri aluminium smelter.

The interconnect pipeline design and storage pipeline footprint have been similarly designed to avoid impacts to extensive areas of remnant vegetation mapped as Regent Honeyeater important habitat in the buffer zone of the former Kurri Kurri aluminium smelter.

However, avoidance of all areas of mapped important habitat for both the Swift Parrot and Regent Honeyeater was not considered achievable given the extensive occurrence in the landscape surrounding Kurri Kurri. Impacts have been minimised as far as practicable and are limited to around 0.2 ha of Swift Parrot habitat that has been incorrectly mapped within a cleared carpark of the former Kurri Kurri aluminium smelter and 0.46 ha of Regent Honeyeater important within the storage pipeline footprint.

The amended Project design presented in the Amendment Report no longer uses the former carpark as a laydown area, as such impacts to Swift Parrot important habitat are entirely avoided.

Impacts to Regent Honeyeater important habitat for the Project design presented in the EIS are limited to a very small fragment (0.46 ha) within the storage pipeline construction footprint. As described in Section 5.5.1 of the BDAR, this fragment is surrounded by matrix of cleared/regrowth vegetation. Large areas of remnant vegetation mapped as important habitat surrounding the matrix of cleared/regrowth vegetation adjoin the Development Footprint and have been deliberately avoided. There is approximately 1,728 ha of important habitat mapping within 10 km of the storage pipeline and therefore, the proposed impact represents a negligible reduction (0.03%) in the area of important habitat for the Regent Honeyeater in the local area.

Figure 7.12 G to H of the EIS displays important habitat and avoidance by the Development Footprint.

Threatened fauna records

- The report doesn't have a list of fauna species which were recorded during field surveys. This is not acceptable for a BDAR and is especially unusual given that a list of recorded flora has been provided in the report. There is no indication what threatened fauna species, if any, were detected during field surveys. S-42307707.

Response

Threatened fauna species recorded during field surveys are displayed in Figures 3.1A to 3.1H of the BDAR. It is noted that the BDAR presented in the EIS has been prepared in accordance with the BAM and authored by an accredited BAM practitioner.

Threatened Ecological Communities

- The BDAR identifies a number of Threatened Ecological Communities (TECs) that will be affected by this development. Although the amount of each is relatively small, the cumulative effect would have a serious effect on the birdlife of this area which is vital to the survival of some endangered and vulnerable species such as Regent Honeyeater, Swift Parrot, Glossy Black-Cockatoo and Gang-gang Cockatoo. S-42307707.
- The amount of vegetation in the development footprint (from Table 2.2 of the BDAR) is 67.58 ha. The total area of development footprint designated as Threatened Ecological Communities (TEC) is 62.74 ha which is 93 % of the total vegetation in the development footprint! This is not an acceptable outcome. S-42307707.

Response

The total area of TECs and native vegetation within the 103 ha development footprint assessed in the EIS, excluding vegetation that can be legally cleared under development approvals for other projects, is approximately 59 ha and 65 ha respectively.

The high proportion of native vegetation within the development footprint that qualifies as TECs is primarily due to broad definitions within TEC final determinations that encompass regrowth vegetation, and the prevalence of regrowth vegetation within the storage pipeline construction footprint. The extent of TECs within the storage pipeline construction footprint is as follows:

- Lower Hunter Spotted Gum Ironbark Forest in the Sydney Basin and NSW North Coast Bioregions (LHSGIF) – 29.04 ha.
- Kurri sand swamp woodland in the Sydney Basin Bioregion – 2.48 ha.
- River-Flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions – 3.33 ha.

As described in Section 7 of the EIS, historical aerial imagery indicates that the storage pipeline construction footprint was almost entirely cleared of vegetation between 1954 and 1976 with grassland maintained and regrowth controlled until around 2002 (see Photo 2.13 and Photo 7.1 of the EIS). Given this, around 35 ha (59%) of the total area of TECs directly impacted by the Project occurs as predominantly regrowth vegetation within the storage pipeline footprint.

As described in Section 7.5.3.2 of the EIS, the most common plant community type (PCT) recorded within the construction footprint is PCT 1600 Spotted Gum – Red Ironbark - Narrow-leaved Ironbark - Grey Box shrub-grass open forest of the lower Hunter, with 25.27 ha mapped as occuring as thinned/disturbed condition and 3.77 ha as moderate/good condition. This PCT only occurs within the storage pipeline construction footprint. As such, the most common PCT in the construction footprint, and the PCT that contributes 49% of the total area of impacted EECs, primarily occurs as regrowth vegetation within the storage pipeline construction footprint.

The total area of TECs that were found to be in moderate to good condition within the construction footprint is 19.5 ha, which is 33% of the total area of TECs, 30% of the total area of native vegetation and 19% of the Project disturbance footprint.

APA recognises the ecological value of remnant vegetation when designing projects, which is why the Project construction footprint has been specifically designed to minimise impacts to ecological values by selecting areas of cleared land or regrowth vegetation wherever practicable and use of trenchless crossings. This includes use of formerly cleared sections of the smelter buffer zone for the storage pipeline footprint. Use of the formerly cleared area for the storage pipeline is highly preferable for reducing ecological impacts than clearing the surrounding remnant vegetation, even though the overall area of TECs impacted would be approximately the same. Whilst regrowth vegetation provides ecological values, unequivocally higher ecological values are provided by remnant vegetation of the same PCTs.

As such it is suggested that a more ecologically valid assessment of impacts to vegetation would focus on the quality of the vegetation impacted and avoided rather than qualification with the legal definition of an EEC.

Ecosystem Credit Species

- Ecosystem-Credit Species (i.e. species determined by the Biodiversity Assessment Method (BAM) Calculator to potentially occur within the development footprint) include Regent Honeyeater, Glossy Black-Cockatoo, Little Lorikeet, White-bellied Sea-Eagle, Barking Owl, Powerful Owl, Masked Owl and Grey-crowned Babbler. In addition to these bird species, other Ecosystem-Credit species include Koala, Grey-headed Flying-fox, Spotted-tailed Quoll, Eastern False Pipistrelle, Eastern Coastal Freetailed Bat, Little Bent-winged Bat and Large Bent-winged Bat. The BDAR claims that "Breeding habitat for these species is fairly limited in the Development Footprint". We question this assessment for two main reasons:
    - The species listed as Ecosystem-Credit Species are vast, with different ecological functions and habitat requirements. To provide a blanket-statement stating limited breeding habitat is a gross oversimplification of the habitat requirements for all species generated by the BAM Calculator.
    - A search on the NSW BioNet Atlas for the area encompassing the development footprint reveals multiple records of many of these species from the last 10 years within a 10 km radius, demonstrating that they clearly depend on the overall locality for their habitat requirements. S-42307707.

Response

Under the BAM, ecosystem-credit species are those threatened species that can be predicted by vegetation surrogates and landscape features. As such, predictions of breeding habitat for ecosystem credit species are a function of the type and of vegetation within the Project area, as assessed primarily by vegetation surveys undertaken in accordance with the BAM.

Ecosystem-credit species are not required to be specifically targeted during field surveys, however an assessment of the suitability of habitat in the Development Footprint was undertaken to assess the species presence or otherwise in the relevant vegetation zones identified.

Conversely, species credits species are species where the likelihood of occurrence of a species or elements of suitable habitat for that species cannot be confidently predicted by vegetation surrogates and landscape features and can be reliably detected by survey. The BAM requires either a targeted species survey or an expert report to determine the presence of a species credit species or the habitat component relevant to the species credit assignment.

An assessment of all ecosystem-credit and species-credit species in accordance with the BAM is provided in Appendix D of the BDAR. The data sources used to develop indicative species lists, which included previous studies relevant to the Project, are provided in Appendix A1.3.1 of the BDAR. Bionet records are included as one such data source.

Furthermore, following the exhibition of the EIS, the BDAR has been updated to incorporate additional seasonal surveys as further discussed in Appendix C3 of the Amendment Report.

Survey Adequacy

- Page 35, under 2.1 Targeted Threatened Species Surveys states that "Where gaps in the adequacy of species credit species survey remain, the proponent proposes to complete additional surveys to account for these gaps". No timeline is provided on when these additional surveys would be conducted. There is not much point if it's after the development goes ahead. Will the development be delayed until the proponent organises these surveys? Surveys were conducted only from Aug 2021 to Feb 2022 so the presence of seasonal species such as Swift Parrots would not have been detected. S-42307707.
- The gaps that must be filled before the surveys can be considered adequate are listed in the BDAR as:
  - Targeted threatened flora parallel transects for summer seasonal species-credit species including a previously inaccessible property at the eastern end of the Development Footprint comprising approximately 1.2 ha of PCT 1592 – thinned/disturbed condition.
  - Stag-watching and searches for active hollows by threatened owl species, including nocturnal spotlighting and call playback for threatened owl species, koala and bush-stone curlew within suitable habitat. Suitable habitat includes areas where there are hollows that could potentially be used by threatened owls for breeding, which accounts for approximately 11 ha within PCT 1568, PCT 1592 ad PCT 1691, where suitable hollows have been recorded. Suitable habitat for the koala includes areas containing regionally relevant feed trees, which equates to approximately 25 ha of the Development Footprint within PCT 1568, PCT 1590, PCT 1592, PCT 1598 and PCT 1619. Suitable habitat for the bush stone curlew consists of approximately 31 ha of the Development Footprint in areas associated with PCT 1568, PCT 1590, PCT 1592, PCT 1598, PCT 1619 and PCT 1736. The proposed storage pipeline construction footprint has been adequately surveyed previously.

- Targeted threatened frog surveys in areas of suitable habitat including areas mapped as freshwater wetlands, drainage lines and dams within the Development Footprint.
- Micro-bat trapping for individuals recorded using habitat within two culverts to determine species and assess evidence of breeding.

- These "gaps" target a large suite of threatened species. A comprehensive BDAR should have the majority of threatened species covered by appropriate surveys. S-42307707.

- The BDAR states that "Biodiversity surveys were limited at times to areas of the Development Footprint where access was restricted by current property owners. Consequently, seasonal targeted surveys and vegetation mapping could not be completed in some areas" (Page 4, under 1.3.2 Access Limitations). Surveys were conducted only from Aug 2021 to Feb 2022 so the presence of seasonal species such as Swift Parrots would not have been detected. S-42307707.

Response

Additional seasonal surveys have continued to occur following the exhibition of the EIS and the results from these surveys are documented in detail in the updated BDAR (refer to Appendix C3 of the Amendment Report).

5.1.4 Greenhouse Gas

Issues relating to greenhouse gas were raised in nine submissions.

Greenhouse gas emissions

- We are concerned that should the pipeline fail for any reason, methane, which is a potent greenhouse gas, will be leaked into the air. S-42543632.
- In regards to the pipeline itself, it is well understood that gas pipelines fail, either by soil erosion, creek bank degradation or poor quality welding. When they fail, gas (which is 95-98% methane) leaks into the air. Methane is a far more potent greenhouse gas which means it has a global warming potential far greater than carbon dioxide. An international team of research scientists has found big errors in estimates on how much methane is escaping from gas companies' operations. S-42153476.
- The plant located near the town and the pipeline will emit fugitive emissions of methane, a potent greenhouse gas. All gas pipelines release fugitive emissions due to poor quality construction and soil movement. International studies have found big errors in methane emissions and Australian studies too. Soon a satellite will reveal all. S-41968383.

Response

As described in Section 7.2.4 of the EIS, all gas transmission pipelines in Australia are designed, constructed, operated and maintained in strict accordance with Australian Standard AS2885 – Pipelines – Gas and Liquid Petroleum. This standard exists to ensure protection of the pipeline, which in turn ensures the safety of the community, protection of the environment and security of gas supply to users. The application of this Standard has maintained an enviable safety record for gas pipeline operators in Australia.

AS2885 requires that "every pipeline shall be leak tight and have the necessary capability to safely withstand all reasonably predictable influences to which it may be exposed during the whole of its design life." The transmission and storage pipelines will be pressure tested prior to commissioning to ensure they are leak tight. This is done through a process called hydrostatic testing ('hydrotesting') whereby sections of the pipelines are filled with water and then pressurised above the pipeline's maximum operating pressure.

Ongoing compliance with AS2885 will be a requirement of any future Pipeline Licence for the Project. In order to demonstrate compliance APA will need to undertake a range of integrity management activities associated with monitoring the condition of Project infrastructure.

Furthermore, fugitive emissions have been considered in the Greenhouse Gas (GHG) assessment that was completed as part of the EIS. As further discussed in Section 7.9 of the EIS, the annual fugitive emissions for the design presented in the EIS are estimated to be around 321 t CO2-e, or 0.09% of total Scope 1, 2 and 3 annual operational emissions for the Project.

Details of the GHG assessment including proposed mitigation and management measures are described in Section 7.9 of the EIS.

Fossil fuel

- For the future of the planet we need to put a stop to approving new fossil fuel projects, including this pipeline. S-42543632.
- The EIS is based on an operational life of 30 years but even under this government's inadequate target of net zero by 2050 the operational life will need to be shorter. In reality now is not the time to be building new fossil fuel infrastructure which will only make us more reliant on fossil fuels not less. The claim that the gas plant will reduce emissions is based on a comparison with the output from the aging Liddell power station. This is obviously a false comparison. S-42331026.
- The sole justification for the Kurri Kurri lateral pipeline is that it is needed to supply the HPP with gas. The HPP is a fossil fuel plant that will pump at least half a million tonnes of CO2 equivalent emissions into the atmosphere each year for 30 years, further fuelling climate change. It is beyond believable that the lateral's EIS states the HPP will "Contribute to the net reduction of greenhouse gas emissions in the energy sector by providing ongoing firming of intermittent renewables." This is a sleight of hand from an accounting perspective as it makes a claim on the emissions reduction of other generators. S-42153476.
- It is also a fossil fuel plant which will emit millions of tonnes of greenhouse gas emissions over its life, which will further fuel climate change. We are at a critical point in history where we need to be reducing greenhouse gas emissions and transitioning to renewable energy rather than continuing to build more polluting fossil fuel plants. S-42158740.
- The environmental impact on the surrounding area will be significant, especially considering that gas extraction is just as high in emissions as coal production. S-42081720.

Response

The Greenhouse Gas (GHG) assessment undertaken for the Project is discussed in Section 7.9 of the EIS. This assessment was completed in accordance with relevant assessment guidelines, which include:

- National Greenhouse Accounts (NGA) Factors 2021 (Department of Industry, Science, Energy and Resources, 2021) (the NGA Factors).
- NGER (Measurement) Determination 2008 (as amended) and NGER Act 2007, Commonwealth Department of Environment and Energy.
- Carbon Gauge GHG Assessment Calculator for Road Projects (Transport Authorities Greenhouse Group Australia and New Zealand, 2013).

These guidelines represent good practice GHG accounting in Australia.

See also responses in **Section 5.3.2** 'Renewables and Batteries instead of Gas-Fired Generation'.

Climate change

- Climate experts around the world have stated that we need to get out fossil fuels to mitigate climate change, so no gas plant and even less gas pipeline should be built. As voters around Australia are more and more concerned by Climate change, making it their top voting priority - please refer to the ABC Vote Compass 2022, I am confident ministers, and the Planning minister of NSW will take the right decision and won't go ahead with this project which will be an ecological disaster. S-41916079.
- My reasons for this objection are largely related to the need to immediately halt climate change. Whilst gas emits less carbon dioxide than coal, it remains a fossil fuel, contributing to climate change & it's deleterious effects. S-42543010.
- It is dated technology which will significantly impact the climate crisis. S-42081720.
- The Australian Government has committed under the Paris Climate Agreement to take positive steps to ensure that as a society we reduce emissions to contain global warming. The Kurri Kurri Power Station and in particular the associated projects to provide for its ongoing operation will generate substantial direct and fugitive emissions. Consequently, this and the associated projects are incompatible with our International Commitments and should be rejected on that basis. S-41547973.

Response

As stated by Snowy Hydro Limited in the Hunter Power Project Response to Submissions - Submissions Report (Jacobs, 2021b), the HPP supports the net reduction of greenhouse gas emissions in the energy sector by providing firming capacity for renewable energy:

'The primary function of the Proposal is to firm variable renewable energy (solar and wind in particular) through the provision of dispatchable electricity and is therefore a key component in the transition of the NEM to a low carbon system within which the majority of electricity is provided by renewable energy. Open cycle gas turbine generation capacity, such as that proposed, provides dispatchable electricity required to do so. The Proposal provides flexible and longer duration firming capacity than other available technologies, such as grid-scale batteries, which currently have limited energy capability. As such open cycle gas turbines are a necessary technology in the transition and future of the NEM. It's considered that gas-fired generation and battery storage can provide complimentary benefits to the National Electricity Market (NEM), and accordingly the Proposal supports the further development of renewable energy. Recently AEMO has publicly stated their support for the development of firming plants, acknowledging that dispatchable gas-fired generation of this nature will unlock many multiples of low-cost renewable generation capacity.'

This position is supported by the assessment of the HPP EIS conducted by the NSW DPE, which identified that the HPP would contribute to the net reduction of greenhouse gas emissions in the energy sector by providing ongoing firming of intermittent renewables. The Notice of Decision for the HPP, issued by the NSW Minister for Energy and Environment on 17 Dec 2021 (DPE 2021b), notes that:

'The project would provide firming supply and synchronous generation which is increasingly important in the transition to a low carbon emissions energy sector and as coal fired power stations are retired. The Department considers the project would play an important role in this transition by facilitating additional intermittent renewable energy supply into the NEM.'

5.1.5 Socio-Economic Impacts

Issues relating to socio-economic impacts were raised in nine submissions.

Economic Impacts

- The Kurri Kurri Lateral Pipeline (KKLP) is not a useful long-term investment. It is 24 km of steel pipe, 1 m through, holding gas under pressure, to be buried nearly a meter under soil. It will create uneven surfaces & will be prone to washout of soil around it, making harvesting crops with machinery difficult. It will need to be monitored for safety for leaks, especially where it connects to narrower pipes leading to the compressor station. It will have a 50 m wide 'footprint' over the land. Snowy Hydro will pay annually to lease it, a waste of our taxpayer money. S-42005141.
- (T)he high cost of gas has been driving up electricity prices and this will only get worse if we dig deeper into our dependence on polluting and expensive fossil fuels. S-42153476.
- Ultimately the taxpayer will pay for the higher electricity prices this plant is destined to produce. S-41968383.
- This project will cost the community more than it will benefit on the long term. Considering the government emission reduction target by 2050, the Kurri Kurri Plant will need to be stopped before the planned 30 years to achieve those targets. S-41916079.

Response

It is noted that the economic viability of the HPP is addressed by responses eight, nine and 17 of the Submissions Report for that project (Jacobs, 2021b). These responses state that the HPP is underpinned by the Hunter Power Project business case, which demonstrates that the project will contribute positively to returns and will return earnings well in excess of its cost. The business case for the Hunter Power Project was published in 2020 and is publicly available online at Hunter Power Project - Snowy Hydro (URL: https://www.snowyhydro.com.au/hunter-power-project/).

Employment

- Kurri Kurri is a town where unemployment is high. Over the 30 years of the gas plant's expected working life, the plant will provide only ten permanent jobs and the pipeline, five jobs. S-41968383.
- There are very few jobs that will be created and it is not guaranteed that they will be local jobs, more likely people from outside the Kurri Kurri township. S-42081720.

Response

As highlighted in the EIS, the Project will provide direct financial benefits to the regional and local community, including employment generation of around 398 jobs during the peak construction period and around 5 full time equivalent jobs during the operational phase. In addition, contractors will be periodically engaged for various activities.

While pipelines do not typically have high workforce numbers during operation, APA will seek to employ and procure from local sources to the greatest extent possible to enhance any economic benefits of the Project in the locality where possible.

A Project specific Local Industry and Indigenous Participation Plan will be developed for the Project with the intention of promoting local, regional and Indigenous business and employment opportunities associated with the Project.

Property devaluation

- The pipeline will devalue the properties of landholders whose property the pipeline will go through. S-42153476.
- The properties through which the pipeline travels will be devalued as some land will not be useable. S-41968383.
- Also, it is unfair to landowners upon which land the pipeline will be constructed - their land will have less value and it will be cleared from tree - that sequester carbon - and any vegetation. S-41916079.

Response

Given the pipeline will be underground, land users will be able to continue regular land use activities above the transmission pipeline provided they do not undertake excavation activities or erect structures within the pipeline easement. APA is committed to dealing with all impacted stakeholders in an open and respectful manner to provide fair, adequate and equitable compensation in reaching agreement on a pipeline easement, based on relevant external advice from valuation professionals. APA will also agree to cover reasonable expenses related to legal and valuation advice incurred in negotiating the agreement.

The compensation payable for the easement will reflect impacts to the market value of the property arising from the registration of an easement over the affected land parcel. Easements and other encumbrances registered on land titles are commonplace for a range of infrastructure including power lines, water pipelines and other infrastructure. Information regarding pipeline easements and landholder compensation is provided in Section 7.2.4.4 of the EIS.

5.2 The Project

A total of 20 submissions were received in relation to the Project, with issues varying with regards to hydrogen, Project specific costs and the Project design.

5.2.1 Hydrogen

Issues relating to hydrogen were raised in nine submissions.

- Whilst the plant is intended to run on hydrogen based fuel, it is unclear whether this pipeline will be able to accommodate this mix. S-42543632.
- (T)he Station will not be 'hydrogen-ready' as claimed. In fact Snowy Hydro has instructed APA to not build the storage pipeline to be able to store hydrogen blended fuel. If the government intends to approve the project, then a condition of approval must be that the lateral and storage are built to ensure they are hydrogen-ready, in accordance with Snowy Hydro's claims and the various Commonwealth and NSW government hydrogen policies. S-42524208.
- The Kurri Kurri power project is not "Hydrogen ready". For a gas fired powered station to be "Hydrogen ready" the infrastructure to supply it must be Hydrogen compatible. The gas storage system seeking approval in the current EIS at Kurri Kurri is not Hydrogen compatible. S-41960782.
- Despite media claims about being "hydrogen ready" the EIS makes it clear that the proposed storage pipeline will not be able to store hydrogen blended fuel at all. If HPP is ever to run on even the tiniest proportion of hydrogen this storage facility will need to be upgraded, an enormously expensive undertaking! S-42331026.
- My primary concern after reading the EIS is that the storage pipeline has no capacity to hold a hydrogen blended fuel. This is despite clear statements from Snowy Hydro executives that the plant will be able to be run on a hydrogen blended fuel from when it is operational. S-42158740.
- Despite clear statements from Snowy Hydro executives and the Hunter Power Project's (HPP) EIS that the gas plant will run on a hydrogen blended fuel in the future, the lateral pipeline EIS shows the storage pipeline does not have the capacity to carry hydrogen. Since the Federal government's proposal of the HPP in 2021, a consistent justification for the gas plant has been its ability to run on a hydrogen blended fuel in the near term and (with expensive upgrades) 100% hydrogen in the future. The energy market is rapidly shifting to renewable energies so the HPP's ability to run on hydrogen is necessary for it to be utilised in a decarbonised future to avoid it becoming a stranded asset. S-42153476.
- If in the future, it is decided that the HPP should run on a hydrogen blended fuel (a highly likely scenario as shown above) the storage pipeline would need to be rebuilt and be subject to a second planning approval. This would significantly increase the cost of the project (as will be further discussed), increase the environmental impact and would mean that in its current form, the storage pipeline would not be able to fulfill its expected "operational life of 30 years." S-42153476.

- The EIS does not allow for the pipeline and storage bottle to carry hydrogen or a hydrogen blended fuel. However, "Clean hydrogen is a priority low emissions technology under the government's Technology Investment Roadmap". S-41968383.
- One of the key elements associated with the Kurri Kurri Power project is its ability to consume hydrogen in turbines that are required to be to be hydrogen compatible. We understand and appreciate the need for energy storage given the operation of the turbines as peaking units. However Ardent Underground believes there is a safer, more cost effective and environmentally responsible solution that would also provide 100 % hydrogen compatibility, supporting the near-term transition to a green hydrogen asset. S-41677988.
- The steel pipeline storage system proposed is particularly vulnerable to hydrogen attack, it is manufactured from high tensile steel tubes that are welded together. In concert with stress, atomic hydrogen interacts with metallurgical defects to activate embrittlement, resulting in reduced ductility and fracture resistance rendering the pipeline storage system only compatible with very low blends of hydrogen in Natural Gas at reduced pressure. Conversely the Ardent Underground Hydrogen Storage System is constructed using large diameter vertical shafts excavated deep underground which are compatible with both Natural Gas storage and 100 % Hydrogen meaning that the storage can be built today to store Natural Gas and can transition to 100 % Hydrogen (or any blend) in the future. S-41677988.
- Experts tell us that hydrogen is dangerous and unstable and not suitable for transport in a traditional gas pipeline. S-42054177.
- The EIS fails to address this requirement in explaining how the lateral and storage support hydrogen readiness in accordance with the various government hydrogen policies, especially if the storage cannot store hydrogen blended fuel. S-42524208.

Response

As stated in Section 2.3.3 of the EIS, the Project's transmission pipeline will 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 hydrogen in the east coast gas network.

Snowy Hydro has advised 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 at this stage. Consequently, the storage pipeline will not be built to specifications which would enable it to store hydrogen. However, modifications may be considered at a time when the economics of delivering a hydrogen blended gas fuel allows, and when hydrogen blended fuel is received from the SNP. The risks associated with the use of hydrogen would be subject to assessment under the NSW hazard and risk framework as part of any modification, and subject to modification approval under the NSW planning system.

Any future decisions on modifications or additions to the KKLP infrastructure to accept or increase hydrogen content will be taken by Snowy Hydro, as the owner and operator of the HPP.

Snowy Hydro has further advised that all economically feasible options available to the Project have been exercised with respect to hydrogen, resulting in the HPP being 'hydrogen ready' through the capability of the transmission pipeline and power station turbines to, respectively, transport hydrogen blended fuel and generate electricity from that fuel. Based on the evidence and investigations to-date, Snowy Hydro has advised that it does not agree that storage of a hydrogen blended fuel within the storage pipeline is commercially or technically viable.

Snowy Hydro has further advised that it will participate in the feasibility exercises associated with the transportation of hydrogen to the HPP. As a dedicated and interested customer of hydrogen, Snowy hydro will work with the hydrogen industry to improve the economics of hydrogen to the HPP.

5.2.2 Project Costs

Issues relating to the cost of the Project were raised in seven submissions.

- (W)ith the cost of the lateral now being revealed (together with other excluded costs), the cost of the project has almost doubled from the initial estimate ($610 m), making it even more uneconomic and a waste of taxpayer funds. S-42524208.
- When the HPP was initially proposed, the gas pipeline was estimated to cost $100 million. However, in the lateral EIS it is revealed the project is expected to cost $264 million. This doesn't include likely costs in the future to upgrade the pipeline to be able to hold a hydrogen blended fuel. The cost to the commonwealth government will also be significantly higher than the $264 million as the government owned Snowy Hydro will have to pay the additional costs to cover APA's profit margin. This will mean the project will cost drastically more than was initially expected and budgeted for. With the additional $600 million of the HPP (likely to similarly blow up to a far greater cost), the HPP and lateral pipeline is a waste of tax-payers money and hence should not be built. S-42153476.
- The budget has blown out by $164 m to $600 m for the power plant and $264 m for the gas lateral and storage system. Snowy Hydro will lease the gas lateral and storage system off APA. The $264 m cost for the gas lateral understates the true cost to Snowy Hydro as it is before financing costs and a profit margin for APA, the owner of the asset. S-41960782.
- Hydrogen requires higher quality and therefore higher cost construction because the molecules are smaller and can escape a pipeline more easily. S-41968383.
- The plant will run on diesel for much of the time, all at a huge cost to the Hunter community, at a time when many people cannot even afford basic medical care. S-42081720.
- The HPP will cost at least $610 million. The pipeline will cost APA at least another $264 million which will inevitably add to the cost of gas supplied to HPP. This adds up to a colossal misuse of taxpayer's money. S-42331026.
- Kurri Kurri and this pipeline will fast become expensive stranded assets, a white elephant we can do without. S-42005141.

Response

Submissions that raised economic concerns about the Project, specifically questioned the economic viability of the HPP once the costs for the KKLP are included.

It is noted that the economic viability of the HPP is addressed by responses eight, nine and 17 of the Submissions Report for that project (Jacobs, 2021b). These responses state that the HPP is underpinned by the Hunter Power Project business case, which demonstrates that the project will contribute positively to returns and will return earnings well in excess of its cost. The business case for the Hunter Power Project was published in 2020 and is publicly available online at Hunter Power Project - Snowy Hydro (URL: https://www.snowyhydro.com.au/hunter-power-project/).

5.2.3 Project Design

Issues relating to the design of the Project were raised in four submissions.

Design Capacity

- The Station cannot run continuously on gas (10 hours maximum) and therefore will be incapable of performing the normal continuous dispatch function of a gas power station. S-42524208.

Response

The HPP has been assessed and planning approvals granted by both the NSW and Commonwealth governments. Construction of the HPP has commenced. The assessment of the HPP EIS conducted by the NSW DPE (DPIE, 2021) concluded that the HPP would strengthen energy security in NSW, as it would:

- Contribute to closing the previously forecast reliability gap in 2023-2024 following the retirement of Liddell Power Station.
- Mitigate electricity supply scarcity for the Hunter, Sydney and Wollongong regions associated with the retirement of Vales Point Power Station in 2029.
- Mitigate reliability risks associated with the potential early exit of coal-fired power stations ahead of planned closure timeframes.
- Provide an ongoing source of synchronous energy to contribute to system security.
- Contribute to avoiding electricity price increases following the closure of Liddell Power Station for the scenario described in the Report of the Liddell Taskforce.

The KKLP is necessary to facilitate operation of the HPP.

The strategic context and project need for the Project is outlined in detail in Section 4 of the KKLP EIS and Section 4 of the HPP EIS.

Section 5 of the KKLP EIS considers the Project alternatives, including a 'Do Nothing' alternative. Under this alternative the Project would not be constructed, and any potential negative environmental and social impacts would not occur. However, the 'Do Nothing' alternative would also imply that the objectives of the Project would not be met. The Project is essential to supply gas necessary for the HPP to meet its primary role of providing electricity supply when renewable generation is low.

Pipeline alignment and easement

- With respect to Proposed Pipeline Alignment, Yancoal would like to draw the Department of Planning and Environment's attention to the following matters:
  - No arrangement has been reached between APA and Yancoal as of the date of this submission for the grant of an easement for the Proposed Pipeline Alignment across the Yancoal Interests.
  - The construction, ongoing maintenance and operation of the Pipeline are fundamentally at odds with Yancoal's obligations under the Donaldson and Abel Approvals and its ability to surrender the Yancoal Tenements. Specifically:

- There is no pathway for APA to meet and fully indemnify Yancoal against potential breachs of Yancoal's obligations under the Work Health & Safety (Mines and Petroleum Sites) Act 2013 (NSW) and Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 (NSW) at Donaldson and Abel.
- The construction, operation and maintenance of the Pipeline across the Yancoal Interests will materially complicate Yancoal's ability to comply its various environmental, rehabilitation, incident reporting and other obligations Donaldson and Abel Approvals. S-42537214.

- The corridors presented in the EIS are broad and do not provide the detail required to fully assess the impact. Should the northern route, as proposed, be approved then there are issues to be resolved with the specific detail of the route location. Approval of the project does provide any comfort that specific issues with the route will be addressed. S-42506107.
- In order to not diminish the development opportunity for the (Stony Pinch Consortium) site, alternate routes that align with established infrastructure such as main roads should be the preferred option. As a SSI project, the opportunity exists for the pipeline to be located and co-exist along road corridors where future expansion of the road network is required and where vegetation clearing will be required in the near future for the road network. S-42506107.
- The route selection criteria appears to be based on the easiest option for the proponent listing the proposed route as having the lowest number of direct affected landholders as the number one key advantage. S-42506107.
- No arrangement has been reached between APA and Ashtonfields as of the date of this submission for the grant of an easement for the Proposed Pipeline Alignment across the Ashtonfields land. S-41994973.

Response

Easement agreement between APA and Yancoal, and APA and Ashtonfields.

No statements have been made in the EIS to the effect that easement agreements have been reached with any affected landholders**.** It is standard practice for EIS for linear infrastructure to be lodged for assessment without easement agreements being reached with all, or even many, directly affected landholders. Often lodgement and assessment of an EIS drives further amendments to linear infrastructure design, which are subsequently reflected in easement agreements and statutory licences.

The EIS process is conducted under the *Environmental Planning and Assessment Act 1979*, whereas the issuing of pipeline licences and granting of easements, whilst contingent upon EIS approval, occurs under the *Pipelines Act 1967*.

APA is committed to ongoing consultation with all landholders directly affected by Project to reach easement agreements.

Work Health and Safety obligations and compliance with environmental, rehabilitation, incident reporting and other obligations.

Mining tenements traversed by the transmission pipeline held by subsidiaries of Yancoal are ML1618 and ML1461, both held by Donaldson Coal Pty Ltd. In common with most mining leases in the Hunter Valley, and in Australia more broadly, significant linear and other infrastructure on lots and easements owned and operated by third parties traverse or occur on these MLs. Notably, this includes the following infrastructure that was in place prior to granting of ML1461 during 1999 and ML1618 during 2008:

- John Renshaw Drive and associated power, water and telecommunications infrastructure in the road reserve.
- Hunter Water Corporation trunk mains and reservoirs, including the Chichester Trunk Gravity Main.
- two 132kV and one 330 kV high voltage overhead powerlines operated by Transgrid and Powerlink.
- the JGN Northern Trunk (Sydney to Newcastle Pipeline) gas pipeline, operated by Jemena.
- the operating Black Hill Quarry.

In addition, major developments that have been approved or are proposed within ML1461 and ML1618 since the granting of these MLs include:

- Black Hill industrial estate, with support provided in writing by Donaldson Coal Pty Ltd for the 2011 concept plan development application 20110329_Submission from Donaldson Coal PTY re BH.pdf (accelo.com).
- Broaden Group industrial estate.

Examples of gas pipelines traversing mining tenements within NSW include the Moomba to Sydney Gas Pipeline and the Eastern Gas Pipeline crossing numerous coal mining tenements in the southern coalfields west of Wollongong. These pipelines have been successfully operating since 1976 and 2000 respectively. The JGN Northern Trunk, which was commissioned during 1982, also intersects multiple MLs around Lake Macquarie in addition to ML 1618.

Both ML1618 and ML1461 also include conditions (No 19 in ML1618 and Nos 41 and 42 in ML1461) that specifically address interactions between mining activities and pipelines, transmission lines and communication lines.

As such, resolution of workplace health and safety obligations between overlapping land uses regulated under mining, pipelines, road and electrical transmission legislation has been successfully managed across multiple MLs in NSW for many decades.

However, APA notes the concerns raised and is committed to ongoing consultation with mining tenement holders and regulators to mitigate potential implications to safety, environmental, rehabilitation, incident reporting and any other obligations.

Alignment corridors presented in the EIS are broad

The corridors referred to, as shown in Figure 5.1 of the EIS, represent transmission pipeline alignment options buffered by 400 m that were identified at the initial design phase of the Project, and presented in the scoping report dated 11 June 2021. The process of assessing corridors using multi-criteria analysis and defining the proposed alignment within the selected northern corridor is described in detail in Section 5.2 and Section 5.3 of the EIS.

Detailed maps of the construction footprint proposed for the Project are provided throughout the EIS, most notably in Figures ES1.1, Figure 1.1 and Figure 2.1A-E.

Route selection criteria

The process of assessing corridors using multi-criteria analysis and defining the proposed alignment within the selected northern corridor is described in detail in Section 5.2 and Section 5.3 of the EIS. Selecting an alignment that reduces the number of directly affected landholders provides a positive social outcome given that the requirement to negotiate an easement agreement is imposed on far fewer landholders, as well as minimising the creation of easements on significantly smaller landholdings. Avoidance of MLs by placement of the transmission pipeline within the road reserve of John Renshaw Drive or other local roads introduces significant approval, construction and operational risks given congestion from existing services (water, power and telecommunications), impacts to users of the road during pipeline construction and proposed future widening of the road.

Construction methodology for crossing Bloomfield Coal Mine haul road

- The EIS at 2.8.1.12 provides that '(t)he primary haul road for the Bloomfield Coal Mine will be crossed by horizontal boring to avoid impacting mining operations' but does not clarify how this method will avoid impacts on the Bloomfield Coal Mine. S-41994973

Response

As outlined in Section 2.8.1.9 of the EIS, the crossing of the primary haul road for the Bloomfield Coal Mine is proposed to be a horizontal bore with casing pipe and grouting of the annulus. This is a similar construction methodology used for pipeline crossings of railways. The haul road crossing will be designed in consultation with the mine operator to accommodate loading of heavy vehicles used during mine operations and, as such, no impacts to use of the haul road during operation of the pipeline will occur. Furthermore, it is not proposed to restrict use of the haul during construction of the horizontal bore crossing. Casing is inserted into the bore as construction progresses and can be designed to fully support the mass of the overlying material and any vehicles using the haul road. The specific timing of the construction period will be subject to consultation with the mine operator.

Access

- The EIS provides at section 2.3.6.2 that '*existing sealed haul roads associated with the Abel Coal Mine (under care and maintenance) and the rehabilitated Donaldson Coal Mine*' without qualifying or elaborating on what access roads are proposed to be used. S-42537214 and S-41994973

Response

Proposed access tracks are shown in detailed maps throughout the EIS, most notably in Figures ES1.1, Figure 1.1 and Figure 2.1A-E. Section 2.2.1 of the EIS describes the proposed alignment in detail, and Section 2.3.6.2 describes the location and length of proposed access tracks.

Use of existing sealed haul roads will enable construction traffic to traverse between KP 5.7 and KP 8.7 without crossing an above ground water pipeline at 6.7 that connects the CTGM to the Stoney Pinch Reservoir.

As described in Section 7.2.5.3 of the EIS, '*No new heavy machinery crossing locations of Hunter Water Corporation trunk mains are required during pipeline construction. Existing heavy vehicle crossings used for current operations on the Bloomfield open cut mine or previous operations on the Donaldson open cut mine are proposed to be used. These heavy vehicle crossing locations are at KP5.1, KP8.2 and KP9.8. Heavy vehicles are not proposed to cross the trunk main connecting the CTGM to the Stony Pinch Reservoir at KP 6.2 but will instead use existing sealed mining haul roads to provide access between KP 5.1 and KP 8.2*'.

5.3 Project Justification

5.3.1 Project Need

Issues relating to the Project need and justification were raised in seven submissions.

- The pipeline is to feed the proposed Kurri Kurri Gas Power plant which is only intended to be in operation 2% of the time and is not needed to meet the emergency requirements for electricity supply when Liddell closes in 2023. The Colongra Gas Plant on the Central Coast already exists and was only used for 0.95% of the time in 2020. S-42543958.
- Many experts agree, including the government's own energy advisor AEMO that the HPP is not needed. S-42153476.
- The Power Station is not needed in 2023 as claimed, and hence nor is the lateral and storage. S-42524208.
- The proposed pipeline is unnecessary because the Kurri Kurri gas fired power station is unnecessary. By the time the power station is completed and operational, that's if it is actually built, it is expected that renewable power projects plus battery storage will make the power station unviable. Further, this gas fired project is against all the science saying no new coal or gas fired power generation should be constructed. S-42285264.
- The singular justification for this fossil fuel plant is that it facilitates the Kurri Kurri gas plant, however I strongly believe that neither the gas plant nor the pipeline is necessary or should be built. S-42158740.
- The Kurri Kurri Lateral pipeline is not needed for energy production and is purely a political stunt to catch votes. S-42081720
- The justification of the need for the Kurri Kurri Power Station and its associated Lateral Supply Pipeline is questionable. S-41547973.
- The Kurri Kurri Lateral pipeline is not needed for energy production and is purely a political stunt to catch votes. S-42081720.

Response

Several submissions claimed that Australian Energy Market Operator (AEMO), have not identified a need for the HPP, and therefore the KKLP. One submission stated that the HPP is not required by 2023 but may be required at a later date. Another submission stated that the HPP would be obsolete by the end of 2023 due to battery storage.

Justification for gas-fired energy generation

The most recent assessments of electricity supply in the NEM were published by the AEMO during April 2022 as the Update to 2021 Electricity Statement of Opportunities ('the Update', AEMO 2022a), and during August 2022 as the 2022 Electricity Statement of Opportunities (2022 ESOO, AEMO 2022b). The Update provides a revision to the 2021 Electricity Statement of Opportunities for the National Electricity Market (2021 ESOO, AEMO 2021), due to material changes to the forecasts of the supply demand balance in New South Wales. Most notably, these changes include the announcement by Origin Energy of the potential early retirement of Eraring Power Station in August 2025. Eraring Power Station supplies around 25% of NSW electricity.

The Update forecasts an electricity supply reliability gap for NSW from 2025-26, which is four years earlier than the 2029-30 gap identified in the 2021 ESOO. Note that the HPP is included in the 2021 ESOO as a committed project, which means supply of electricity from the HPP is assumed when assessments of electricity supply reliability are made by AEMO. AEMO also note in the 2021 ESOO that inclusion of the HPP has improved the reliability outlook compared to the 2020 ESOO forecast. As such, without the HPP and the KKLP, the forecast electricity reliability gap for NSW from 2025-26 would be larger and may commence sooner.

The 2022 ESOO released during August 2022 reiterates the findings of the Update in that reliability gaps are forecast in New South Wales from 2025-26 even when the HPP is included as a committed project. The 2022 ESOO states that:

In 2023-24, Liddell Power Station is expected to retire, however the commitment of new generation capacity noted in the 2021 ESOO, including the 750 MW Kurri Kurri Power Station, is forecast to achieve reliability within the Interim Reliability Measure following the plant's retirement. The forecast 2025-26 reliability gap occurs when Eraring Power Station is expected to retire, as previously identified in the April 2022 Update to the 2021 ESOO.

During June 2022, the National Electricity Market experienced a sustained period of very high prices, resulting in the market prices being administered and capped at $300/MWh. The pricing volatility was driven by high demand associated with cold weather, low levels of coal fired generation availability and variable levels of renewable energy generation. The gas fired generators in NSW, such as Snowy Hydro's Colongra power station, Energy Australia's Tallawarra power station and Origin Energy's Uranquity power station were essential for maintaining a stable electricity supply for NSW. The heavy reliance upon gas fired generation during this period demonstrates that gas plays a critical part in the generation fleet of an electrical system that is transitioning away from base load coal fired generation.

The ability of natural gas generation to contribute to a secure energy system as uptake of renewables continues has also been confirmed by AEMOs 2022 Integrated System Plan (ISP). The ISP states that peaking gas-fired generators will play a crucial role as significant coal-fired generation retires, as an on-demand fuel source during extended periods of low VRE output, and to provide power system services for grid security and stability (AEMO, 2022).

Project Justification

The Project is essential to supply gas necessary for the Hunter Power Project (HPP) to meet its primary role of providing electricity supply when renewable generation is low.

The HPP has recently been granted approval by both the NSW and Commonwealth governments and construction of the HPP is currently underway.

In its assessment of the HPP EIS, the NSW DPE (DPIE, 2021) concluded that the HPP would strengthen energy security in NSW, as it would:

- Contribute to closing the previously forecast reliability gap in 2023-2024 following the retirement of Liddell Power Station.
- Mitigate electricity supply scarcity for the Hunter, Sydney and Wollongong regions associated with the retirement of Vales Point Power Station in 2029.
- Mitigate reliability risks associated with the potential early exit of coal-fired power stations ahead of planned closure timeframes.
- Provide an ongoing source of synchronous energy to contribute to system security.
- Contribute to avoiding electricity price increases following the closure of Liddell Power Station for the scenario described in the Report of the Liddell Taskforce.

The strategic context and need for the KKLP Project are outlined in detail in Section 4 of the EIS and Section 4 of the HPP EIS. In addition, Section 5 of the EIS considers the Project alternatives, including a 'Do Nothing' alternative. Under this alternative the Project would not be constructed, and any potential negative environmental and social impacts would not occur. However, the 'Do Nothing' alternative would also imply that the objectives of the Project would not be met.

5.3.2 Alternatives to Gas

Alternatives to gas were raised in twelve submissions.

Renewable Energy and Battery Storage

- Renewables such as wind, solar & batteries need to be immediately utilised as an alternative means of energy supply. S-42543010.
- Gas is a fossil fuel and we as a country need to be using renewable energy if we are to survive the climate crisis that already exists. S-42543958.

- The clear alternative is large scale battery storage which would be cheaper, cleaner, less disruptive to the environment and surrounding land users but critically would produce far fewer emissions. It would be able to match the 10 hours of backup on offer from the HPP and would be able to respond to demand fluctuations much quicker. S-42331026.
- The future has no room for fossil fuels - renewables are cheaper, cleaner and are able to be built more quickly than this monstrosity. S-42081720.
- Renewable technology is progressing fast, is cheap to produce and clean and it makes a white elephant of power plants such as the proposed Kurri Kurri plant before its built. S-42054177.
- We need to move rapidly to renewable-source electricity and get off highly polluting carbon-creating gas projects, including these support projects for gas. S-42005141.
- We are at a critical point in history where we need to be reducing greenhouse gas emissions and transitioning to renewable energy rather than continuing to build more polluting fossil fuel plants. S-42158740.
- Alternative renewable energy technologies are available to support firming and network stability requirements for the National Electricity Grid and should be considered on their merits as alternatives as part of this project's evaluation. S-41547973.
- The HPP remains a polluting fossil fuel project, facilitated by this pipeline, that could easily be replaced for a cheaper, cleaner large scale battery storage project. S-42153476.
- The New York Power Authority (NYPA) looks to replace nearly a dozen, if not all, of its gas-fired peaker plants with four hour battery storage installations. S-41968383.
- The gas plant is unnecessary, many experts (including AEMO) have said that it isn't needed and will cause power prices to increase rather than decrease as promise. S-42158740.
- By the time the power station is completed and operational, that's if it is actually built, it is expected that renewable power projects plus battery storage will make the power station unviable. Further, this gas fired project is against all the science saying no new coal or gas fired power generation should be constructed. S-42285264.
- We should be transitioning to renewable energies. S-41916079.

Response

Numerous submissions expressed concern that the Project should not be approved based on a view that renewable energy and battery storage should be prioritised rather than continuing to invest in fossil fuel projects. It is noted these submissions primarily relate to the justification for the HPP, rather than the facilitating infrastructure of the KKLP, therefore a response in relation to the HPP is provided.

As stated by Snowy Hydro Limited in the Hunter Power Project Response to Submissions - Submissions Report (Jacobs, 2021b), the HPP supports the net reduction of greenhouse gas emissions in the energy sector by providing firming capacity for renewable energy:

'The primary function of the Proposal is to firm variable renewable energy (solar and wind in particular) through the provision of dispatchable electricity and is therefore a key component in the transition of the NEM to a low carbon system within which the majority of electricity is provided by renewable energy. Open cycle gas turbine generation capacity, such as that proposed, provides dispatchable electricity required to do so. The Proposal provides flexible and longer duration firming capacity than other available technologies, such as grid-scale batteries, which currently have limited energy capability. As such open cycle gas turbines are a necessary technology in the transition and future of the NEM. It's considered that gas-fired generation and battery storage can provide complimentary benefits to the National Electricity Market (NEM), and accordingly the Proposal supports the further development of renewable energy. Recently AEMO has publicly stated their support for the development of firming plants, acknowledging that dispatchable gas-fired generation of this nature will unlock many multiples of low-cost renewable generation capacity.'

This position is supported by the assessment of the HPP EIS conducted by the NSW DPE, which identified that the HPP would contribute to the net reduction of greenhouse gas emissions in the energy sector by providing ongoing firming of intermittent renewables. Further, the Notice of Decision for the HPP, issued by the NSW Minister for Energy and Environment on 17 December 2021, noted that:

- The project would provide firming supply and synchronous generation which is increasingly important in the transition to a low carbon emissions energy sector and as coal fired power stations are retired. The Department considers the project would play an important role in this transition by facilitating additional intermittent renewable energy supply into the NEM.
- As a peaking power station firming intermittent renewables, the project would only operate when it is needed to maintain reliability in the NEM and provide firming capacity. Supply would otherwise be provided by other generation, which is increasingly from renewables.
- No new coal fired power stations are proposed in New South Wales. The future exit of Liddell Power Station and the replacement of its capacity by the project and other new generation (which is increasingly from renewables) represents a net reduction of emissions in the energy sector which will continue as other coal-fired power stations are retired.
- Nonetheless, the conditions include a requirement to prepare and implement a Net Zero Power Generation Plan to progressively investigate and implement measures to reduce greenhouse gas emissions over time.

Constraints on the use batteries for long duration storage are addressed in Response 3 of the HPP Submissions Report. The DPE assessment of the HPP also assessed the potential for batteries as an alternative to the HPP, and found that:

  - *Batteries can provide firming capabilities for the NEM, however the current cost of medium and long-term storage limits batteries to shallow storage and use for intra-day levelling (ie storing surplus energy in low demand periods in the middle of the day and dispatching in higher demand periods in the evening). Batteries are limited by storage capacity and time taken to recharge, unlike open-cycle gas which can provide flexible and longer duration firming capacity on-demand.*

- *The strategic policy framework confirms that the future of the NEM a diverse mix of renewable energy resources supported by firming generation. The Department considers the project would play a complementary role with other dispatchable and non-dispatchable renewable energy sources in the NEM and that the project would provide the firming capacity to unlock new additional renewable generation.*

There have since been no technology developments or cost reductions for battery storage which would materially change the assessments described above.

5.4 Procedural Matters

Issues relating to procedural matters were raised in seven submissions.

5.4.1 Assessment Process

Issues relating to the assessment process and adequacy of the assessment have been raised in four submissions.

Assessment Adequacy

- The proposal has been put forward as an independent project, which is fundamentally incorrect, when it is directly and exclusively associated with the Kurri Kurri Power Station. This strategy results in the combined accumulative environmental and social impacts of both projects not being presented in the EIS and consequently not being assessed as part of the planning process. Separating mutually dependent projects as separate entities for planning assessment purposes bypasses the intent of the whole planning process as the true impact of the combined projects is not considered. This is a fundamentally dishonest practise that should not be allowed as it undermines the integrity of the planning process. Not to consider their accumulated impacts is unconscionable, misleading and a major flaw in the current State and Federal project planning processes. S-41547973.
- We have particular concerns about the inadequacy of the Biodiversity Development Assessment Report (BDAR) submitted for this project. S-42307707.
- It is the Bloomfield Group's view that the future development of the Stony Pinch Consortium site and the importance of this site to the region's economic future has not adequately been assessed in selecting the proposed route. S-42506107.
- The EIS fails to address this requirement in explaining how the lateral and storage support hydrogen readiness in accordance with the various government hydrogen policies, especially if the storage cannot store hydrogen blended fuel. S-42524208.

Response

One submission stated the assessment process of the KKLP was "fundamentally incorrect" because accumulative impacts from both the HPP and KKLP have not been assessed. One submission raised a concern of the inadequacy of the Biodiversity Development Assessment Report (BDAR). One submission stated that the future development of the Stony Pinch Consortium site has not been adequality assessed in selecting the proposed pipeline alignment. Another submission outlined the EIS failed to address how the lateral and storage pipeline will support hydrogen readiness. Responses to these are provided below.

Assessment Process

The Minister's declaration of the HPP as Critical State Significant Infrastructure (CSSI) includes the gas lateral pipeline and gas receiving station. However, the KKLP project has been determined by both the DPE and DCCEEW to be a separate project with a different proponent and subject to a separate environmental approval process. These determinations are procedural matters made in accordance with the NSW *Environmental Planning and Assessment Act 1979* and the *Environment Protection and Biodiversity Conservation Act 1999*.

As outlined in Section 7.16 of the EIS, a detailed cumulative impact assessment was completed for the KKLP in accordance with the *NSW Cumulative Impact Assessment (CIA) Guidelines for State Significant Projects* (DPIE, 2021b). This assessment considered the construction and operational overlap and/or interaction between the HPP and the KKLP and assessed any potential cumulative impacts associated with this overlap. In addition, the HPP EIS (Jacobs, 2021a) also completed a cumulative impact assessment with regards to the KKLP construction and operation as described in Section 21 of the HPP EIS.

As highlighted throughout the EIS, the cumulative impacts associated with the overlap in construction and operation of the HPP and the KKLP are considered manageable.

Assessment of land use conflict in relation to the future development of the Stony Pinch Consortium site

Section 7.2.5 of the EIS provides an assessment of the compatibility of the KKLP with the existing, approved and proposed resource and infrastructure projects. The following is noted in the EIS:

'*Currently no detailed designs, rezoning approvals or development applications for post mining land uses are available. Hunter Water Corporation infrastructure will be operating post mine closure, as noted by the current mining operations plan (Bloomfield Group 2021) for the Bloomfield open cut mine. Positioning of the transmission pipeline alignment adjacent to existing linear infrastructure that will need to be accommodated by post mining land uses provides a sensible approach to minimising constraints on post mining land uses that currently have no detailed definition and are unapproved. Consultation with the ML holders and landholders will be ongoing and will include approaches to minimise impacts to post mining land use.*

No other mining operations, developable significant mineral resources or coal exploration licences and mining leases are within or adjacent to the footprint of the Project.

Biodiversity offsets for the Project are likely to be acquitted by payment into the Biodiversity Conservation Trust, as described in Section 7.5.5. This method of acquitting offset obligations will avoid sterilisation of productive land, including land prospective for mineral exploration, for offset sites.'

Since the exhibition of EIS, APA has been in ongoing consultation with the Bloomfield Group and have considered the feedback received during ongoing consultation in the design of the Project, as outlined further in Section 3.2.2.5 and Section 3.2.2.6 of the Amendment Report.

Biodiversity Development Assessment Report (BDAR)

A revised BDAR has been prepared by a licenced practitioner to meet all the requirements outlined by BCD and provided in Appendix C3 of the Amendment Report.

Hydrogen Readiness

Refer to Section 5.2.1 for a discussion of Project design with regard to hydrogen.

5.4.2 Stakeholder Engagement

Three submissions raised issues in relation to stakeholder engagement.

Inadequate Engagement

- It is noted that there has been a lack of adequate consultation with The Bloomfield Group on the proposed route prior to completing the EIS documentation. S-42506107.

Response

APA commenced consultation with The Bloomfield Group during June 2021 and has undertaken ongoing consultation since this date. At the request of The Bloomfield Group, all consultation has been directed through the legal firm representing The Bloomfield Group. APA is committed to ongoing consultation with The Bloomfield Group to resolve concerns with the alignment or any other aspect of the Project.

Ongoing Engagement

- Aurizon acknowledges that APA Group commenced preliminary consultation with Aurizon on the proposed pipeline crossing on the 27 April 2022. Consultation entailed the following:
  - Provision of Standard Drawing: Railway Crossing Bored and Cased (the Drawing).
  - Request for feedback on the Drawing and any other requirements Aurizon may require.
  - Request for clarification on the Aurizon approval process for crossing of the rail infrastructure inclusive of timelines. S-42447675.
- Aurizon requests that ongoing consultation regarding engineering requirements for the required pipeline under bore continue. The objective of the consultation would be to agree upon engineering specifications to ensure the protection of the Project infrastructure and that financial or operational feasibility of future development of SMR is not impacted. Agreed upon engineering specifications would need to be to Aurizon's satisfaction. S-42447675.
- Aurizon completed construction of the Hexham Train Support Facility (TSF) in 2013. The TSF is bisected by the Jemena gas pipeline which has provided Aurizon with unique insights and experience in the construction maintenance and operation of a rail facility bisected by a major gas pipeline. S-42447675.

Response

Aurizon Operations Limited, a subsidiary of Aurizon Holdings Limited, acquired 100% of shares in South Maitland Railways Pty limited on the 2 March 2022. Prior to this acquisition, APA conducted ongoing consultation with the South Maitland Railways (SMR) between October 2021 and February 2022.

The request for ongoing consultation with Aurizon is noted. As outlined in Section 5.2.3 of the Amendment Report, APA has continued consultation with Aurizon during the development of the amendments and will continue ongoing consultation regarding the crossing design of the SMR.

No Agreement reached

- No arrangement has been reached between APA, Ashtonfields as of the date of this submission for the grant of an easement for the Proposed Pipeline Alignment across the Ashtonfields Land. S-41994973.

Response

APA acknowledges that no arrangement had been reached at the time of submission however it should be noted the EIS process is conducted under the *Environmental Planning and Assessment Act 1977*, whereas the issuing of pipeline licences and granting of easements, whilst contingent upon EIS approval, occurs under the *Pipelines Act 1967*.

APA is committed to ongoing consultation with all landholders directly affected including Ashtonfield's to reach easement agreements.

5.5 Beyond Project Scope

Six submissions raised issues considered beyond the scope of the Project.

5.5.1 Alternatives to the Project

One submission raised an issue in relation to alternatives of the Project.

- We strongly urge the department to seriously consider the vertical gas storage alternative as it offers a solution that cannot be matched by the default pipeline construction proposed by APA. S-41677988.

Response

APA group discussed the concept for a vertical lined shaft for the storage pipeline with Ardent during July 2021. The consultation indicated vertical gas storage has not been implemented for any gas storage project worldwide and extensive geological investigations would be required to demonstrate that the concept would be feasible for the KKLP. In addition, the timeframe for delivery of the vertical lined shaft would be substantially longer than that proposed for the storage pipeline. Based on these considerations, APA informed Ardent that the concept would not be progressed further.

5.5.2 Availability and Viability of Gas

One submission raised an issue in relation to availability and viability of gas.

> The community has been advised that NSW will experience a shortfall in gas supply in the near future. This despite the fact that Australia is the world's largest exporter of LNG. If domestic supply requirements were prioritised over exports supply would not be an issue. Because of this focus of prioritising exports, the gas supply to the Kurri Kurri Power Station will be dependent on the implementation of other highly contentious infrastructure projects including:
>
> - Hunter Gas Pipeline.
> - Narrabri Gas Project.
> - Newcastle Gas Terminal.
>
> All of the above projects have considerable environmental social and economic consequences for NSW and the Australian community in general. Australia pays heavily for the benefit of others.
>
> Within the Integrated System Plan prepared by the Australian Energy Market Operator it is shown that gas will have a minimal diminishing role in the firming of the power supply. The community will be expected to endure considerable disruption and irreversible environmental damage for a power generation system that will have a limited use and short lifespan, resulting in expensive stranded assets. S-41547973.

Response

Refer to **Section 5.3.1**.

5.5.3 Misleading Information

One submission claimed misleading information had been provided.

> - Snowy Hydro has misled the Independent Planning Commission. The Kurri Kurri gas power project is not "Hydrogen ready" as the infrastructure proposed in the Kurri Kurri gas lateral EIS is not Hydrogen compatible. S-41960782.

Response

Refer to **Section 5.2.1** for a discussion of Project design with regard to hydrogen.

5.5.4 HPP Assessment process

One submission raised issues in relation to HPP Assessment process.

- I did object to the Kurri Kurri Power Station Project on the same basis, that it was not a stand-alone project. The proponent failed to satisfactorily address the issue in their Submission Response, instead reiterating what was included in the original EIS Executive Summary that the project will require a new gas pipeline connection and receiving station to be provided by a third party and subject to an independent approval. The proponent did not, or choose not, to understand the context of my objection and the issue was not addressed. Subsequently I contacted the planning minister through his official email portal advising that I was not satisfied that the submission response addressed the issues raised, after many months I am still waiting on his reply. S-41547973

Response

This issue is beyond the scope of the Project as it relates to the HPP assessment process and the implementation of the NSW *Environmental Planning and Assessment Act 1979*. It is further noted that the HPP assessment process has recently been concluded with the approval of the project by the NSW and Commonwealth governments. Construction of the HPP is currently underway.

5.5.5 HPP not necessary

Two submissions raised issues in relation to the necessity of the HPP.

- The gas plant is unnecessary, many experts (including AEMO) have said that it isn't needed and will cause power prices to increase rather than decrease as promise. It is also a fossil fuel plant which will emit millions of tonnes of greenhouse gas emissions over its life, which will further fuel climate change. S-42158740.
- We know that the HPP is not wanted here in the Hunter, the experts and the market are telling us it's not needed. S-42153476.

Response

This issue is beyond the scope of this project as it relates to the HPP justification and project need. As noted above, the HPP has recently been granted approval by both the NSW and Commonwealth governments and construction of the HPP is currently underway.

6.0 Justification of the Project

This section provides a justification of the Project taking into consideration the submissions received and the design amendments that have been made. The justification considers the biophysical, social and economic impacts, the suitability of the Project area and whether or not the amended Project is in the public interest. The Project is also considered in the context of the principles of ecologically sustainable development (ESD) as defined in Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation).

6.1 Amended Project justification

Although the Project is subject to separate assessment and approval processes, it was included in the CSSI declaration for the HPP and is necessary for the operation of that project. Approval for the HPP was granted under the NSW planning system, subject to conditions, on 17 December 2021.

In its evaluation of the merits of the HPP outlined in the Environmental Assessment Report, DPIE (2021c) states:

The Department considers that the development of a gas-fired power station in the Hunter region would contribute to energy reliability and security in the NEM as it transitions away from coal-fired power station power generation over the next 10-15 years. The project is recognised as a committed project in the recent 2021 Electricity Statement of Opportunities as it would provide firming capacity to supplement the increasing supply of renewable energy and contribute to overall system reliability in the NEM (DPIE, 2021c).

The Project is proposed to facilitate the HPP by providing infrastructure to transfer gas from the SNP. Therefore, the HPP could not provide the benefits described above without the Project proceeding.

The amended Project remains generally as described in the EIS, however, several changes have been made in response ongoing consultation with directly affected landholders, agency submissions received during the exhibition period, and opportunities to reduce or avoid environmental impacts. The amended Project would provide some benefits over the original project in that it is more responsive to the affected landowners needs and further mitigates environmental impacts.

The amended Project would facilitate the HPP in the same manner as described in the EIS.

6.2 Suitability of the site

As described in Section 5.0 of the EIS, a range of design concepts and alignments for the Project were evaluated based on detailed consideration of the landscape and land uses in the area. The design concept and alignment selected was considered the most suitable option as it provided an acceptable degree of construction complexity, the greatest potential to minimise environmental and social impacts, as well as providing an economic solution with the lowest cost of all feasible design concepts considered. The amended Project has further considered these aspects with several amendments proposed as a result of consultation with landowners as to how the Project could be best accommodated within their individual landholdings. As such, it is considered that site suitability has been progressed and improved from that identified in the EIS.

6.3 Ecologically sustainable development

Clause 7(1) (f) of the EP&A Regulation requires a justification for a development with specific reference to the principles of ESD as set out in the Regulation. To justify the Project with regard to the principles of ESD, the benefits of the Project in an environmental and socio-economic context should outweigh any negative impacts. The principles of ESD encompass the following:

- the precautionary principle
- intergenerational equity
- conservation of biological diversity
- valuation, pricing and incentive mechanisms.

An assessment of the amended Project against the principles of ESD is provided in the sections below.

6.3.1 The precautionary principle

The EP&A Regulation defines the precautionary principle as:

> *'if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:*
>
> - *careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment*
> - *an assessment of the risk-weighted consequences of various options.'*

In order to achieve a level of scientific certainty in relation to potential impacts associated with the amended Project, extensive evaluation of all the key components of the Project has been undertaken at the EIS and Amendment Report stages. Detailed assessment of all key issues and necessary management procedures has been conducted and is comprehensively documented in the EIS and this Amendment Report.

The assessment process has involved detailed studies of the existing environment, and where applicable the use of scientific modelling to assess and determine potential impacts as a result of the amended Project. To this end, there has been careful evaluation to avoid, where possible, irreversible damage to the environment.

The decision-making process for the design, impact assessment and development of management processes has been transparent through the consultation process with both government authorities, landowners and the community.

Consistent with the precautionary principle, the environmental assessment of the Project has sought to minimise environmental impact through the avoidance of impacts and a range of mitigation measures are proposed to address identified residual impacts.

6.3.2 Intergenerational equity

The EP&A Regulation defines the principle of intergenerational equity as:

> *'... that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.'*

Intergenerational equity refers to equality between generations. It requires that the needs and requirements of today's generations do not compromise the needs and requirements of future generations in terms of health, biodiversity and productivity.

The amended Project is considered to be consistent with the principle of intergenerational equity as it can be carried out in a way that would maintain the health, diversity and productivity of the environment now and into the future. The key benefit of the amended Project remains the facilitation of the HPP which will contribute to energy reliability and security in the transition away from coal-fired power generation to renewables. The Project amendments are generally proposed as they provide for the best land use fit for existing landowners to allow for ongoing use for future landowners.

6.3.3 Conservation of Biological Diversity

The EP&A Regulation identifies that the principle of conservation of biological diversity and ecological integrity should be a fundamental consideration in the decision-making process. The conservation of biological diversity refers to the maintenance of species richness, ecosystem diversity and health and the links and processes between them.

The amended Project includes measures to minimise impacts on the abundance and distribution of flora, fauna and ecological communities for the short and long term, including:

- Design of a Project construction footprint that uses existing disturbed areas (for the JGN offtake facility, compressor station, delivery station and storage pipeline) or areas approved for disturbance by other projects (Stevens Group Hunter Business Park) wherever practicable.
- Design of a Project construction footprint that almost entirely avoids mapped important habitat for the regent honeyeater and swift parrot.
- Trenchless crossing of the proposed Regrowth Kurri Kurri stewardship area and a population of around 269 individuals of the threatened Grevillea parviflora subsp. parviflora north of the HPP.
- The transmission pipeline alignment and storage pipeline construction footprint have been amended to mitigate impacts to roosting habitat for the Southern Myotis, the Sydney Freshwater Wetlands endangered ecological community on the Wallis Creek floodplain, and a stand of the critically endangered ecological community River-flat eucalypt forest at the north-eastern extremity of the storage pipeline construction footprint.
- Development and implementation of biodiversity offsets strategy in accordance with the requirements of applicable state and Commonwealth polices and regulations.

All environmental components, ecosystems and habitat values potentially affected by the Project have been assessed in the BDAR with the amended Project expected to have minor adverse impacts on biodiversity.

6.3.4 Valuation principle

The goal of improved valuation of natural capital is included in Agenda 21 of Australia's Intergovernmental Agreement on the Environment. The principle has been defined in the EP&A Regulation as follows:

> *… that environmental factors should be included in the valuation of assets and services, such as:*
>
> *(i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement;*
>
> *(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste; and*
>
> *(iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*

The amended Project is considered to be consistent with the valuation principle of ESD as APA will be required to pay the full costs associated with:

- Ensuring the Project is designed and implemented in accordance with the relevant standards, including AS2885.
- Offsetting residual impacts to biodiversity in accordance with state and Commonwealth guidelines.
- Managing any waste produced by the Project in a safe and sustainable way in accordance with the NSW government's waste minimisation hierarchy.
- Meeting obligations in relation to compensation for directly affected landholders as require under the *Pipelines Act 1967* and the *Land Acquisition (Just Terms Compensation) Act 1991*.

Implementing the mitigation measures for the amended Project would impose an economic cost on APA, increasing both the capital and operating costs of the Project. In this manner, environmental resources have been given appropriate valuation.

The EIS and Amendment Report have incorporated the ESD principles. The mitigation measures in Appendix B of the Amendment Report provide an auditable environmental management commitment to these parameters. The Project is considered ecologically sustainable, due to the social, economic and environmental benefits discussed, and the mitigation measures put in place to protect from adverse impacts on the environment.

6.4 Conclusion

The Project has been assessed against the principles of ESD as required by the EP&A Regulation. This assessment has indicated that while the amended Project, like any large-scale development, would have impacts, these impacts can be effectively managed, mitigated and offset and the development will result in significant social and economic benefits. The assessment concludes that the Project is consistent with the principles of ESD.

In addition to providing long-term, strategic benefits to the State of NSW through provision of regional investment, reliable electricity generation and facilitation of increased renewable generation by providing infrastructure that enables gas to be supplied to the approved HPP, the Project will also provide direct financial benefits to the regional and local community, including:

- Infrastructure investment of the Project is approximately $264 million.
- Employment generation creating a peak of up to around 398 jobs during the construction phase with up to around 5 full time equivalent (FTE) jobs during the operational phase.
- Indirect benefits to local services through the construction and operation phases.

With the implementation of the management, mitigation and offset measures proposed by APA, the assessment has concluded that the amended Project would result in a net benefit to the NSW community.

7.0 References

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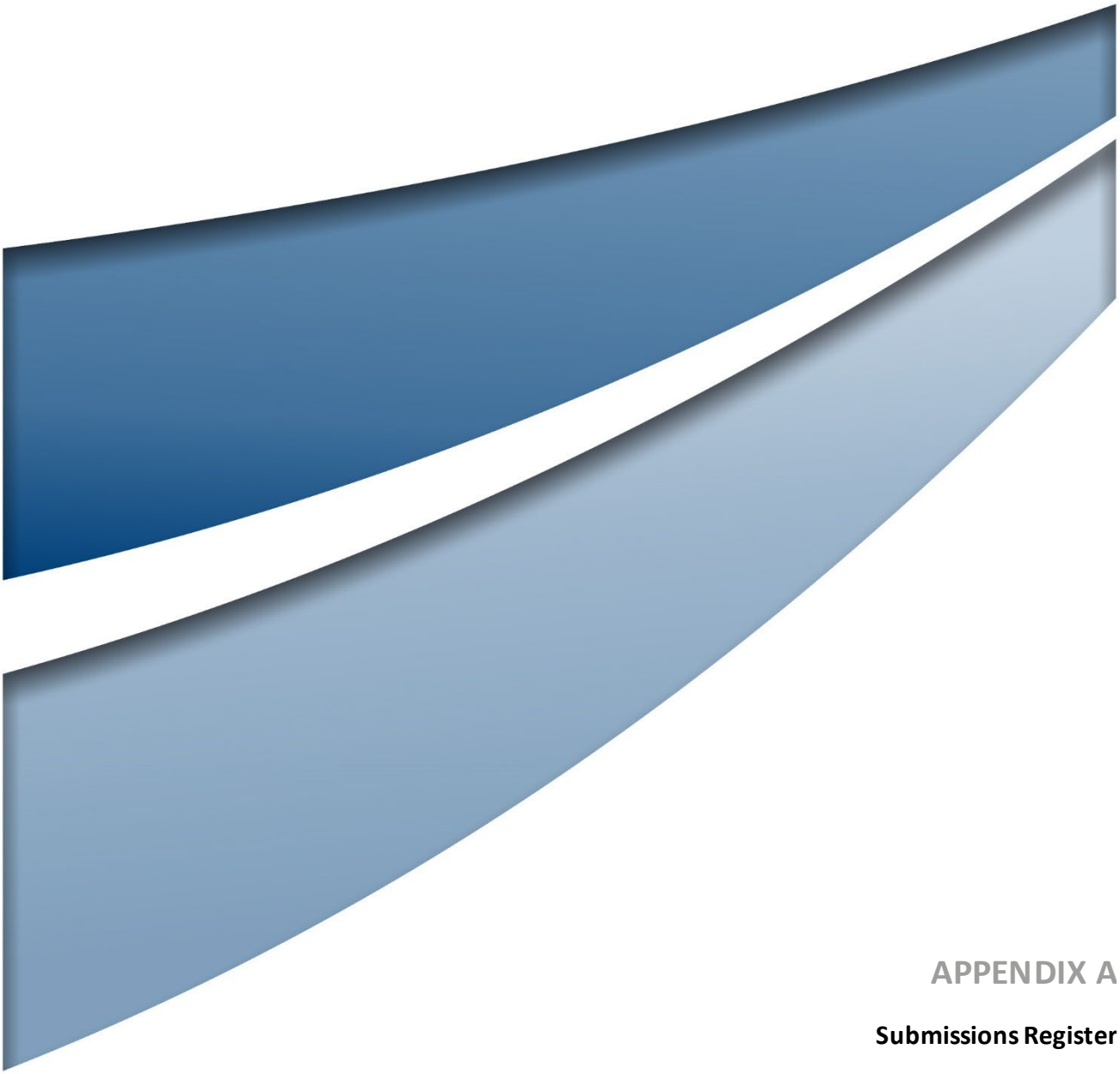

APPENDIX A

Submissions Register

Appendix A - Submissions Register

Group	Name	Submitter ID	Submission ID	View	Sections where issues addressed in Submissions Report
Public Authorities	Biodiversity and Conservation Division (BCD)			Comment	Section 4.1
	Crown Lands			Comment	Section 4.2
	Department of Planning and Environment (DPE) Water			Comment	Section 4.3
	Department of Primary Industries – Agriculture			Comment	Section 4.4
	Department of Primary Industries – Fisheries			Comment	Section 4.5
	Fire and Rescue NSW			Comment	Section 4.6
	Heritage NSW			Comment	Section 4.7
	Heritage Council of NSW			Comment	Section 4.8
	Hunter Water Corporation			Comment	Section 4.9
	Department of Regional NSW - Mining, Exploration & Geoscience (MEG)			Comment	Section 4.10
	Environmental Protection Authority (EPA)			Comment	Section 4.11
	Rural Fire Service (RFS)			Comment	Section 4.12
	Transport for NSW			Comment	Section 4.13
	Ausgrid			Comment	Section 4.14
	Cessnock City Council			Comment	Section 4.15
	City of Newcastle			Comment	Section 4.16
	Maitland City Council			Comment	Section 4.17
Community members and Public Organisations	Kathy McKenzie	S-41968383	SE-41968384	Object	Sections: 5.1.1, 5.1.2, 5.1.3, 5.1.4, 5.1.5, 5.1.7, 5.1.8, 5.1.9, 5.1.10, 5.2.1, 5.2.2, 5.3.2,
	YANCOAL AUSTRALIA LTD	S-42537214	SE-42537215	Object	Sections: 5.1.1, 5.1.8, 5.2.3, 5.4.2
	Ashtonfields Pty Limited	S-41994973	SE-41994974	Object	Sections: 5.1.1, 5.1.8, 5.2.3
	Lynn Benn	S-42331026	SE-42331027	Object	Sections: 5.1.2, 5.1.3, 5.1.5, 5.2.1, 5.2.2, 5.3.1, 5.3.2
	Gas Free Hunter Alliance	S-42153476	SE-42152982	Object	Sections: 5.1.3, 5.1.4, 5.1.5, 5.1.6, 5.1.7, 5.1.8, 5.1.9, 5.2.1, 5.2.2, 5.3.1, 5.3.2, 5.5
	Janet Thompson	S-42005141	SE-42005142	Object	Sections: 5.1.3, 5.1.7, 5.1.9, 5.2.2, 5.3.1, 5.3.2
	Glouster Knitting Nannas Against Gas and Greed	S-42543632	SE-42543633	Object	Sections: 5.1.4, 5.1.5, 5.1.7, 5.1.8, 5.2.1, 5.3.2
	Alexa Stuart	S-42158740	SE-42158741	Object	Sections: 5.1.4, 5.1.5, 5.2.1, 5.2.2, 5.3.1, 5.3.2
	Withheld (Thornleigh)	S-41916079	SE-41916080	Object	Sections: 5.1.4, 5.1.6, 5.1.8, 5.1.10
	Hunter Bird Observers Club Inc.	S-42307707	SE-42307708	Object	Section 5.1.4
	Meg Bowman	S-42081720	SE-42081721	Object	Sections: 5.1.5, 5.1.6, 5.1.9, 5.1.10, 5.2.2, 5.3.1, 5.3.2
	Withheld (Merewether)	S-42543010	SE-42543011	Object	Sections: 5.1.6, 5.3.1, 5.3.2
	Allan Evans	S-41547973	SE-41547974	Object	Sections 5.1.6, 5.1.11, 5.3.1, 5.3.2, 5.4.1, 5.4.2, 5.5
	Josephine Morehead	S-42054177	SE-42054178	Object	Sections: 5.1.8, 5.2.1, 5.3.1, 5.3.2
	Ardent Underground Hydrogen Storage	S-41677988	SE-41677989	Comment	Sections: 5.2.1, 5.5
	Ted Woodley	S-42524208	SE-42524209	Object	Sections: 5.2.1, 5.2.3, 5.3.1, 5.4.1
	Institute for Energy Economics and Financial Analysis	S-41960782	SE-41960783	Object	Sections: 5.2.1, 5.2.2, 5.5
	The Bloomfield Group	S-42506107	SE-42506108	Object	Sections: 5.2.3, 5.4.2, 5.4.3
	Withheld (Lorn)	S-42285264	SE-42285265	Object	Section 5.3.1
	Angela Bennett	S-42543958	SE-42543959	Object	Sections: 5.3.1, 5.3.2
	Aurizon Operations Ltd	S-42447675	SE-42447676	Comment	Section 5.4.3

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