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CHAIN VALLEY COLLIERY CONSOLIDATION PROJECT

Submissions Report

FINAL

March 2023

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Submissions Report

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Delta Coal

Project Director:	David Holmes
Project Manager:	Penelope Williams
Report No.	20170/R08
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Environmental & Social Consultants

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Acknowledgement of Country

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.

Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
Final	Penelope Williams	17/03/23	David Holmes REAP Accreditation R80035	17/03/23

Executive Summary

Chain Valley Colliery (CVC) and Mannering Colliery (MC) are underground coal mines, owned and operated by Great Southern Energy Pty Ltd (trading as Delta Coal). Delta Coal is a wholly owned subsidiary of Delta Electricity Pty Ltd which owns and operates the Vales Point Power Station (VPPS) located to the immediate west of the pit tops of the two mining operations. Both CVC and MC have historically supplied the majority of coal produced at these operations to VPPS.

Existing operations are undertaken in accordance with CVC's Development Consent SSD-5465 (as modified), and MC's Project Approval MP 06_0311 (as modified). Both operations are approved to carry out mining operations to 31 December 2027. Delta Coal operates CVC and MC as an integrated operation with access to the underground mining areas by employees at both sites.

The proposed Chain Valley Colliery Consolidation Project (the Project) would provide for the consolidation of the existing operations and associated development consents under a single approval. The Project would also allow for secondary extraction in the approved MC mining areas located under Lake Macquarie to maintain consistency with the existing CVC consent and provide an extension of the life of mining operations for an additional two years to 2029. This extension would align the life of mining operations at MC and CVC with the planned operational period of the VPPS.

The Environmental Impact Statement (EIS) provided a detailed analysis of the potential environmental and social impacts of the Project. The EIS was lodged and placed on public exhibition from 18 November 2022 until 16 December 2022.

This Submissions Report has been prepared to fulfil the requirements of Schedule 1 of the *Environmental Planning and Assessment Act 1979* and in accordance with the *State Significant Development Guidelines – Preparing a Submissions Report* (DPE, 2022). The key purpose of this Submissions Report is to:

- consider and respond to the issues raised in submissions by the public and agencies in response to the exhibition of the EIS for the Project, and
- help the consent authority (in this case the Independent Planning Commission (IPC)) to evaluate the merits of the Project.

Analysis of Submissions

During the public exhibition period 192 submissions were made, comprising 11 government agency submissions, one local council submission and 180 community and organisation/interest group submissions[1]. None of the agency submissions opposed the Project and only the submission from the NSW Environment Protection Authority (EPA) sought additional information.

[1] While the Major Projects Portal notes 192 public submissions, one submitter lodged two of the same submission and the submission delivered on behalf of Lake Macquarie City Council was submitted once via the portal as a public submission and once as a government agency. In both of these cases, only one submission has been counted in the number of submissions.

Of the 180 submissions from community members, interest groups and organisations, a total of 133 were characterised by the Department of Planning and Environment (DPE) as being objections and 45 were in support of the Project; two submissions were characterised by the DPE as providing a comment only (i.e. not objecting to or supporting the Project).

Economic, environmental and social impacts of the Project were the most frequently raised category of issues in the 133 objecting submissions received. The key themes to the economic, environmental and social issues raised in the objecting submissions were:

- air quality
- climate change
- impacts to water resources
- impacts to soil and land capability
- greenhouse gases
- biodiversity.

The most frequently raised theme was air quality (78 submissions), followed by climate change (67 submissions) and impacts to water resources (48 submissions). The vast majority of submissions raising concerns regarding air quality and climate change were associated with the operation of the VPPS. Concerns regarding potential impacts to water resources included potential impacts associated with underground mining below Lake Macquarie however many of these submissions also raised concerns about recent fish death incidents in Lake Macquarie. Many of the submissions raising concerns regarding water impacts also included concerns associated with the operation of the VPPS.

Twenty nine (29) of the objecting submissions included concerns characterised as being related to procedural matters. These submissions included concerns regarding the adequacy of the assessment, and in particular the absence of an assessment of impacts associated with the VPPS.

There were nine submissions that directly raised issues relating to the justification of the Project. Additionally, three submissions stated a general objection to the Project, however, included no specific issues or reasons for the objection. These submissions were also characterised as being objections on the justification and evaluation of the Project.

Economic and social benefits were the only category raised in the 45 supporting community submissions received. The supporting submissions were split into themes for economic (demand and supply) benefits and employment.

Neither the Lake Macquarie City Council submission nor any of the agency submissions raised concerns regarding the adequacy of the impact assessments undertaken. The EPA submission requested additional information to assist in setting noise criteria for the Project should it be approved, however this submission did not otherwise raise concerns regarding the noise assessment and specifically identified that it was ‘satisfied that the air quality, odour and ground and surface water impacts have been adequately assessed’.

Sections 4.0 and 5.0 of the Submissions Report contain responses to the different issues and comments raised in submissions by objectors and the agencies. These responses identify where and how the issues raised were addressed in the EIS.

Actions Taken Since Exhibition

Additional consultation was conducted with the EPA to discuss their submission in relation to the Noise Impact Assessment (NIA). No further assessment was required to address the EPA submission however further information has been provided to clarify the assessment undertaken and to assist the EPA in recommending conditions related to the management of noise impacts.

Following the review of submissions, there are no changes proposed to the Project design or management measures detailed in the EIS. This should not be seen as a discounting of issues raised as it is recognised that many people in the community have concerns regarding the potential impacts associated with coal mining and the combustion of that coal and its associated contribution to climate change. However, it is noted that the Project, as detailed in the EIS, is effectively a continuation of existing approved operations at MC and CVC for an additional two years with no material changes to operating arrangements. The Project does not involve any increase in the approved mining area. Should the development application not be approved, operations at CVC and MC will remain approved to the end of 2027 and operations at VPPS will also continue to the current planned closure date of 2029. The Project therefore does not involve any additional impacts other than those associated with the short duration of operations continuing.

Project Justification

The objectives, benefits and strategic need for the Project remain consistent with those outlined in the EIS.

The Project is a logical business decision for Delta Coal, aligning the existing Delta assets in order to provide for a local secure coal supply that aligns with the current operational requirements of the VPPS. While the Delta Coal operations will not meet all of the VPPS demand, the ability to obtain a large percentage of VPPS coal via a local, reliable and cost-effective supply reduces VPPS's exposure to price fluctuations and supply chain restrictions. This in turn assists VPPS in supplying reliable and cost-effective electricity generation to NSW. Sourcing coal for the VPPS from existing approved resources located immediately adjacent to the VPPS also mitigates the impacts associated with sourcing coal from other operations, including impacts associated with increased coal haulage distances.

As noted above, the Project does not involve any increase in the approved mining area and the extended life of operations is an additional two years relative to currently approved operations. While impacts associated with the mining operations will continue for an additional two years, it is noted that mining operations and the VPPS have been occurring at this site for over 50 years and recent changes in operations have resulted in reduced noise impacts relative to historical operations. It is also noted that the additional projected greenhouse gas emission emissions associated with the Project would be expected to be emitted at other operations if the development consent is not approved as these emissions are driven by the demand created by VPPS which will continue to 2029. Accordingly, the Project will have minimal additional impacts relative to the Project not proceeding and will not result in any increase in impacts to any communities relative to operations that are already approved.

The consolidation of the approvals for the Project will reduce administrative and regulatory processes for both Delta Coal and Government regulators and improves alignment between the operations. Additionally, the review and consolidation of the existing CVC and MC consents would provide a single contemporised approval that clarifies Delta Coal's regulatory obligations to the community.

The Project is consistent with the principles of ecologically sustainable development and represents a responsible and logical means of continuing coal supply to the VPPS for the current proposed life of VPPS.

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1.0 Introduction

Great Southern Energy Pty Ltd (trading as Delta Coal) owns and operates the Chain Valley Colliery (CVC) and Mannering Colliery (MC) underground coal mines located on the southern shore of Lake Macquarie, NSW. The operations are located approximately 60 kilometres (km) south of Newcastle, within the Lake Macquarie and Central Coast Local Government Areas (LGAs) (refer to **Figure 1.1**).

Existing operations are undertaken in accordance with CVC's Development Consent SSD-5465 (as modified), and MC's Major Project Approval MP 06_0311 (as modified), both issued under the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act). Under existing operations, coal is transported via an overland conveyor from MC to Vales Point Power Station (VPPS). Both operations are currently approved to carry out mining operations to 31 December 2027. Approved mining at CVC is currently limited to the Fassifern seam only however mining in both the Fassifern and Great Northern seams is approved at MC.

Sunset Power International Pty Ltd, trading as Delta Electricity, owns and operates the VPPS, a coal fired power station located at Mannering Park on the southern extent of Lake Macquarie adjacent to the CVC and MC pit top facilities.

The owners of both Delta Coal and Delta Electricity are seeking to maximise the use of the Delta Coal assets to supply coal to the VPPS. The Project is referred to as the Chain Valley Colliery Consolidation Project (the Project) and would provide for the consolidation of the existing operations at CVC and MC under a single development consent under the EP&A Act. The Project would also allow for secondary extraction in the approved MC mining areas located under Lake Macquarie to maintain consistency with the existing CVC consent and provide an extension of the life of mine (LOM) for an additional two years to 31 December 2029. This extension would align the life of mining operations at both MC and CVC with the planned operational period of the VPPS.

Approval for the Project is being sought under the State Significant Development (SSD) provisions (Division 4.7) of Part 4 of the EP&A Act as the Project is declared to be SSD under the *State Environmental Planning Policy (Planning Systems) 2021*. The new development consent being sought would replace the existing CVC Development Consent SSD-5465 (as modified) and MC Major Project Approval MP 06_0311 (as modified). The Project would operate under the new development consent which would regulate all future mining at both operations and the existing development consents would be surrendered.

An Environmental Impact Statement (EIS) (Umwelt, 2022) was prepared for the Project in accordance with the requirements of the Environmental Planning and Assessment Regulation 2021 (EP&A Reg). The EIS was publicly exhibited between 18 November 2022 and 16 December 2022 by the NSW Department of Planning and Environment (DPE).

During the public exhibition period, 192 submissions were received from members of the public, community organisations and government agencies (excluding duplicates). On 22 December 2022, DPE requested that Delta Coal prepare and submit a Submissions Report which responds to the issues raised in the submissions (including from local councils) and agency advice, as required under section 59(2) of the EP&A Reg.

This Submissions Report has been prepared in response to this request in accordance with clause 59(2) of the EP&A Reg and having regard to the *State Significant Development Guidelines – Preparing a Submissions Report (Appendix C of the State Significant Development Guidelines)* (DPE, 2022).

This Submissions Report also provides further details of ongoing stakeholder engagement activities that have been undertaken since the EIS was submitted to DPE in September 2022, including both agency and community engagement activities.

Following receipt of this Submissions Report, DPE will complete its assessment of the Project and prepare an Assessment Report, taking into consideration the EIS, the Submissions Report and associated additional assessments, as well as submissions made during the public exhibition period. As more than 50 of the submissions received during the public exhibition period objected to the development, the NSW Independent Planning Commission (IPC) is the designated consent authority for the development application under section 4.5 of the EP&A Act. DPE's Assessment Report will be considered by the IPC prior to the determination of the Development Application for the Project.

1.1 Overview of the Project

The Project has been designed using a multi-disciplinary social, environmental and economic risk-based approach that aims to maximise resource extraction efficiency and the use of existing mining infrastructure, whilst seeking to minimise impacts on the environment and community. The design of the Project includes measures to reduce impacts as an outcome of the environmental and social studies, and through applying the key learnings from the history of mining operations at both CVC and MC.

The Project would provide for the extension of the LOM to 31 December 2029. This extension aligns the LOM for the CVC and MC operations with the current operational requirements of the VPPS and the extended LOM justifies the additional capital investment needed to access coal resources in the western area. Based on current mine planning, an estimated approximately 13.4 Mt run-of-mine (ROM) coal will be extracted over the period 2023 to 2029. While the extension of the LOM by two years will only increase approved maximum production by 5.6 Mt, the economics associated with mining the approved western areas means approximately 9.5 Mt ROM of additional resources can be extracted over the life of operations relative to current operations which are constrained by the 31 December 2027 consent limit.

The Project Area includes the existing approved CVC and MC consent areas and excludes areas outside the Delta Coal lease areas with only minor adjustments to the boundary, to align with the adjusted MC mining lease boundary (refer to **Figure 1.1**)[2].

Table 1.1 provides an overview of the key components of the Project

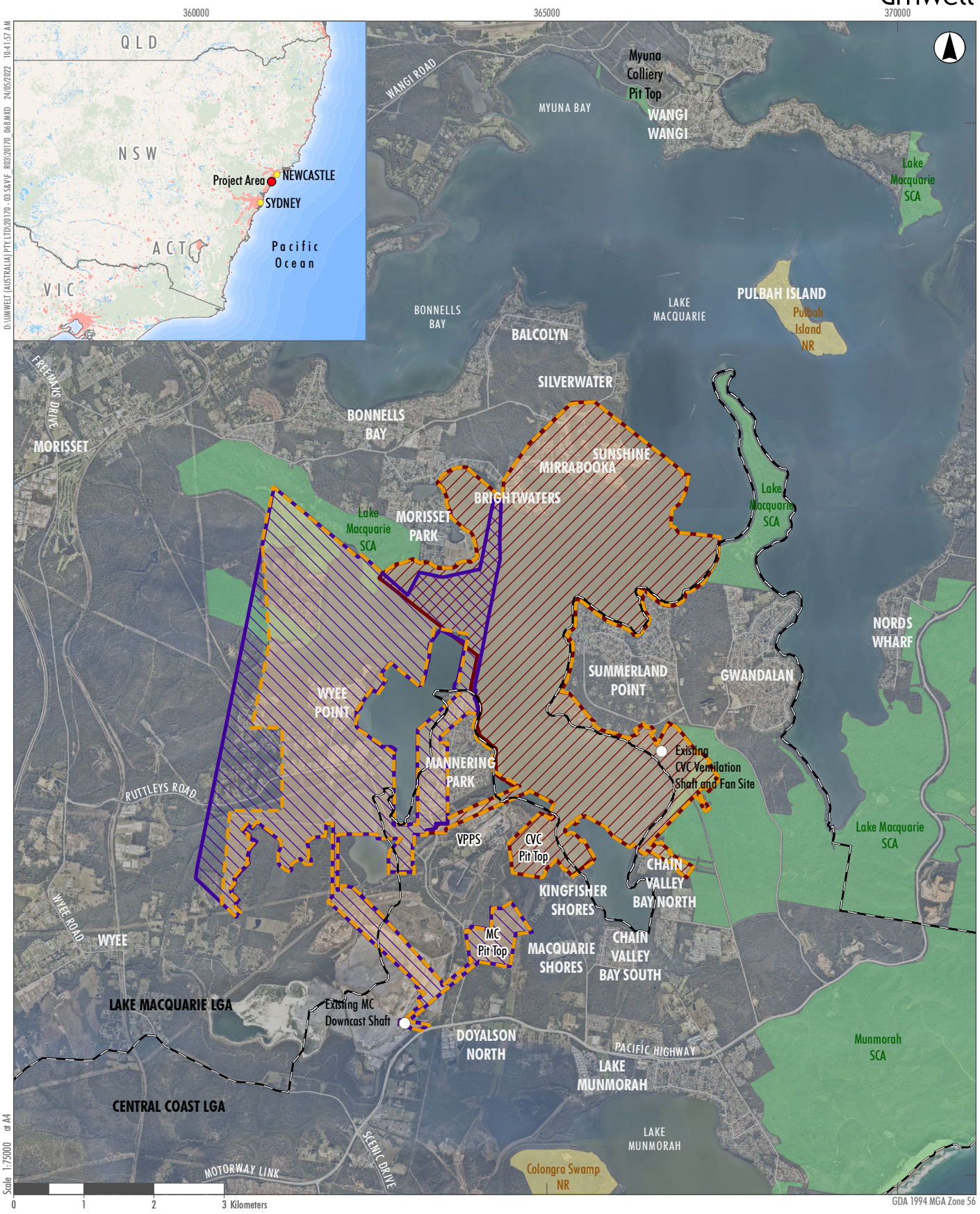
[2] The Project Area also excludes the areas dedicated as the Lake Macquarie State Conservation Area (SCA) which only applies to the surface and 20 metres (m) below ground level (bgl); where the Lake Macquarie SCA is shown as being located within the Project Area, the Project Area is depth limited and only applies to the land below the SCA in those areas. In all other parts of the Project Area, the consent extends to the surface.

Table 1.1 Overview of Key Project Components

Project Component	CVC Approved Operations	MC Approved Operations	Consolidation Project
Project Area	Refer to **Figure 1.2.**	Refer to **Figure 1.3.**	Consolidated Project boundary to align with adjusted MC mining tenement boundary - refer to **Figure 1.4.**
Mine life	Mining operations are approved until 31 December 2027.	Mining operations are approved until 31 December 2027.	Mining operations approved to 31 December 2029.
Annual Coal Extraction	Extraction of up to 2.1 Mtpa of ROM coal.	Extraction of up to 1.1 Mtpa of ROM coal.	Extraction of up to 2.8 Mtpa total from all mining areas.
Annual Surface Handling	Up to 1.5 Mtpa ROM coal (all production at CVC beyond the 1.5 Mtpa ROM coal surface cap to be sent to VPPS via MC).	Up to 2.1 Mtpa ROM coal.	Handling of up to 2.1 Mtpa ROM Coal at MC and up to 1.5 Mtpa at CVC with overall cap of 2.8 Mtpa.
Resource	Fassifern Seam.	Fassifern and Great Northern Seams.	Fassifern and Great Northern Seams.
Mining Method	Continuous miner (bord and pillar and pillar extraction) and miniwall mining methods Pillar extraction and miniwall mining only under Lake Macquarie and subject to 20 mm vertical subsidence limits on seagrass beds and foreshore areas.	First workings only, including use of a herringbone bord and pillar configuration.	No change to existing subsidence approval. First workings only under land areas, foreshore and seagrass beds. Pillar extraction and miniwall mining limited to Fassifern Seam mining areas under Lake Macquarie.
Underground Mining Areas	Refer to **Figure 1.2**, consistent with Appendix 2 CVC Consent. Note – CVC MOD 4 proposes to amend the CVC Consent boundary to include the Northern Mining Area.	Refer to **Figure 1.3**, consistent with Appendix 2 of MC Project Approval.	Consolidation of MC and CVC approved mining areas. Refer to **Figure 1.4.**
Subsidence Commitments	Zone A – Maximum of 20 mm (HWMSB and SPB). Zone B – Maximum 780 mm. Chain Valley Bay Mining Area multi-seam feasibility.	Maximum of 20 mm subsidence.	Zone A – Maximum of 20 mm subsidence. Zone B – Maximum 780 mm. Refer to **Figure 1.4.**
Mine Infrastructure	Personnel-and-material drifts, ROM coal conveyor drift to MC.	Coal crushing facility.	Continued use of existing MC infrastructure. Continued use of CVC infrastructure.

Project Component	CVC Approved Operations	MC Approved Operations	Consolidation Project
	Upcast and downcast ventilation shaft and fans Coal handling facilities for breaking, crushing, sizing and storing product coal. Administration and workshop facilities. Water management infrastructure.	Upcast and downcast ventilation shaft and fans Coal handling facilities for breaking, crushing, sizing and storing product coal. Overland conveyor (from MC Pit Top to VPPS). Underground link road to CVC. Administration and workshop facilities. Water management infrastructure.	Minor upgrades to surface facilities proposed to support extended LOM and the increase to ROM throughput (including water management structures, surface to seam boreholes within the pit top area and use of temporary stockpile areas during emergencies).
Coal Processing	Screening and ROM coal crushing, no coal rejects are generated.	Screening and ROM coal crushing, no coal rejects are generated. Surface Rotary Breaker (decommissioned).	Screening and ROM coal crushing, no coal rejects are generated. ROM coal to be brought to the surface at CVC or MC.
Product Coal Transportation	Product coal from CVC Pit Top to VPPS via truck on private roads only (up to 1.5 Mtpa).	N/A	Up to 1.5 Mtpa coal transport from CVC to VPPS via internal haul road and sections of privately owned Construction Road (only if MC infrastructure is not available).
	Transport product coal from approved CVC mining area to MC via the existing underground linkage up 2.1 Mtpa, for subsequent delivery to VPPS via conveyor.	Up to 2.1 Mtpa ROM coal via overland conveyor to VPPS.	Up to 2.8 Mtpa product coal transport from MC to VPPS via conveyor.
	A maximum of 660,000 tpa of product coal from CVC Pit Top on public roads to the Port of Newcastle for export.		No change.
	A maximum of 180,000 tpa of product coal from CVC Pit Top on public roads to domestic customers (other than VPPS).		No change.
Hours of Operation	24 hours per day, 7 days per week.	24 hours per day, 7 days per week.	No change.
Site Access	Existing road access via Construction Road off Ruttleys Road.	Existing road access directly from Ruttleys Road.	No change to existing arrangements.

Project Component	CVC Approved Operations	MC Approved Operations	Consolidation Project
Rehabilitation	Surface infrastructure will be decommissioned and the site rehabilitated following mine closure.	Surface infrastructure will be decommissioned and the site rehabilitated following mine closure.	No change.
Workforce (Operations)	Up to 330 FTE personnel at CVC and within an overall CVC/MC workforce of approximately 390.		No change to overall. Approximately 390 FTE personnel across the two operations.
Workforce (Construction)	N/A	N/A	Managed within approved operational workforce limits.
Water Discharge Requirements	Licensed daily discharge of up to 12.161 ML/day (EPL).	Licensed daily discharge of up to 4 ML/day (EPL).	No change.
Water Supply and Demand	Potable water utilised for surface facilities and underground operations (160 ML per annum) supplied by Central Coast Council from potable water supply mains.	Potable water utilised for surface facilities and underground operations supplied by Central Coast Council via metered pipeline.	Potable water utilised for surface facilities and underground operations supplied by Central Coast Council.
Exploration	Exploration activities subject to Exploration Activities and Minor Surface Infrastructure Management Plan.	Exploration activities subject to Exploration Activities and Minor Surface Infrastructure Management Plan.	No change.



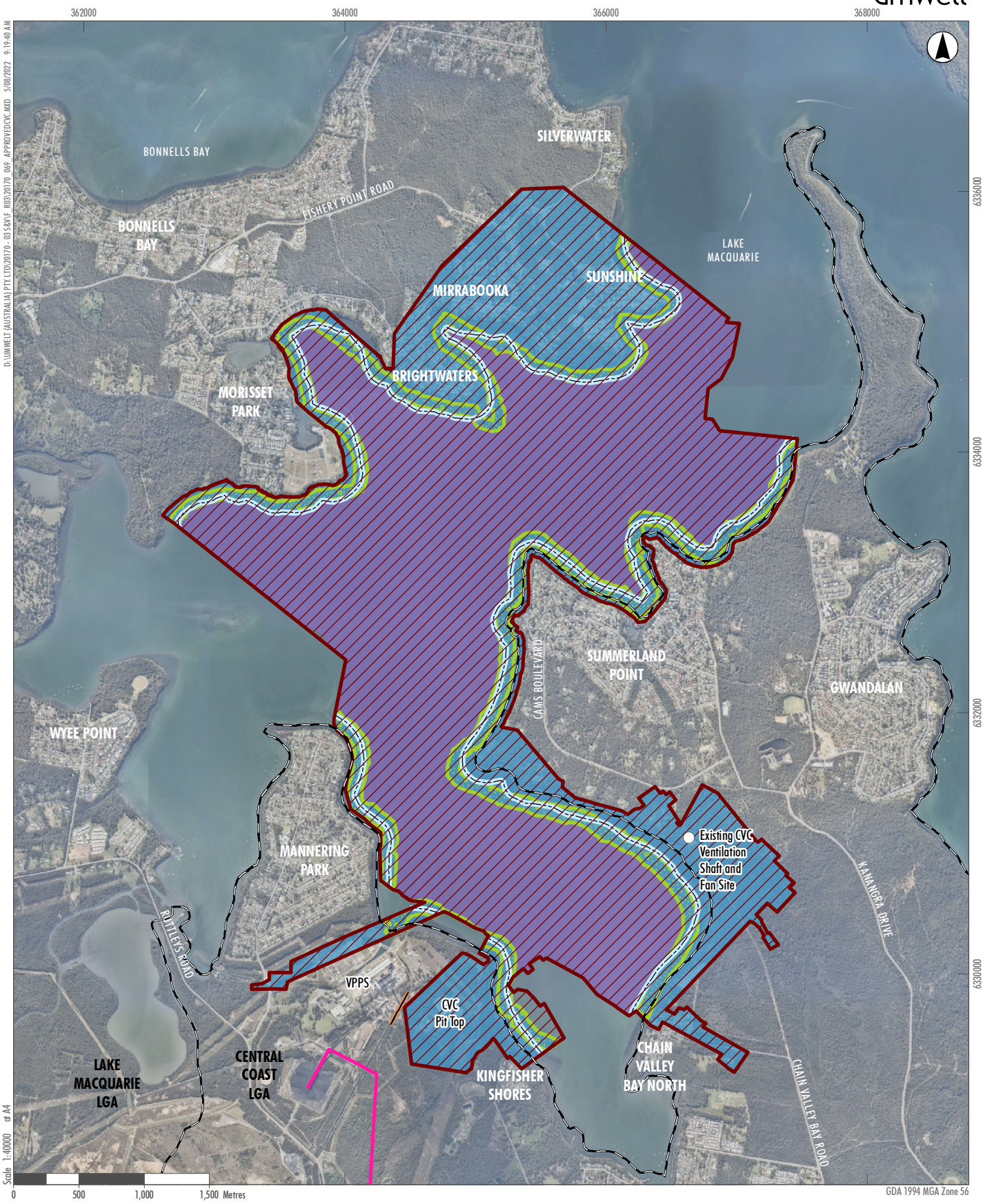
Legend

- Project Area
- CVC Consent Boundary (SSD-5465)
- MC Project Approval Boundary (06_0311)
- Nature Reserve (NR)
- State Conservation Area (SCA)
- Local Government Area Boundary (LGA)

FIGURE 1.1

Project Locality

Image Source: Nearmap (May 2019) Data source: Delta Coal



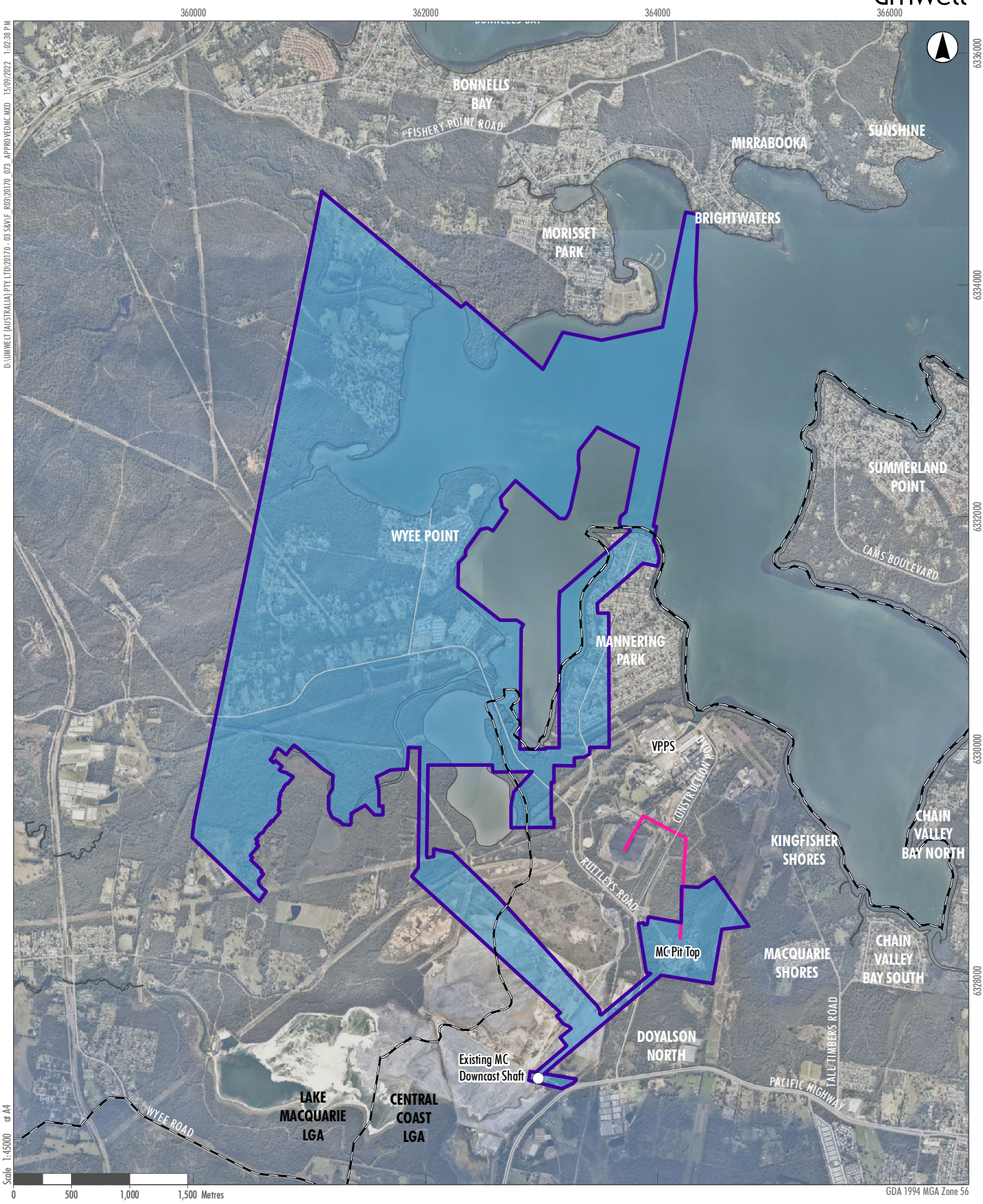
Legend

- CVC Consent Boundary (SSD-5465)
- Existing VPPS Overland Conveyor
- Seagrass Protection Barrier
- High Water Mark Subsidence Barrier
- Zone A - Maximum 20 mm subsidence
- Zone B - Maximum 780 mm susbsidence
- Local Government Area Boundary (LGA)
- Construction Road

FIGURE 1.2

Approved CVC Operations

Image Source: Nearmap (May 2019) Data source: Delta Coal (2021)



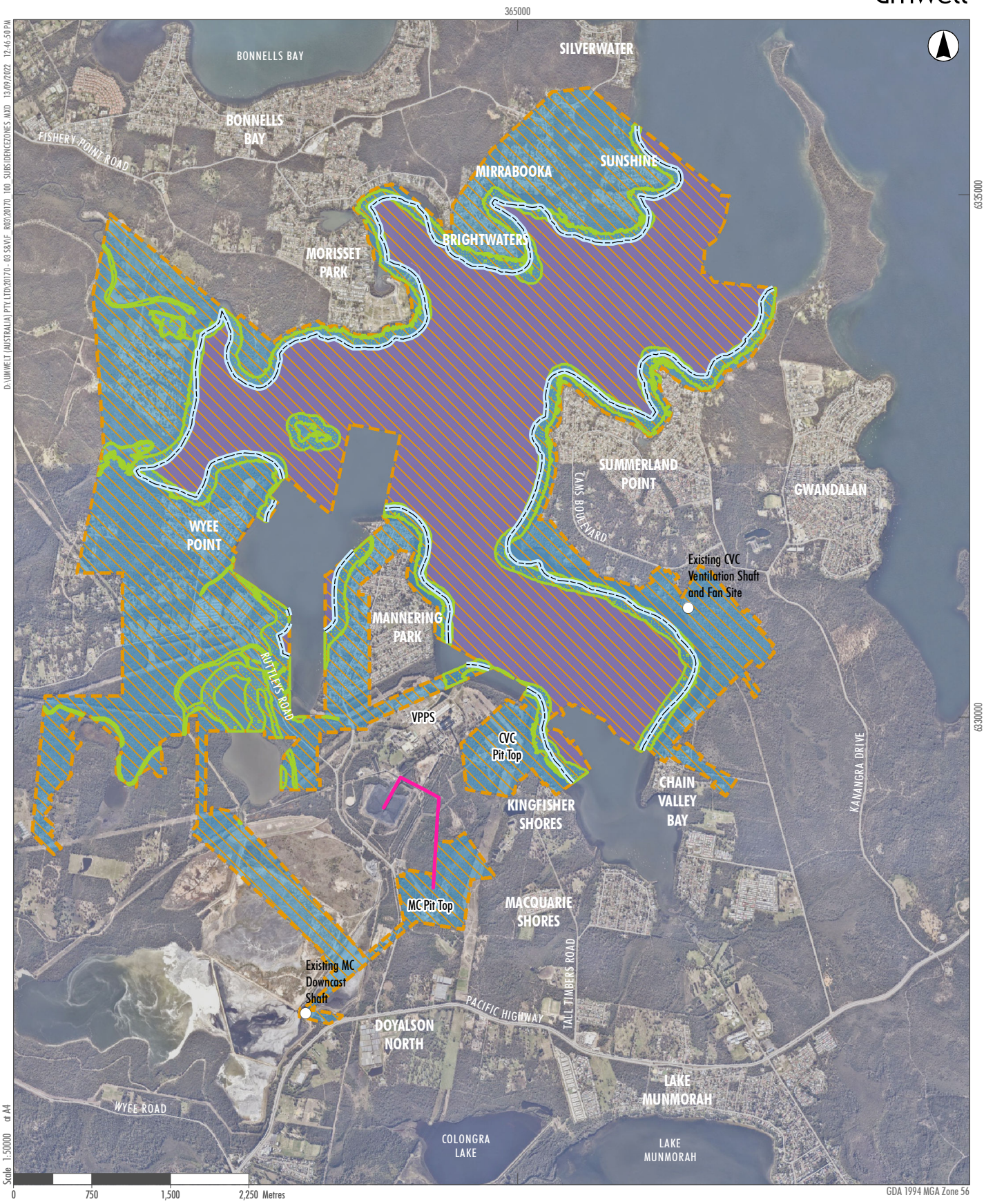
Legend

- MC Project Approval Boundary (06_0311)
- Approved Mining Area
- Existing VPPS Overland Conveyor
- Local Government Area Boundary (LGA)

FIGURE 1.3

Approved MC Operations

Image Source: Nearmap (May 2019) Data source: Delta Coal (2021)



Legend

- Project Area
- Seagrass Protection Barrier
- Zone A - Maximum 20 mm Subsidence
- Zone B - Maximum 780 mm Subsidence
- High Water Mark Subsidence Barrier
- VPPS Overland Conveyor

FIGURE 1.4

Project Overview

Image Source: Nearmap (May 2019) Data source: Delta Coal

1.2 Structure of Report

In accordance with the abovementioned DPE (2022) Guideline, this Submissions Report is structured as follows:

- **Section 1.0** – provides a brief summary of the Project to provide context for the submissions responses
- **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 organisation / interest group submissions and community submissions
- **Section 6.0** – provides an updated justification for, and evaluation of the merits of, the Project.
- **Appendices**:
    - submissions register (**Appendix 1**)
    - table of proposed mitigation measures (**Appendix 2**)
    - supporting information, including **Appendix 3** and **Appendix 4**, as referenced in this report.

2.0 Analysis of Submissions

2.1 Breakdown of Submissions

The EIS was placed on public exhibition from Friday 18 November 2022 to Friday 16 December 2022. During the public exhibition period, 192 submissions were made on the Project. This included 11 government agency submissions, one local council submission and 180 community and organisation/interest group submissions[3]. **Table 2.1** provides a breakdown of the submissions received for the Project.

Table 2.1 Breakdown of Submissions

Category	Number of Submissions
Agency (State/Public Authority)	11
Council(s)	1
Organisations/Interest Groups	7
Community Members	173
Total	**192**

Appendix 1 provides the Submissions Register.

2.1.1 Agency Submissions

As outlined in **Table 2.1**, 11 agency submissions were received, which included:

- Department of Regional NSW Resources Regulator
- NSW DPE Biodiversity and Conservation Division
- NSW DPE Water
- NSW Department of Primary Industries (DPI) Fisheries
- NSW DPI Agriculture
- NSW Environment Protection Authority (EPA)
- Heritage NSW (HNSW) (as Delegate of the Heritage Council of NSW)
- Heritage NSW (as Delegate under *National Parks and Wildlife Act 1974*)
- Department of Regional NSW Mining, Exploration and Geoscience (MEG)
- Subsidence Advisory NSW
- Transport for NSW (TfNSW).

[3] While the Major Projects Portal notes 192 public submissions, one submitter lodged two of the same submission and the submission delivered on behalf of Lake Macquarie City Council was submitted once via the portal as a public submission and once as a government agency. In these cases, only one submission has been counted in the number of submissions.

None of the agency submissions opposed the Project and only the EPA submission sought additional information which was associated with the noise impact assessment. Further details regarding these submissions are provided in **Section 4.0**.

2.1.2 Council Submissions

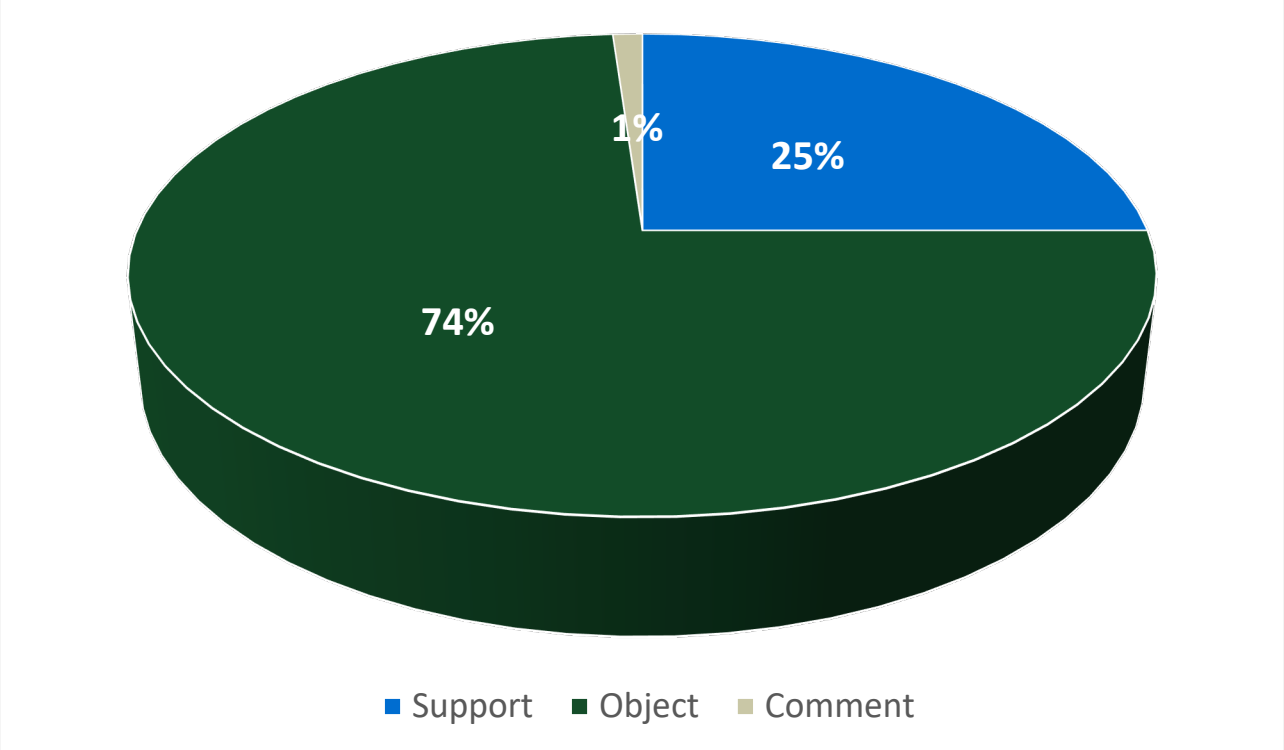
While the Project is located in both the Central Coast and Lake Macquarie LGAs, a submission on the Project was only provided by the Lake Macquarie City Council (LMCC). The LMCC submission noted the following:

> *Lake Macquarie City Council recognises the benefits and efficiencies arising from the consolidation of the two mining operations into a single consent and reporting structure. Council supports the approval of this application.*

Further consideration of the LMCC submission is provided in **Section 4.12**.

2.1.3 Community and Interest Group Submissions

Of the 180 submissions from community members, interest groups and organisations, a total of 133 (74%) were characterised by DPE as being objections and 45 (25%) were in support; two (1%) submissions were characterised as providing a comment only (refer to **Graph 2.1**).



Graph 2.1 Percentage of Supporting and Objecting Community and Interest Group Submissions

The breakdown of the 180 individual submissions received from community and organisations/interest groups is provided in **Table 2.2**.

Table 2.2 Breakdown of Community and Organisation/Interest Group Submissions

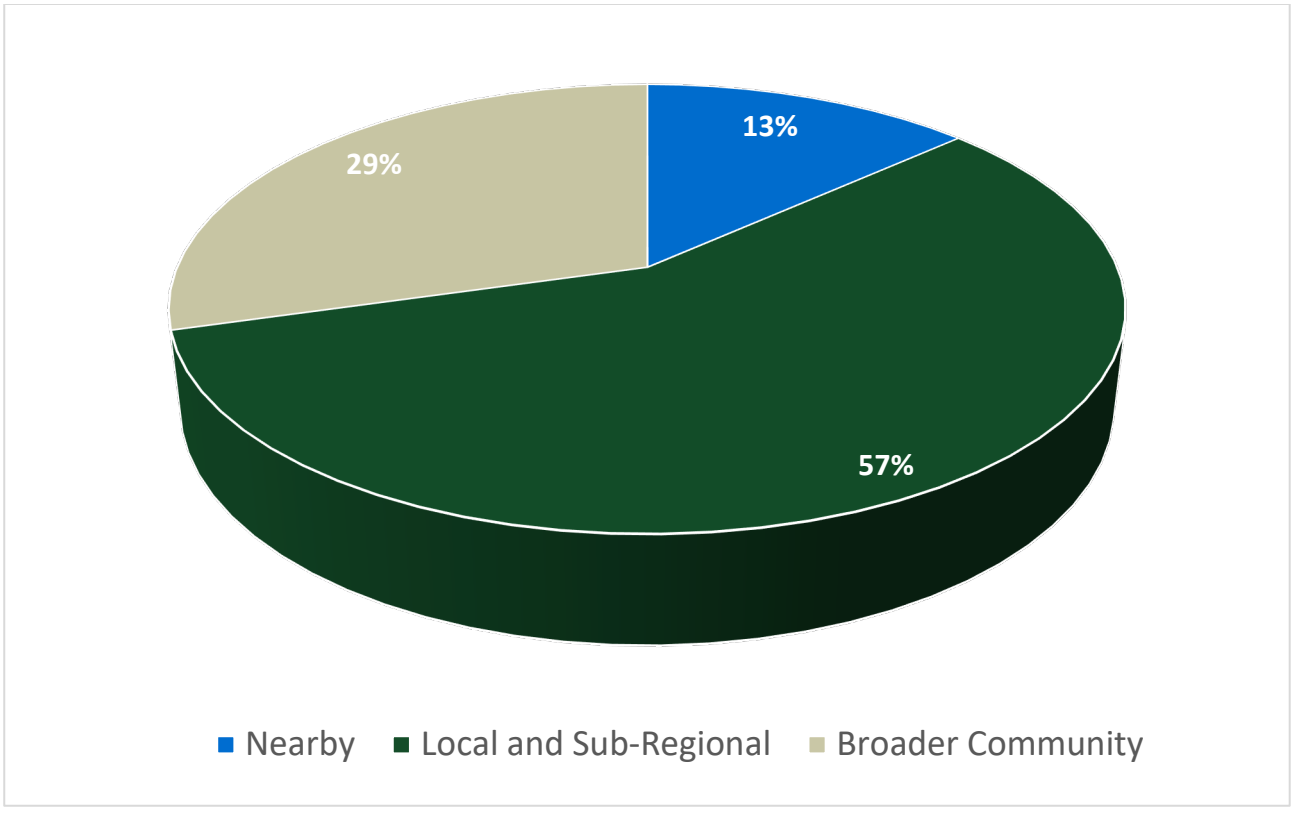
Group	Objection	Support	Comments
Community	127 (70.6%)	44 (24.4%)	2 (1.1%)
Organisations/Interest Groups	6 (3.3%)	1 (0.5%)	-
Total	**133**	**45**	**2**

The submissions were analysed based on proximity to the Project Area into three categories:

- Nearby – being residences within approximately 5 km from the Project Area.
- Local and Sub-Regional – being between approximately 5 and 100 km from the Project Area.
- Broader Community – being approximately 100 km or greater from the Project Area.

The analysis by suburb is conservative in its approach as further interrogation is not possible with the data available.

Of the community and organisation/interest group submissions received (including objections, supporting and comments), 24 (13%) were received from the nearby area, 103 (57%), from the local and sub-regional area and 53 (29%) from the broader community (refer to **Graph 2.2**).

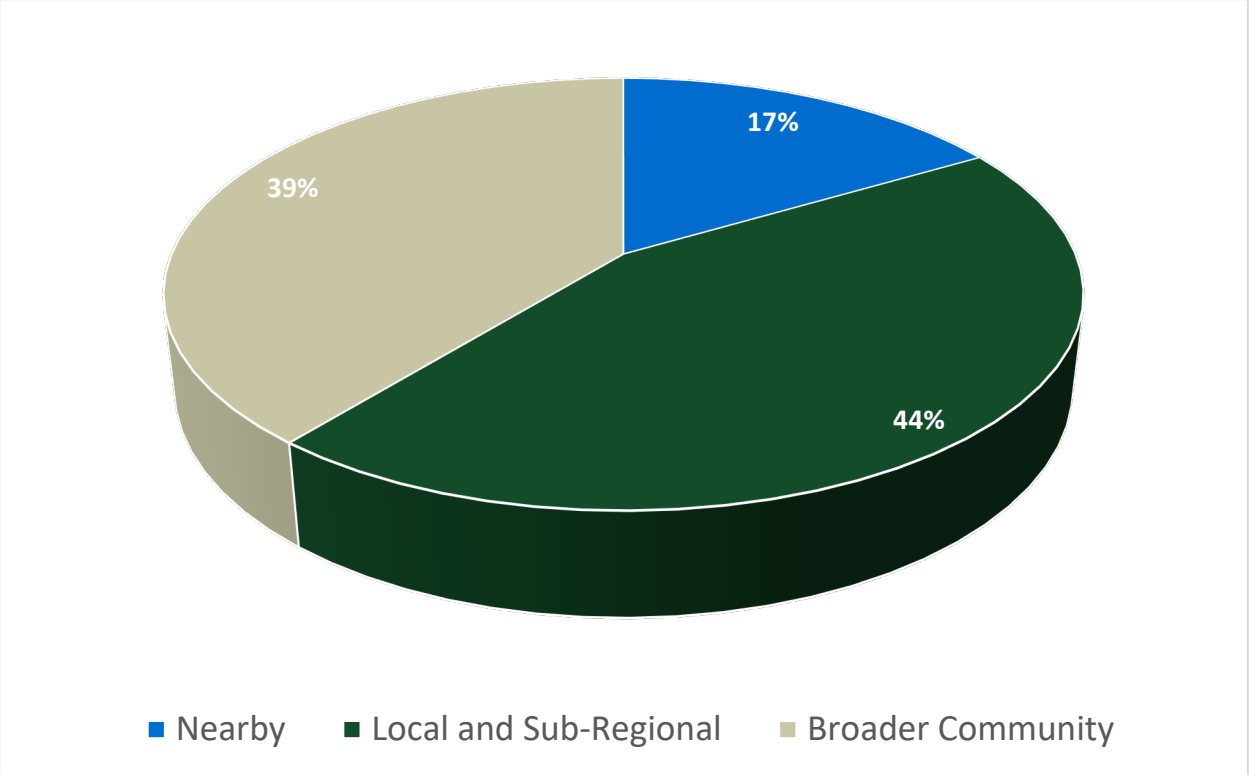


Graph 2.2 Percentage of Community and Interest Group Submissions by Area

While there were significant similarities in a number of submissions, with some content using the same or similar wording at times, no submissions were considered to be form letters due to minor differences.

2.1.3.1 Objecting Submissions

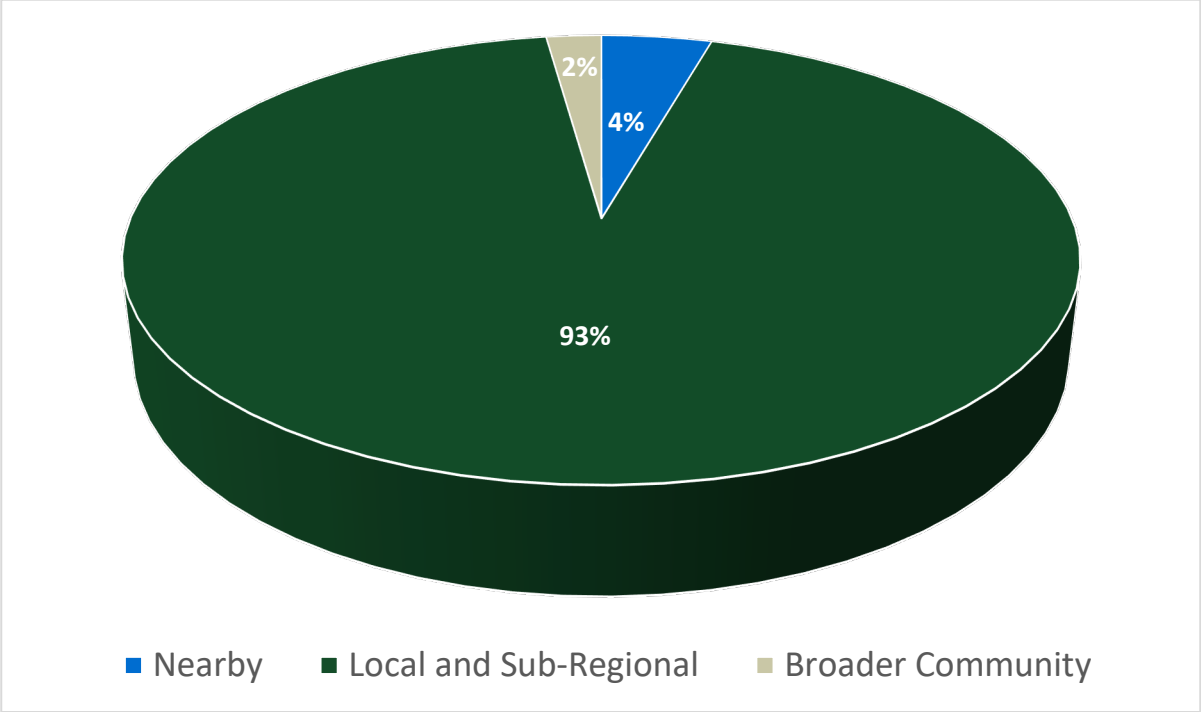
As outlined above, a total of 133 public submissions objected to the Project, including 127 (70.5%) community members and six (3.3%) organisations/interest groups. Based on the analysis, 22 (17%) objections were received from the nearby area (within approximately 5 km), 59 (44%) from the local and sub-regional area (between approximately 5 km and 100 km) and 52 (39%) from the broader community (approximately 100 km or greater) (refer to **Graph 2.3**).



Graph 2.3 Percentage of Objecting Community and Interest Group Submissions by Area

2.1.3.2 Supporting Submissions

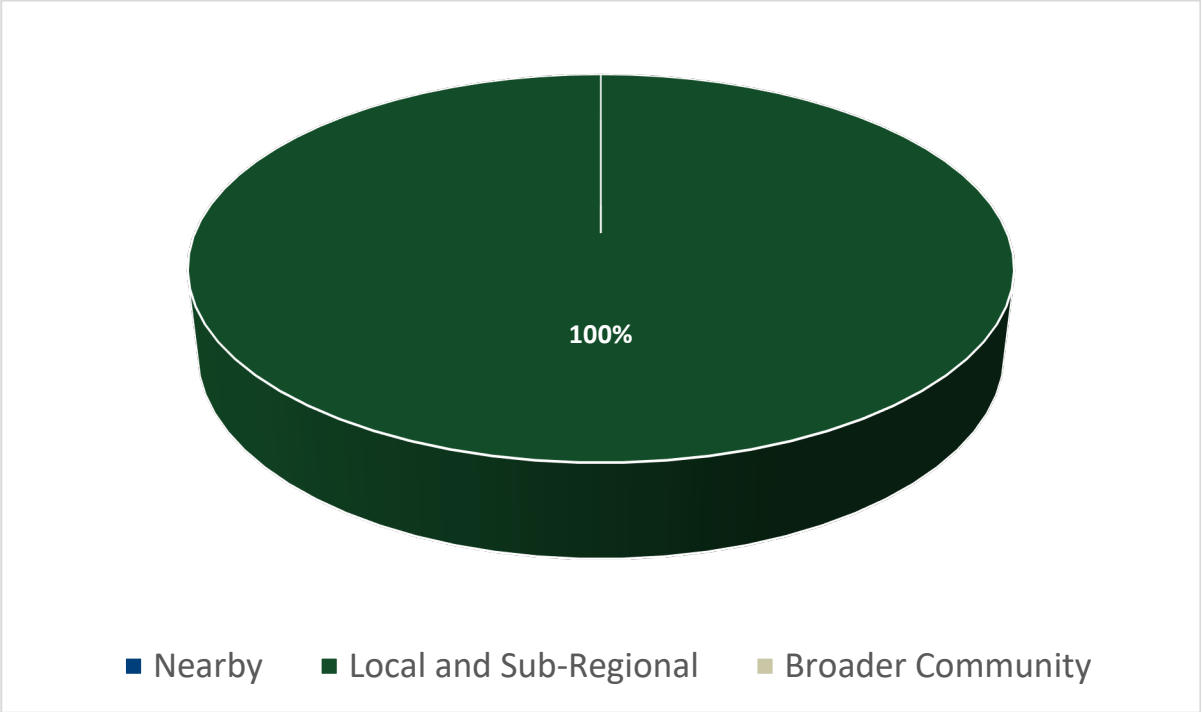
A total of 45 public submissions were received that support the Project. Based on the analysis, two (4%) supporting submissions were received from the nearby area (within approximately 5 km), 42 (93%) from the local and sub-regional area (between approximately 5 km and 100 km) and one (2%) from the broader community (approximately 100 km or greater) (refer to **Graph 2.4**).



Graph 2.4 Percentage of Supporting Community and Interest Group Submissions by Area

2.1.3.3 Commenting Submissions

Two public submissions were received that commented on the Project (neither supporting nor objecting). Both comments were from members of the public not affiliated with a community or interest group. Based on the analysis, both (100%) submissions were received from the local and sub-regional area (between approximately 5 km and 100 km) (refer to **Graph 2.5**).



Graph 2.5 Percentage of Commenting Community and Interest Group Submissions by Area

2.2 Categorisation of Matters Raised in Submissions

A content analysis was undertaken on all community submissions to understand the key issues raised by the community in relation to the Project. Objections, supporting submissions or comments on the Project were analysed separately, as the themes within the submissions were distinct.

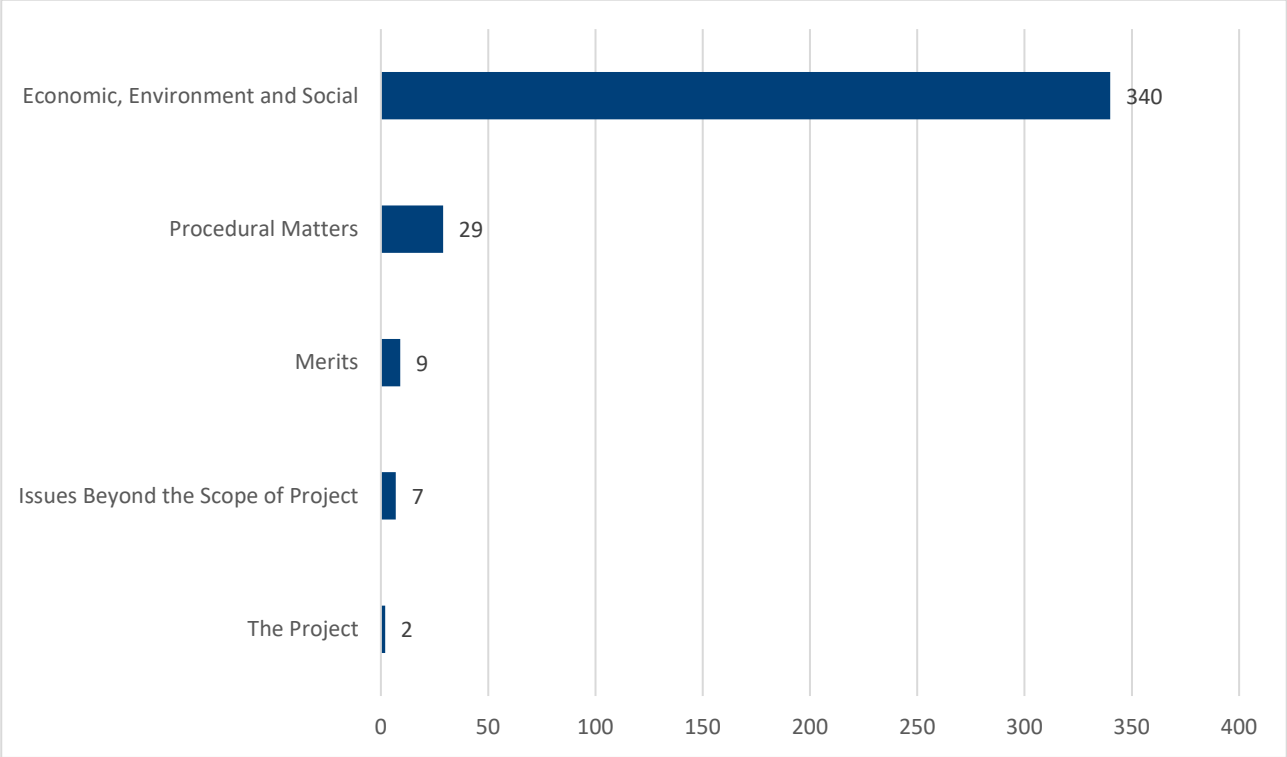
In accordance with the DPE Guideline (2022), issues have been categorised into the following broad groups:

- economic, environmental and social impacts of the Project (e.g. amenity, air, biodiversity, heritage)
- procedural matters (e.g. level or quality of engagement, compliance with the SEARs, identification of relevant statutory requirements)
- the merits of the Project including 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).
- the Project (e.g., the site, the Project Area, the physical layout and design, key uses and activities, timing).

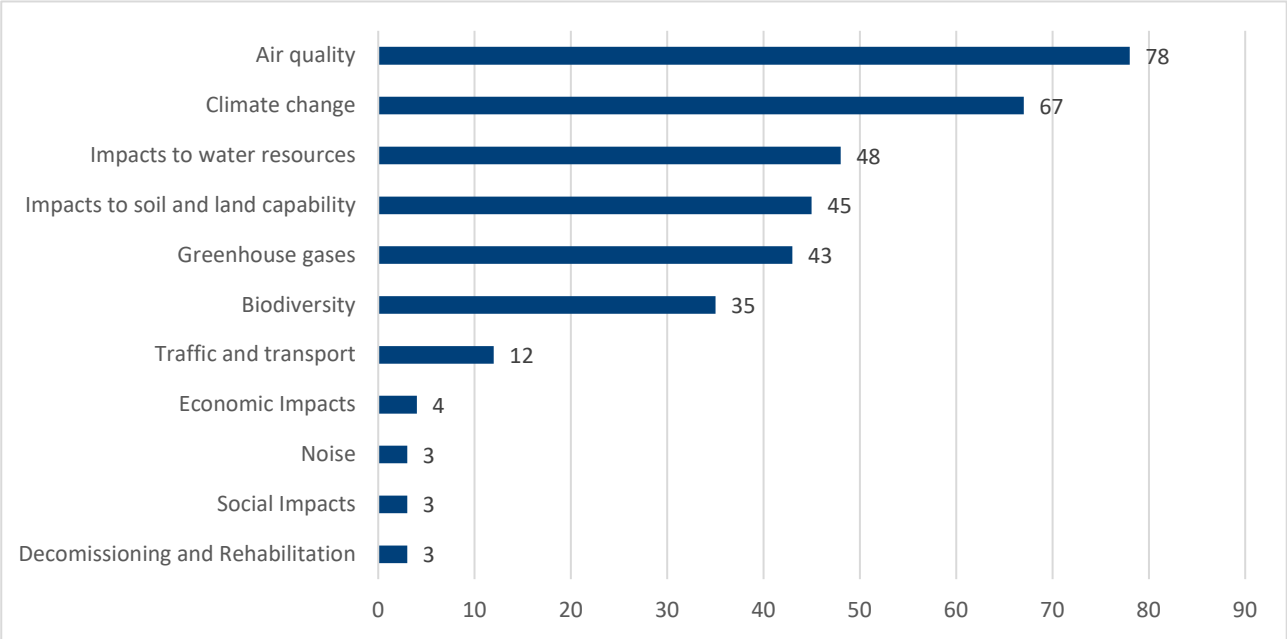
These broad issues categories were then divided into themes and sub-themes where relevant in order to provide greater definition of the issues raised. Further details on the categorisation of issues are provided in the following sections.

2.2.1 Objecting Submissions

Economic, environmental, and social impacts of the Project were the most frequently raised category of issues in the 133 objecting submissions received (refer to **Graph 2.6**). Issues with procedural matters were the second most frequently raised category of issues, followed by issues with merits. It should be noted that many submissions raised multiple categories, and multiple themes and sub-themes within each category. A breakdown of the themes within the objecting submissions is provided in **Graph 2.7.**



Graph 2.6 Broad Categorisation of Objecting Submissions



Graph 2.7 Breakdown of Themes within Objecting Submissions

As is discussed further in **Section 5.0**, a significant number of the objections conflate issues between the VPPS and the mining operations which are the subject of the development application. The submissions analysis does not separate out those submissions which would appear to be directed more at impacts associated with the VPPS rather than the Project, however, where relevant, these distinctions are discussed in further detail in **Section 5.0.**

Economic, Environmental and Social Issues

The key themes to the economic, environmental and social issues raised in the objecting submissions were:

- air quality
- climate change
- impacts to water resources
- impacts to soil and land capability
- greenhouse gases
- biodiversity.

The most frequently raised theme was air quality (78 submissions), followed by climate change (67 submissions) and impacts to water resources (48 submissions) (refer to **Graph 2.7**)

Responses to objections raised in relation to economic, environmental and social issues are addressed in **Section 5.1.**

Procedural Matters

The key theme raised in objecting submissions in relation to the Project was associated with procedural matters. A total of 29 objecting submissions from community and organisations/interest groups raised issues relating to the adequacy of the assessment and the need for further details.

Responses to objections raised in relation to procedural matters are addressed in **Section 5.3**.

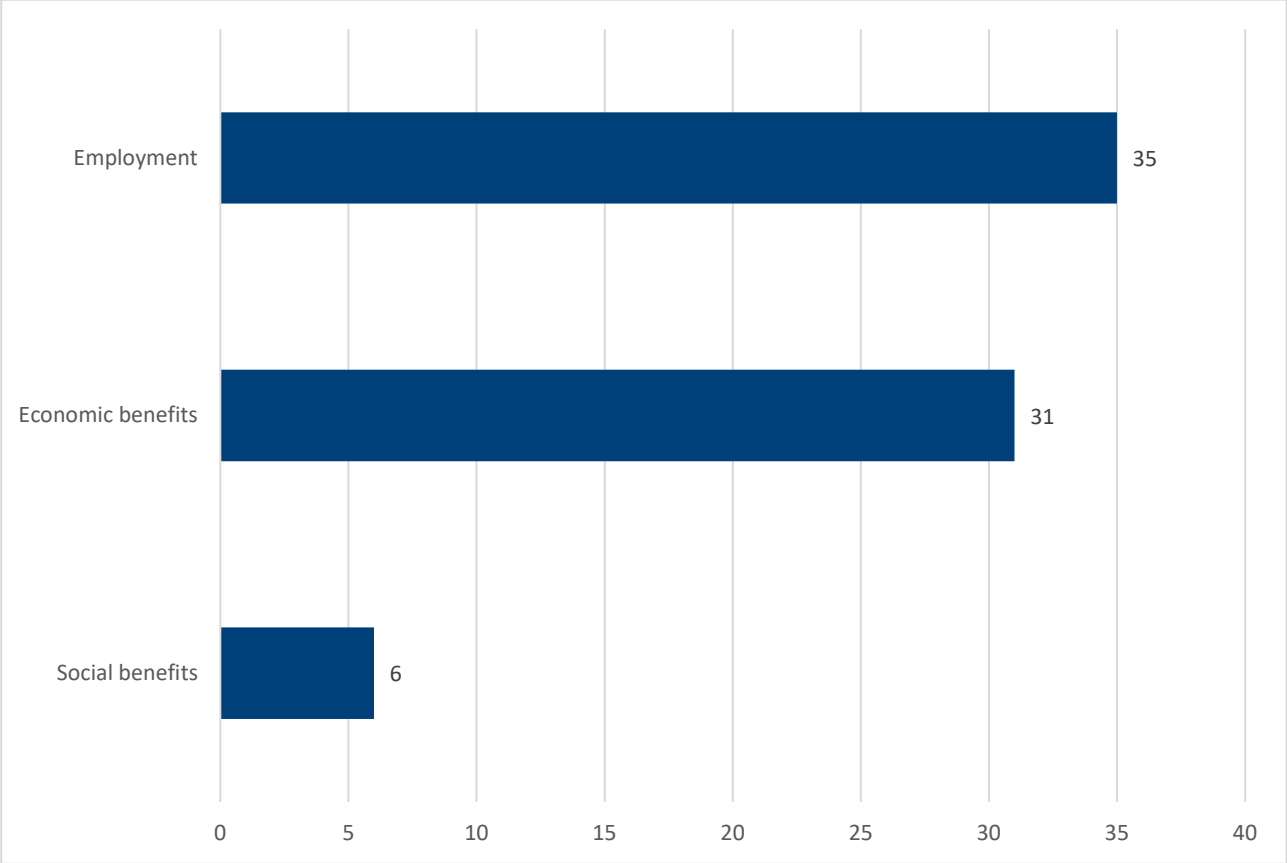
Justification and Evaluation of the Project Merits

There were nine submissions that contained issues relating to the justification of the Project. Three submissions stated a general objection to the Project, however, included no specific issues or reasons for the objection. These submissions were classified as objections on the justification and evaluation of the Project.

Responses to objections raised in relation to the justification of the Project are addressed in **Section 5.4.**

2.2.2 Supporting Submissions

Economic and social benefits were the only category raised in the 45 supporting submissions received (refer to **Graph 2.8**). Economic benefits were split into themes for economic (demand and supply) benefits and employment. It should be noted that many submissions raised multiple categories and multiple themes.

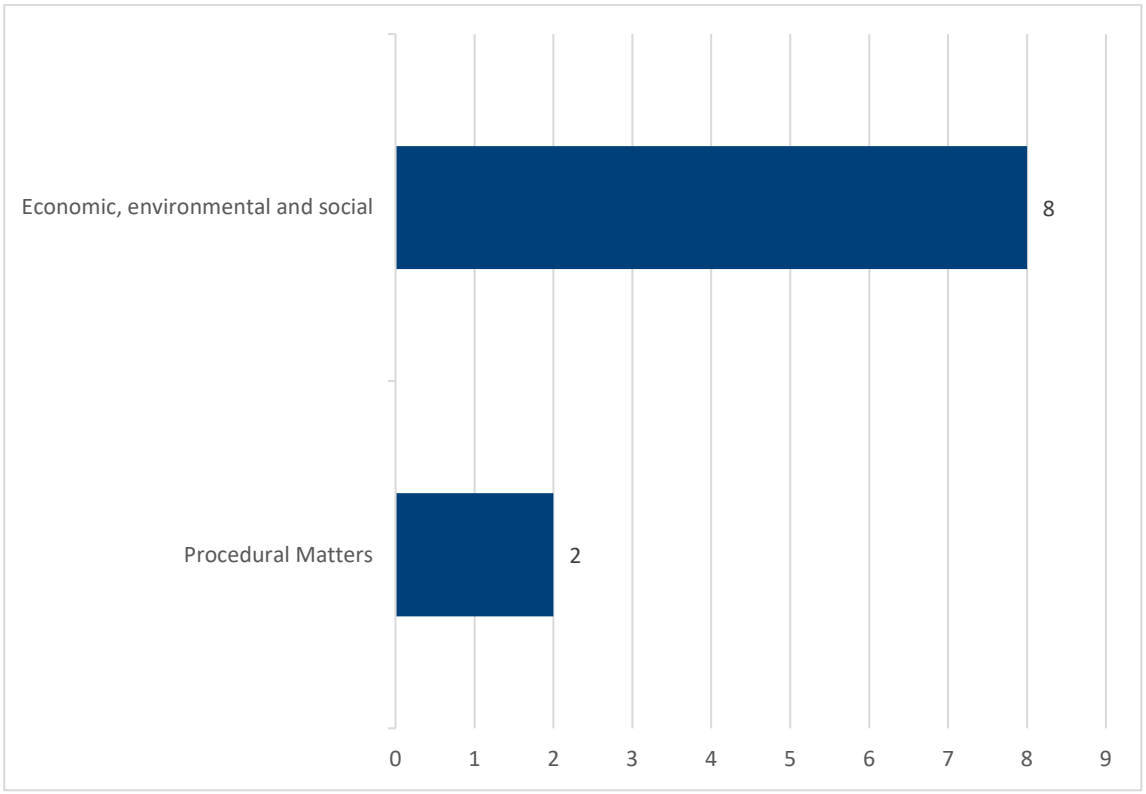


Graph 2.8 Breakdown of Themes within Supporting Submissions

Within these themes, the most frequently raised support was for the social and economic benefits to the local and broader community and the continual employment of local community members.

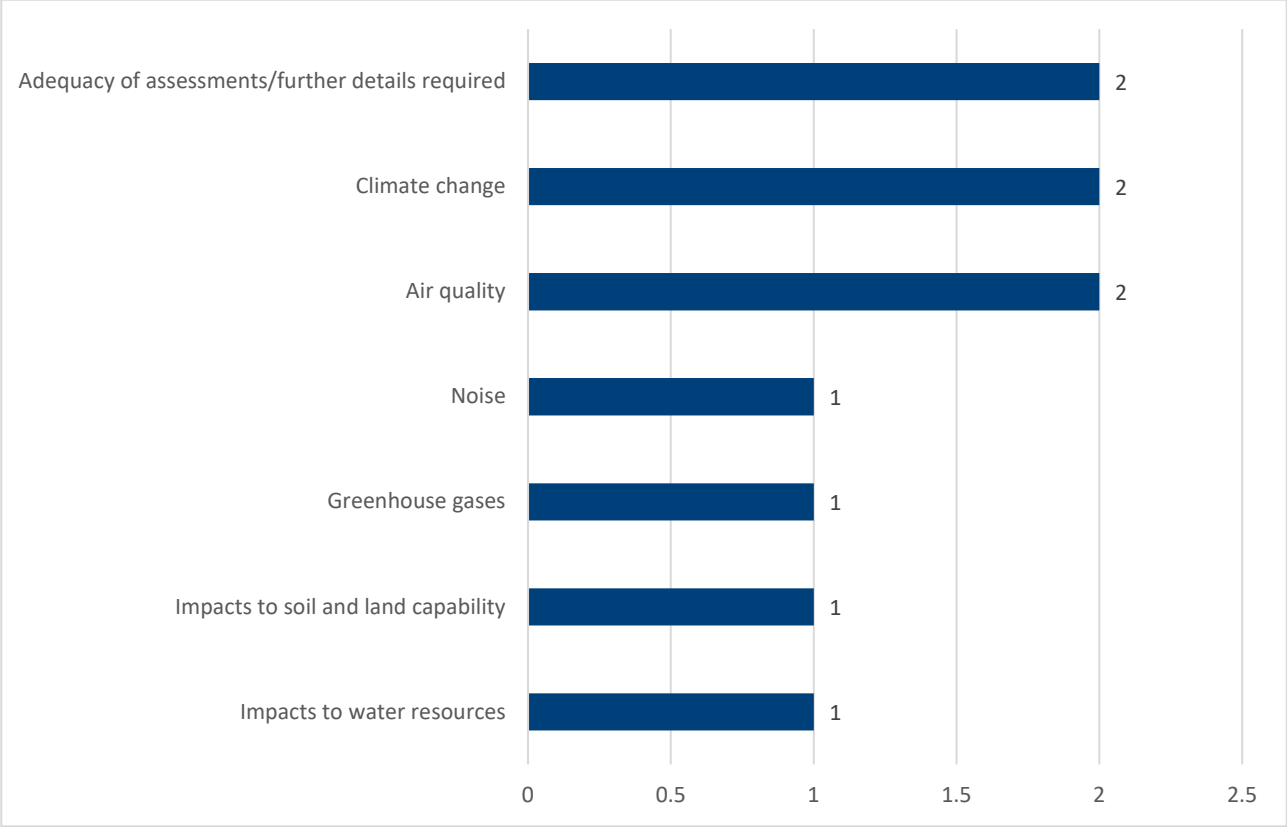
2.2.3 Commenting Submissions

Economic, environmental and social issues related to the Project were the most frequently raised category in the two submissions characterised by DPE as being comments (refer to **Graph 2.9**). Procedural matters were the second most frequently raised category in these two submissions. It should be noted that both submissions raised multiple categories, and multiple themes and sub-themes within each category.



Graph 2.9 Broad Categorisation of Commenting Submissions

Within these broad categories, the most frequently raised themes were adequacy of assessments and requests for further details. Climate change and air quality were also mentioned in both comment submissions (refer to **Graph 2.10**).



Graph 2.10 Breakdown of Themes within Commenting Submissions

3.0 Actions Taken Since Exhibition

3.1 Additional Consultation

A meeting was held with the EPA on 7 March 2023 to discuss their submission in relation to the Noise Impact Assessment (NIA). As confirmed in this meeting, the issues raised in the EPA submission related to the EPA's development of recommended conditions and did not assert any deficiency in the assessment of noise impacts. The response prepared in **Section 4.1** has taken into account issues discussed during this meeting.

Given the absence of any concerns or objections raised in any other Government agency or local government submissions, no additional consultation has been undertaken with agencies.

3.2 Project Changes

Following a review of submissions, there are no changes proposed to the Project design or management measures detailed in the EIS. This should not be seen as a discounting of issues raised, as it is recognised that many people in the community have concerns regarding the potential impacts associated with coal mining and the combustion of that coal and its associated contribution to climate change. However, it is noted that the Project, as detailed in the EIS, is effectively a continuation of existing approved operations at MC and CVC for an additional two years with no material changes to operating arrangements. Relevant regulatory agencies have not identified any concerns with the proposed mitigation and management measures identified in the EIS and a review of community and organisation submissions has not identified any additional issues not already considered in the Project design, proposed mitigation and management measures or the environmental assessment of these matters.

3.3 Further Assessment

No further assessment was required to address the submissions. Further information is provided in relation to the NIA to assist the EPA in providing recommended conditions however this did not require further assessment (refer to **Appendix 3**).

4.0 Response to Agency Submissions

Government agencies make submissions relating to their areas of responsibility and any technical matters requiring further consideration by either the Proponent or the consent authority, or to be addressed by conditions of consent.

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 NSW Environment Protection Authority

EMM Consulting Pty Ltd (EMM) was engaged to respond to the submission received from the EPA, with regards to the noise impact assessment completed by EMM dated 21 September 2022 for the Project. The EMM response is provided in context below and in full in **Appendix 3**. This response has taken into consideration issues discussed in the meeting with the EPA on 7 March 2023 (refer to **Section 3.1**).

1. Proposed operational noise limits do not include Night LA1, 1 min dB limit

Table 6.8 of the EIS provides the proposed operational noise limits for the consolidation project. The proposed limits include LAeq, 15min dB limits for the Day, Evening, Morning Shoulder, and Night periods, but does not include night LA1, 1min dB limits.

The EIS does not appear to provide the reasoning for not including night LA1, 1min dB in the proposed operational noise limits, although it is implied that this may be due to the sleep disturbance screening criteria (discussed below) not predicted to be exceeded at the assessment locations.

The current consents for Chain Valley Colliery (CVC) and Mannering Colliery (MC) both include Night LA1, 1 min dB limits for all receiver locations. These are summarised below.

CVC (SSD-5465 Mod 5)		**MC (MP 06_0311 Mod 5)**	
Location	Night $L_{A1\ (1\ min)}$	Location	Night $L_{A1\ (1\ min)}$
R8, R15, R19, All other privately-owned land	45	7	45
R22	46	4, 11, 18, 20 and all other privately-owned residences	46
R13	49	6, 8, 9	47
R12	53	5	49
R11	54		

The sleep disturbance screening levels used in the EIS and shown at Table 8.6 of the NIA were:

- 55 dB LAmax night for assessment locations R8, R9, R11, R12, R13, 9, 11, 18, and 20; and
- 52 dB LAmax night for all other assessment locations.

Table 8.6 also shows the predicted maximum noise levels for night (LAmax) under 'worst case' noise levels. Of the 20 assessment locations modelled, only 2 locations are above 45 dB LAmax, which are sites R15 (46 dB) and site 8 (51 dB).

In conjunction with the NPfI, the EPA published the 'Implementation and Transitional Arrangements for the Noise Policy for Industry'. This transitional note states "Where an application is made to vary requirements using the new policy, the NSW Environment Protection Authority (EPA) will take into account existing commitments and requirements, and performance against those requirements, as evidence of the ability of the proponent/licensee to implement reasonable and feasible measures to mitigate noise. That is, where a licence holder meets current noise limits or can do so, this will be considered evidence that practical measures can be implemented to mitigate pollution for the purposes of s.45(d) of the Protection of the Environment Operations Act 1997 when the EPA makes a licensing decision."

Given that both CVC and MC have pre-existing night LA1, 1 min noise limits and do not have a history of non-compliances with those limits, the EPA's position is that the lower (currently in force) night LA1, 1 min limit should be applied.

If the applicant proposes to apply a night LA1, 1 min or LAmax noise limit above the current limits on the respective consents, the applicant must provide sufficient justification for a higher (more laxed) noise limit.

Potential sleep disturbance impacts were assessed in the NIA against the sleep disturbance screening criteria as set out in the Noise Policy for Industry (NPfI). As the Project involves the combining of two operations with separate noise limits regulated under different Environment Protection Licences (EPLs) into a single combined EPL, it is expected that the noise impacts from the combined operation may be higher than either of the individual consents due to the cumulative impact of both operations.

As set out in **Appendix 3** the *Implementation and Transitional Arrangements for the Noise Policy for Industry* (EPA, 2017) (Transitional Arrangements) provide that the NPfI (and sleep disturbance screening criteria) should be applied in full where a Project has SEARs requiring assessment against the NPfI. **Appendix 3** also provides additional policy context justifying the adoption of the higher NPfI sleep disturbance screening criteria as the relevant $L_{A\ Max}$ criteria for the combined operations.

If DPE and the EPA are of the view that the NPfI sleep disturbance screening criteria for the Project (as set out in Table 7.4 of the NIA) are not to be applied as consent noise criteria, then it is recommended that the short term noise criteria set for the Project be set as a $L_{A1,1\ min}$ criteria with the limit being the higher of either the highest of the current night time noise limits of either the existing CVC or MC consents or the predicted levels in Table 8.6 of the NIA. The use of $L_{A1,1\ min}$ as the averaging period for these criteria includes an allowance for the combined regulation of both operations and the (albeit low) potential for there to be individual events at each operation that would meet current criteria but, combined, may result in an exceedance. Table 3.1 in **Appendix 3** details the criteria that could be applied to the consent in the event this approach is adopted (noting that the preferred approach remains the adoption of the $L_{A\ Max}$ sleep disturbance screening levels in Table 7.4 of the NIA as per the NPfI).

2. Proposed Operational Noise Limits do not include receiver category capturing "All other privately owned residences"

The current consents for Chain Valley Colliery (SSD-5465 Mod 5) and Mannering Colliery (MP 06_0311 Mod 5) both include noise limits with a receiver location that captured privately owned properties not specifically listed in the noise assessment locations. This is shown in receiver location "All other privately-owned land" in the CVC consent and "20 – Knight and all other privately-owned residences" in the MC consent.

The proposed operational noise limits provided in the EIS do not appear to include any noise assessment location or category that captures all other privately-owned residences. There does not appear to be any discussion or reasoning provided in the EIS for the omission of this receiver category.

The EPA requests the proponent provide proposed operational noise limits that address the receiver category "All other privately-owned residence" (or similar) or provide justification for the exclusion of that category.

It should be noted that the assessment locations included within the NIA and the existing consent limits do not necessarily represent one single residence, rather they represent the noise limits to be deemed applicable to all nearby residences considered to experience a similar existing acoustic environment. In most cases, the listed assessment location represents the residence which is likely to be most affected by the Project noise, thus considered a worst-case assessment location, with all other residences likely to experience equivalent or lower noise impacts. The areas covered by the listed assessment locations are detailed in Section 2.5 of the NIA.

Including a category of "All other privately owned residences" could imply that these noise limits, which are typically based on the minimum applicable noise limits and background noise levels, could apply to all assessment locations not specifically listed.

Such a category should also include a definition that the noise limits apply to only existing privately owned residences, so as not to assume that new developments closer to site would have the same noise limits applied.

As set out in **Appendix 3** it is recommended that the lowest operational noise limits proposed for each period are adopted for the "All other existing privately owned residences" category, including the caveat that this applies only to existing residences that are not represented by the specific assessment locations that are listed in the consent/EPL. This would result in noise limits for this category of: Day – 40 dB; Morning Shoulder – 39 dB; Evening – 37 dB and Night – 37 dB.

3. Proposed operational noise limits do not reflect long-term noise goals for receiver location R13

The proposed operational noise limits (Table 6.8) consolidate locations R13 from the CVC approvals, with sites 9, 11, 18 and 20 from the MC approvals, and proposes LAeq, 15min dBA noise limits of 45 (day and morning shoulder), 44 (evening) and 43 (night).

Schedule 3 condition 8 of CVC consent SSD-5465 Mod 5 applies long-term noise goals for site R11 – R13 and R22. The long-term noise goal target for R13 is 41 dB(A) LAeq(15 min) for day, evening, and night. This is noted in section 6.3.1.2 of the EIS.

For site R13, the proposed operational noise limits in the EIS are an increase of the current noise limit for that site of 43 LAeq, 15min dBA for day, evening, and night.

The EPA notes that the proposed noise limits for locations R11/R12 is lower than the current consent limits under CVC consent, which is a move towards achieving the long-term noise goals for those sites, however the noise limits proposed for site R13 in the EIS does not align with the long-term noise goal reduction in the CVC consent.

The EPA acknowledges the long-term noise goals are not strict noise limits, but that the consent requires best endeavours to achieve these goals.

The noise limit proposed for site R13 is higher for the day and evening periods than the current limits for that location and represent an increase of 2 dB during the day and 1 dB in the evenings. While those increases may be incremental and not result in significant detectable increases in noise levels, the EPA notes that there are currently long-term noise goals set for that site which reflects the regulators intention to reduce noise levels experienced in those locations.

As noted above, the Project includes the consolidation of the CVC and MC operations and proposes noise criteria which apply to the combined operations rather than separate criteria for each operation as is currently the case. The practical effect of combining criteria for operations is that the cumulative impacts of the operations need to be considered in determining what is achievable as compared to what is achievable for each operation considered separately. The long-term noise goals for R13 (and R11, R12 and R22) are based on potential opportunities to reduce noise from the CVC operations alone and do not include consideration of contributions from MC. While the proposed noise limits for R13 do not directly reflect the long-term noise goals in place, as detailed in **Appendix 3,** EMM is of the opinion that the proposed noise limits are reflective of the current noise environment experienced at R13 should both CVC and MC operate at their current noise limits. This is reflected in the calculated Project Noise Trigger Levels (PNTLs) for this location/area being higher than the long-term noise goals for all periods.

Table 8.7 of the NIA detailed the existing operational noise limits, including the CVC and MC noise limits combined (using a logarithmic sum) which represents the maximum allowable noise from each site, which would be currently considered compliant. For R13, this results in a day period noise limit of 45 dB (i.e. 43 dB + 40 dB), which is consistent with the proposed operational noise limit for the day period, which was derived from the PNTLs established according to NPfI methodology. Similarly, the proposed noise limit for the evening period is the same as the combined current noise limits for CVC and MC (i.e. 44 dB).

It is noted that the proposed morning shoulder noise limit for R13 is 1 dB greater than the combined CVC and MC noise limit, however this is still seen as the appropriate limit as it was derived using NPfI methodology for morning shoulder periods – i.e., it is equal to the derived PNTL (refer to discussion below). Further, the proposed night period limit (derived in accordance with the NPfI) is 1 dB less than the permitted cumulative impacts associated with MC and CVC operating at current noise limits and is similarly considered appropriate. Consistent with section 45(d) of the POEO Act, the proposed criteria represent what is considered reasonably achievable for the combined operations.

4. Proponent does not appear to provide justification for application of morning shoulder period

The EIS recommends application of the morning shoulder period and associated proposed operational noise limits for that period but does not provide justification or reasoning of how that period applies to the site or surrounding area.

Fact Sheet A of the NPfI discusses the application of shoulder periods and notes: “where early morning (5 am to 7 am) operations are proposed, it may be unreasonable to expect such operations to be assessed against the night-time project noise trigger levels – especially if existing background noise levels are steadily rising in these early morning hours. In these situations, and where operations outside of daytime hours can be justified, appropriate noise level targets may be negotiated with the regulatory/consent authority on a case-by-case basis.”

The EPA does not oppose applying a morning shoulder period where justified, however the applicant has not provided sufficient description or explanation to justify the morning shoulder period being applied to this project.

Operational noise limits have been proposed for the morning shoulder periods based on methodology in Section A3 of the NPfI. The justification for the inclusion of morning shoulder periods comes down to the evidence of a steady rise in measured background noise levels during the period from 5-7 am. This is evident in the daily logger charts for L1 and L4 in Appendix B of the NIA, where between the hours of 4 am and 7 am, a steady rise in measured L_{A90} noise levels is seen; on some days an increase of up to 10 dB has been measured between these hours.

As discussed in **Appendix 3,** EMM acknowledges that this steady increase in noise levels between 4 am and 7 am is not as evident in the L2 and L3 unattended noise logger charts, however this is evident in the measured morning shoulder RBLs and PNTLs derived from them, with L2 only seeing a 1 dB increase from the night period to morning shoulder RBL, and L3 adopting 34 dB as the RBL for both night and morning shoulder periods due to adopting the lowest ABL across the monitoring period.

Given this evidence, EMM has determined that an adjusted morning shoulder noise limit is applicable in accordance with the NPfI for operations between 5-7 am, as it is unreasonable for the site to operate under the night period noise limits at these times.

4.2 NSW DPI Agriculture

DPI Agriculture has reviewed the documents provided in relation to the above proposal and considered potential impacts to agricultural land and agricultural production in relation to the proposal.

It is considered that if existing development controls and monitoring requirements are replicated in any new consent the proposal will not have any perceivable adverse impact on any agricultural land use or production and therefore NSW DPI have no comments or additional requirements for this proposal.

Noted.

4.3 NSW DPE Biodiversity and Conservation Division

BCD has reviewed the Chain Valley Colliery Consolidation Project Environmental Impact Statement by Umwelt (Australia) Pty Limited (dated September 2022), and relevant appendices for this project in relation to biodiversity and surface water issues. BCD has no comment to provide in relation to likely biodiversity impacts, or to flooding and flood risk from this project.

Noted.

BCD notes that this proposal has the potential to impact seagrass. DRNSW Fisheries has a statutory role in the protection of seagrass under the *Fisheries Management Act 1994* in relation to the conservation of fish stocks and key fish habitats and to conserve threatened species, populations and ecological communities of fish and marine vegetation. BCD recommends that this Environmental Impact Statement be forwarded to DRNSW Fisheries for comment.

Noted. Department of Regional NSW Fisheries has reviewed the EIS and provided comment (refer to **Section 4.5**).

4.4 NSW DPE Water

DPE Water recommends for post approval that Great Southern Energy Pty Ltd:

- applies to assign all the rights of Water Access Licence (WAL) 40461 to WAL 41508 so that there is one WAL that covers the entire Project, and
- determines the requirement for a Controlled Activity Approval if disturbance to 'waterfront land' occurs which is not specified in the EIS.

Noted.

As SSD, a controlled activity approval under section 91 of the *Water Management Act 2000* is not required for an approved development. Activities carried out in accordance with a Mining Lease granted under the *Mining Act 1992* are also exempt from the requirement for a controlled activity approval under clause 18 of Schedule 4 of the Water Management Regulation 2018. It is noted however that no additional excavation activities (including mining) are proposed in areas where such activities are not already approved under the existing MC Project Approval and CVC Development Consent.

4.5 NSW DPI Fisheries

DPI Fisheries has no objections to the proposed Chain Valley Colliery Consolidation Project (SSD-17017460). DPI Fisheries requests that seagrass and benthic communities continue to be monitored within the approved mining areas below Lake Macquarie, as per the Seagrass Management Plan and the Benthic Communities Management Plan.

Noted.

As stated in Sections 6.6.2.3 and Section 6.6.3.3 of the EIS, the Seagrass Management Plan and Benthic Communities Management Plan will be reviewed following each monitoring period and updates may include an increase and/or decrease in monitoring sites and monitoring frequency[4]. These updates must be approved before any changes to monitoring practices are implemented and, consistent with current requirements, DPI Fisheries would be consulted on the preparation of any proposed changes to the Seagrass Management Plan prior to it being submitted for approval.

4.6 Subsidence Advisory NSW

SA NSW understands that the proposal will not result in additional planned subsidence impacts other than that allowed under existing approvals and consents.

Noted.

[4] If monitoring within areas no longer likely to be impacted by future mining operations indicates negligible levels of adverse impact over the monitoring period post mining for a period of three years (in areas of secondary extraction) and one year in areas mined only by first workings where subsidence impacts <150mm have been observed, ongoing monitoring of those areas is not considered to be warranted.

While the Project includes an extension of the area where secondary extraction can occur under Lake Macquarie in the currently approved MC approved mining area, the limits on this proposed extraction would avoid vertical subsidence over 20 mm at shorelines and onshore areas. As such, no impacts to dwellings or other improvements would be expected from this proposed change. This is discussed in Section 6.2.4 of the EIS.

4.7 Heritage NSW (as Delegate under *National Parks and Wildlife Act 1974*)

The Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared in reference to the relevant guidelines as required by the SEARs. Heritage NSW has no comments to make on the project as the consolidation of existing operations and associated development consents and approvals does not propose any additional impacts to Aboriginal cultural heritage.

Please note that the above comments relate only to Aboriginal cultural heritage regulation matters. Heritage NSW may provide separate comments in relation to environmental heritage considerations.

Noted.

4.8 Heritage NSW (as Delegate of the Heritage Council of NSW)

As delegate of the Heritage Council of NSW, I provide the following comments:

- The above reports do not identify or include an assessment of Lake Macquarie Resting Place (Aboriginal Place).
- The proposed works do not include any activities or works that would create surface impacts within the project area.
- Provided no impacts are proposed to the Morisset Hospital Precinct (SHR no. 00827), Lake Macquarie Resting Place (Aboriginal Place), and Lake Macquarie State Conservation Area the recommendations of the above reports are supported.

As the project area contains two local heritage items, and other local items are in the vicinity, advice should be sought from the relevant local council.

As noted in **Section 4.7**, the Aboriginal Cultural Heritage Assessment (ACHA) has been prepared in accordance with relevant guidelines which require consultation with Registered Aboriginal Parties (RAPs). The precise location of which Lake Macquarie Resting Place Aboriginal Place is not shown on the Heritage NSW database, however the location shown corresponds to the Woods Repatriation Sites, a burial/ modified tree site listed as 45-7-0363 on AHIMS. This AHIMS site was identified in the ACHA. This site appears to be located within an area of the Lake Macquarie State Conservation Area (SCA). This area is over an area which is currently approved for underground mining under the MC Consent.

As described in the EIS, the Project does not propose any activities or works that would create any additional surface impacts within this location which are not already approved under the existing consents. As the site is located on the shore, any subsidence impacts from approved and proposed mining would not cause more than 20 mm vertical subsidence. This level of subsidence is undetectable against natural

groundswell movements and would have negligible impacts to the site. Furthermore, the Project Area excludes the surface areas gazetted as the Lake Macquarie SCA. As a consequence, impacts to all listed heritage items (including the Aboriginal Place) would not be expected from the proposed operations.

No issues were raised by RAPs during the consultation process for the ACHA regarding potential impacts to the Lake Macquarie Resting Place nor as part of the recent consultation processes associated with the 2021 update to the Delta Coal Heritage Management Plan 2021. As noted above, due to the controls in place in relation to permitted subsidence impacts, the Lake Macquarie Resting Place will not be impacted by the Project.

The operations will continue to be managed in accordance with the Delta Coal Heritage Management Plan 2021 which has been prepared in consultation with RAPs and any updates associated with the Project will similarly be prepared in consultation with RAPs. Future updates to the Delta Coal Heritage Management Plan will specifically identify the Lake Macquarie Resting Place and any specific management controls relevant to the location should first workings be undertaken in this area (noting that physical impacts on this site would not be anticipated).

Furthermore, separate correspondence from Heritage NSW will address any requirements under the *National Parks and Wildlife Act 1974*, including the omission of the Lake Macquarie Resting Place (Aboriginal Place).

Noted. Heritage NSW (as Delegate under *National Parks and Wildlife Act 1974*) has reviewed the EIS and supporting documents and had no comments to make on the Project as the consolidation of existing operations and associated development consents and approvals does not propose any additional impacts to Aboriginal cultural heritage.

4.9 TfNSW

TfNSW has reviewed the application and supporting documentation submitted and is satisfied that the proposed modification has adequately addressed the anticipated traffic impacts on the State road network.

Noted.

4.10 Department of Regional NSW Mining, Exploration and Geoscience

MEG considers the Project to be an efficient use of resources and that it will provide an appropriate return to the NSW Government. MEG is satisfied that, should the operational outcomes be achieved, the proposed mine design and mining method submissions adequately recover resources and will provide an appropriate return to the state.

Noted.

MEG requests that the Proponent consider potential resource sterilisation should any future biodiversity offset areas be considered. The Proponent must consult with MEG and any holders of existing mining or exploration authorities that could be potentially affected by the proposed creation of any such biodiversity offsets, prior to creation occurring. This will ensure there is no consequent reduction in access to

prospective land for mineral exploration or potential for the sterilisation of mineral and extractive resources.

Noted. As per Section 6.6.4 of the EIS, as the Project does not involve any additional surface disturbance, direct and indirect impacts are predicted to be negligible, therefore no biodiversity offsets are required. Existing biodiversity offset commitments made by Delta Coal under the CVC and MC consents will continue to apply to the ongoing operations.

4.11 Department of Regional NSW Resources Regulator

Based on the review of the Environmental Impact Statement (September 2022) the Resources Regulator advises that it has no specific comments regarding mine rehabilitation matters in relation to the proposal. The consolidation project will not alter approved rehabilitation outcomes, including the approved subsidence performance measures. Furthermore, the proposed consolidation project as described in the EIS does not introduce additional subsidence risks beyond the approved SSD-5465 for Chain Valley Colliery.

Noted.

The Resources Regulator requests an opportunity to review any amended or additional documentation lodged by the proponent that affects rehabilitation outcomes.

Noted. As per Schedule 8A of *the Mining Regulation 2016*, the Proponent is required to lodge 'rehabilitation outcome documents' for the Resource Regulator to review.

The proponent will be required to comply with rehabilitation requirements under the mining authorisations prior to the commencement of the works associated with the proposal. The Resources Regulator may undertake assessments of the mine operators' proposed mining activities under the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and Regulation as well as other WHS regulatory obligations.

Noted.

4.12 Lake Macquarie City Council

Lake Macquarie City Council recognises the benefits and efficiencies arising from the consolidation of the two mining operations into a single consent and reporting structure. Council supports the approval of this application.

The mining operations have the potential to impact on the Lake Macquarie community and environment in terms of economic impact from employment and demand for infrastructure, air quality to local residents, and subsidence impacts to the lake bed, dwellings and heritage items located above the approved mining lease.

A review of the application shows these potential impacts have been appropriately addressed and adverse impacts are unlikely where the operations occur as planned.

Noted.

A review of the economic analysis of the proposal indicates a positive economic outcome. The social impact is substantially the same as existing operations.

Noted.

The modelled air quality outcomes demonstrated concentrations and deposition rates below applicable impact criteria. Council recommends conditions of consent are adopted to ensure the coal handling operations match the modelling, inclusive of best practice dust mitigation measures such as use of water carts and sprays and conveyor systems, enclosed conveyor transfer point, water of exposed areas and stockpiles, and using chemical suppressants on unpaved roads.

Noted. As stated in Section 6.4.6, to manage potential particulate matter emissions associated with the Project, a range of best practice dust mitigation measures are currently, and will continue to be, employed. These include the use of water carts and sprays, conveyor systems, enclosed conveyor transfer points, watering of exposed areas and stockpiles, and using water as a suppressant on unpaved roads. MC and CVC currently operate under a combined Air Quality and Greenhouse Gas Management Plan which would be reviewed and updated accordingly should the Project be approved.

The outcomes of the biodiversity report are supported.

Noted.

Council accepts the findings of the heritage assessment reports for Aboriginal and European heritage and does not request any further assessment. Council recommends adopting conditions of consent capturing the consolidated management and mitigation measures.

Noted.

5.0 Response to Community and Interest Group Submissions

As outlined in **Section 2.0**, a total of 180 community and interest group submissions were received relating to the Project. A response to the issues raised in these submissions is included in the following sections grouped by theme.

Several of the community submissions received were similar or had consistent themes. Where this is the case, 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. Unique issues, that is, where an issue was raised only once, have also been addressed.

5.1 Economic, Environmental and Social Impacts

5.1.1 Air Quality

Issues related to air quality were raised in 74 community and interest group submissions.

5.1.1.1 Negative Impact on Community Health

Submitter ID	Example Text from Submission
SE-51223457	I moved to the area in 2008 and soon developed asthma. When I leave the area for extended periods, for example on holidays, this goes away. I cannot definitely link the cause to emissions, but I believe they are the likely cause.
SE-51971990	Continued operation and expansion will continue to Impact the health and safety of the surrounding community.
SE-52036458	Health risks to the local community from the previous and current mining and coal processing operations are still not adequately managed or removed - before adding further risks through the proposed extension (coal dust, ash dams, etc).
SE-52044476	As a long-time resident of Mannering Park, I think our town has suffered extreme pollution from coal mine, power station and coal trucks for too long. It's time to stop mining under our lake and give us some sense of a pristine waterway that we should be surrounded by.
SE-51971990	I have lived in the area for just over 1 year, my asthma was under control to just a few times a year with change of seasons, since moving I am wheezy nearly every day and have had to take a preventative. Further the community is growing in surrounding suburbs with new estates aimed at young families, population will grow, and the health impacts will affect more people than the current population.
SE-52146985	The EIS has not addressed the impact offsite of the effect on air quality with more NOx, SO2, PM10 and PM2.5 particulate emissions and mercury on the community's health with negative impacts on cardiovascular and respiratory systems leading to an increased health burden for heart disease and respiratory illnesses along with increased chronic asthma and attacks.
SE-52707491	Firstly, the project will have a deleterious effect on public health. Local communities are already exposed to toxic air pollution. This will increase if the project goes ahead. The EIS inadequately assesses the likely impact.

Submitter ID	Example Text from Submission
SE-52897207	This region has borne the brunt of pollution from mines and power stations and have paid a heavy price with asthma, bronchitis and other respiratory diseases recorded well above, sometimes twice the average, recorded cases.
SE-52895226	I am very concerned about the impacts on air quality and community health of the proposed development. A 2012 study by medical researchers at Sydney University into health effects resulting from exposure to coal dust in the Hunter region found: • Adults in coal mining communities have been found to have: ○ Higher rates of mortality from lung cancer, chronic heart, respiratory and kidney diseases ○ Higher rates of cardiopulmonary disease, chronic obstructive pulmonary disease (COPD) and other lung diseases, hypertension, kidney disease, heart attack and ○ stroke, and asthma ○ Increased probability of a hospitalisation for COPD (by 1% for each 1,462 tons of coal mined), and for hypertension (by 1% for each 1,873 tons of coal mined). ○ Poorer self-rated health and reduced quality of life • Children and infants in coal mining communities have been found to have: ○ Increased respiratory symptoms including wheeze, cough and absence from school with respiratory symptoms although not all studies reported this effect ○ High blood levels of heavy metals such as lead and cadmium ○ Higher incidence of neural tube deficits, a high prevalence of any birth defect, and a greater chance of being of low birth weight (a risk factor for future obesity, diabetes and heart disease)
SE-52895224	I am aware there is data that shows there is increased disease impacts around the power station and mine, including asthma, cancers and other respiratory and cardiovascular problems.
SE-52895216	The impacts of coal mining, transport and burning are well documented. The particulate pollution that results is a significant cause of respiratory and cardiovascular disease and these detrimental effects are greatest on those who reside close to the mining, transport corridors and the power stations.
SE-52892466	As a person who suffers from asthma and a cardiovascular problem, I think that overall impact this expansion will have will further pollute the air quality beyond the area in close proximity but also further afield to adjacent areas. Such pollution will pose serious health problems for a larger part of the population surrounding Lake Macquarie.
SE-52888959	As a concerned citizen who has lived in the Upper Hunter for many years I have watched how the coal mines have moved in and taken over the valley and how their existence has affected the quality of the air that we all must breath here. So I can relate to the people living in the Lake Macquarie area and how they would be worried about air pollution from the Delta's Chain Valley Colliery and Mannering Colliery.
SE-52888483	I oppose the extension due to friends of mine who live near the mine & are suffering from respiratory problems as a result.
SE-52433459	I believe that the E.I.S. for this proposal is totally inadequate, fails to recognise many of the potential environmental impacts and ignores the concerns of the health and welfare of the regional communities.

The SEARs for the Project required a health risk assessment that considered the adverse effects from human exposure to acute and cumulative Project related environmental hazards, in accordance with *Environmental Health Risk Assessment: Guidelines for assessing human health risk from environmental hazards* (enHealth, 2012). This risk assessment was conducted as part of the Project's environmental

assessment scoping phase and provided in Appendix 2 of the Scoping Report (Umwelt, 2021). The risk assessment identified that further assessment would be required for increased particulate emissions (depositional/nuisance dust) if the exceedance causes nuisance issues for community and for cumulative impacts (VPPS and other operations) if this results in exceedance of assessment criteria.

In response to this risk assessment, an assessment of the existing and potential impacts to air quality for the Project was undertaken by EMM (EMM, 2021) to the support the EIS and was prepared to address the relevant SEARs. The Air Quality Impact Assessment (AQIA) contained in Appendix 8 of the EIS was prepared in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2016) (Approved Methods) as requested in the SEARs[5].

The impact assessment criteria used in the assessment were sourced from the NSW EPA's impact assessment criteria for particulate matter as presented in the Approved Methods and are shown in **Table 5.1**. These criteria are based on accepted human health impact standards.

Table 5.1 Impact assessment criteria for particulate matter

PM metric	Averaging period	Impact assessment criterion
TSP	Annual	90 µg/m^3
PM_{10}	24 hours	50 µg/m^3
	Annual	25 µg/m^3
$PM_{2.5}$	24 hours	25 µg/m^3
	Annual	8 µg/m^3
Dust deposition	Annual	2 g/m^2/month (increment only)
		4 g/m^2/month (cumulative)

Notes: µg/m^3: micrograms per cubic metre; g/m^2/month: gram per square metre per month.
Source: Approved Methods (NSW EPA 2016).

Assessment criteria for pollutants were applied at the nearest existing or likely future off-site sensitive receptor and compared against the 100th percentile (e.g., the highest) dispersion modelling prediction in the case of 24-hour impacts.

The *Voluntary Land Acquisition and Mitigation Policy (VLAMP) for State Significant Mining, Petroleum and Extractive Industry Developments* developed by DPE in 2018 describes the voluntary mitigation and land acquisition policy to address dust and noise impacts, and outlines mitigation and acquisition criteria for particulate matter. The VLAMP considers that both long term (over years) and short term (hours or days) exposure to particulate matter has been linked to health problems and therefore includes assessment criteria to protect the amenity, health and safety of people. The VLAMP mitigation and acquisition criteria used in the EIS are presented in **Table 5.2**.

Table 5.2 VLAMP Mitigation and Acquisition Criteria

Pollutant	Averaging period	Mitigation criterion	Impact type
PM_{10}	24 hour	50 µg/m^3**	Human health
	Annual	25 µg/m^3*	Human health

[5] As noted in the EIS the Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA 2016) were updated in 2022 following the completion of the AQIA modelling. The only changes to the 2022 Approved Methods were an update of the impact assessment criteria for sulfur dioxide (SO_2), nitrogen dioxide (NO_2) and ozone (O_3), none of which were assessed, nor required assessment, as part of the AQIA. The changes made in the 2022 Approved Methods therefore have no bearing on the results or conclusions of the AQIA.

Pollutant	Averaging period	Mitigation criterion	Impact type
$PM_{2.5}$	24 hour	25 µg/m^3**	Human health
	Annual	8 µg/m^3*	Human health
TSP	Annual	90 µg/m^3*	Human health
Deposited Dust	Annual	2 g/m^2/month**	Amenity
		4 g/m2/month*	

Notes: *cumulative impact (Project + background).
** incremental impact (Project only) with zero allowable exceedances of the criteria over the life of the development.

The worst case predicted incremental TSP, PM10, PM2.5, and dust deposition levels of the two modelled operating scenarios (refer to Section 6.4.3 of the EIS) are presented in Figure 6.7 to Figure 6.12 of the EIS for each pollutant criterion. The predicted incremental concentrations and deposition rates at each of the modelled receiver locations are set out in Table 6.1 and 6.2 of the AQIA (refer to Appendix 8 of the EIS).

The modelling concluded that the predicted concentrations and deposition rates for all pollutants and averaging periods were below the applicable NSW EPA assessment criteria and VLAMP mitigation and acquisition criteria at all assessment locations. As the results were below both the NSW EPA assessment criteria and the VLAMP criteria which considers health impacts, the Project is unlikely to cause impacts to human health in the neighbouring community.

We note that the EPA submission on the Project specifically noted that odour and air quality impacts had been adequately addressed.

Submitter ID	Text from Submission
Nature Conservation Council/ Environmental Justice Australia (NCC/EJA Submission) SE-52901481	The air quality assessment is lacking in providing the best available health criteria to protect human health. The NEPM values represent Australia wide values that the political representatives accept. The WHO provided new criteria in 2021. Applying the precautionary principle will result in the most recent WHO criteria being used in this assessment. The Air Quality Guideline (AQG) for PM2.5 is 5(µg/m^3) not 8 proposed by the proponent. Using the conservative approach to protect the health of NSW citizens, this project should not proceed.

Appendix 4, prepared by EMM, contains a specific response to submissions on air quality raised in Section 3a of the Nature Conservation Council/Environmental Justice Australia (NCC/EJA) submission. The response on this issue is reproduced below.

The AQIA represents a worst-case assessment of potential air quality impacts as a result of the Project. It also includes conservative assumptions in terms of the background data used (as both CVC and MC were operating in 2018 to varying degrees and therefore also contribute to the background air quality calculations used in the assessment).

At the assessment locations, the measured background is the main contributor to the cumulative concentrations (accounting for approximately 80% of the total concentration at the worst-affected assessment locations).

As recognised in the NCC/EJA submission, the WHO air quality goals have not been adopted in NSW. As required by the SEARs, the Project has been assessed in accordance with the Approved Methods.

5.1.1.2 Cumulative Air Quality Impacts from Vales Point Power Station

Submitter ID	Example Text from Submission
SE-51223457	Delta has informed the EPA that it cannot comply with Group 5 levels of Nitrous Oxide emission and operate profitably. By failing to meet this international standard the company will continue to affect the respiratory health of the surrounding community. It has been granted a further two-year extension on its inability to produce unsafe levels of Nox and is likely to need further exemptions to continue operation.
SE-51972208	Not to mention all of the people within the area of Upper Central Coast being diagnosed with cancer & terminal conditions from being exposed to metals & harmful chemicals produced by the power station.
SE-52272209	Reading the EIS, it would not seem to appear that Delta Coal has properly assessed the impacts of the Project, impacts of burning the coal extracted from the mines for Vales Point Power Station. This produces toxic air pollutants that impact air quality and community health.
SE-52415737	I live at Summerland Point just across the lake from the power station and have been affected by the pollution coming from it for years. The grime from the burning coal coats everything and the gases and micro particles have a deleterious effect on the lungs of many in close-by communities.
SE-52572208	Evidence of the health impacts facing people on the Central Coast, particularly children, from coal-fired power stations like Vales Point, collected by Future Sooner and presented to the Central Coast and Hunter Public Health Units, the NSW Ministry of Health, NSW Planning, Industry and Environment, Clarence Brown EPA Sydney and several other agencies has never been challenged.
SE-52713210	It is vital that the Department consider and address all the likely impacts of this proposal and that includes all offsite impacts that are linked to the Proposal. For instance, it appears that from a review of the EIS, that Delta Coal has not properly assessed the likely impacts of burning the coal extracted from the Chain Valley and Mannering Colliery at Vales Point Power Station. There will be impacts on air quality and community health due to the production of toxic air pollutants.
SE-52724461	I am deeply concerned that the purpose of expanding the Chain Valley Coal mine is to extend the life of the Vales Point power station. What assessment is included in the EIS of the effects of the pollution to the air from the operation of the power station on the health of people living around the power station and people living further afield when the polluted air is carried on the wind. Has the Vales Point power station been upgraded by installing the latest technology to reduce such pollution? These surely relate to likely impacts of allowing the extension of the Coal Chain Valley mine.
NCC/EJA SE-52901481	Fundamentally, the EIS is flawed because it does not consider the impact that burning the coal that is extracted from the CVC and MC at VPPS will have on air quality. NCC submits that this is a 'likely impact' of the project and must be considered by the Department in its assessment of the Project.
NCC/EJA SE-52901481	Based on the integrated nature of CVC and MC with VPPS, it is evident that the Project has a real and sufficient link to VPPS, such that the impacts on air quality caused by VPPS are ones that 'flow' from the Project. They are therefore 'likely impacts' of the Project and must be considered as part of the environmental impact assessment of the Project because they are 'likely impacts' of the Project.
NCC/EJA SE-52901481	Currently, the EIS and AQIA does not extend to the air quality impacts caused by burning coal at VPPS. For example, emissions from coal combustion such as NOx, SO2, VOCs and coarse and fine particulates are not addressed by the AQIA. The EIS does not consider the secondary air quality impacts of the Project caused by VPPS. It should consider these collectively with the other direct air quality impacts of the Project.

Submitter ID	Example Text from Submission
SE-52722471	There is no information about the toxic ash dam that is nearby or the mountain of coal stored at the power station or the health impacts to nearby residents or to even the wildlife.
SE-52896207	It is important to know what the impact of nitrogen oxides (NOx), Sulphur dioxide (SO2), coarse and fine particulate 2matter (PM 10 and PM2.5) and mercury are on the health of the community. They have only done a Risk Assessment. Already we know from recent Australian research (Ewald, 2018) what the severe health outcomes of the burning of coal from power stations can amount to as I have previously stated.

As noted in the EIS (refer to Section 2.4.3), Delta Coal is seeking to ensure the continuity of coal supply for the VPPS which will reduce reliance on external parties and supply chains. The Project would allow for the extension of the LOM for the combined CVC and MC operations for a further two years (to the end of 2029) which will align with the current projected requirements of the VPPS. The Project does not seek any change to VPPS approved operations, but rather, would provide a cost effective and reliable supply of coal for the current planned life of operations and reduce impacts associated with transporting coal from further afield to meet VPPS requirements.

The Project also seeks to retain the existing approval applicable to the road transport of coal from CVC for export and domestic supply. This aspect of the Project only applies to a relatively small volume of the overall production: 660,000 t (export) and 180,000 t (domestic) per annum (refer to Section 2.4.2.2 of the EIS). While the Project would align the LOM for the CVC and MC operations with the current operational requirements of the VPPS (to 2029), it would also retain the ability to operate independently by retaining the ability to haul up to 660,000 tpa of coal from CVC to the Port of Newcastle and up to 180,000 tpa of coal to other domestic locations by road. Hence, the Project is not inextricably linked to the VPPS but would utilise its proximity to be a key supplier of product for VPPS operations.

Impacts associated with the combustion of coal at VPPS are outside the scope of the environmental assessment except to the extent that they are required to be considered as part of the cumulative impact assessment requirements. Cumulative air and health impacts were considered in the AQIA (EMM, 2021) for the Project as summarised in Section 6.4 of the EIS with the full report provided in Appendix 8 of the EIS. Cumulative impacts at each assessment location were assessed using 24-hour average PM10 and PM2.5 concentrations and annual average concentrations. The cumulative impact assessment specifically includes consideration of existing background air quality which includes air quality impacts associated with the VPPS and the associated ash dams. Predicted cumulative TSP, PM10, PM2.5, and dust deposition levels from the Project's proposed scenarios were analysed for each of the assessment locations. The predicted cumulative concentration and deposition rates are set out in Table 6.3 and 6.4 of the AQIA (EMM, 2021).

The predicted cumulative concentrations and deposition rates for all pollutants and averaging periods were below the applicable NSW EPA assessment criteria and VLAMP mitigation and acquisition criteria at all assessment locations. As stated in **Section 5.1.1.1** , as the results were below the NSW EPA assessment criteria and the VLAMP criteria which considers health impacts, the Project is also unlikely to cause cumulative impacts to human health in the neighbouring community.

As stated in Section 6.11 of the EIS which addresses the assessment of the likely risks to public safety and health, where relevant criteria are predicted to be met or where NSW Government policy stipulates mitigation measures that are to be implemented, no further detailed health risk assessment was determined to be required.

The EPA submission on the Project specifically noted that air quality impacts (which includes consideration of cumulative impacts) had been adequately addressed.

EMM's response in **Appendix 4** includes additional detail regarding these issues in relation to the NCC/EJA submission (SE-52901481).

5.1.1.3 Impacts to Air Quality from Transport

Submitter ID	Example Text from Submission
SE-52044476	It's time to stop mining under our lake and give us some sense of a pristine waterway that we should be surrounded by. Instead, we have coal trucks on our main roads and a mine that belches thick coal dust regularly.
SE-52146985	A lot of this newly mined coal will be for export, up to 660 000 t/yr and domestic use beyond Vales Point Power Station 180 000 t/yr. This will equate to 270 fully laden coal trucks heading to the port of Newcastle daily which is 32 trucks/hour and 16 trucks/hour in peak times. This will add not only the emissions from burning the coal overseas but the diesel emissions of all of the truck movements to our already overburdened air quality and greenhouse gas emissions.
SE-52572208	There are no benefits or safeguards included for the health of the community, no consideration for the cost that will be a result of subsidence and environmental impacts from extended coalmining under the lake, no protection from the added pollution of increased truck movements and traffic congestion or indeed, how an overseas entity will be held responsible and forced to comply with state laws including responsibility for remediation of the site.
SE-52572208	There's already enough coal being produced in the region. Locals shouldn't have to put up with more coal trucks on the roads. The dust affects many people badly and the roads are already congested. The EIS has inadequately assessed this impact.
SE-52707491	Fourthly, the project will cause more pollution and congestion from coal trucks moving in areas where residents are already complaining about these problems. The EIS provides limited input on this issue.
SE-52707491	I grew up in Wollondilly Shire where underground mine subsidence, water pollution, and coal truck pollution caused daily damage to people and special places in our community over many decades.

As stated above, air dispersion modelling indicates that particulate concentration and deposition levels will remain below the NSW EPA (2016) impact assessment air quality criteria at all representative assessment locations off site with the operation of the Project.

A range of best practice dust mitigation measures are currently, and will continue to be, employed to manage potential particulate impacts associated with the Project. This includes ensuring that every loaded coal truck that leaves CVC is covered to prevent coal from being blown out of, or spilling from, the truck or trailer as required by the current CVC Road Transport Protocol (CVC, 2020). Other mitigation measures for managing air quality include use of water carts and sprays, conveyor systems, enclosed conveyor transfer points, watering of exposed areas and stockpiles, and using chemical suppressants on unpaved roads. These measures have been taken into account in the emissions estimation and modelling of each scenario.

Submitter ID	Text from Submission
NCC/EJA **SE-52901481**	The AQIA is deficient because it does not quantitatively assess the combustion emissions (being NOx, SO2, carbon monoxide, CO2 and VOCs created from combustion engines such as trucks) of the Project. This is despite the Project seeking consent to transport up to 600,000 tonnes of coal by road to the Port of Newcastle annually. It is worth noting that the GHGEA assesses two scenarios – the 'Planned Scenario' and the 'Export Scenario'. If Delta Coal exports coal from the Port of Newcastle, it may result in up to 270 laden coal trucks operating from the CVC site daily, or up to 32 per hour. The combustion emissions generated from these operations should be factored into the AQIA and the assessment of air and GHG emissions should be addressed consistently (i.e., for both the Planned Scenario and the Export Scenario) in all components of the EIS.

In response to the submission from NCC and EJA (SE-52901481), EMM (refer to **Appendix 4**) also notes that combustion emissions (i.e. NOx, SO2, CO and VOCs) from road transport and plant are typically a minor component of overall site emissions for projects of this nature and are unlikely to compromise air quality criteria. It is noted that these road movements are currently approved under the existing CVC consent and the only change proposed is the (potential) extension of these activities for an additional two years. Accordingly, the Project will not result in any incremental increase in these emissions relative to approved operations on an annual basis.

As noted previously, the EPA submission on the Project did not raise any concerns with regard to the AQIA assessment methodology and specifically noted that air quality impacts had been adequately addressed.

5.1.1.4 Air Quality Monitoring

Submitter ID	Example Text from Submission
NCC/EJA SE-52901481	It is clear from the EIS that the air quality monitoring network maintained by Delta Coal is insufficient and must be improved. There are no air quality stations continuously monitoring TSP concentrations in real-time in the vicinity of MC or CVC, despite operations at CVC and MC generating TSP. Such monitoring would have the benefit of triggering real-time alarms in response to dust events at CVC and MC, which could ensure appropriate operations and controls are undertaken during dust events. Real time air quality monitoring data should be made publicly available to increase transparency of mining operations for the community. [NCC recommends that] if the Minister approves the Project, that he requires as a condition of consent that an air quality station that continuously monitors TSP, PM2.5 and PM10 concentrations in real-time be installed in close vicinity to CVC and MC and that data from the monitoring station is made publicly available in real time.

Appendix 4, prepared by EMM, contains a specific response to submissions on air quality raised in Section 3a of the NCC/EJA submission. The response on this issue is reproduced below.

Delta Coal maintains a monitoring network in the vicinity of the Project which includes continuous PM10 monitoring and dust deposition monitoring. Delta Electricity also operates a continuous PM2.5 monitoring station in Wyee. Data collected from these stations were analysed and used in the AQIA.

TSP concentration data is not collected at the Project and currently there is no requirement for the Project to monitor this under the approved Delta Coal Air Quality Management Plan.

Due to the infrequent sampling of TSP (typically one-in-six days using a high volume air sampler (HVAS)) and the additional laboratory analysis time, TSP data collected by a HVAS provides no value to the reactive management of operational dust emissions.

In addition, the relationship between TSP and PM10 at mining sites is well understood and can be inferred from existing PM10 monitoring data which exists at the Project site. This method was used in the AQIA for the Project (as well as many others prepared for mining projects) and has been accepted by regulatory agencies. Delta Coal currently utilises the PM10 TEOM monitoring data and this accepted relationship between TSP and PM10 to assess compliance against the TSP criteria imposed under the current consent conditions.

5.1.2 Climate Change

5.1.2.1 Contribution to Climate Change

Submitter ID	Example Text from Submission
NCC/EJA SE-52901481	The EIS and GHGEA does not properly assess the likely impacts of greenhouse gases from the Project in contributing to climate change or the resulting cumulative air quality, health biodiversity, water, and social impacts.
SE-52896207	All greenhouse gas emissions whether scope 1, 2 or scope 3 contribute to the effects of climate change and cannot be ignored when considering the likely impacts of this Project. The impacts of climate change and increasing global warming include bushfires, floods, heatwaves, ocean acidification, heavy precipitation and flooding and drought. These effects of global warming will impact a number of matters that are required to be assessed as part of the EIS including air quality, health, biodiversity, water and social impacts however the EIS does not address these cumulative impacts.
SE-52729473	I am objecting to the Development Proposal because; • the proposal to extract and burn coal will emit greenhouse gas (GHG) emissions of 25,350,157 tonnes C02e as per Table 7.1, Impact Assessment • the addition of 25,350,157 tonnes C02eq to the atmospheres will contribute to global warming and hence, extreme weather damage. • I have included several graphs that demonstrate the disconnect between the fossil fuel emission, government policy and the minimising of global warming • As evidenced by the current climate crisis (floods, wildfires, coral reef bleaching, deglaciation, Artic ice sheet loss, droughts, famines, refugees), the continued accumulation of greenhouse gases is dangerous to the living planet.
SE-51243958	The coal mined in the Chain Valley mine is intended to be burned and will contribute to worsening climate impacts. There is no longer any basis to argue that new or extended coal mining operations are of community benefit. They are all harmful and no new approvals should be granted.
SE-52275959	This impact will be principally due to it adding to the climate change that the world is currently undergoing. I ask that this be looked at in the light of Australia's commitment to reduce, not increase carbon emissions.
SE-52432719	I object in the strongest possible terms to this project which will create 25.35 million tonnes of greenhouse gas emissions. Having been a resident of Lismore for 16 years I am intimately aware of the extraordinary suffering of our community because of the floods in February of this year. It is incontrovertible that this flood, 2.4 metres higher than any previously recorded was in large part due to extreme weather as a result of greenhouse gas emissions causing climate change. This is not to forget for a moment the terrible impacts of record floods on the people of Central and Western NSW.

The EIS acknowledges the accumulation of greenhouse gases (GHG) in the atmosphere is an important driver of climate change and can generate environmental impacts across generations (refer to Section 7.3.2 of the EIS). Furthermore, it is recognised that climate change has the potential to drive intergenerational issues such as climate risk, loss of biodiversity, loss of natural resources, loss of industry, loss of infrastructure and loss of amenity.

Section 6.9.3 of the EIS considers the impact the Project may have on climate change due to the assessed impacts of GHG emissions and energy usage associated with the Project. Whilst it is acknowledged that the Project will result in increased Scope 1 and Scope 2 greenhouse gas emissions which will contribute to climate change impacts, the Project does not create the demand for coal and it is the Scope 3 emissions associated with the combustion of coal mined by the Project which comprise the vast bulk (approximately 91%) of the emissions associated with the Project. As detailed in Section 6.9.3, of the EIS, the Project, in isolation, is unlikely to influence global emission trajectories. The Project is forecast to generate a relatively insignificant proportion of global emissions, and future global emission trajectories will largely be influenced by global scale issues such as technology, population growth and greenhouse gas policy.

The Project's Scope 3 emissions are associated with combustion of coal at the VPPS. As identified in Section 1.0 and in the EIS, the Project does not extend the life of the VPPS but rather provides a cost effective and reliable supply of coal for the existing planned life of the power station. Should the Project not be approved, VPPS would source coal from elsewhere which would have the equivalent emissions to those predicted from the Project but with potential for higher additional emissions due to additional transport costs. Therefore, should the Project not proceed, there would be limited to no impact on global greenhouse gas emissions.

All emissions associated with the Project (assuming full supply to VPPS) will be fully captured within the NSW and Australian regulatory framework for GHG emissions.

The Delta Electricity Sustainability Policy (Delta Electricity, 2021) specifically requires ongoing consideration of GHG emissions and energy use. In accordance with the policy, Delta Electricity acknowledges the increasing societal and regulatory pressure to reduce carbon emissions to address climate change.

5.1.2.2 Impacts to Future Generations

Submitter ID	Example Text from Submission
SE-52729473	It is in humanities interest that this development proposal be disallowed, the coal in question to kept in the ground, where it belongs, to give future generations a better chance in a warming world.
SE-52146985	Our objection to this expansion is due to all of the above which shows the project is not ecologically sustainable and places a further burden on intergenerational equity, failing in the areas of air quality, climate change, water resources, biodiversity, and subsidence.
SE-52872460	We all know how projects such as this - coal mining and its effect on people's health and the environment - is negative and unacceptable. Consolidating two mines which Delta Coal plans to do and producing more coal is not the path, Australia and the world, should be pursuing…still. I care, because I'm concerned about not necessarily my future, but those that are younger than me and our planet.
SE-52873465	We should stop mining coal and do something to keep our wonderful planet livable for future generations, not just think of profit.

Section 7.3.2 of the EIS discusses intergenerational equity and outlines the objectives of the Project that relate to intergenerational equity. The EIS acknowledges that greenhouse gas emissions associated with coal combustion, and the established links to climate change, may generate environmental impacts across generations. However, as discussed, the Project, in isolation, is unlikely to materially influence global emission trajectories with future emission trajectories largely influenced by global scale issues such as technology, population growth and GHG mitigation policy. Irrespective of future policy options, the demand for coal from VPPS is predicted to remain throughout the expected life (to the end of 2029) and would be sourced elsewhere if not provided by the VPPS. In this regard, the additional GHG emissions associated with the additional two years of proposed operation are considered to be negligible as similar emissions would be associated with obtaining the coal used at VPPS from other sources. Climate change effects associated with the GHG emissions from the Project will therefore have little to no adverse intergenerational impacts relative to the Project not proceeding.

Furthermore, a range of environmental management and mitigation measures (provided in Appendix 4 of the EIS) have been developed and evaluated to minimise the Project's impact on the environment as far as practicable. The design of the Project and commitment to the management of environmental issues as outlined in the EIS, will assist to maintain the health, diversity, and productivity of the environment for future generations.

The Project will also make a significant contribution to maintaining services in the community through the direct and flow on effects of workforce and operational expenditure and through development contributions in accordance with the EP&A Act. Intergenerational equity has also been addressed through maximising efficiency of the coal resource recovery and productivity on an existing brownfield site, utilising the neighbouring VPPS and associated infrastructure providing further efficiencies.

5.1.2.3 Impacts to Australia's Climate Change Commitments

Submitter ID	Example Text from Submission
SE-52715957	Approval of this Project- which would add ~ 25.7 Mt CO2-e in lifetime emissions- is not consistent with the goals of the Paris Agreement. We note that in 2016, the NSW Government endorsed the Paris Agreement and pledged to "take action that is consistent with the level of effort to achieve Australia's commitments to the Paris Agreement."1 Approval of new coal capacity in NSW which adds to NSW and global GHG emissions is consistent with global CO2 emissions continuing to rise, and not with abatement that would halt global temperature rise between 1.5℃ and 2℃.
SE-52519214	Courts are already recognising that new and expanded coal mines are incompatible with Australia's internationally agreed greenhouse gas (GHG) reduction commitments in the Paris Climate Agreement. In 2019 the NSW Land and Environment Court rejected an application for a new mine at Gloucester, in part because, as the judge said in his judgment 'the GHG emissions of the coal mine and its coal product will increase global total concentrations of GHGs at a time when what is now urgently needed, in order to meet generally agreed climate targets, is a rapid and deep decrease in GHG emissions. These dire consequences should be avoided. The project should be refused.'
SE-52873469	We simply cannot add to GHG emissions if we are to keep within our committed targets (43% reduction on 2005 levels by 2030, nationally).
SE-52868209	Our kids won't thank us if projects like this continue to go ahead, impinging upon the principle of Inter-generational equity which says we must not act knowingly to harm our kids' future. Approving & expanding coal mines is directly against this principle, leaving our kids and grandkids with a terrible legacy which they cannot want. We MUST act responsibly, for their sake: refuse this project!

Section 4.3 and 4.4 of the Greenhouse Gas and Energy Assessment (GHGEA) (Umwelt, 2022b) (provided in Appendix 14 of the EIS) discussed the Project's impacts on international, Australian and NSW policy objectives.

As per Section 6.9.3 of the EIS, the Labor Government has promised to increase Australia's commitment under the Paris Agreement to reducing greenhouse gas emissions by 43%, on 2005 levels, by 2030 (Australian Labor Party, 2022) and the Australian Government is committed to net zero emissions by 2050. As the Project will cease operations in 2029, it will not affect Australia's ability to meet either the Commonwealth Governement target of 43% reduction from 2005 levels or the 2050 net zero target. Further, as noted in **Section 5.1.2.1**, irrespective of whether the Project proceeds, the VPPS will require the supply of coal from domestic coal sources and similar levels of Scope 1 and 2 emissions would be expected from those alternative sources. Accordingly, the supply of coal from the Project is considered to have negligible impacts on Australia's overall projected GHG emissions and policy objectives.

Section 6.9.3 of the EIS also concluded that the Project is consistent with the NSW Net Zero Plan as mining in NSW will continue to be an important part of the economy, and action on climate change must not undermine mining businesses, jobs and communities. Scope 3 emissions are also mitigated through the close proximity of the operations to the primary customer, VPPS. This is further mitigated given the Project's direct linkages to the VPPS and the planned cessation of mining operations in 2029 to align with the closure of the VPPS.

5.1.3 Greenhouse Gases

5.1.3.1 Assessment of Scope 3 Greenhouse Gas Emissions

Submitter ID	Example Text from Submission
NCC/EJA SE-52901481	The EIS does not propose any conditions to minimise GHG emissions. As noted above at paragraph [119] over 90% of the estimated additional GHG emissions as a result of the Project are Scope 3 emissions. The EIS and appendices do not discuss or propose any measures to minimise or mitigate the Scope 3 emissions assessed in the GHGEA.
SE-52629211	The proponent is correct to say they are not seeking approval to generate Scope 3 emissions. The proponent should be assessing the likely economic, social and environmental impacts of those Scope 3 emissions to assist the Department's determination of the proposal. The proponent has made no attempt to assist the Department in this regard. The proponent claims Scope 3 emissions are not generated by the project but includes them as indirect emissions in the emissions boundary of its own assessment. The remainder of the statements seems to be a version of the argument that someone else will supply coal to VPPS regardless of project approval (the drug dealer defence). This argument has been rejected by several recent court decisions. One key objective of the Planned Scenario for the project is to supply coal that will be combusted in NSW and create additional Scope 3 emissions in NSW (arguably additional Scope 1 emissions) which have been estimated in the proponent's assessment. It is nonsensical for the proponent to claim no absolute increase in overall emissions by the project. The proponent's own assessment estimates and seeks to justify these additional Scope 3 emissions without assessing their likely economic, social and environmental impacts.
SE-52714482	The EIS fails to take account of the greenhouse gases emitted by the Vales Point Power Station, despite those emissions being a direct consequence of the operation of the Chain Valley and Mannering coal mines.

Submitter ID	Example Text from Submission
SE-52715957	It is not accurate to say that "scope 3 emissions would occur irrespective of whether the Project proceeds based on the planned operating life of the VPPS to the end of 2029" as there is a real possibility that: a) this power station may close earlier than 2029, or b) that coal consumption may diminish as renewable energy generation ramps up and the need for power from Vales Point trends downward.

As stated in Section 6.9 of the EIS, the GHGEA calculated the following emissions:

- Scope 1 emissions primarily from the combustion of diesel and release of fugitive emissions as part of the operation phase
- Scope 2 emissions being the electricity use on site, and
- Scope 3 emissions being indirect emissions that occur downstream generated by third parties during product transport and use.

Projected Scope 2 and 3 emissions (including emissions from VPPS associated with the combustion of CVC and MC coal) were included in the GHGEA to demonstrate the potential upstream and downstream impacts of the Project. All Scope 2 and 3 emissions identified in the GHGEA are attributable to, and may be reported by, other sectors. Scope 2 emissions can be mitigated through improved energy efficiency of the operations. The Project is expected to be very energy efficient, as the high-quality ROM coal only requires a simple processing stage and produces very low rates of waste material. The Project will operate without washing, separation and dewatering processes, which reduces the energy demands of the preparation plant, and the energy demands associated with emplacing tailings and reject materials.

Scope 3 emissions are indirect emissions that are associated with the Project but occur at sources owned or controlled by other entities. The Project's Scope 3 emissions are the Scope 1 emissions of the end users of the coal produced from the Project. The Project's Scope 3 emissions are forecast to be approximately 23,157,149 t CO_2-e and are almost entirely associated with the combustion of coal at the VPPS. These emissions would be generated irrespective of the source of coal, with potentially higher emissions if the coal is sourced elsewhere due to the additional emissions associated with coal transport relative to those expected from the adjacent CVC and MC operations.

The Scope 3 emissions will be generated by a separate operation which, irrespective of this Project, is required to transport and consume coal products, and therefore the applicant has very limited ability to control or manage Scope 3 emissions that may be generated by the Project. It is both appropriate, and consistent with the overarching international climate change framework, for the Project's Scope 3 emissions to be regulated and reported by the VPPS as Scope 1 emissions generated. Furthermore, improving the certainty of Scope 3 emissions forecasts requires site-based emission factors for every facility that consumes the Project's products. Further, there is an absence of any mechanism agreed by national or State governments to calculate the applicant's contribution to Scope 3 emissions.

The Australian Government has a comprehensive set of policies to track, report and reduce domestic emissions. The NGER scheme, established by the *National Greenhouse and Energy Reporting Act 2007*, is designed to support the Government's international reporting obligations, and does not require reporting of Scope 3 emissions. This scheme is consistent with reporting systems in operation in the United States, the European Union, and South Korea. Further, in its recent review of the NGER scheme, the Climate Change Authority (CCA) considered a requirement to report Scope 3 emissions, however concluded that

the challenges and burden of reporting Scope 3 emissions outweigh any benefits, because the accurate estimation of Scope 3 emissions associated with a specific economic activity is inherently complex and uncertain, involving many value chains across multiple economies.

As noted in **Section 5.1.2.1** the Delta Electricity Sustainability Policy (Delta Electricity, 2021) specifically requires ongoing consideration of GHG emissions and energy use. In accordance with the policy, Delta Electricity acknowledges the increasing societal and regulatory pressure to reduce carbon emissions to address climate change. While not directly raised in submissions, potential intergeneration equity considerations associated with GHG emissions associated with the Project are directly considered in Section 7.3.2 of the EIS.

5.1.4 Impacts to Water Resources

5.1.4.1 Impacts to Surface Water Resources from Discharges

Submitter ID	Example Text from Submission
SE-51211959	The water quality assessment has analysed the impacts on Swindles Creek which discharges directly into Lake Macquarie. It does not assess the impacts of discharge from both Chain Valley Coal or Mannering Coal on the aquatic ecosystems which are so critical to the health of the lake. Existing licences allow for a total of 16.6ML/day into the lake with varying quantities of contaminants identified in the EIS. The EIS adopts a set of Default Guideline Values (DGV) for Swindles Ck based on Freshwater and Marine DGVs. As Swindles Ck discharges into Lake Macquarie it is paramount that the EIS considers the impact of this development on the lake, by adopting more appropriate guideline values. The EIS (Table 7.3, Appendix 10) acknowledges that there are high counts of electrical conductivity, high NOx , and high concentrations of several metals, however there has been no analysis of the impact of these analytes on the lake itself.
SE-52675968	The description of the treatment process for groundwater and surface water discharge generated by the mine proposed in the EIS is unsatisfactory. Contrary to the SEAR in relation to biodiversity, the impact of these large volumes of groundwater and surface water on the biodiversity of Swindles Creek or Lake Macquarie is not assessed. A simple analysis of the mass balance of total suspended solids in surface water discharge between the discharge point and near the mouth of Swindles Creek (monitoring location RW1) suggests that approximately half of the annual average sediment load is deposited in that stretch of the creek. However, there is no analysis of the impact of that sedimentation on the biodiversity of the creek – apparently because the creek is not a 'high priority GDE'. This is unacceptable.
SE-52689991	Lake Macquarie is a saline lake but still is highly environmentally sensitive. It was badly affected by surrounding urbanisation and run-offs of stormwater and nutrients and toxins into streams that feed into the lake… The feeder streams are likely to show heavy iron oxidising bacteria growth and iron oxyhydroxide floc contamination, with big impacts for the health of children and people generally who live around the lake and for the marine life within it.
SE-52767715	The EIS assessment does not adequately address Water Quality impacts of the proposal on Lake Macquarie and Swindles Creek. Water pumped from the mine and leaking into the water table will contain particulate pollution, cause water turbidity and pollution throughout the water column, leave enduring toxic sediment and threaten the health and survival of marine and riparian life,
SE-52785209	I understand that contaminated water could be released into Swindles Creek which in turn flows into Lake Macquarie. This could harm biodiversity and the potential impact needs greater consideration.

Submitter ID	Example Text from Submission
SE-52895226	I am particularly concerned about the potential impact of toxic pollutants from the proposed mine on biodiversity and ecosystems in Swindles Creek and Lake Macquarie, including unacceptable levels of heavy metals, nitrogen and salinity. I do not believe the EIS submitted by Delta adequately asses the likely impact of these pollutants on groundwater, surface water and biodiversity and ecosystems.
SE-52698708	The Project indicates it is to continue pumping out ground water to the surface of the mines and subsequently into sediment dams to be stored, along with dirty run-off water. These sediment dams discharge into Swindles Creek, which in turn discharges into Lake Macquarie. Thus, there is the potential for ever increasing contaminated water entering Lake Macquarie, further impacting on its biodiversity.
SE-52889968	As the planet warms the stretches of drought in Australia are expected to get longer and more severe. Australia is already a relatively dry country, and we can expect that there will be times ahead when water resources will become critically low. Any project that threatens fresh water supplies in Australia cannot be tolerated. There are clearly threats to fresh water in this project that have not be adequately addressed.

A comprehensive assessment of the potential surface water impacts of the Project has been undertaken and is summarised in Section 6.5.2 of the EIS.

There is an existing Water Management System (WMS) onsite at CVC and MC to contain potentially contaminated water for reuse or treat (if required) to achieve water quality discharge criteria prior to release at the licensed discharge points (LDPs). Delta Coal has site-specific water management objectives including minimising water discharges from the premises by maximising, where practicable, opportunities for the reuse and recycling of water on site.

Surface water quality monitoring is currently undertaken in accordance with the CVC Water Management Plan, and MC Water Management Plan, at LDPs and upstream and downstream in creeks where surface water is discharged. All surface water monitoring locations are monitored monthly by grab sample for the analytes such as pH, total suspended solids (TSS), biochemical oxygen demand (BOD), faecal coliforms, Enterococci, oil and grease, electrical conductivity (EC), total nitrogen, total phosphorus, and anionic surfactants (MBAS). This includes Swindles Creek monitoring locations, at the location of the discharge point, as well as upstream and downstream. A complete list of the analytes monitored is provided in Table 6.11 of the EIS.

As outlined in Section 6.5.2.3 of the EIS, overall, the SWIA indicates that the surface water monitoring results within Swindles Creek are consistent with a modified estuarine environment that has likely existed since discharges commenced around 1963 and concentrations of inorganic nitrogen compounds and dissolved metals, and therefore the level of ecotoxicity, are expected to remain similar to existing approved operations.

While the Project has the potential to result in a minor increase in the volume of intercepted groundwater that requires dewatering and discharge compared to existing conditions, the predicted levels of discharge from CVC and MC remain within the currently approved combined volumetric discharge limits at CVC Pit Top and MC Pit Top. Furthermore, water quality from discharges associated with Project is expected to be similar to those of the existing and approved operations and within existing EPL criteria.

The SWIA completed for the Project indicates that impacts on downstream water quality and availability associated with the Project are expected to be negligible.

Should the Project be approved the site-specific Water Management Plans for CVC and MC would be reviewed, merged and updated. The recommended water quality parameters as provided in Table 6.12 of the EIS will be monitored over the Project life at the established sites.

It is also noted that neither the EPA, DPE Water or DPI Fisheries submissions on the Project raised any concerns with regard to the surface water assessments.

5.1.4.2 Impacts to Groundwater Resources

Submitter ID	Example Text from Submission
SE-52716957	The Groundwater report identifies issues with groundwater management and settlement arising from the proposed expansion. There is some uncertainty in the geological formation and the potential effects of expansion of the mining area under the Lake. The precautionary principle requires that the uncertainty of groundwater impacts demands that this proposal not be approved. .
SE-52888480	I AM CONCERNED that this Project will require the large-scale pumping of groundwater from the underground mines to the surface because this dirty water: is pumped into sediment dams, which discharges into Swindles Creek, then directly into Lake Macquarie - will be further contaminated as it picks up heavy metals, sediments and other contaminants including coal deposits - has a hugely detrimental impact on the local biodiversity, particularly on the ecology of Swindles Creek - affects salinity parameters, nitrogen compounds, fecal coliform, and some dissolved metals (Al, Ba, Fe, Mn and Zn) - will likely have impacts on flooding risk.
SE-52895214	Mining around or under Lake Macquarie comes with a large environmental risk of water pollution both groundwater and surface water.
SE-52519214	We are also very concerned about the risk of pollution impacts on groundwater, lake water, bushland and forest.
SE-52432719	There of course will be other negative impacts of the proposed development including the depletion of the groundwater in the area...

A comprehensive assessment of potential groundwater impacts of the Project was undertaken and is summarised in Section 6.5.1 of the EIS. As noted above, Section 6.5.2 of the EIS includes a comprehensive assessment of potential surface water impacts associated with the management of groundwater removed from underground operations.

The Groundwater Impact Assessment (GIA) indicates that the Project is unlikely to have any significant impact on the groundwater system. This is largely due to the Project effectively being a continuation of mining within areas already approved for mining. As outlined in Section 6.5.1.4 of the EIS, the GIA indicates:

- Groundwater inflows to the combined CVC and MC mine workings are predicted to be consistent with approved conditions and average appropriately 6.7 ML/day. Should there be secondary extraction within the Fassifern Seam at MC, this may result in a minor and temporary increase in groundwater inflow to approximately 7.6 ML/day (2,774 ML/year). This peak inflow is well below the current combined groundwater licence allocation held by CVC and MC of 4,893 ML/year.

- The Project would result in an additional two years of mine dewatering at CVC and MC. Average and peak groundwater inflow into mine workings over these additional two years are assumed to be 6.7 and 7.6 ML/day respectively.
- No drawdown of the water table is expected as a result of the Project. It follows therefore that any perched groundwater that may exist above the Project area is also unlikely to be impacted by the Project, and it is unlikely that there would be a reduction in baseflow to ephemeral creeks above the Project area as a result of the Project.
- The proposed mining is predicted to not result in additional leakage from Lake Macquarie to the underlying fractured and porous rock groundwater sources compared to approved conditions. The take of groundwater into the mine workings will be from the existing storage within the fractured and porous rock. Therefore, it is predicted that groundwater salinity will not increase as a result of the Project.
- Inflows of higher salinity water into the historical Wallarah and Great Northern Seam workings at CVC and other operations may result in an increase in salinity relative to historical or pre-mining conditions however this is an impact associated with those historical operations and any additional contribution from the Project (due to the slightly extended period of dewatering) would be negligible.
- No high priority Groundwater Dependent Ecosystems (GDEs) listed in the relevant Water Sharing Plans (WSPs) occur within the Project area. Proposed mining is predicted to not impact GDEs within the Project area, including high potential terrestrial GDEs in the vicinity of the area.
- Mining within the Fassifern Seam is predicted to result in some groundwater depressurisation, predominantly within Permian strata, and it is predicted that the Project will not result in drawdown of greater than 2 m at any registered bore.
- The Project is not predicted to have any material impacts on post mining groundwater recovery relative to approved operations.
- Predicted impacts have been assessed in accordance with the NSW Aquifer Interference Policy (AIP), which requires that potential impacts on groundwater sources, including their users and GDEs, be assessed against minimal impact considerations, outlined in Table 1 of the AIP. Overall, the level of impact to the water table, water pressure and groundwater quality are considered to meet the Level 1 minimal impact considerations under the NSW AIP and are therefore considered to be acceptable.

Should the Project be approved, groundwater monitoring will continue in accordance with the CVC Groundwater Management Plan and MC Water Management Plan, which would be revised and updated where required to reflect the Project and to cover both CVC and MC ongoing operations. Ongoing monitoring would include the continued daily metering of dewatering volumes from underground workings. Additionally, groundwater monitoring data would continue to be reviewed annually as part of the Annual Review process for CVC and MC. Should monitoring results be inconsistent with the conceptual model, it would also be reviewed and updated where appropriate as part of the Annual Review process.

It is also noted that neither the EPA, DPE Water or DPI Fisheries submissions on the Project raised any concerns with regard to the groundwater or surface water assessments in the EIS.

5.1.5 Impacts from Subsidence

5.1.5.1 Impacts to Water Resources and Biodiversity

Submitter ID	Example Text from Submission
NCC/EJA SE-52901481	Mr. Johnson undertook a review of the Groundwater Impact Assessment for the Project… Mr. Johnson opines that mining, and subsequent collapse of bedrock above mine cavities will increase the permeability of the bedrock overlying the mine cavities, which will result in increased flows of seawater from Lake Macquarie into the brackish aquifers underlying Lake Macquarie.
SE-52779707	I am concerned that environmental impacts such as subsidence may be worse than predicted. This could have detrimental impacts on the local area around Lake Macquarie. At a time when so much of our environment is being destroyed through climate disasters, we must ensure that we make the utmost efforts to protect what remains.
SE-52799472	There is also the very real possibility of land subsidence and sink holes. As with the water contamination, the effect this will have on local biodiversity cannot be understated.
SE-52864460	Not to ignore the statistics of mostly inevitable subsidence when mining under any water catchment or water storage area. Nature abhors a vacuum and that Is just what mining creates.
SE-52895224	The proposed mining under Lake Macquarie will result in serious subsidence under the lake of around 780mm. There is no guarantee that this will not be exceeded. In any case, such subsidence would disturb the rock strata under the lake inducing vertical cracking that would result in penetration of water into the mine workings. While this may not occur immediately, it is almost certain to happen at some point due to the eventual collapse of the rock into the mine void. Water would then have increased contact with remnant coal seams and waste in the mine workings, which would release toxic contaminants and heavy metals. Over time these would penetrate to the surface and add to the burden of contaminants already present from the historic mining and power station operations in the waters of the lake and on the surrounding land. These toxic materials will impact on the environment, plants and animals and on the humans who consume them. Subsidence impacts will continue to impact from the existing mine works. There is comment above on the impact of subsidence on water quality and thence on the biosphere. However, the new proposed workings will extend the potential mixing area of contaminated ground water and penetrating lake water into the overall mine works - both under the lake and in previously mined areas.
SE-52889968	Subsistence underneath Lake Macquarie is expected if this project goes ahead and this is likely to have a significant impact on the ecological balance of the whole area. As previously stated there are grave concerns about loss of biodiversity worldwide and this is expected to have significant impacts on human health and wellbeing.

An assessment of potential subsidence impacts of the Project was undertaken and is summarised in Section 6.2 of the EIS. It is noted that the Project does not propose any increase in the approved mining area and will not result in any changes to subsidence management commitments in relation to foreshore or land areas. Potential subsidence impacts will be effectively avoided (<20 mm vertical subsidence) under the foreshore and land areas through the use of long term stable bord and pillar mining methods below these areas.

The detailed assessments undertaken for groundwater and biodiversity impacts (as summarised in Section 6.5.1 and 6.6 of the EIS respectively) also considered subsidence impacts. Potential interactions between secondary extraction below Lake Macquarie and the underground works was specifically addressed in Section 5.2 of the GIA:

Secondary extraction, including miniwall mining and pillar extraction, results in the zone of complete groundwater depressurisation extending above the coal seam into the overburden strata due to fracturing of the overlying strata associated with the formation of the mining goaf. Secondary extraction is currently only approved within the CVC mining area below Lake Macquarie and subject to meeting vertical subsidence limits of 780 mm over the mining area and no more than 20 mm at sea grass beds and foreshore areas. The height of complete depressurisation (or drainage) due to goaf related fracturing can be approximated using the Tammetta (2013) empirical method to be approximately 90 m for panels of void width 97 m (typical for CVC) and extraction height 3.5 m. There is no evidence of direct connectivity between the underground workings within the Fassifern Seam at CVC and Lake Macquarie based on lower rate and salinity of groundwater inflows into these workings compared to the shallower Wallarah Seam workings.

Secondary extraction (and therefore vertical subsidence impacts over 20 mm) would be limited to the approved CVC and MC mining areas under Lake Macquarie where subsidence impacts are unlikely to have a significant impact on surface features or sensitive seagrass areas. Potential impacts on seagrass and benthic communities were specifically considered as part of the Biodiversity Assessment (Appendix 11 of the EIS) which noted that there have not been any observed changes to the seagrass and benthic communities as a result of CVC mining operations below Lake Macquarie in the existing Zone A and B subsidence areas. As the Project will operate under existing approved subsidence management restrictions, no adverse impacts to seagrass or benthic communities are expected.

The Seagrass Management Plan and Benthic Communities Management Plans will be reviewed following each monitoring period and updates may include an increase and/or decrease in monitoring sites and monitoring frequency. If seagrass loss is identified across any of the existing monitoring sites and determined to be the result of direct subsidence, the Seagrass Management Plan commits to remediation strategies to replace an equal area of any loss incurred.

5.1.5.2 Impacts to Public Safety and Utilities

Submitter ID	Example Text from Submission
SE-52433459	Having already admitted to the potential of some 780 mm of subsidence under the lake, there is no guarantee that it may not exceed all predictions and potentially escalate onto dry land… Subsidence is a real issue for those living in the region and as time goes by and mines become disused and left to decay the issue will become greater.
SE-51084774	I am concerned about the subsidence of 780mm being allowed. The impact on utilities and infrastructure should not be risked.
SE-52859962	There is significant risk to local infrastructure and local ecosystems caused by future subsidence.
SE-52891957	I am concerned that subsidence caused by mining may have a negative impact on the biodiversity of Lake Macquarie, buildings including my house, my neighbours houses and the houses of those people living in and around the Lake Macquarie area. I am also concerned that local infrastructure such as roads will be damaged by subsidence caused by mining.
SE-52572208	If you think that a 780mm possible subsidence will be contained within the watery depths of the lake and not affect structures and the people living on the shoreline, you are seriously being led astray.

While it is acknowledged that mining in the Great Northern Seam at the former Newvale Colliery resulted in significant adverse impacts in the Chain Valley Bay area in the mid-late 1980s, as noted in Section 6.2.2 of the EIS, subsidence associated with mining at CVC and MC has not resulted in any significant surface impacts.

The Project does not propose any change to the CVC Consent subsidence impact performance measures which would be extended to all approved and proposed CVC and MC mining areas within the Project Area. The performance measures for built features including the Trinity Point Marina Development and other built features are detailed in Table 6.1 of the EIS and include the following:

- Always safe.
- Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated.
- Damage must be fully repaired, replaced or fully compensated.

The commitment to less than 20 mm subsidence below land and foreshore areas means there is effectively no risk to public safety, utilities or other structures. Due to the long history of mining in the Lake Macquarie area and the target seams, there is a high degree of confidence in the ability to meet these subsidence performance measures.

The extension of Zone B into the currently approved MC mining area below Lake Macquarie provides a consistent approach to managing underground mining operations below lake areas and avoids arbitrary restrictions on mine design which may limit future resource extraction in this area. The subsidence commitments in this extended area of proposed secondary extraction are identical to those currently approved in Zone B at CVC, including a maximum vertical subsidence limit of 20 mm where seagrass beds are present.

Subsidence impacts and management within this extended Zone B area will be broadly consistent with the existing approved CVC Zone B mining area. All secondary extraction in the Zone B area, including any secondary extraction in the extended Zone B area, will be subject to further detailed assessment of any potential subsidence impacts as part of the Extraction Plan assessment and approval processes. Subsidence impacts in Zone B up to the currently approved 780 mm vertical subsidence performance measure will not have an adverse impact on any utilities or other assets in foreshore areas or on land.

Routine monitoring for surface areas above approved workings is undertaken to identify any unexpected subsidence effects and allow rapid and proactive verification of both initial and final subsidence effects and impacts in accordance with the Subsidence Monitoring Program.

5.1.5.3 Methods of Subsidence Monitoring and Assessment

Submitter ID	Example Text from Submission
NCC/EJA SE-52901481	The EIS provided by Delta coal on the impact of subsidence appears to be based on historical data and existing performance measurements rather than providing a new subsidence assessment relevant to the current Project of expanding the underwater mining footprint.

Submitter ID	Example Text from Submission
SE-52714482	The discussion in the EIS of the potential impacts of subsidence is inadequate: • It relies entirely on past predictions of subsidence and existing performance measures and monitoring and does not include a new subsidence assessment for the Project; • A review of the graphical representations of subsidence indicates that subsidence is generally increasing over time for the shoreline monitoring locations; • It appears that sea floor surveys over Zone B mining areas will be discontinued 3 years after mining in the underlying area is complete. However, no justification provided and this may not be appropriate given that the highest levels of subsidence as measured by the surveys that occurred in 2020 took place over areas mined in 2017; • The EIS fails to give adequate consideration to the considerable uncertainty associated with predicting subsidence associated with underground coal mining.

As stated in Section 6.2.2 of the EIS, the extensive mining history in and around Lake Macquarie (including experience from current mining operations) has greatly improved the ability to predict subsidence levels and assisted with developing mine design guidelines to protect against foreshore, seagrass and lake bed impacts. This experience provides a high degree of confidence in both predicting and managing potential subsidence impacts. Furthermore, ongoing routine subsidence monitoring and the nature of the proposed mining methods and ability to observe conditions underground allows adaptive measures such as mine design changes, increased barrier pillars, widening of protection zones, etc. to be undertaken in a timely manner. This assists with mitigating against and minimising the impact of any unforeseen subsidence events.

Additionally, modern development consents are subject to conditions requiring submission to, and approval by, the DPE of an extraction plan which describes how subsidence impacts will be managed to meet the requirements of the development consent (NSW Resource Regulator, 2022). As stated in Section 6.2.4 of the EIS, all secondary extraction in the Zone B area, including any secondary extraction in the extended Zone B area, will be subject to further detailed assessment of any potential subsidence impacts as part of the Extraction Plan assessment and approval processes.

The existing Extraction Plan approval process includes a requirement for a detailed assessment of potential subsidence impacts associated with the particular mine plan proposed in this area. As a detailed assessment of potential subsidence impacts is required as part of the Extraction Plan approval processes should secondary extraction be proposed in this area in the future, no additional assessment of subsidence impacts has been undertaken (or is considered to be required) in relation to the extended Zone B.

The Extraction Plans developed for any proposed secondary extraction will include a subsidence monitoring and management framework associated with the mining covered by the Extraction Plan. The framework will include specific information regarding the subsidence monitoring requirements (including baseline monitoring), remediation and adaptive management techniques and contingency plans. All of these are then summarised in the Subsidence Management Trigger Action Response Plan (TARP) which aims to consolidate all subsidence management requirements into a central focus point, triggering a response or set of responses commensurate with the nature of the measurement or the impact that has been identified. The relevant subsidence monitoring and management measures under approved Extraction Plans will be continued for the Project.

The Consolidation Project does not propose any changes to currently approved first workings mining methods or areas where these can be undertaken.

5.1.6 Biodiversity

5.1.6.1 Impact on Biodiversity

Submitter ID	Example Text from Submission
SE-52873965	The EIS also doesn't adequately consider the detrimental impacts of the Project on local biodiversity as a result of dirty run off water in Swindles Creek and Lake Macquarie. This could affect a wide variety of ecological communities that are not assessed.
SE-52799470	I am also concerned about the damage done to biodiversity from land clearing and water quality in Lake Macquarie and surrounding waterways.
SE-52432719	There of course will be other negative impacts of the proposed development including the depletion of the groundwater in the area, the destruction of koala habitat, and reduced future opportunities for agriculture.

As stated in Section 6.6 of the EIS, the Project does not involve any additional surface disturbance activities, nor are any surface activities considered likely to have any additional impacts on surrounding terrestrial biodiversity values relative to approved operations.

Discharges to Swindles Creek during the life of the Project are predicted to be consistent with those of the currently approved operations and are also considered unlikely to have any materially different impacts on the aquatic biodiversity values in Swindles Creek relative to existing approved operations.

A Biodiversity Assessment was undertaken by EMM Consulting (refer to Appendix 11 of the EIS) which focused on the impacts to seagrass and benthic communities given the only potential material change to approved operations in terms of biodiversity impacts is the extension of the Zone B subsidence area to parts of the approved MC mining area below Lake Macquarie.

The Biodiversity Assessment concluded that due to the commitment to negligible levels of subsidence below land areas and seagrass beds, indirect impacts associated with the Project are predicted to be negligible, therefore no biodiversity offsets are required.

Monitoring of seagrass and benthic communities within the approved mining areas below Lake Macquarie will be managed by an updated Seagrass Management Plan and Benthic Communities Management Plan as detailed in **Section 5.1.5.1** above.

5.1.6.2 Impact on Aquatic Ecology

Submitter ID	Example Text from Submission
SE-51223457	Mining subsidence under the Lake has the potential to allow methane, from the coal seams, below to reach the surface potentially leading to further fish kills. Recently Central Coast Council has given permission for residential developments in the area surrounding the ash dam. In high winds the toxic ash often escapes into these areas despite the control measures used by the company.
SE-51970779	I'm concerned about the continued impact on our local community… water pollution that has caused two fish kills in our bay where no reason has been given for the tragedy.

Submitter ID	Example Text from Submission
SE-51972208	The Mannering Park & Chain Valley Bay Colleries need to be shut down. Vales Point Power Station needs to cease, the impact on our environment is consistently happening; sting rays, fish of all kinds, crabs, birds, ducks have all been dying. Their babies are even being born with severe problems and not able to survive long. Which I have evidence of!
SE-52696463	The EIS for the project is inadequate to determine the likely impacts of the project on benthic communities of Lake Macquarie. Cumulative impacts such as fresh groundwater discharge causing osmotic shock, increased turbidity reducing light availability, subsurface cracking affecting rhyzomes, and subsidence of up to 20mm under extant seagrass, and 780mm under large areas of southern Lake Macquarie (~15% of the Lake) has not been adequately assessed. Nor has the impacts of Vales Point discharge, for which the Project is interdependant.
SE-52767715	Water pumped from the mine and leaking into the water table will contain particulate pollution, cause water turbidity and pollution throughout the water column, leave enduring toxic sediment and threaten the health and survival of marine and riparian life, There will be damage and danger to marine and riverine plants (especially seagrasses) and the trophic webs of benthic and soil organisms , insects, reptiles, amphibians, birds, fish, and recreational fishers which depend on them.
SE-52855457	I am concerned about the potential harm to aquatic life arising from discharge of contaminated water from the mine and washing operation were it to enter Swindles Creek and Lake Macquarie. I am aware of some of the significance of the aquatic fauna of the lake, and that recreational fishing is an important activity in the area. I would not want to see those values further threatened by the proposed project.
SE-52871708	The EIS does not adequately assess the potential impacts of the Project on local biodiversity, particularly the ecology of Swindles Creek.
SE-52886968	I am aware of recent fish kills in the southern part of the lake, and I am concerned about any contribution to that from operations at Vales Point power station.
SE-52785461	There are also inadequately identified impacts on water quality in the documentation provided. The sediment dams and their discharge and additionally the biodiversity of Swindles Creek and the seagrass beds of lake Macquarie.

The Project received a significant number of submissions which detailed concerns about the recent mass fish deaths which had occurred in Lake Macquarie in 2022 and the potential link to the Project and operations at VPPS.

The events occurred in August and September of 2022 and officers of the EPA, Central Coast Council and NSW Fisheries attended the site to investigate the likely cause of the fish kills.

In an update provided in August 2022, the EPA concluded that this event was likely a natural event due to a combination of factors including a rapid change in temperature from “cool nights in the first week of August and a shift to northerly winds” and “a disturbance of the sediments, which explains the high ammonium concentrations observed on August 5, and potentially the release of sulfides” (EPA, 2022). The EPA investigation included a consideration of monitoring data from mining operations at CVC, MC and the VPPS as well as additional data collected by the EPA. The investigation did not identify these operations as the likely souce (or contributing factor) of the August incident.

Following the second mass fish death event which occurred in September 2022, the EPA inspected the VPPS and has assigned specialist investigators to the issues (EPA, 2022). The investigation is ongoing and, in October 2022, a smart buoy was deployed near Wyee Point to monitor the water quality over a six-month period to April 2023 (EPA, 2022). It is likely the investigation will be completed following this period

however in the meantime the real-time data feed from the monitoring buoy is available for public viewing via the EPA website. A review of CVC and MC monitoring data associated with discharges from the operations has not identified any anomalies in water quality that may have contributed to either fish kill incident.

As noted in **Section 5.1.4.1**, the EIS included a comprehensive assessment of potential surface water impacts associated with discharges from the operations. Despite the regulatory focus on potential impacts to aquatic ecosystems in the area, it is also noted that neither the EPA nor DPI Fisheries submissions on the Project raised any concerns with regard to the surface water or biodiversity assessments in the EIS.

5.1.7 Traffic and transport

5.1.7.1 Increased Traffic on Local Roads for Coal Transportation

Submitter ID	Example Text from Submission
SE-52624957	The potential of 270 coal trucks per day on overcrowded local roads. I strongly object to this proposal.
SE-52693957	Theres already enough coal being produced in the region. Locals shouldnt have to put up with more coal trucks on the roads. The dust affects many people badly and the roads are already congested. The EIS has inadequately assessed this impact.
SE-52873963	As for coal mined at Vales Point being transported elsewhere, I am concerned about any increase in heavy truck movements on our local roads. In recent times I've noticed that there are more ash recycling and concrete trucks on the road between Eraring and Wangi. Big trucks with industrial loads of ash make travelling on local roads less safe for drivers of smaller vehicles.
SE-52888959	I am particularly concerned about the number of coal trucks taking coal from the mines to the Port of Newcastle each day and the danger they present to the communities they will be passing through. It will take a considerable amount of trips to move 9.5 million tons of coal. This represents a substantial number of truck movements throughout the life of the coal extraction. These movements present, as I mentioned, danger to the communities. They also damage the roads we all use, forcing more taxpayers' dollars to be used in their upkeep. These trucks are not clean, efficent electric vehicles, but rather ones which pump their dirty emissions directly into the air that people around them must breath as they move back and forth between the mine and the port. Transport in Australia is a major contributor to climate change.
SE-52895211	It is also likely that there will be transport impacts on residences, schools and other community facilities from coal trucks transporting coal to the Port of Newcastle as well as to Vales Point Power Station.

Section 6.10 of the EIS summarises the potential impact of the Project on the local road network however as stated, the Project does not involve any change to traffic or transport activities of the approved operations other than the extension of the life of mining by two years to 2029. Maximum approved export and domestic coal truck movements were included in the Traffic Impact Assessment (Appendix 15 of the EIS) which included consideration of a maximum road haulage scenario and traffic growth forecasts to 2029. The Traffic Impact Assessment concluded that the existing road network would not be significantly impacted as a result of an additional 840,000 tonnes of coal being hauled from CVC by road. However, this scenario is not the preferred option and is unlikely to be undertaken unless coal cannot be transported to VPPS during the life of the mine.

If this scenario were to occur, the following existing CVC conditions of consent would apply:

- No laden coal trucks dispatched from the site to public roads outside of the hours of 5:30 am to 5:30 pm, Monday to Friday, and not at all on Saturdays, Sundays or public holidays.
- No more than the following would be dispatched from the site:
    - 660,000 tonnes of product coal in any calendar year to the Port of Newcastle for export
    - 180,000 tonnes of product coal in any calendar year to domestic customers other than VPPS
    - a total of 270 laden coal trucks per day by public roads
    - a total of 32 laden coal trucks per hour
    - an average of 16 laden coal trucks per hour by public roads during peak hour periods, calculated monthly, until the intersection of M1 Motorway and Sparks Road Interchange (East Side – unsignalised with stop sign) is upgraded to a signalised intersection.

If the Project is approved, traffic management associated with the Project would continue in accordance with the existing Traffic Management Plan which also includes mitigation and management actions for transporting coal via local roads such as ensuring all loaded trucks are weighed and covered before leaving site and all drivers have attended an induction to learn about the content of the management plan and will be issued a copy of the Driver Code of Conduct.

5.1.7.2 Assessment of Transport and Traffic

Submitter ID	Example Text from Submission
SE-52714482	The analysis in the EIS is completely inadequate, failing to describe any road improvements required to allow the huge increase in heavy vehicle movements required to transport the amount of coal allowed for export between the mine and the port of Newcastle.
NCC/EJA SE-52901481	It is NCC's submission that the EIS does not adequately address the impacts of transporting coal by public road to the Port of Newcastle and to other domestic customers. The EIS and Traffic Impact Assessment is insufficient in the following ways: a. it is greater than two years old, and therefore does not consider any potential changes to the road network since August 2020; b. it does not map the transport route of trucks to the Port of Newcastle, including mapping any residential areas and schools located on the transport route; c. it does not sufficiently assess the likely transport impacts of the Project on the capacity, condition, safety and efficiency of all public roads intended to be used as part of the transport route to the Port of Newcastle; and d. it does not describe any potential mitigation measures in relation to the transportation of coal by road to the Port of Newcastle.

Submitter ID	Example Text from Submission
NCC/EJA SE-52901481	Delta Coal has indicated that the additional mined coal will not only be used at Vales Point Power Station, but 660,000 tonnes of coal will be trucked from the site to the Port of Newcastle for export and up to 180,000 tonnes for domestic use other than Vales Point Power Station per annum. This proposed transportation of coal via public roads has not been adequately addressed by Delta Coal in terms of a detailed route for the transportation, specifically if the transportation will be near residential homes and schools. This lack of detail makes it impossible for the Department to make an informed decision on the possible impacts on the safety, capacity and condition of the local road network.

As stated in Section 6.10 of the EIS, the Project does not involve any change to traffic or transport activities relative to the approved operations other than the extension of the life of mining by two years to 2029. Therefore, the only change to traffic conditions would be the result of prolonged employee traffic and coal haulage during these additional two years. The Traffic Impact Assessment in Appendix 15 of EIS was prepared by GHD for the CVC Modification 4 project but also included the potential impacts on the local traffic network associated with a range of different employee numbers using CVC as the primary facility for employees at the combined operations. The assessment covered modelling to 2030 which also covers the closure period.

Based on the results of the modelling in the Traffic Impact Assessment, no changes to intersection design or additional traffic management measures are required for the Project, relative to the currently approved operations. Additionally, employee numbers and truck movements required for closure activities will be managed within the vehicle movements modelled above and subject to a separate Traffic Management Plan that will be developed for closure operations.

Transport for NSW, in its submission on the project did not identify any concerns with the traffic assessment or modelling and concluded:

> *TfNSW has reviewed the application and supporting documentation submitted and is satisfied that the proposed modification has adequately addressed the anticipated traffic impacts on the State road network.*

With the exception of the short section of Ruttleys Road between Construction Road and the Pacific Highway, the entire haulage route from CVC to the Port of Newcastle is along State Roads. There are no schools along the Ruttleys Road section of the haulage route.

5.1.8 Noise

5.1.8.1 Noise Impacts to Local Amenity

Submitter ID	Example Text from Submission
SE-52519214	Residents face the risk of continued noise, pollution, vibration, dust and traffic from this proposal. We live in a small, peaceful community. Any mining impact has a significant impact on our lives.
SE-51967478	The amount of noise, dust, white powder on my car and garden is unbelievable from the coal mine over the lake. It is about time the residents had some peace and quiet and of mind from the constant noise, pollutions and public eye sore of this aging and costly form of energy extraction.

Submitter ID	Example Text from Submission
SE-52716957	The concern with this project is noise from the proposed ventilation fans. Of particular concern is the dominance of noise from Vales Point. Should Vales Point cease operations, the coal mine expansion would be permitted to operate under legacy conditions. This is questionable and suggests that the noise assessment should be performed on the basis of Vales Point being non-operational. This is because Vales Point is a dominant noise source in the locality. Its closure would see background noise levels greatly reduced.

A Noise Impact Assessment (NIA) was prepared by EMM Consulting Pty Ltd (EMM) to assess the noise impacts associated with the Project and summarised in Section 6.3 of the EIS. This assessment included a comprehensive consideration of background noise conditions which was undertaken in accordance with the NSW NPfI, as required by the SEARs.

The NIA concluded that noise associated with the Project will not increase/change compared to the approved CVC and MC operations and noise impacts at most locations assessed will be lower than currently permitted under the MC or CVC consents. Only the Macquarie Shores Home Village (MSHV) assessment location is predicted to experience marginal to moderate exceedances of the PNTLs, however noise is not predicted to exceed the current noise criteria for this assessment location under the MC Consent.

The Project does not contemplate any new ventilation fans and the assessment of impacts associated with ventilation fans represents existing approved operations.

As per Section 6.3.7 of the EIS, all feasible and reasonable noise mitigation measures identified by the NIA will be adopted and implemented by Delta Coal and existing noise mitigation and management strategies will continue to be implemented as part of the ongoing MC and CVC operations.

5.1.9 Decommissioning and Rehabilitation

Submitter ID	Example Text from Submission
SE-52888962	What does a fully integrated mine closure and rehabilitation program actually mean?
NCC/EJA SE-52901481	Mr. Johnson reviewed the rehabilitation aspects of the EIS. He concludes that the above indicative actions appear to be appropriate, however notes that there are two significant long-term risks associated with mine closure that are not addressed in any detail in the rehabilitation and closure summary, namely: a. the potential for contaminated groundwater to impact groundwater users and/or surface receptors; b. the potential for surfaces impacts caused by collapse of the mine…. Finally, Mr. Johnson advises that it does not appear that the SEARs for the Project have been addressed because the EIS does not appear to include 'the measures that would be put in place for the long-term protection and/or management of the site and any biodiversity offset areas postmining'.

The SEARs required a detailed description and analysis of the final landform, post mining land use options, rehabilitation objectives/strategies and mine closure. However, no change is proposed to the existing rehabilitation and final land use plan currently implemented for the approved CVC and MC operations and therefore no further assessment was conducted for the EIS.

The rehabilitation objectives, strategies and justification for the Project are consistent with that proposed for the approved operations and are presented in Section 6.16.2 of the EIS. In accordance with the primary objective to rehabilitate the site to a final land use that is compatible with surrounding land uses, areas

such as the MC Pit Top and majority of CVC Pit Top will be restored to native bushland except for the high voltage transmission line easement, located at the CVC Pit Top. This area will be rehabilitated to a native grassland community only.

All rehabilitation activities will be consistent with current processes and procedures outlined in the existing CVC Consent, Rehabilitation Management Plans (RMPs) and Mining Operations Plan (MOP) (now replaced with the Rehabilitation Management Plan per Schedule 8A to the *Mining Regulation 2016*). The current rehabilitation objectives and completion criteria are outlined in the RMPs and cover the post-mining land use for each relevant domain.

This level of assessment was supported by the submission from the NSW Resources Regulator (the regulator of mine site rehabilitation) which concluded (emphasis added):

> *Based on the review of the Environmental Impact Statement (September 2022) the Resources Regulator advises that it has no specific comments regarding mine rehabilitation matters in relation to the proposal.* ***The consolidation project will not alter approved rehabilitation outcomes, including the approved subsidence performance measures****. Furthermore, the proposed consolidation project as described in the EIS does not introduce additional subsidence risks beyond the approved SSD5465 for Chain Valley Colliery.*

5.1.10 Social Impacts

5.1.10.1 Negative Impacts on Social Amenity

Submitter ID	Example Text from Submission
SE-51974706	I completely object to this project going ahead. Myself and my family live in the local area and this project concerns me in regard to my families health and the impacts it has on our local and greater community.
NCC/EJA SE-52901481	The adverse social impacts that climate change will bring for communities include serious public health impacts, including infections and morbidities, rising death rates, mass population movements, loss of livelihoods, eroding shorelines, extreme weather events and conditions (including flooding and drought), poverty, social distress, and civil violence. These impacts will be felt globally, and also by NSW communities such as those located near the Project.

A Social Impact Assessment (SIA) was prepared in accordance with the NSW Government's *Social Impact Assessment Guideline* (DPE 2021) and summarised in Section 6.15 of the EIS. It is the role of the SIA to determine how negative impacts may be mitigated to reduce the degree of disruption to those affected.

The SIA assessed the technical and perceived social impacts (positive and negative consequences) that may be experienced by stakeholders due to anticipated impacts/changes associated with the Project. Project aspects which were determined to have a high residual impact included:

- presence of the Project and
- continued supply of coal to VPPS.

Management and mitigation strategies are proposed in the EIS to mitigate impacts that may be experienced by the local community and surrounding area such as air quality, noise, and impacts to water resources. However, in Section 6.15.4 of the EIS, the SIA presents strategies to enhance positive social

impacts in relation to the Project and address any impacts that are of 'high' concern to potentially affected people and groups, but which are not considered significant from a technical perspective, including:

- development of a Social Impact Management Plan and Stakeholder Engagement Strategy
- continued investment in the Community Fund, and
- development of a Post-Mine Closure Transition Plan.

As noted in **Section 5.1.2.1** the Project will have a negligible effect on climate change impacts both in absolute terms (i.e. direct and indirect impacts from Scope 1 and 2 emissions) and in relative terms given emissions from other sources of coal to supply VPPS would likely result in a similar level of GHG emissions even if the Project were not to occur. Accordingly, any adverse social impacts associated with climate change in NSW or elsewhere in the world cannot realistically be attributed to the additional two years of operation of CVC and MC as proposed by this Project.

5.1.11 Economic Impacts

5.1.11.1 Negative Economic Impacts and Limited Economic Benefits

Submitter ID	Example Text from Submission
SE-52675968	The EIS notes on page 143 that "adverse uncompensated environmental, social and cultural impacts of the Project have been minimised through project design and mitigation, offset and compensation measures" and that "These measures have already been incorporated into the estimate of net production" [cost]. However, the costs of residual impacts, for example the cost of the mines' contribution to cumulative impacts on human health from air pollution and contamination of fish and other species in the lake, and the damage to otherwise valuable surface waters have not been included, being effectively set at zero after a very simplistic analysis. Thus, the estimate of net economic benefit of the proposal included in the EIS should properly be regarded as a maximum pending a proper analysis of the costs of the environmental, health and social impacts of the proposal. In this context the very small nature of the estimated net benefit to NSW (only $89million – trivial in relation to the state budget) and the potentially very large costs to NSW in managing the health impacts of the proposal suggests that there is a strong likelihood that a more thorough cost benefit analysis would show a net cost to NSW rather than a net benefit.
SE-52714482	Page 20 of Appendix 16 states that: "Even when no quantitative valuation is undertaken of the environmental, social, and cultural impacts of a project, the threshold value approach can be utilised to inform the decision-maker of the economic efficiency trade-offs." In this approach (as we understand it), the 'threshold value' is the value that the environmental, social, and cultural costs of a project would need to reach to exceed the net production benefit of the project. Given the very small net benefit to NSW calculated for this project, KLMC believes that it is highly likely that the health costs of this project alone will indeed exceed its net production benefit. Perhaps that is why there has been no serious attempt to calculate those costs.

Submitter ID	Example Text from Submission
SE-52716957	The economic analysis report fails to address the proven costs of carbon emissions. Instead, the report focuses on benefits (to the proponent). Attention is drawn to the failure of the report to identify any costs arising from the financial impacts of climate change in NSW, Australia and throughout the world. While this may be consistent with the "Planning Guidelines" it is certainly inconsistent with the need for critical analysis of this project. The report infers that the bushfires in previous years and the flooding in 2022 are purely natural events totally unrelated to global warming. The flooding on the north coast of NSW in February this year was significantly contributed to by the combustion of fossil fuels. Why is climate change damage cost incurred in NSW not being considered as part of this project? Why are flooding events in the Lake Macquarie area not considered as a cost of this project. The inconsistency is not based on scientific evidence derived from the predicted effects of global warming on climatic patterns. Insurance costs and uninsurable properties are a direct cost of global warming. These are real costs that the report should have identified. The report does not identify any costs associated with the extension of operation of Vales Point. The closure of mining and power generation is reasonably expected to cause a significant increase in land valuations with cleaner air, less noise, removal of coal trucks etc. The failure of the cost benefit analysis to claim this would not occur amounts to a fundamental flaw in the analysis. The increase in land values would more than compensate to local government in the form of land rates. The economic report does not include the diesel fuel rebate savings which mining is granted by the Commonwealth Government. These savings is not provided to all other industries and adds to the distortion of employment opportunities for other industries in the local area. Nor does the economic report identify the consistent pattern of paying very small amounts of Commonwealth income tax thus company income tax benefits to NSW are purely fictional. The claim "Adverse uncompensated environmental, social, and cultural impacts of the Project have been minimised through project design and mitigation, offset and compensation measures" is false. Global warming costs have not been included, nor offsets identified. Land values post closure of the activity have not been included. Hence the conclusion of the economic analysis is flawed and should be disregarded.

An assessment of the potential economic impacts of the Project was undertaken by Gillespie Economics in accordance with the SEARs for the Project, and included a cost benefit analysis, local effects analysis and a supplementary local effect analysis (LEA) of the Project. The assessment findings were summarised in Section 6.14 of the EIS.

The Economics Assessment found:

- the Project would have an estimated net production benefit to NSW of $89 M (net present value (NPV)) at 7% discount rate)
- the Project is estimated to have net social benefits to NSW of $85 M (when potential employment benefits are excluded) and $155 M (when potential employment benefits are included)
- additional royalties associated with the additional coal mined by the Project (relative to the base case), have been quantified as being $54 M (undiscounted) over the life of the Project.

The LEA results were presented in Section 6.14.2 of the EIS. The LEA measured the impacts of the Project in its locality as required by section 4.15 of the EP&A Act and identified that the Project will provide an average annual operational workforce of 297 per year over the life of the Project, with 68% (202) sourced from the locality.

The LEA also noted that the main potential residual impacts to the local area after mitigation, compensation and offsets relate to the extended duration (two additional years) of noise impacts on adjoining residents due to the extension of the life of mining operations. However, Delta Coal would continue to implement all reasonable and feasible strategies to reduce such impacts as presented throughout the EIS. Hence, socio-economic impacts from the Project as mentioned in the submissions received will be managed and mitigated in accordance with the strategies provided in the EIS and the existing environmental management systems for CVC and MC.

It must also be noted that the Project only assesses the economic benefits associated with a very short increment in the life of an existing operation which includes the additional coal that is justified for extraction by the additional mine life. Additionally, the Economic Assessment is considered to represent a conservative estimate of likely benefits in that it does not include the economic benefits to NSW power purchasers associated with the provision of lower cost coal to VPPS and improved security of supply relative to the alternative of the Project not proceeding and VPPS being required to purchase coal on the open market.

5.2 The Project

Two non-specific objections were received for the Project. One non-specific submission supporting the Project was also received. No submissions were received that specifically discussed the design of the Project and, as such, the non-specific objections have been categorised as objections on the merits of the Project as a whole.

Submissions that discussed the mining method of the Project were concerned with the impacts of subsidence and have been responded to in **Section 5.1.5**.

5.3 Procedural Matters

5.3.1 General Objection to Assessment Adequacy

Submitter ID	Example Text from Submission
SE-52572208	I believe that the EIS for this proposal is not only inadequate, but laughable. It fails to recognise the potential environmental impacts and ignores the concerns of the health and welfare of the residents of Central Coast.
SE-52693957	The EIS inadequately assesses and addresses the possible environmental and human impacts of the Project.
SE-52707491	I wish to ask that the Project be rejected as the EIS is inadequate in many respects.
SE-52868209	The EIS is deficient and should be done again, properly, and re-exhibited.
SE-52888962	This EIS is more notable for what it doesn't say than for what it does say. It lacks the sense of enquiry and urgency expected in a world struggling against the inertia to efficiently replace fossil fuels with less destructive alternatives.
SE-52895211	In this submission, we express our concerns which arise from reading the review by Environmental Justice Australia's legal team and an expert in mining and geotechnical engineering of the documents provided by Delta Coal. We concur with them that there are very real environmental, and social concerns arising from this project that have not been adequately addressed by Delta's environmental impact statement (EIS).

Submitter ID	Example Text from Submission
SE-52675968	The EIS must be a standalone document that includes sufficient information to ensure that all environmental, social, and economic impacts associated with the proposal have been identified and assessed, and any adverse impacts are avoided, minimised, mitigated or as a last resort, offset. These concepts are common across all jurisdictions in Australia and internationally and have been so for at least four decades. However, they seem to have been ignored by the authors of the Chain Valley Colliery Consolidation Project EIS…

As outlined in Section 1.5 of the EIS, the EIS was prepared in accordance with the EP&A Act, EP&A Reg, State Significant Development Guidelines (SSD Guidelines) (DPIE, 2021) and the SEARs (as revised) issued by DPE on 8 March 2022. A checklist was provided in Appendix 2 of the EIS against the SEARs to ensure all matters were adequately addressed.

The Project Director for the EIS, David Holmes, has been accredited as a Certified Impact Assessment Specialist under the Environmental Institute of Australia and New Zealand (EIANZ) and a NSW Registered Environmental Assessment Practitioner (REAP) under the NSW REAP Scheme. While REAP certification was not required for this Project due to the savings and transitional provisions associated with the introduction of this scheme, the EIS was prepared with the same quality assurance processes relevant to REAP requirements and professional conduct requirements applicable to EIANZ members and Certified Impact Assessment Specialists.

As detailed in **Section 4.0**, the government regulatory agencies responsible for the assessment and regulation of environmental impacts have not identified any significant issues in relation to the assessment undertaken in the EIS with only minor clarifications of the noise assessment requested by the EPA (refer to **Section 4.1**).

5.3.1.1 The Application of Legislation, Policies, and the Planning Process

Submitter ID	Example Text from Submission
SE-51055208	I object to this proposal and request that it be referred to the IPC for review
SE-51055214	I request an extension of time to make comments on the EIS until at least the end of January 2023. The EIS and Appendices comprise more than 1200 pages, which is impossible to read, comprehend and comment on within the allowed comment period.*
SE-52868209	Why on earth has this project been accorded "State Significant" status - in what way is it possible that a privately-owner coal mine expansion can be designated of "State Significance" in this day and age of Climate Change? I fail to comprehend. How on earth can a coal mine expansion be in the public interest? How can the the principles of ecologically sustainable development - the precautionary principle, inter-generational equity, conservation of biological diversity and ecological integrity and "polluter pays" be applied to the expansion of a coal mine in this era of Climate Crisis?

***The person who made this submission lodged a separate submission within the exhibition period and issues raised in this submission have been considered in this submissions report.**

As per Section 1.4 of the EIS, the Project is identified SSD under *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP) due to it being a coal mining project.

Under Part 4 of the EP&A Act, the IPC is the consent authority for SSD applications if the applicant is not a public authority and:

- the local council has made a submission objecting to the application, or

- the department has received 50 or more public objections in response to the exhibition of the application (petitions and submissions that contain substantially the same text count as one objection), or

- the applicant has made a reportable political donation.

As stated, the EIS was prepared in accordance with relevant NSW legislation and guidelines as prescribed by the SEARs. The EIS was exhibited for the minimum public exhibition period for an application for development consent for SSD being 28 days from Friday 18 November 2022 until Friday 16 December 2022.

As presented in **Section 2.0**, the Project has received over 50 public objections and therefore, it is expected that the IPC will be determined to be the Consent Authority for the Project.

5.3.1.2 Adequacy of Consultation Process

Submitter ID	Example Text from Submission
NCC/EJA SE-52901481	It is worth noting that the SIA was conducted throughout the Covid-19 pandemic during 2020-2021. The SIA outlines that a total of 34 stakeholders participated in Round 1 community engagement during November to December 2020, whilst a total of 117 stakeholders participated in Round 2 engagement during August to October 2021. Round 2 engagement comprised the distribution of an information sheet on the Project with a link to an online survey and an invitation for people to get in contact with the project team if they had questions or feedback. Round 2 community engagement therefore coincided with strict Covid-19 restrictions, including when residents may have had other matters to deal with, for example home schooling. These factors may have resulted in fewer people being able to participate in community engagement. The SIA identifies that during Round 2 community engagement, people raised concerns about the process during Covid-19 restrictions, stating that there should have been other options for engagement. It appears that there was no substantive attempt to address these concerns as part of the SIA.

The NCC/EJA questioned the adequacy of stakeholder representation during the preparation of the SIA due to the restrictions that were imposed due the COVID-19 pandemic that was experienced across Australia in 2020-2021. No local stakeholders made submissions regarding the stakeholder engagement processes undertaken for the Project.

The SIA (Appendix 17 of EIS) completed for the Project was prepared to meet the requirements of the SIA Guideline. The SIA provides a participatory platform for the community to be involved in the assessment process relating to SSD. An extensive SIA consultation program was undertaken with face-to-face meetings being replaced by Project information newsletters, telephone, and online engagement mechanisms to ensure compliance with the NSW COVID-19 restrictions during ongoing lockdowns. The engagement mechanisms undertaken are detailed in Section 5.1.1 of the EIS.

Despite the restrictions imposed and alternative mechanisms undertaken, a total of 34 stakeholders participated in Round 1 and 117 participated in Round 2, of which 18 were also participants in the previous Round 1. Additionally, over 10,000 households received Information Sheet No. 1 and No. 2. The majority of respondents who completed the online survey or participated in a SIA interview in Round 2 reside in Chain Valley Bay (41.1%) and are likely to be residents proximal to the proposed mine workings and the pit tops who are more likely to be directly affected by the Project, and emphasis is placed on engagement with these stakeholders.

As explained in Section 5.1.1 of the EIS, the initial Stage 1 and 2 consultation processes were heavily focussed on considering potential impacts on communities potentially impacted by the originally proposed Eastern Mining Area. When this was removed from the proposed Project and the Project became limited to a continuation of mining within existing approved mining areas for an additional two years only, further extensive one-on-one engagement was not considered warranted as the stakeholder views regarding impacts associated with the extended life of operations had been captured through the earlier consultation processes. A third Project Information Sheet was circulated to the wider community (10,640 households) in August 2022 which detailed Delta Coal's decision to remove from the Project the proposal to mine in Eastern Mining Area.

5.4 Justification of the Project

5.4.1.1 Relationship to the Vales Point Power Station

Submitter ID	Example Text from Submission
SE-52895214	I am concerned of this development that is in or near my area of local government because it makes no sense to extract more coal if the Vales Point Power station is going to shut down in a few years.

The justification of the Project is discussed in Section 7.2 of the EIS. The Project's main objective is to align the life of mining at CVC and MC with the current operational requirements of the VPPS. Without the Project, VPPS would be required to source all coal from at least 2028 onwards (and likely from 2026) from other sources that may not be local or as reliable and cost-effective as supply from CVC and MC. Coal sourced from other operations would be less suited to the design specifications of the VPPS operations which were specifically designed around the use of coal from the Wallarah, Great Northern and Fassifern coal seams. The use of externally sourced coal would require additional rail movements between mines in NSW and the VPPS rail handling facilities. This would also expose the VPPS to cost fluctuations and potential supply uncertainty in the event of supply chain disruptions. The transport and handling of externally sourced coal would also involve additional noise and air quality impacts.

As noted in Section 7.2 of the EIS, the Project is a logical business decision for Delta Coal, aligning the existing Delta Assets in order to provide for a local secure coal supply that aligns with the current operational requirements of the VPPS. The Project also minimises the potential impacts that could be experienced if coal is required to be sourced from other locations.

There is no suggestion that VPPS would close earlier if not able to be supplied by coal from CVC and MC and current AEMO electricity grid and market planning is based on VPPS remaining in operation until 2029.

5.4.1.2 Conflict with Australia's Renewable Energy Transition

Submitter ID	Example Text from Submission
SE-51972474	New South Wales was recently highlighted as the leading state in Australia relating to the development of renewable energy projects linked to renewables and hydrogen. Given this fantastic news how can the extension of the life of this coal asset be given approval? The job impacts seem at a level (<200) that the state could manage the impact with retraining schemes? The bigger issue though must be the limited life of any coal asset given the state and federal governments stated net zero targets.
SE-52891964	Business-as-usual expansion of coalmines is not a transition to alternative energy, a more stable climate or a safer future.

The GHGEA summarised in Section 6.9 of the EIS included an impact assessment on the commitments and targets currently imposed to manage GHG reduction and transition to net zero emissions across Australia. As previously stated, the Project is consistent with the NSW Net Zero Plan which states that mining in NSW will continue to be an important part of the economy, and action on climate change must not undermine mining businesses, jobs and communities.

The Project is not proposed to extend the life of the VPPS beyond 2029, only align the CVC and MC mining life until VPPS ceases operation. The alignment of operating periods for CVC, MC and VPPS will ensure coal that is local, reliable and cost-effective can be provided to VPPS with negligible additional environmental impacts relative to the approved operations. VPPS currently provides approximately 11% of NSW's energy and around 4% of the broader National Electricity Market. The current NSW planning for electricity supply beyond 2020 includes the use of increased renewable generation however this transition assumes the continued operation of VPPS to 2029, with recent modelling indicating VPPS remains a key element to maintaining reliability of supply into the NSW electricity generation network until its planned closure in 2029 (AEMO, 2023).

5.5 Issues Beyond the Scope of the Project

5.5.1.1 Application of Agencies/Authorities Policies and Regulations

Submitter ID	Example Text from Submission
SE-52036458	The proposal undermines geographic areas that are concurrently marked for development by Central Coast Council. Council and other parties are rapidly developing land around the South-East Lake Macquarie areas affected by undermining. These developments are set to remove significant greenspace and environmental lands. How have other concurrent projects affecting the same geographical area been addressed in this proposal? What risk controls have been implemented to balance the multiple and growing developments in this area when development applications and the mining proposals are exhibited in isolation from each other? It's like Wild West in the South-East Lake Macquarie area now. From a public perspective, there appears no checks and balances while concurrent projects threaten our environment and biodiversity with increased pollution, no clear or sufficient planned infrastructure for public use/good or mechanisms for environmental sustainability and protection.
SE-52433459	I personally purchased my 15B Certificate for my premises in August 2009 from the Mine Subsidence Board. A few years later whilst building my mother's Granny Flat, I also obtained a certificate. Now in September 2019 the Mine Subsidence Board is defunct and replaced by Subsidence Advisory NSW and I find my property conveniently no longer in a Mine subsidence district, even though the mines still exist and no remediation has occurred.
SE-52716957	The relationship between the Power Plant and the two coal mines suggests that this project should be addressed as a single entity. It is the responsibility of the regulatory to determine the regulatory approach not for the developer to decide what suits them. The community demands the regulator acts in the interests of the residents of NSW not the interests of the developer.

Community concerns in relation to the application of agency and authority policies and regulation in relation to the Project are noted. The issues raised in these submissions are matters for broader policy consideration by Government agencies.

5.5.1.2 Ownership of the Project and Vales Point Power Station

Submitter ID	Example Text from Submission
SE-52036458	Limited information has been provided to the public and residents about the ongoing disputed matter regarding exemptions for the Power Stations under the previous ownership. Is the government going to keep providing legally questionable exemptions for air pollution again? What protections and considerations are being put in place now to address residents health and air quality for current concerns let alone the future concerns an extension on mining would bring.
SE-52044476	Keep the coal underground and not allow some foreign company the rights to what is under our homes. The delta company has sold out to some overseas company that is known for it's disregard of the national environment laws. We don't need any more filthy coal going overseas and not really giving us much profit just filthy air.
SE-52572208	The proposal to extend the life of Deltas Chain Valley mine for two years until 2029 should not be accepted. Even more so as it will now be owned by an offshore billionaire whose proven record is for the total disregard of community concerns and state laws.

Community concerns in relation to the ownership and management of VPPS are noted. However, NSW legislation related to environmental management and planning applies equally to all proponents irrespective of ownership.

6.0 Updated Project Justification and Evaluation of Merits

This Submission Report has been prepared to address the issues raised in agency and community submissions and provides an analysis and further clarification of issues as required.

As discussed in Section 7.2 of the EIS, the Project is a logical business decision for Delta Coal, aligning the existing Delta Assets in order to provide for a local secure coal supply that aligns with the current operational requirements of the VPPS. The Project Area relates to an existing mining operation in an area with a long history of coal mining which has been historically linked to the several power stations located in the Lake Macquarie and Central Coast area. The Project would align the LOM for the CVC and MC operations with the current operational requirements of the VPPS (to the end of 2029), securing local coal supply security to the VPPS. This is achieved with negligible additional environmental impacts relative to the approved operations due to the proposed mining methods.

Following a review of submissions and the issues raised in those submissions, no changes to the Project design or management measures identified in the EIS are proposed. This should not be seen as a discounting of issues raised as it is recognised that many people in the community have concerns regarding the potential impacts associated with coal mining and the combustion of that coal and its associated contribution to climate change. However, it is noted that the Project, as detailed in the EIS, is effectively a continuation of existing approved operations at MC and CVC for an additional two years beyond what is currently approved with no material changes to operating arrangements. The Project does not involve any increase in the approved mining area nor any intensification of impacts at any communities. Should the development application not be approved, operations at CVC and MC will still be approved to the end of 2027 and operations at VPPS will also continue to the current planned closure date of 2029. The Project therefore does not involve any additional impacts other than those associated with the short duration of operations continuing.

A range of environmental management and mitigation measures (summarised in Appendix 4 of the EIS) will continue to be applied or have been developed and evaluated to minimise the impact on the environment as far as practicable. The design of the Project and commitment to the management of environmental issues as outlined in the EIS will maintain the health, diversity and productivity of the environment for future generations. The Project will also make a significant contribution to maintaining services in the community through the direct and flow on effects of workforce and operational expenditure and through development contributions in accordance with the EP&A Act.

The Project will facilitate ongoing employment in the region and an overall net production benefit to NSW of an estimated $89 Million in Net Present Value (NPV) terms ($2022) with potential additional indirect social benefits to the State of NSW (in NPV terms) estimated to be between $85 Million (when potential employment benefits are excluded) and $155 Million (when employment benefits are included) and royalties payable directly to the State of NSW of $36 Million (of the overall net production benefit) or $54 Million in undiscounted terms. These estimated benefits are conservative in that they do not include additional economic benefits to NSW electricity users associated with the reliable supply of lower cost coal to the VPPS.

On this basis, it would be reasonable to consider that with the implementation of the management and mitigation measures, the Project will result in a net benefit to the local and regional NSW community.

While the Delta Coal operations will not meet all of the VPPS demand, the ability to obtain a large percentage of VPPS coal via a local, reliable and cost-effective supply reduces VPPS's exposure to price fluctuations and supply chain restrictions. This in turn assists VPPS in supplying reliable and cost-effective electricity generation to NSW. Sourcing coal for the VPPS from existing approved resources located immediately adjacent to the VPPS also mitigates the impacts associated with sourcing coal from other operations, including impacts associated with increase coal haulage distances.

As noted above, the Project does not involve any increase in the approved mining area and the extended life of operations is an additional two years relative to currently approved operations. While impacts associated with the mining operations will continue for an additional two years, it is noted that mining operations and the VPPS have been occurring at this site for over 50 years and recent changes in operations have resulted in reduced noise impacts relative to historical operations. It is also noted that the additional projected greenhouse gas emission emissions associated with the Project would be expected to be emitted at other operations if the subject development consent is not approved as these emissions are driven by the demand created by VPPS which will continue to 2029. Accordingly, the Project will have minimal additional impacts relative to the Project not proceeding.

The consolidation of the approvals for the Project will reduce administrative and regulatory processes for both Delta Coal and Government regulators and improves alignment between the operations. Additionally, the review and consolidation of the existing CVC and MC consents would provide a single contemporised approval that clarifies Delta Coal's regulatory obligations to the community.

As detailed in Section 7.3 of the EIS, the Project is consistent with the principles of ecologically sustainable development and represents a responsible and logical means of continuing coal supply to the VPPS for the current proposed life of VPPS.

7.0 References

AEMO. (2023). Update to 2022 Electricity Statement of Opportunities February 2023: A report for the National Electricity Market. Retrieved February 11, 2023, from https://aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/nem_esoo/2023/february-2023-update-to-the-2022-esoo.pdf?la=en&hash=1AED91846C35DE3DE0BFC071A2228EAD

Australian Labor Party. (2022). Powering Australia. Retrieved February 7, 2023, from https://www.alp.org.au/policies/powering-australia

Delta Electricity. (2021). Sustainability Policy. Retrieved February 15, 2023, from https://www.de.com.au/sustainability/sustainability-policy

EMM. (2021). Chain Valley Colliery Consolidation Project Air Quality Impact Assessment. Retrieved February 5, 2023, from https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-17017460%2120220928T105737.862%20GMT

EMM. (2022). Chain Valley Colliery Consolidation Project Noise Impact Assessment. Retrieved February 5, 2023, from https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-17017460%2120220928T105737.505%20GMT

enHealth. (2012). Environmental Health Risk Assessment: Guidlines for assessing human health risks from environmental hazards. Retrieved February 23, 2023, from https://www.health.gov.au/sites/default/files/documents/2022/07/enhealth-guidance-guidelines-for-assessing-human-health-risks-from-environmental-hazards.pdf

NSW Deparment for Planning and Environment. (2018). Voluntary Land Acquisition and Mitigation Policy For State Significant Mining, Petroleum and Extractive. Retrieved February 6, 2023, from https://gazette.legislation.nsw.gov.au/so/download.w3p?id=Gazette_2018_2018-97.pdf

NSW Department of Planning and Environment (DPE). (2022). *State significant development guidelines – preparing a submissions report.* Retrieved February 6, 2023, from https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/Policy-and-legislation/SSD-Guidelines/SSD-Guide---preparing-a-submissions-report-App-C.pdf

NSW Environment Protection Authority. (2016). Approved Methods for the Modelling and Assessment of Air Pollutant in New South Wales. Retrieved February 5, 2023, from https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/air/approved-methods-for-modelling-and-assessment-of-air-pollutants-in-nsw-160666.pdf?la=en&hash=D4131297808565F94E13B186D8C70E7BD02B4C3D

NSW Environment Protection Authority. (2017). Implementation and transitional arrangements for the Noise Policy for Industry. Retrieved March 5, 2023, from https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/noise/17p0293-implement-transition-arrange-noise-pol-industry.pdf

NSW Environment Protection Authority. (2022). Smart buoy deployed to track water quality. Retrieved February 15, 2023, from https://www.epa.nsw.gov.au/news/media-releases/2022/epamedia221012-smart-buoy-deployed-to-track-water-quality

NSW Environment Protection Authority. (2022). Update on fish kill at Mannering Park, Lake Macquarie. Retrieved February 15, 2023, from https://www.epa.nsw.gov.au/news/media-releases/2022/epamedia220830

NSW Environment Protection Authority. (2022). Update on Fish Kill Investigation at Mannering Park, Lake Macquarie. Retrieved February 15, 2023, from https://www.epa.nsw.gov.au/news/media-releases/2022/epamedia220913-update-on-fish-kill-investigation-at-mannering-park-lake-macquarie

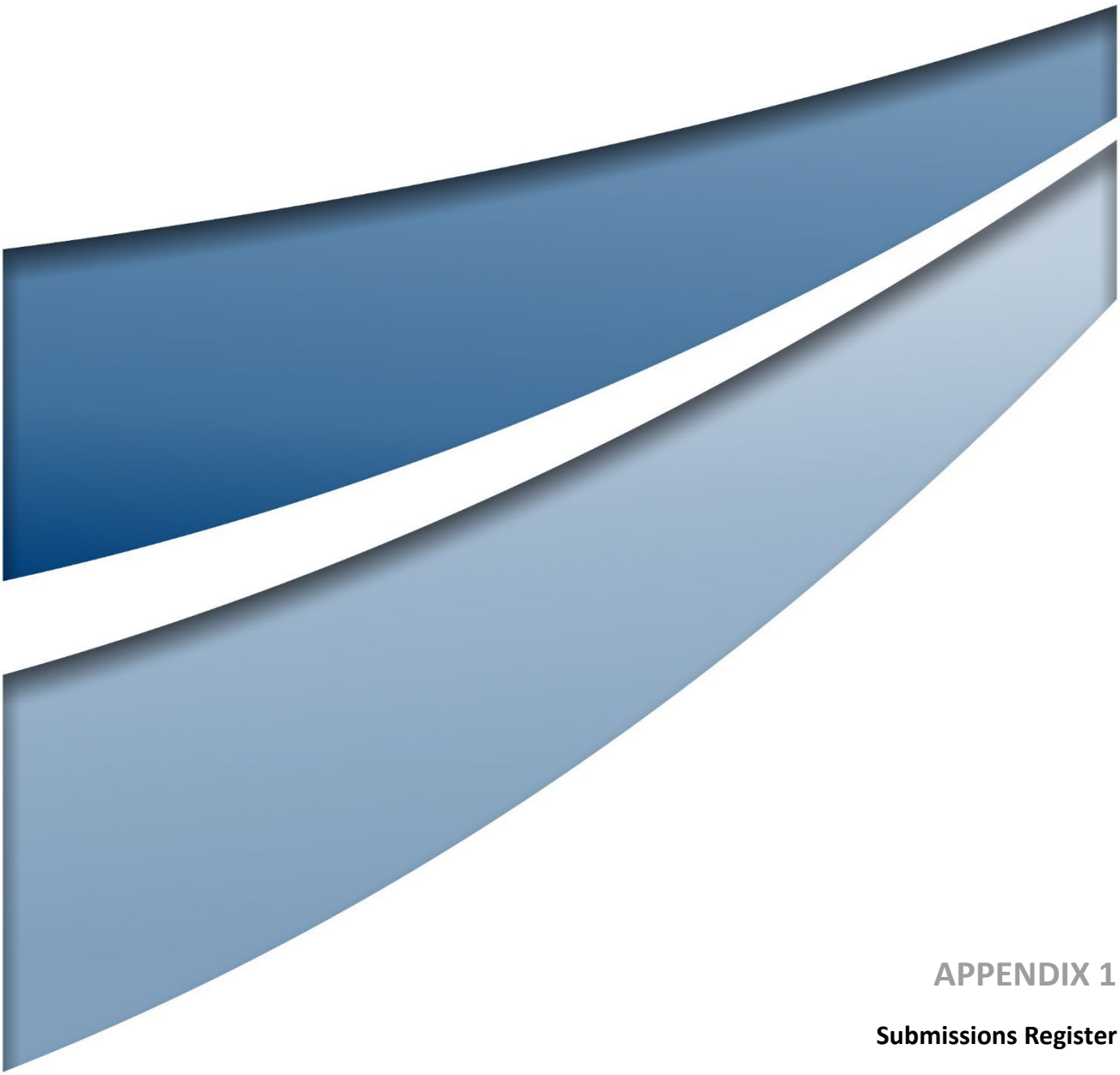
NSW Resource Regulator. (2019). Mine Rehabilitation Regulatory Framework. Retrieved February 16, 2023, from https://www.resourcesregulator.nsw.gov.au/sites/default/files/documents/overview-of-current-regulatory-processes.pdf

NSW Resource Regulator. (2022). Subsidence management. Retrieved February 15, 2021, from https://www.resourcesregulator.nsw.gov.au/rehabilitation/subsidence-management#:~:text=The%20extraction%20plan%20is%20assessed%20by%20relevant%20agencies,consent%20and%20mining%20lease.%20One%20plan%2C%20joint%20regulators

Umwelt. (2021). Chain Valley Colliery Consolidation Project Scoping Report. Retrieved February 5, 2023, from https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=PDA-11834985%2120210331T224325.666%20GMT

Umwelt. (2022). Chain Valley Colliery Consolidation Project Environmental Impact Statement. Retrieved January 31, 2023, from https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-17017460%2120220928T105733.800%20GMT

Umwelt. (2022). Greenhouse Gas and Energy Assessment. Retrieved February 6, 2023, from https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-17017460%2120220928T105740.505%20GMT



APPENDIX 1

Submissions Register

Appendix 1 - Submissions Register

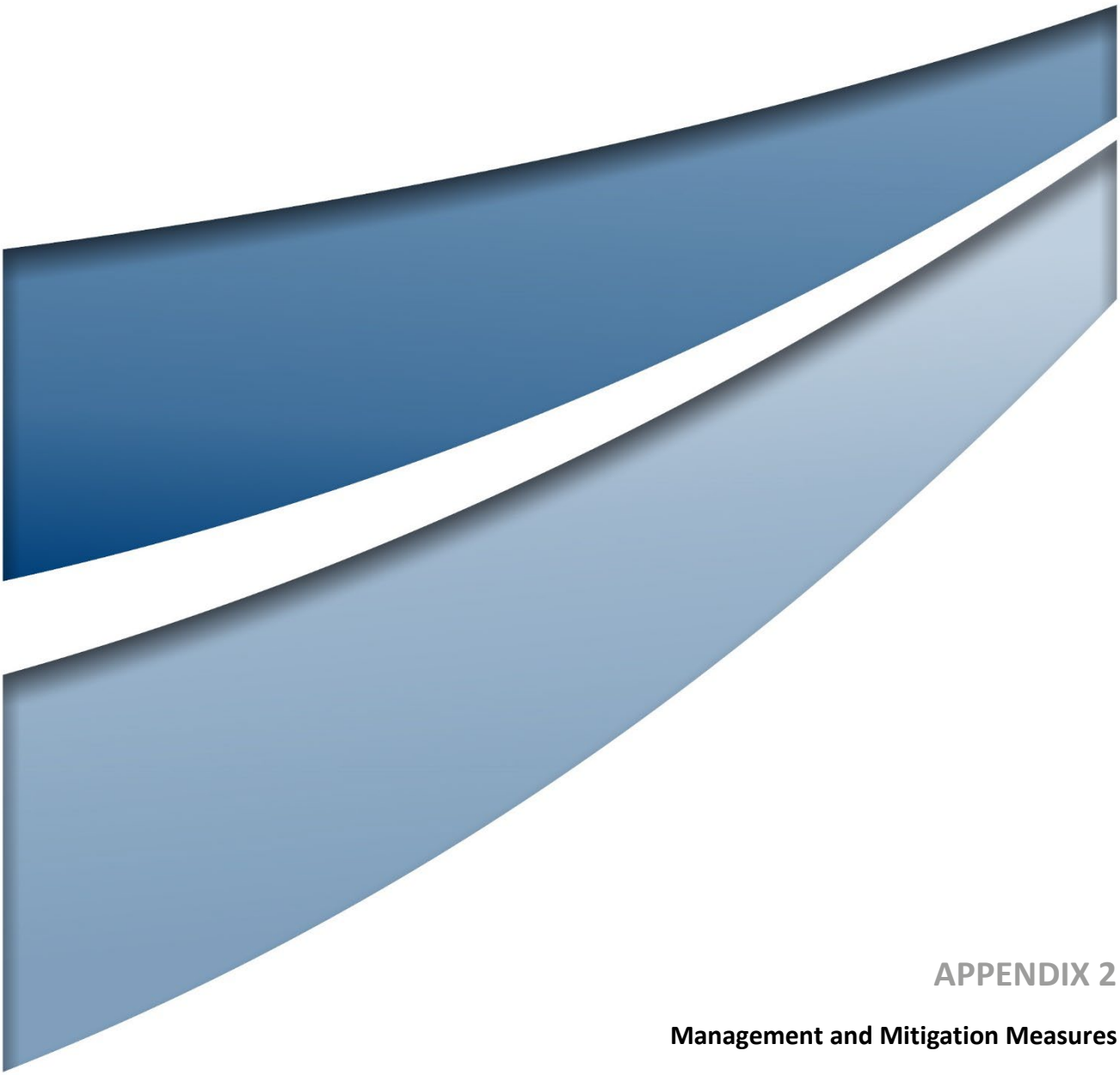
Group	Name	Submitter ID	Submission ID	View	Section where issues addressed in Submissions Report
Public Authorities	Environment Protection Authority			Comment	Section 4.1
	NSW Department of Primary Industries - Agriculture			Comment	Section 4.2
	Biodiversity Conservation Division			Comment	Section 4.3
	Department of Planning and Environment - Water			Comment	Section 4.4
	Department of Primary Industries - Fisheries			Comment	Section 4.5
	Subsidence Advisory NSW			Comment	Section 4.6
	Heritage NSW			Comment	Section 4.7
	Heritage Council of NSW			Comment	Section 4.8
	Transport for NSW			Comment	Section 4.9
	Department of Regional NSW - Mining, Exploration and Geoscience			Comment	Section 4.10
	NSW Resource Regulator			Comment	Section 4.11
Councils	Lake Macquarie City Council			Comment	Section 4.12
Organisation	Strata Linings	S-51422458	SE-51422459	Support	
	Lesley Hale	S-52146984	SE-52146985	Object	Section 5.1.1, 5.1.2, 5.1.4, 5.1.5, and 5.1.7
	Hunter Community Environment Centre	S-52700962	SE-52700963	Object	Section 5.1.5 and 5.1.6
	Shire Climate Action Network	S-52713209	SE-52713210	Object	Section 5.1.1, 5.1.2, 5.1.4, 5.1.5, and 5.1.6
	Keep Lake Maquarie Clean	S-52714481	SE-52714482	Object	Section 5.1.1, 5.1.3, 5.1.4, 5.1.5, 5.1.6, and 5.1.7
	Lock the Gate Alliance	S-52715956	SE-52715957	Object	Section 5.1.2 and 5.1.3
	Nature Conservation Council NSW	S-52901480	SE-52901481	Object	Section 5.1.1, 5.1.2, 5.1.3, 5.1.5, 5.1.7, 5.1.9, 5.1.10, and 5.3
Individuals	Magaret Hagan	S-52873456	SE-52873457	Comment	Section 5.1.1 and 5.1.6
	Name Withheld	S-52892465	SE-52892466	Comment	Section 5.1.1, 5.1.2, and 5.1.4
	David Tait	S-51055207	SE-51055208	Object	Section 5.3
	David Tait	S-51055207	SE-51055214	Object	Section 5.3
	Name Withheld	S-51084773	SE-51084774	Object	Section 5.1.5
	Bruce Macfarlane	S-51211958	SE-51211959	Object	Section 5.1.4
	Richard Miller	S-51223456	SE-51223457	Object	Section 5.1.1 and 5.1.6
	Ben Ewald	S-51243957	SE-51243958	Object	Section 5.1.2
	Katrin Gustafson	S-51392465	SE-51392466	Object	Section 5.1.3
	Bradley Smith	S-51829956	SE-51829957	Object	Section 5.1.3 and 5.1.5
	Name Withheld	S-51967477	SE-51967478	Object	Section 5.1.1 and 5.1.8
	Name Withheld	S-51967498	SE-51967499	Object	Section 5.2
	Name Withheld	S-51967503	SE-51967504	Object	Section 5.1.10
	Brian Johnson	S-51970254	SE-51970255	Object	Section 5.4
	Ken Dalton	S-51970778	SE-51970779	Object	Section 5.1.1 and 5.1.6
	Name Withheld	S-51971989	SE-51971990	Object	Section 5.1.1
	Kristine Allsop	S-51972207	SE-51972208	Object	Section 5.1.1 and 5.1.6
	Name Withheld	S-51972473	SE-51972474	Object	Section 5.4
	Name Withheld	S-51971547	SE-51974706	Object	Section 5.1.10
	Name Withheld	S-52036457	SE-52036458	Object	Section 5.1.1 and 5.1.5
	Name Withheld	S-52044475	SE-52044476	Object	Section 5.1.1, 5.1.4, 5.1.5, and 5.5
	Tom Da Silva	S-52154727	SE-52154728	Object	Section 5.2
	Neil Wynn	S-52272208	SE-52272209	Object	Section 5.1.1, 5.1.4, 5.1.5, 5.1.6, 5.1.7, and 5.3
	Caroline Le Couteur	S-52275958	SE-52275959	Object	Section 5.1.2, 5.1.4, and 5.1.5
	Name Withheld	S-52415736	SE-52415737	Object	Section 5.1.1 and 5.1.2
	Simon Clough	S-52432718	SE-52432719	Object	Section 5.1.2, 5.1.4, and 5.1.6
	Gary Blaschke	S-52433458	SE-52433459	Object	Section 5.1.1, 5.1.5, and 5.5
	Roger Blackwell	S-52443206	SE-52437225	Object	Section 5.1.3, 5.4, and 5.5
	Karen Fisher	S-52519213	SE-52519214	Object	Section 5.1.2, 5.1.5, and 5.1.8
	Name Withheld	S-52523461	SE-52523462	Object	Section 5.1.3, 5.1.4, and 5.1.5
	De Brierley Newton	S-52572207	SE-52572208	Object	Section 1.1.1, 5.1.5, 5.3, and 5.5
	James Horn	S-52578456	SE-52578457	Object	Section 5.4
	Anne Horn	S-52609708	SE-52609709	Object	Section 5.1.1
	Name Withheld	S-52624956	SE-52624957	Object	Section 5.1.5 and 5.1.7
	Name Withheld	S-52629210	SE-52629211	Object	Section 5.1.3 and 5.1.11
	Name Withheld	S-52672459	SE-52672460	Object	Section 5.1.3
	David Tait	S-51055207	SE-52675968	Object	Section 5.1.4, 5.1.6, 5.1.11, and 5.3
	Peter Sainsbury	S-52685206	SE-52685207	Object	Section 5.1.1 and 5.1.2
	Billee Ayling	S-52689990	SE-52689991	Object	Section 5.1.4 and 5.1.5
	Kim Grierson	S-52693956	SE-52693957	Object	Section 5.1.1, 5.1.3, 5.1.7, and 5.3
	Name Withheld	S-52696460	SE-52696461	Object	Section 5.1.2 and 5.1.5
	Paul Winn	S-52696462	SE-52696463	Object	Section 5.1.6
	Name Withheld	S-52698707	SE-52698708	Object	Section 5.1.1, 5.1.4, and 5.1.5
	Darren Burgess	S-52707490	SE-52707491	Object	Section 5.1.1, 5.1.2, 5.1.4, 5.1.5, and 5.3
	Les Johnston	S-52716956	SE-52716957	Object	Section 5.1.1, 5.1.2, 5.1.3, 5.1.4, 5.1.8, 5.1.11, and 5.5
	Geoff Miell	S-52717457	SE-52717458	Object	Section 5.1.2 and 5.1.3
	Name Withheld	S-52722470	SE-52722471	Object	Section 5.1.1, 5.1.2, 5.1.5, and 5.1.6
	Name Withheld	S-52724460	SE-52724461	Object	Section 5.1.1, 5.1.2, and 5.1.4
	Keith Dwyer	S-52729472	SE-52729473	Object	Section 5.1.2 and 5.1.3
	Name Withheld	S-52767714	SE-52767715	Object	Section 5.1.1, 5.1.3, 5.1.4, and 5.1.6
	Name Withheld	S-52768458	SE-52768459	Object	Section 5.1.1, 5.1.3, 5.1.4, and 5.1.5
	Dianne Powell	S-52776216	SE-52776217	Object	Section 5.1.1 and 5.1.2
	Name Withheld	S-52776219	SE-52776220	Object	Section 5.1.1 and 5.1.4
	Kati Watson	S-52779706	SE-52779707	Object	Section 5.1.1, 5.1.2, and 5.1.5
	Shaun Watson	S-52779709	SE-52779710	Object	Section 5.1.1 and 5.1.2
	Ailie McGarity	S-52785206	SE-52785207	Object	Section 5.1.1 and 5.1.2
	Jennifer Hole	S-52785208	SE-52785209	Object	Section 5.1.1, 5.1.2, 5.1.3, and 5.1.4
	Suzanne Pritchard	S-52785460	SE-52785461	Object	Section 5.1.2, 5.1.5, 5.1.6 and 5.1.7
	Name Withheld	S-52787206	SE-52787207	Object	Section 5.1.1, 5.1.2, 5.1.3,5.1.4, and 5.1.6
	Andrew Fraser	S-52798965	SE-52798966	Object	Section 5.1.1, 5.1.2, and 5.1.3
	Graeme Tychsen	S-52798967	SE-52798968	Object	Section 5.1.1, 5.1.2, and 5.1.3
	Name Withheld	S-52798969	SE-52798970	Object	Section 5.1.2
	Gabrielle Duigu	S-52799463	SE-52799464	Object	Section 5.1.1 and 5.1.2
	Isabel Cueva-Fernandez	S-52799465	SE-52799466	Object	Section 5.1.1, 5.1.2, and 5.1.5
	Name Withheld	S-52799467	SE-52799468	Object	Section 5.1.2
	Linda Mathew	S-52799469	SE-52799470	Object	Section 5.1.1, 5.1.2, 5.1.4, and 5.1.6
	Claire Hooper	S-52799471	SE-52799472	Object	Section 5.1.4 and 5.1.5
	Elizabeth Honey	S-52799473	SE-52799474	Object	Section 5.1.2
	Lynette Ryan	S-52799475	SE-52799476	Object	Section 5.1.1, 5.1.4, and 5.1.6

Appendix 1 - Submissions Register

Group	Name	Submitter ID	Submission ID	View	Section where issues addressed in Submissions Report
	Stephen Hogeveen	S-52854224	SE-52854225	Object	Section 5.1.1, 5.1.4, and 5.1.5
	Name Withheld	S-52855456	SE-52855457	Object	Section 5.1.1, 5.1.4, 5.1.5, and 5.1.6
	Patti Wilkins	S-52856208	SE-52856209	Object	Section 5.1.1
	Name Withheld	S-52857206	SE-52857207	Object	Section 5.1.1 and 5.1.5
	Peter Nash	S-52857210	SE-52857211	Object	Section 5.1.1
	Jim Morris	S-52857213	SE-52857214	Object	Section 5.1.2, 5.1.4, and 5.1.5
	Name Withheld	S-52857218	SE-52857219	Object	Section 5.1.1, 5.1.2, 5.1.5, and 5.1.6
	Michael Bull	S-52857220	SE-52857221	Object	Section 5.1.2
	Raymond Kennedy	S-52858706	SE-52858707	Object	Section 5.1.2
	Ken Enderby	S-52858708	SE-52858709	Object	Section 5.1.1, 5.1.2, 5.1.3, 5.1.4, and 5.1.6
	William Douglas	S-52858712	SE-52858713	Object	Section 5.1.2
	Suzie Brown	S-52859961	SE-52859962	Object	Section 5.1.2, 5.1.3, 5.1.4, 5.1.5 and 5.1.6
	Name Withheld	S-52862459	SE-52862460	Object	Section 5.1.1 and 5.1.5
	Jennifer Forster	S-52864459	SE-52864460	Object	Section 5.1.1, 5.1.4, and 5.1.5
	Name Withheld	S-52864461	SE-52864462	Object	Section 5.1.1, 5.1.2, 5.1.4, and 5.1.6
	Claire Bettington	S-52868208	SE-52868209	Object	Section 5.1.1, 5.1.2, 5.1.3, 5.3, and 5.4
	Bronwyn Mcdonald	S-52868958	SE-52868959	Object	Section 5.1.1, 5.1.2, 5.1.3, and 5.3
	Michael Mardel	S-52869458	SE-52869459	Object	Section 5.1.5
	Shannon Walsh	S-52869707	SE-52869708	Object	Section 5.1.2 and 5.1.4
	Ruth McColl	S-52870706	SE-52870707	Object	Section 5.1.4
	Joshua Davis	S-52871707	SE-52871708	Object	Section 5.1.1, 5.1.2, 5.1.3, 5.1.4, 5.1.6, and 5.3
	Name Withheld	S-52872206	SE-52872207	Object	Section 5.1.1
	Kim McClymont	S-52872208	SE-52872209	Object	Section 5.1.2 and 5.1.3
	Alistair Lum	S-52872210	SE-52872211	Object	Section 5.1.1, 5.1.2, and 5.1.3
	Angela Schmickl	S-52872459	SE-52872460	Object	Section 5.1.2
	Julie James Bailey	S-52873460	SE-52873461	Object	Section 5.1.3
	Jenny Goldie	S-52873462	SE-52873463	Object	Section 5.1.2 and 5.1.3
	Patricia Bleuel	S-52873464	SE-52873465	Object	Section 5.1.2
	Sandra Kirby	S-52873466	SE-52873467	Object	Section 5.1.3
	Wendy Davidson	S-52873468	SE-52873469	Object	Section 5.1.2
	Name Withheld	S-52873470	SE-52873471	Object	Section 5.1.2
	Troy Walsh	S-52873956	SE-52873957	Object	Section 5.1.1, 5.1.2, and 5.1.4
	Judith Leslie	S-52873958	SE-52873959	Object	Section 5.1.1, 5.1.2, and 5.1.3
	George Carrard	S-52873960	SE-52873961	Object	Section 5.1.2
	Name Withheld	S-52873962	SE-52873963	Object	Section 5.1.1, 5.1.4, 5.1.6, and 5.1.7
	Chloe Watfern	S-52873964	SE-52873965	Object	Section 5.1.1, 5.1.3, and 5.1.6
	Name Withheld	S-52886967	SE-52886968	Object	Section 5.1.1 and 5.1.6
	Name Withheld	S-52888473	SE-52888474	Object	Section 5.1.1, 5.1.4, and 5.1.5
	Steven Du	S-52888479	SE-52888480	Object	Section 5.1.1, 5.1.2, 5.1.3, 5.1.4, 5.1.5, 5.1.6, and 5.1.7
	Name Withheld	S-52888482	SE-52888483	Object	Section 5.1.1, 5.1.2, and 5.1.6
	Name Withheld	S-52888485	SE-52888486	Object	Section 5.1.1, 5.1.3, and 5.1.4
	Colleen Wysser- Martin	S-52888958	SE-52888959	Object	Section 5.1.1 and 5.1.7
	David Ransom	S-52888961	SE-52888962	Object	Section 5.1.1 and 5.1.9
	Steven James	S-52889957	SE-52889958	Object	Section 5.1.2
	Douglas Williamson	S-52889964	SE-52889965	Object	Section 5.1.1, 5.1.2, and 5.1.3
	Emma Auzins	S-52889967	SE-52889968	Object	Section 5.1.1, 5.1.2, 5.1.3, and 5.1.4
	Barry Toole	S-52891956	SE-52891957	Object	Section 5.1.1, 5.1.2, 5.1.3, and 5.1.5
	Alexandra Popof	S-52891958	SE-52891959	Object	Section 5.1.1 and 5.1.4
	Paul Maguire	S-52891963	SE-52891964	Object	Section 5.1.2 and 5.4
	Stephen Dewar	S-52892461	SE-52892462	Object	Section 5.1.2 and 5.1.6
	Tamara Winikoff	S-52895210	SE-52895211	Object	Section 5.1.1, 5.1.2, 5.1.3, 5.1.5, and 5.1.7
	Heinz-Joachim Muller	S-52895213	SE-52895214	Object	Section 5.1.1 and 5.1.4
	Kevin Sweeney	S-52895215	SE-52895216	Object	Section 5.1.1 and 5.1.2
	Name Withheld	S-52895217	SE-52895218	Object	Section 5.1.4 and 5.1.6
	Name Withheld	S-52895219	SE-52895220	Object	Section 5.1.1, 5.1.4, and 5.1.6
	Colin Mondy	S-52895221	SE-52895222	Object	Section 5.1.1, 5.1,2, 5.1.3, 5.1.4, and 5.1.5
	Richard Weller	S-52895223	SE-52895224	Object	Section 5.1.1, 5.1,2, 5.1.3, 5.1.4, and 5.1.5
	Name Withheld	S-52895225	SE-52895226	Object	Section 5.1.1, 5.1.3, and 5.1.4
	Janet Roden	S-52896206	SE-52896207	Object	Section 5.1.1, 5.1.2, 5.1.3, 5.1.4, and 5.1.5
	Michael Adair Campbell OAM	S-52897206	SE-52897207	Object	Section 5.1.1, 5.1.3, 5.1.4, and 5.1.5
	Name Withheld	S-51097727	SE-51101206	Support	
	Joshua Cornford	S-51329206	SE-51329207	Support	
	Paul Dodd	S-51335487	SE-51335488	Support	
	Name Withheld	S-51349718	SE-51349719	Support	
	Ryan Sheridan	S-51360965	SE-51360966	Support	
	Dom Conway	S-51362956	SE-51362957	Support	
	Name Withheld	S-51395723	SE-51395724	Support	
	Nigel Birt	S-51407461	SE-51407462	Support	
	Name Withheld	S-51412720	SE-51412721	Support	
	Name Withheld	S-51415212	SE-51415213	Support	
	Name Withheld	S-51442728	SE-51442729	Support	
	Tim Gaudry	S-51452706	SE-51452707	Support	
	Tom Higgins	S-51486721	SE-51486722	Support	
	Michael Charge	S-51547736	SE-51547737	Support	
	Arron Farrell	S-51782788	SE-51782789	Support	
	Name Withheld	S-52176709	SE-52176710	Support	
	Name Withheld	S-52353706	SE-52353707	Support	
	Robert Monteath	S-52381706	SE-52381707	Support	
	Name Withheld	S-52431706	SE-52431707	Support	
	Daniel Evans	S-52461220	SE-52460712	Support	
	Name Withheld	S-52497207	SE-52497208	Support	
	Robert Gayler	S-52583977	SE-52583978	Support	
	Shawn Fergusson	S-52591207	SE-52591208	Support	
	Warren McKinnon	S-52594460	SE-52594461	Support	
	Name Withheld	S-52598469	SE-52598470	Support	
	Name Withheld	S-52599463	SE-52599464	Support	
	Michael Lunney	S-52600206	SE-52600207	Support	
	Andy Janek	S-52607707	SE-52607708	Support	
	Name Withheld	S-52619005	SE-52619006	Support	

Appendix 1 - Submissions Register

Group	Name	Submitter ID	Submission ID	View	Section where issues addressed in Submissions Report
	Paul Kerr	S-52619966	SE-52619967	Support	
	Name Withheld	S-52624501	SE-52624502	Support	
	Stuart Clark	S-52627956	SE-52627957	Support	
	Name Withheld	S-52630496	SE-52630497	Support	
	Jacob Loades	S-52632706	SE-52632707	Support	
	Name Withheld	S-52632985	SE-52632986	Support	
	Daniel Neader	S-52633958	SE-52633959	Support	
	Name Withheld	S-52636971	SE-52636972	Support	
	Cruise Wilson	S-52636999	SE-52637000	Support	
	Mark Fogarty	S-52637457	SE-52637458	Support	
	Ash Copp	S-52638708	SE-52638709	Support	
	Troy Spratt	S-52639458	SE-52639459	Support	
	Clinton McPaul	S-52647714	SE-52647715	Support	
	Darryl Ashcroft	S-52665712	SE-52665713	Support	
	Mitchell Pickford-Clarke	S-52668459	SE-52668460	Support	



APPENDIX 2

Management and Mitigation Measures

Appendix 2 – Management and Mitigation Measures

The following table provides a consolidated list of the management and mitigation measures applicable to the Project.

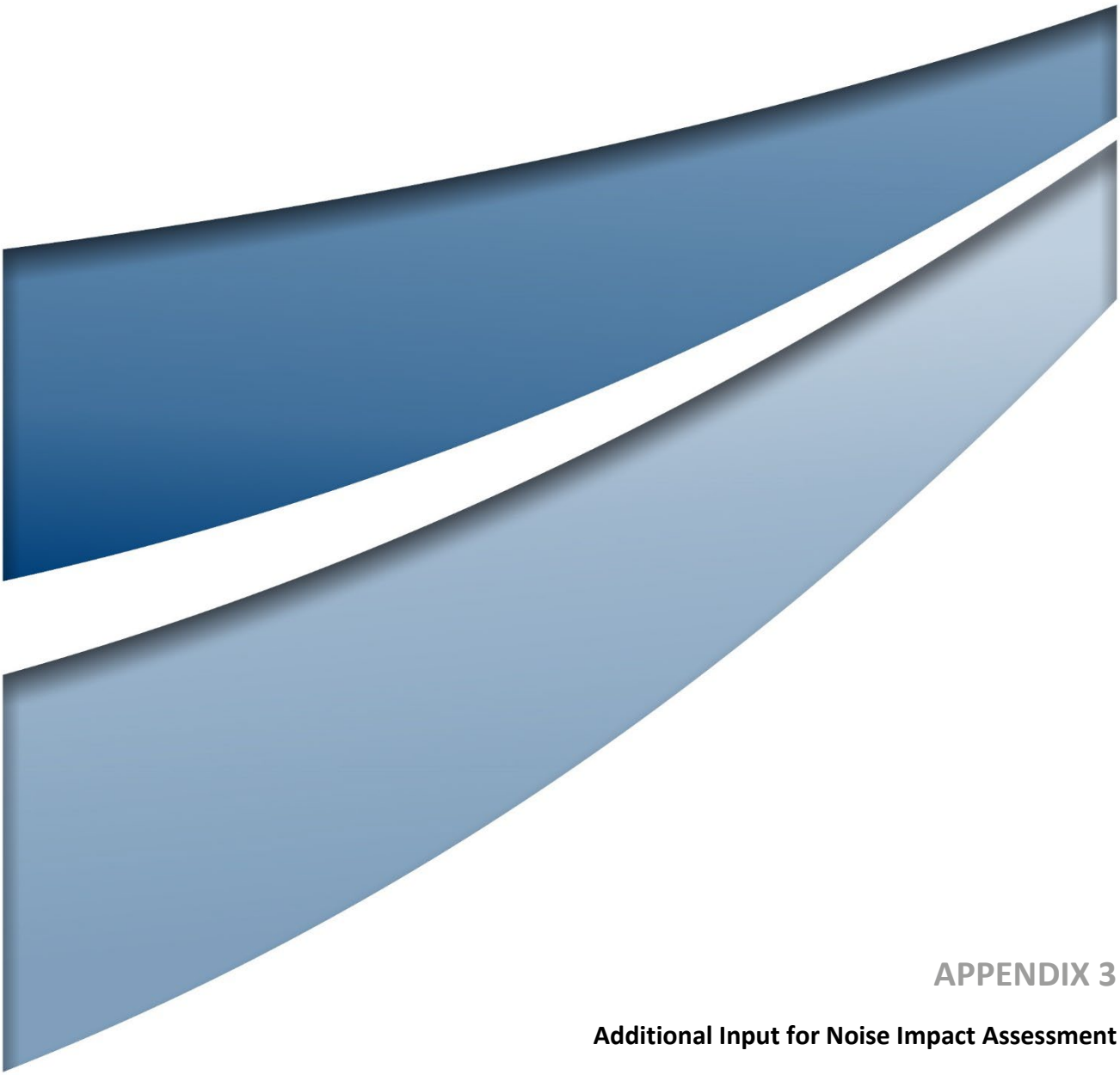
Table 1 Consolidated Management and Mitigation Measures

Aspect	Management/Mitigation Measure
Surrender of Development Consents	The existing Chain Valley Colliery Development consent SSD-5465 (as modified) and Mannering Colliery Project Approval MP 06_0311 (as modified) would be surrendered within a reasonable timeframe following commencement of the Project, or as otherwise agreed with the Planning Secretary.
Hours of Operation	As per the existing operations, mining and associated activities for the Project will be undertaken 24 hours a day, 7 days a week.
Subsidence	The 'subsidence management zone' approach (as shown on **Figure 3.1** of the EIS) currently outlined in the CVC Development Consent will be carried through to the Project. The prescribed subsidence limits in these zones are: • Zone A: no more than 20 mm vertical subsidence (i.e. imperceptible subsidence.) • Zone B: up to a maximum of 780 mm of vertical subsidence.
	Subsidence monitoring will continue to be undertaken in accordance with the CVC Subsidence Monitoring Program. Should the Project be approved the CVC Subsidence Monitoring Program would be reviewed and updated accordingly to reflect the requirements of the Project and to form a combined CVC/MC Subsidence Monitoring Program.
Noise	Existing noise mitigation and management strategies will continue to be implemented as part of the ongoing MC and CVC operations.
	At CVC prior to replacing the coal handling infrastructure (if required), further engineering work would be completed to design and procure infrastructure that incorporates source controls to reduce the potential noise impacts on the community. Areas that have been initially identified for consideration in this regard are as follows: • sizing and screening infrastructure – mitigated and designed to minimise noise emissions • coal stockpile area – designed to minimise noise emissions • coal bins – designed to minimise noise emissions.
	All feasible and reasonable noise mitigation measures identified in the Noise Impact Assessment will be adopted and implemented by Delta Coal.
Air Quality	To manage potential particulate matter emissions associated with the Project, a range of best practice dust mitigation measures are currently and will continue to be employed. These include the use of water carts and sprays, conveyor systems, enclosed conveyor transfer point, watering of exposed areas and stockpiles, and using chemical suppressants on unpaved roads.
	The Air Quality and Greenhouse Gas Management Plan would be reviewed and updated accordingly should the Project be approved.
Groundwater	Groundwater monitoring will continue in accordance with the CVC Groundwater Management Plan and MC Water Management Plan, which would be revised and updated where required to reflect the Project and to cover both CVC and MC ongoing operations. Ongoing monitoring would include the continued daily metering of dewatering volumes from underground workings.

Aspect	Management/Mitigation Measure
	Delta Coal will continue to pursue agreements with private landholders to monitor suitable private bores and continue to access groundwater monitoring data for the Gwandalan land fill bores from Central Coast Council.
	Groundwater monitoring data would continue to be reviewed annually as part of the Annual Review process for CVC and MC. Should monitoring results be inconsistent with the conceptual model, it would also be reviewed and updated where appropriate as part of the Annual Review process.
Surface Water	Existing surface water management strategies will continue to be implemented as part of the ongoing MC and CVC operations. Should the Project be approved the site-specific Water Management Plans for CVC and MC would be reviewed, merged and updated.
	The existing flow monitoring program undertaken at CVC and MC would continue, in particular the continued monitoring of discharges (via CVC LDP001, CVC LDP027 and MC LDP001) and extractions from the underground workings. Water quality monitoring at the existing CVC and MC Swindles Creek monitoring points will continue to be monitored during construction activities and operation of the Project.
	The water and salt balance model would be reviewed and revised annually, and include consideration of proposed mining areas, rates of extraction and mining methods. The water and salt balance model would be reviewed if groundwater inflow predictions associated with any proposed secondary extraction indicate inflow rates inconsistent with the most recent operational water balance modelling. The average predicted water balance for the Project would be included in the consolidated Water Management Plan and the results for each year reported in the Annual Review for the Project.
Seagrass Communities	The Seagrass Management Plan would be reviewed and updated to cover the approved mining areas below Lake Macquarie as required should the Project be approved.
	Annual monitoring of seagrass in line with the current Seagrass Management Plan will continue, with ongoing analysis to continue to provide an informed assessment of the suitability and adequateness of mitigation and monitoring measures. The monitoring program (frequency, methods and duration) will be reviewed periodically following analysis of monitoring data with the Management Plans to be updated where appropriate. The need for ongoing monitoring in areas no longer likely to be impacted by historical or future mining operations will be assessed following a review of three years of data post potential impacts from mining.
	If seagrass loss is identified across any of the existing monitoring sites and determined to be the result of direct subsidence, the Seagrass Management Plan commits to remediation strategies to replace an equal area of any loss incurred.
Benthic Communities	The Benthic Communities Management Plan would be reviewed and updated to cover the approved mining areas below Lake Macquarie as required should the Project be approved.
	The benthic communities monitoring program within the existing Zone A and Zone B subsidence areas will be changed from six-monthly to annually, and restricted to Zone B areas only, given the lack of change in the dataset over time. The monitoring program (frequency, methods and duration) will be reviewed periodically following analysis of monitoring data with the Benthic Communities Management Plan to be updated where appropriate. The need for ongoing monitoring in areas no longer likely to be impacted by historical or approved mining operations will be assessed following a review of three years of data post potential impacts from mining (in areas of secondary extraction) and one year in areas mined only by first workings where subsidence impacts <150mm have been observed.
Terrestrial Biodiversity	Delta Coal will continue to operate in accordance with Chain Valley Colliery Biodiversity Management Plan and Mannering Colliery Land Management Plan. These management plans would be reviewed, updated and combined should the Project be approved.
	Existing biodiversity offset commitments made by Delta Coal under the CVC and MC consents will continue to apply to the ongoing operations.

Aspect	Management/Mitigation Measure
Aboriginal Cultural Heritage	Delta Coal will continue to operate in accordance with the existing Heritage Management Plan which would be subject to further review, and amendment (as required) should the Project be approved.
	Consistent with the existing Delta Coal Heritage Management Plan, a re-assessment of impacts to recorded sites will be required in the event that mine-induced subsidence levels within Zone A exceed 20 mm. If this occurs, appropriate management and mitigation strategies will be developed in a manner that is consistent with those provided within the either the existing HMP or any new HMP developed following development consent.
Historic Heritage	Delta Coal will continue to operate in accordance with the existing Heritage Management Plan which would be subject to further review, and amendment (as required) should the Project be approved.
	Preventative management measures detailed in the existing Delta Coal Heritage Management Plan would be implemented as part of the Project. These measures include: • an unexpected finds protocol • mandatory site inductions provided to employees, contractors and sub-contractors.
Traffic and Transport	Traffic management associated with the Project would continue in accordance with the existing Traffic Management Plan which will be reviewed and updated (as required) should the Project be approved.
	A separate Traffic Management Plan will be developed for closure operations which will include consideration of truck and employee movements and times to ensure intersection performance is not adversely affected.
Bushfire	Delta Coal will continue to manage bushfire risk in accordance with the existing MC Land Management Plan and the CVC Biodiversity Management Plan.
	Emergency response plans would be reviewed and updated accordingly should the Project be approved.
Waste	Delta Coal will continue to implement the current waste management strategies applicable to the approved operations should the Project be approved.
Social	Development of a fit for purpose Social Impact Management Plan including an update to Stakeholder Engagement Strategy, with key objectives: • focus current engagement activities within the community on issues of key concern to the community, (as identified through the SIA consultation program) • track and monitor community issues and perceptions of the operation over time and evaluate the success of strategies to manage and/or enhance social impacts • ensure community members in proximity to the approved mining areas are informed of mining activities • provide access to monitoring data and detail of management strategies to reduce impacts.
	Continue investment in the Community Fund: • ensure targeted investment in proximal areas, and • an open and transparent application process.
	Develop post mine closure transition plan including: • rehabilitation of disturbed areas • mine workforce transition program, involving retraining.

Aspect	Management/Mitigation Measure
Rehabilitation	Rehabilitation of both the CVC and the MC will be undertaken in accordance with the Chain Valley Colliery Rehabilitation Management Plan which will be reviewed and updated accordingly should the Project be Approved. Detailed management and monitoring proposals for final rehabilitation will be formulated closer to the time that the rehabilitation works will be required. The details will be included in both the Rehabilitation Management Plan and Mine Closure Plan (prepared at least two years prior to mine closure).



APPENDIX 3

Additional Input for Noise Impact Assessment

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02 9493 9500
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20 March 2023

Penelope Williams
Senior Environmental Planner
Umwelt (Australia) Pty Limited
75 York Street
Teralba, NSW 2284

Re: Chain Valley Colliery Consolidation Project - Response to EPA comments on noise impact assessment

Dear Penelope,

1 Introduction

EMM Consulting Pty Ltd (EMM) has been engaged by Umwelt Australia Pty Ltd (Umwelt) to respond to submissions received from the NSW Environment Protection Authority (EPA) (DOC22/1015596-4), with regards to the noise impact assessment completed by EMM (H200814_RP2_v7, dated 21 September 2022) for the Chain Valley Colliery (CVC) Consolidation Project (SSD-17017460).

2 EPA submissions

In response to reviewing the NIA for the CVC Consolidation Project, the EPA provided a letter requesting additional info (DOC22/1015596-4). In the letter, the EPA states that it did not have any substantial issues with the assessment methodology undertaken; however, they did identify several matters that need to be addressed before the EPA is able to provide any recommended conditions of approval in relation to noise. These issues are as below:

1. The proposed operational noise limits do not include night $L_{A1,1min}$ dB limits.

2. The proposed operation noise limits do not include a receiver category capturing “All other privately owned residences”.

3. Proposed noise limits do not reflect the long-term noise goals for receiver R13 prescribed in the Chain Valley Colliery consent.

4. The EIS does not appear to include justification or reasoning for the proposed morning shoulder periods.

3 EMM responses

3.1 Point 1 – $L_{A1,1min}$ limits

It is noted the NIA did include sleep disturbance screening levels at Table 7.4 and an assessment of the site's L_{Amax} noise at night in accordance with the *Noise policy for industry* (NPfI) (EPA 2017). The predicted impacts are shown in Table 8.6.

It must be emphasised that the Project includes combining two operations (with separate noise limits regulated under different EPLs or consents) under a single combined EPL, which will regulate noise from both operations under one set of criteria. As required by the SEARs, the project needed to be assessed in accordance with the NPfI. As set out in the *Implementation and transitional arrangements for the noise policy for industry* (EPA 2017), this project requires that the NPfI (and sleep disturbance screening criteria) be applied in full, rather than picking and choosing only some elements of the NPfI, an approach that is specifically not allowed. Requiring that the combined operations meet an $L_{A1,1min}/L_{Amax}$ noise criteria that is applicable to only one of them, when both operations have potential to contribute, could unnecessarily constrain operations which are otherwise predicted to satisfy the NPfI's L_{AFmax} 52 dB(A) screening criteria.

EMM's opinion is that the sleep disturbance screening criteria specified in Table 7.4 of the NIA are the most suitable L_{Amax} criteria applicable to the project. This sleep disturbance screening criteria was updated in NPfI to reflect improved understanding of impacts that are likely to have a sleep disturbance impact.

The policy justification for the increase in sleep disturbance assessment criteria from the INP to the NPfI is clearly explained in the 2015 EPA *Draft industrial noise guideline technical background paper* (Technical Background Paper) that supported the consultation processes on the draft NPfI. Section 4.7 of the Technical Background Paper includes detailed discussion on both the assessment of sleep disturbance impacts under the INP and the proposed justification for the approach now adopted under the NPfI. The key justification for the proposed approach is set out below:

> The [World Health World Health Organization (WHO). Night Noise Guidelines for Europe (WHO, NNG-2009)] recommends a yearly average Lnight, outside of 40 dB(A). However, this criterion has been specifically derived in relation to long-term exposure to noise and the relationship with health effects. The WHO criteria are not intended for use as criteria for assessment of the impacts of a specific project and must be used with caution. The criteria represent a health based threshold based on the lowest observed adverse effect level (LOAEL), a very conservative health end point. The WHO, NNG also indicates that LAmax 42 dB inside a bedroom aligns with the LOAEL as this level is identified as the levels that may cause awakenings from sleep. Based on the conservative assumption of a 10 dB(A) noise reduction across a façade with a partially open window, this results in an external level of LAmax 52 dB. The current practice of deriving screening level sleep disturbance assessment criteria on the basis of background plus 15 dB can lead to screening criteria as low as LAmax 45 dB(A), which is well below the LOAEL recommended by WHO. Therefore, it is proposed to raise the base screening level criteria for the maximum noise level descriptor to LAmax 52 dB(A) to align with the WHO, NNG. Like all trigger levels in the draft ING, this should not be construed as the level at which unacceptable impacts occur, but rather the level at which feasible and reasonable mitigation measures need to be considered as part of a detailed assessment. It has therefore been proposed in the draft ING to adopt the following screening level assessment criteria approach and trigger levels. Where the subject development can satisfy the following two noise level event trigger levels for the night-time period, no additional assessment or evaluation of sleep disturbance is required:
>
> 1. a night-time project noise trigger level of LAeq,15minutes 40 dB(A)
>
> 2. a maximum noise level screening criteria of LAmax 52 dB(A) when assessed or predicted at 1 metre from the façade of a residence containing a window.
>
> Where the night-time noise levels are predicted to exceed one or both of the maximum event noise trigger levels above, a detailed analysis should be undertaken.

The comments in the Technical Background Paper regarding the sleep disturbance criteria not being construed as a level at which unacceptable impacts occur is *not* a reference to lower levels representing a possibly unacceptable level of risk, but rather that the adopted screening criteria represent a conservative level of impact that is unlikely to result in sleep disturbance impacts. Setting night-time sleep disturbance criteria at a level below the NPfI screening criteria would impose a limit below internationally recognised standards that are specifically designed to avoid sleep disturbance effects. This also imposes an operational constraint and potential compliance risk on an operation and is recognised by the Technical Background Paper as being unduly onerous. As the impacts regulated by the sleep disturbance criteria are short term in nature, there is little risk of cumulative impacts with other developments. Accordingly, the imposition of a low compliance limit, even if achievable based on modelling, does not result in a practical benefit to potentially impacted people, even on a precautionary basis.

If DPE and the EPA are of the view that the NPfI sleep disturbance screening criteria for the Project (as set out in Table 7.4 of the NIA) should not to be applied as a consent noise criteria, then it is recommended that the short term noise criteria for the Project be set as an $L_{A1,1\ min}$ criteria, with the limit being either: the highest of the current night time noise limits of the existing CVC or MC consents, or the predicted levels in Table 8.6 of the NIA, whichever is higher. The use of $L_{A1,1\ min}$ as the averaging period for these criteria includes an allowance for the combined regulation of both operations and the (albeit low) potential for there to be individual events at each operation that would meet current criteria but which, when combined, may result in an exceedance. Table 3.1 details the criteria that could be applied to the consent in the event that this approach is adopted (noting that the preferred approach remains the adoption of the $L_{A\ Max}$ sleep disturbance screening levels in Table 7.4 of the NIA, as per the NPfI).

3.2 Point 2 – All other privately owned residences category

It is noted that the proposed operational limits do not include a receiver category capturing “All other privately owned residences”.

A category with this description can often be misinterpreted. It should be noted that the assessment locations included within both the NIA and the existing consent limits do not necessarily represent one single residence. Rather, they represent the noise limits deemed applicable to all nearby residences that are considered to experience a similar existing acoustic environment. In most cases, the listed assessment location represents the residence which is likely to be most affected by the project noise, and thus is considered a worst-case assessment location, with all other residences likely to experience equivalent or lower noise impacts. The areas covered by the listed assessment locations are detailed in Section 2.5 of the NIA.

Including a category of “All other privately owned residences” could imply that these noise limits, which are typically based on the minimum applicable noise limits and background noise levels, could apply to all assessment locations not specifically listed.

Such a category should also include a definition that the noise limits apply to only existing, privately owned residences, so as not to assume that new developments closer to site have the same noise limits applied.

For the “All other **existing** privately owned residences” category, EMM recommends adopting the lowest of the operational noise limits that are derived when existing limits are combined for each period. This includes the caveat that this applies only to residences that are not represented by the specific assessment locations that are listed in the consent/EPL. This would result in noise limits for this category of: Day – 40 dB; Morning Shoulder – 39 dB; Evening – 37 dB and Night – 37 dB.

Table 3.1 Proposed noise limits

Assessment location	Existing operational noise limits, ($L_{Aeq,15min}$, dB)								PNTLs (predicted[2]) ($L_{Aeq,15min}$, dB)					Proposed operational noise limits ($L_{Aeq,15min}$, dB)[1]				
	CVC				MC													
	Day	Eve.	Night		Day	Eve.	Night		Day	MS	Eve.	Night/MS		Day	MS	Eve.	Night	
			L_{eq}	$L_{1,1min}$			L_{eq}	$L_{1,1min}$				L_{eq}	$L_{A\ Max}$				L_{eq}	$L_{1,1min}$
R5	35	35	35	45	40	36	36	46	40	39	37	37	52/52	40	39	37	37	46
R6	35	35	35	45	40	36	36	46	40	39	37	37	52/52	40	39	37	37	46
R8	38	38	38	45	40	36	36	46	45	45	44	43[4]	55/56	40	40[5]	40[5]	40[5]	46
R9	35	35	35	45	40	36	36	46	45	45	44	43[4]	55/56	40	40[5]	40[5]	40[5]	46
R11	49 (41)[6]	49 (41)[6]	49 (41)[6]	54	40	36	36	46	45	45 (46)	44	43[4] (45)	55/56	46	46	45	45	54
R12	49 (41)[6]	49 (41)[6]	49 (41)[6]	53	40	36	36	46	45	45	44	43[4] (45)	55/56	46	46	45	45	53
R13	43 (41)[6]	43 (41)[6]	43 (41)[6]	49	40	36	36	46	45	45	44	43[4]	55/56	45	45	44	43	49
R14	35	35	35	45	40	36	36	46	40	39	37	37	52/52	40	39	37	37	46
R15[7]	36	36	36	45	42[7]	42[7]	42[7]	47	41	40	37 (38)	35 (40)	52/52	42[10]	42[10]	42[10]	42[10]	47
R17	35	35	35	45	40	36	36	46	40	39	37	37	52/52	40	39	37	37	46

Table 3.1 Proposed noise limits

Assessment location	Existing operational noise limits, ($L_{Aeq,15min}$, dB)								PNTLs (predicted[2]) ($L_{Aeq,15min}$, dB)					Proposed operational noise limits ($L_{Aeq,15min}$, dB)[1]				
	CVC				MC													
	Day	Eve.	Night		Day	Eve.	Night		Day	MS	Eve.	Night/MS		Day	MS	Eve.	Night	
			L_{eq}	$L_{1,1min}$			L_{eq}	$L_{1,1min}$				L_{eq}	$L_{A\ Max}$				L_{eq}	$L_{1,1min}$
R19	37	37	37	45	40	36	36	46	40	39	37	37	52/52	40	39	37	37	46
R22[8]	46 (40)[6]	46 (40)[6]	46 (40)[6]	46	40	36	36	46	n/a	n/a	n/a	n/a	52/52	46	46	46	46	46
4	35	35	35	45	40	36	36	46	47	47	47	39	52/60	40	40[5]	40[5]	39	46
5	35	35	35	45	40	39	39	49	47	47	47	39	52/60	40	40[5]	40[5]	39	49
6	35	35	35	45	40	37	37	47	47	47	47	39	52/60	40	40[5]	40[5]	39	47
7	35	35	35	45	40	35	35	45	41	41	37	35 (37)	52/52	41	41	37	37	45
8[7]	36[7]	36[7]	36[7]	45	42	42	42	47	41	41	37 (39)	35 (42)	52/52	42[10]	42[10]	42[10]	42[10]	47
9	35	35	35	45	40	37	37	47	45	45	44	43[4]	55/56	45	45	44	43	47
11	35	35	35	45	40	36	36	46	45	45	44	43[4]	55/56	45	45	44	43	46

Table 3.1 Proposed noise limits

Assessment location	Existing operational noise limits, ($L_{Aeq,15min}$, dB)								PNTLs (predicted[2]) ($L_{Aeq,15min}$, dB)					Proposed operational noise limits ($L_{Aeq,15min}$, dB)[1]				
	CVC				MC													
	Day	Eve.	Night		Day	Eve.	Night		Day	MS	Eve.	Night/MS		Day	MS	Eve.	Night	
			L_{eq}	$L_{1,1min}$			L_{eq}	$L_{1,1min}$				L_{eq}	$L_{A\ Max}$				L_{eq}	$L_{1,1min}$
18	35	35	35	45	40	36	36	46	45	45	44	43[4]	55/56	45	45	44	43	46
20	35	35	35	45	40	36	36	46	45	45	44	43[4]	55/56	45	45	44	43	46
Any other privately owned residence	35	35	35	45	40	36	36	46	-	-	-	-	52/52	40	39	37	37	46

Notes:
1. As calculated for combined operations.
2. Based on future combined CVC and MC operations predictions shown in Table 8.5 of NIA or combined existing limits. The predicted level is shown in brackets where above the relevant PNTL.
3. Existing noise limits for the night period have been assumed for the morning shoulder period.
4. Adopted PNTL is the PANL.
5. Adjusted so proposed noise limits for the morning shoulder, evening, and night periods are not higher than the proposed noise limit for the day period.
6. Long-term noise goals.
7. Representative of MSHV based on worst-case assessment location for either CVC or MC operations.
8. Adjacent to the CVC ventilation fan site at Summerland Point. Existing industrial noise at this location will not change as a result of the Project.
9. Day: 7 am to 6 pm, Monday to Saturday; 8 am to 6 pm Sundays and public holidays. Evening: 6 pm to 10 pm. Night: 10 pm to 7 am Monday to Saturday and 10 pm to 8 am Sundays and public holidays. Morning shoulder: Monday to Friday 5:30 am to 7 am.
10. Adopts common criteria for MSHV based on current MC Project Approval.

3.3 Point 3 – R13 long-term noise goals

As noted above, the Project includes the consolidation of the CVC and MC operations and proposes a single set of noise criteria which applies to the combined operations. The long-term noise goals for R13 (as well as R11, R12, and R22) are based on potential opportunities to reduce noise from the CVC operations alone and do not include consideration of contributions from MC. While the proposed noise limits for R13 do not directly reflect the long-term noise goals in place, based on EMM's compliance monitoring experience for the site, the proposed noise limits are reflective of the current noise environment experienced at R13 should both CVC and Mannering operate at their current noise limits. This is reflected in the calculated PNTLs for this location/area as being higher than the long-term noise goals.

Table 8.7 of the NIA details the existing operational noise limits, including the CVC and MC noise limits combined (using a logarithmic sum) which represents the maximum allowable noise from each site, which would be currently considered compliant. For R13, this results in a day period noise limit of 45 dB (i.e. 43 dB + 40 dB), which is consistent with the proposed operational noise limit for the day period, which was derived from the PNTLs established according to NPfI methodology. Similarly, the proposed noise limit for the evening period is the same as the combined current noise limits for CVC and MC (i.e. 44 dB).

It is noted that the proposed morning shoulder noise limit for R13 is 1 dB greater than the combined CVC and MC noise limit; however, this is still seen as the appropriate limit as it was derived using NPfI methodology for morning shoulder periods. That is, it is equal to the derived PNTL (refer to discussion in Section 3.4 below). Further, the proposed night period limit (derived in accordance with the NPfI) is 1 dB less than the combined MC and CVC noise limit and is similarly considered appropriate.

3.4 Point 4 – Morning shoulder justification

Operational noise limits have been proposed for the morning shoulder periods based on methodology in Section A3 of the NPfI. The justification for the inclusion of morning shoulder periods comes down to the evidence of a steady rise in measured background noise levels during the period from 5–7 am. This is evident in the daily logger charts for L1 and L4 in Appendix B of the NIA where, between the hours of 4 am and 7 am, a steady rise in measured L_{A90} noise levels is seen. On some days an increase of up to 10 dB has been measured between these hours.

EMM acknowledges that this steady increase in noise levels between 4 am and 7 am is not as evident at L2 and L3 unattended noise logger charts. However, this is evident in the measured morning shoulder RBLs and PNTLs derived from them, with L2 only seeing a 1 dB increase from the night period to morning shoulder RBL and L3 adopting 34 dB as the RBL for both night and morning shoulder periods due to adopting the lowest ABL across the monitoring period.

Given this evidence, EMM has determined that an adjusted morning shoulder noise limit is applicable in accordance with the NPfI for operations between 5–7 am, as it is unreasonable for the site to operate under the night period noise limits at these times.

4 Closing

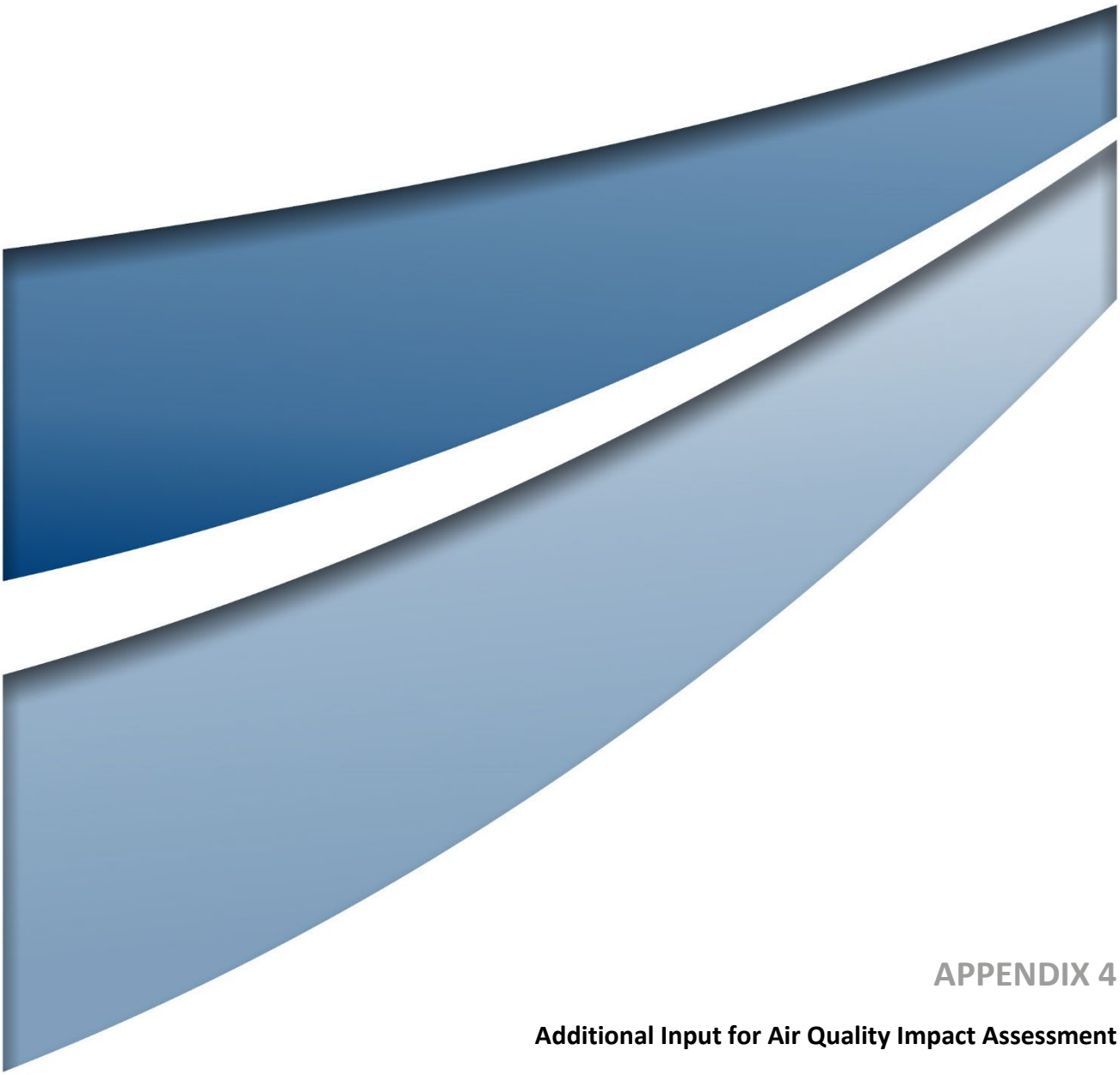
EMM has provided clarification on requested information the EPA sought regarding the Noise Impact Assessment for the Chain Valley Coal Consolidation Project.

As noted in Section 3.1, EMM is of the view that the adoption of the screening criteria set out in Table 7.4 of the NIA is the preferred approach to setting night-time sleep disturbance criteria for the operation. This approach results in a compliance limit which is both conservative from an impact management perspective (as detailed in the Technical Background Paper) and represents a clear and consistent application of the NPfI as required by the *Implementation and transitional arrangements for the noise policy for industry*. In the event that DPE and EPA do not adopt this application of the NPfI in setting sleep disturbance criteria, Table 3.1 details the recommended noise limits for the combined operations.

Should you require any further information, please feel free to contact our office.

Yours sincerely,

Najah Ishac
Director, Technical Lead Acoustics
nishac@emmconsulting.com.au



APPENDIX 4

Additional Input for Air Quality Impact Assessment

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15 March 2023

Penelope Williams
Senior Environmental Planner
Umwelt (Australia) Pty Limited
75 York Street
Teralba, NSW 2284

Re: Chain Valley Colliery Consolidation Project - response to air quality submissions

Dear Penelope,

EMM Consulting Pty Limited (EMM) prepared an Air Quality Impact Assessment (AQIA) for the Chain Valley Colliery Consolidation Project ('the Project') in September 2022. Submissions on the Environmental Impact Statement (EIS) have been received including a submission prepared by Environmental Justice Australia (EJA) on behalf of the Nature Conservation Council (NCC) of NSW dated 16 December 2022 (Environmental Justice Australia 2022).

This letter provides responses to the comments made in the EJA submission in relation to the AQIA report.

We hope that this letter meets your needs. Please do not hesitate to contact me using the details below if you have any questions.

Yours sincerely

Francine Manansala
Associate, Air Quality
fmanansala@emmconsulting.com.au

1 Introduction

Chain Valley Colliery (CVC) and Mannering Colliery (MC) are underground coal mines located on the southern shore of Lake Macquarie, NSW. The CVC and MC operations are owned and operated by Great Southern Energy Pty Ltd (trading as Delta Coal). Delta Coal is seeking approval for the Project, which would provide for the consolidation of the existing operations at CVC and MC under a single development consent under the EP&A Act.

In September 2022, an EIS was prepared for the Project (Umwelt (Australia) Pty Limited 2022), with the AQIA forming part of the EIS document (EMM Consulting 2022).

In December 2022, submissions on EIS for the Project were received. A submission was prepared by EJA on behalf of the NCC of NSW (Environmental Justice Australia 2022). Section 3a of the submission is of relevance to the AQIA report.

This letter aims to address each relevant comment made on the AQIA. In the following section the comments have been organised into specific issues, with the submission transcribed in italics and the corresponding response following. The full EJA submission is provided in Appendix A.

2 Responses to EJA submission on the AQIA

i Issue 1 - compliance with Approved Methods for Modelling

EJA comment: Section 3a, paragraph 46:

We note that the AQIA prepared by EMM has not been prepared in accordance with the Environment Protection Authority's (EPA) recently revised Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2022) (Approved Methods for Modelling 2022). It is therefore unclear whether the methodologies adopted in the AQIA are consistent with the Approved Methods for Modelling 2022 and how this may impact the conclusions reached in the EIS regarding air quality impacts. Nevertheless, based on the information contained in the AQIA and EIS, we make the following submissions with respect to air quality impacts and the management and mitigation of air quality impacts at CVC and MC.

EJA comment: Section 3a, subsection 3.1.3, paragraph 69 (a):

[EJA recommends that] the Department require that the EIS be prepared in accordance with the Approved Methods for Modelling 2022 and/or that the Minister commission an independent peer review of the AQIA to ensure the methodology contained in the AQIA is sound.

EMM Consulting response:

The AQIA was prepared in general accordance with the guidelines specified by the NSW Environment Protection Authority (EPA) in the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (NSW EPA 2017) (hereafter the 'Approved Methods'). The only changes to the 2022 Approved Methods were an update of the impact assessment criteria for sulfur dioxide (SO_2), nitrogen dioxide (NO_2) and ozone (O_3), none of which were assessed, nor specifically required to be assessed, as part of the AQIA. The changes made in the 2022 Approved Methods therefore have no bearing on the results or conclusions of the AQIA.

We note that the EPA submission on the Project did not raise any concerns regarding the assessment methodology.

ii Issue 2 – contribution from the Vales Point Power Station (VPPS)

EJA comment: Section 3a, subsection 3.1.1, paragraph 47:

Fundamentally, the EIS is flawed because it does not consider the impact that burning the coal that is extracted from the CVC and MC at VPPS will have on air quality. NCC submits that this is a 'likely impact' of the project and must be considered by the Department in its assessment of the Project.

EJA comment: Section 3a, subsection 3.1.1, paragraph 47:

Currently, the EIS and AQIA does not extend to the air quality impacts caused by burning coal at VPPS. For example, emissions from coal combustion such as NOx, SO_2, VOCs and coarse and fine particulates are not addressed by the AQIA. The EIS does not consider the secondary air quality impacts of the Project caused by VPPS. It should consider these collectively with the other direct air quality impacts of the Project.

EJA comment: Section 3a, subsection 3.1.3, paragraph 69 (a):

[EJA recommends that] the Department require that the EIS addresses the likely impacts of the Project in the EIS, which includes the off-site impacts on air quality caused by operations at VPPS.

EMM Consulting response:

Background air quality data used in the cumulative assessment for the AQIA included:

- continuous PM_{10} concentrations recorded at Delta Coal's tapered element oscillating microbalance (TEOM) located in between CVC and MC
- continuous $PM_{2.5}$ concentrations recorded at Delta Electricity's beta-attenuation monitor (BAM) in Wyee
- dust deposition data recorded at Delta Coal's 10 dust deposition gauges, five located at CVC and five located at MC.

Section 4.3.1 of the AQIA report lists emission sources in the local airshed (including VPPS) and states that it is considered that these emission sources are accounted for in the monitoring data analysed (and subsequently used in the cumulative assessment). This is a common approach in AQIAs where ambient monitoring data exists in the vicinity of the project source and surrounding sources in the area. It is noted that the VPPS is located within 1 km of the Project (as well as the TEOM and dust deposition gauges).

Adding a contribution from VPPS to the Project modelled contribution and the monitoring data collected from the above monitoring stations would have led to a double-counting of cumulative concentrations at some assessment locations.

We note that the EPA submission on the Project did not raise any concerns regarding the AQIA's methodology with regard to the assessment of cumulative impacts.

iii Issue 3 – World Health Organization Global Air Quality Guidelines

EJA comment: Section 3a, subsection 3.1.2, paragraph 63:

However, whilst the cumulative concentration and deposition results are within the NEPM AAQ criteria, we point out that this is only just the case for PM_{10} based on the 24-hour averaging period. For Scenario 1, PM_{10} is predicted to reach as high as 44.9 µg/m^3 at receptor R12, located in the residential area Kingfisher Shores and concerningly, 44.8 µg/m^3 at Mannering Park Public School. Similarly, for Scenario 2, PM_{10} is predicted to reach as high as 48.9 µg/m^3 at Kingfisher Shores and 44.8 µg/m^3 at Mannering Parl Public School. We note that 48.9 µg/m^3 is above the 2021 World Health Organisation's (WHO) recommended 2021 Global Air Quality Guidelines.

EJA comment: Section 3a, subsection 3.1.2, paragraph 65:

The WHO's 2021 Global Air Quality Guidelines have been devised to protect public health and is in response to the real and continued threat of air pollution to public health. Whilst we acknowledge that the 2021 Air Quality Guidelines are not legally binding and have not been adopted by the NSW Government, it is our submission that despite the Project's air quality impacts being assessed as falling under the NEPM AAQ assessment criteria, they still present a health risk to the community. We expand further on the health risk in Section [3.7] of our submission.

EMM Consulting response:

The AQIA represents a worst-case assessment of potential air quality impacts as a result of the Project. It also includes conservative assumptions in terms of the background data used (as both CVC and MC were operating in 2018 to varying degrees and therefore also contributed to the background air quality concentrations used in the assessment).

At the assessment locations, the measured background is the main contributor to the cumulative concentrations (accounting for approximately 80% of the total concentration at the worst-affected assessment locations).

As recognised in the EJA submission, the WHO air quality goals have not been adopted in NSW. As required by the Secretary's Environmental Assessment Requirements (SEARs), the Project has been assessed in accordance with the Approved Methods.

iv Issue 4 – combustion emissions

EJA comment: Section 3a, subsection 3.1.2, paragraph 66:

The AQIA is deficient because it does not quantitatively assess the combustion emissions (being NO_x, SO_2, carbon monoxide, CO_2 and VOCs created from combustion engines such as trucks) of the Project. This is despite the Project seeking consent to transport up to 600,000 tonnes of coal by road to the Port of Newcastle annually. It is worth noting that the GHGEA assesses two scenarios – the 'Planned Scenario' and the 'Export Scenario'. If Delta Coal exports coal from the Port of Newcastle, it may result in up to 270 laden coal trucks operating from the CVC site daily, or up to 32 per hour. The combustion emissions generated from these operations should be factored into the AQIA and the assessment of air and GHG emissions should be addressed consistently (i.e. for both the Planned Scenario and the Export Scenario) in all components of the EIS.

EJA comment: Section 3a, subsection 3.1.3, paragraph 69 (d):

[EJA recommends that] the Department require that the EIS includes a quantitative assessment of the combustion emissions of the Project.

EMM Consulting response:

Combustion emissions (i.e. NO_x, SO_2, CO and VOCs) from road transport and plant are typically a minor component of overall site emissions for projects of this nature and are unlikely to compromise air quality criteria. It is noted that the road movements referred to in the EJA submission are currently approved under the existing CVC consent and the only proposed change is the (potential) extension of these activities for an additional two years. Accordingly, the Project will not result in any increase in these emissions relative to approved operations on an annual basis.

Again, we note that the EPA submission on the Project did not raise any concerns regarding the assessment methodology with regard to the assessment methodology.

v Issue 5 – impacts of climate change

EJA comment: Section 3a, subsection 3.1.2, paragraph 67:

In addition, we note that the relationship between climate change and poorer air quality has been established in a number of studies which demonstrate the association between climate change and air quality (for example through increased frequency and size of bushfires and dust events). As a result it can no longer be assumed that past weather and air quality are good proxies for future conditions when projects will be implemented and therefore assessments must include potential future climate impacts. The background air quality is likely to be changed as a result of climate change however these climate change impacts do not appear to have been adequately considered as part of the AQIA – indeed the AQIA excludes the air quality data from the period over the Black Summer bushfires of 2019-2020. The assumed background concentrations used 2018 datasets for $PM_{2.5}$ and PM_{10} and in relation to PM_{10} it is expressly stated that the 2019 and 2020 datasets were excluded due to the occurrence of bushfires and drought conditions. While the AQIA acknowledges that previous exceedances of air quality criteria have occurred in the context of bushfires and drought conditions the EIS should include an assessment of potential future climate conditions and how that may influence whether air quality standards are met in future.

EJA comment: Section 3a, subsection 3.1.3, paragraph 69 (b):

[EJA recommends that] the Department require that the EIS and AQIA include an assessment of the optimal control strategies to control future levels of pollutants (such as $PM_{2.5}$) and an assessment of potential future climate conditions and their possible influence on the attainment of air quality objectives.

EMM Consulting response:

An assessment of impacts as a result of climate change does not form a part of the AQIA process and is not required under the Approved Methods.

It is noted that the current development consents for both CVC and MC include a requirement to *minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events* (see condition 12 of the CVC Consent and 17 of the MC Consent). It is anticipated that a requirement similar to that in Condition 17 of the MC Consent would be applied to the Project (if approved) which would require management measures in the event of adverse meteorological conditions and extraordinary events (such as bushfires) to be specified in the Air Quality and Greenhouse Gas Management Plan and be implemented where necessary.

vi Issue 6 – air quality monitoring data

EJA comment: Section 3a, subsection 3.1.2, paragraph 68:

It is clear from the EIS that the air quality monitoring network maintained by Delta Coal is insufficient and must be improved. There are no air quality stations continuously monitoring TSP concentrations in real-time in the vicinity of MC or CVC, despite operations at CVC and MC generating TSP. Such monitoring would have the benefit of triggering real-time alarms in response to dust events at CVC and MC, which could ensure appropriate operations and controls are undertaken during dust events. Real time air quality monitoring data should be made publicly available to increase transparency of mining operations for the community.

EJA comment: Section 3a, subsection 3.1.3, paragraph 69 (e):

[EJA recommends that] if the Minister approves the Project, that he requires as a condition of consent that an air quality station that continuously monitors TSP, $PM_{2.5}$ and PM_{10} concentrations in real-time be installed in close vicinity to CVC and MC and that data from the monitoring station is made publicly available in real time.

EMM Consulting response:

Per the response to Issue 2, Delta Coal maintains a monitoring network in the vicinity of the Project which includes continuous PM_{10} monitoring and dust deposition monitoring. Delta Electricity also operates a continuous $PM_{2.5}$ monitoring station in Wyee. Data collected from these stations were analysed and used in the AQIA.

TSP concentration data is not collected at the Project and currently there is no requirement of the Project to monitor this.

Due to the infrequent sampling of TSP (typically one-in-six days using a high volume air sampler (HVAS)) and the additional laboratory analysis time, TSP data collected by a HVAS provides no value to the reactive management of operational dust emissions.

In addition, the relationship between TSP and PM_{10} at mining sites is well understood and can be inferred from existing PM_{10} monitoring data which exists at the Project site. This method was used in the AQIA for the Project (as well as many others prepared for mining projects) and has been accepted by regulatory agencies. Delta Coal currently utilises the PM_{10} TEOM monitoring data, and this accepted relationship between TSP and PM_{10} to assess compliance against the TSP criteria imposed under the current consent conditions.

3 References

EMM Consulting Pty Limited 2022, *Chain Valley Colliery Consolidation Project: Air Quality Impact Assessment*, prepared by EMM Consulting Pty Limited for Delta Coal, September 2022.

Environmental Justice Australia 2022, *Submission on the Chain Valley Colliery Consolidation Project (SDD-17017460)*, prepared by Environmental Justice Australia on behalf of the Nature Conservation Council of NSW, December 2022.

Appendix A

EJA's submission on the AQIA report

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3 Environmental Impacts and Consideration

a. Air quality impacts

45. The EIS outlines that air quality will be impacted by the Project in the following ways:[28]
    a. the conveying and transfer of coal, coal sizing and screening, front end loaders pushing coal and hauling coal will generate total suspended particulates (**TSP**), coarse particles (PM_{10}) and fine particles ($PM_{2.5}$);
    b. wind erosion of exposed areas will cause TSP, PM_{10} and $PM_{2.5}$;
    c. construction activities during the life of the mine have the potential to generate dust emissions;
    d. the outflow from upcast ventilation shafts has the potential to cause odour impacts;
    e. the combustion of diesel by mining equipment will result in emissions of particulate matter (primarily $PM_{2.5}$), NO_x, SO_2, carbon monoxide, carbon dioxide (**CO_2**) and assorted volatile organic compounds (**VOCs**).

46. We note that the AQIA[29] prepared by EMM has not been prepared in accordance with the Environment Protection Authority's (**EPA**) recently revised *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2022) (**Approved Methods for Modelling 2022**). It is therefore unclear whether the methodologies adopted in the AQIA are consistent with the Approved Methods for Modelling 2022 and how this may impact the conclusions reached in the EIS regarding air quality impacts. Nevertheless, based on the information contained in the AQIA and EIS, we make the following submissions with respect to air quality impacts and the management and mitigation of air quality impacts at CVC and MC.

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[28] Chain Valley Colliery Consolidation Project, Environmental Impact Statement September 2022 (**EIS**), 6.4.1, p 89.
[29] EIS, Appendix 8.

3.1.1 Air quality impact assessment does not consider all 'likely impacts'

47. Fundamentally, the EIS is flawed because it does not consider the impact that burning the coal that is extracted from the CVC and MC at VPPS will have on air quality. NCC submits that this is a 'likely impact' of the project and must be considered by the Department in its assessment of the Project.

48. We refer to paragraphs [23] and [24] above and submit that per *MGPA v Santos*, off-site impacts can be caused indirectly by some other development on other land (such as VPPS), provided that the impacts of that other development have 'a real and sufficient link' with the proposed development. For example, a real and sufficient link can be established where the impacts are caused by "some further undertaking that is 'inextricably involved' with the proposed development".[30]

49. It is evident from the EIS that there is a real and sufficient link between the Project (i.e. operations at CVC and MC), and VPPS. Section 1 of the EIS outlines the integrated nature of CVC and MC with VPPS. It provides the following:[31]

    a. that CVC and MC are owned and operated by Great Southern Energy Pty Ltd (trading as Delta Coal);
    b. that Sunset Power International Pty Ltd, trading as Delta Electricity, owns and operates VPPS;
    c. that all coal from CVC and MC is currently supplied to VPPS, 'due to proximity to VPPS and common ownership';[32]
    d. that coal is transported from the mines to VPPS via rail, road or overland conveyor;
    e. that 'the owners of both Delta Coal and Delta Electricity are seeking to maximise the use of the Delta Coal assets to supply coal to the VPPS'; and
    f. that 'this extension would align the life of mining operations at both CVC and MC with the planned operational period of the VPPS'.

50. The EIS makes it very clear that one of the key objectives of the project is to 'align the Delta Coal extraction and production rates with the requirements of the VPPS'.[33] It also outlines that the Project would provide the following 'key benefits':[34]

    - align production from the combined operations with the planned life of operations of the VPPS (to the end of 2029)
    - provide VPPS with a cost effective and reliable supply of coal for the life of the VPPS operations.

51. It goes on to justify the Project on the basis that it aligns with the current operational requirements of VPPS. The EIS provides the following (emphasis added):[35]

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[30] *Mullaley Gas and Pipeline Accord Inc v Santos NSW (Eastern) Pty Ltd* [2021] NSWLEC 110 at [141]; *Bell v Minister for Urban Affairs and Planning* (1997) 95 LGERA 86 at [101]; *Environmental Defence Society Inc v South Pacific Aluminium (No 4)* [1981] 1 NZLR 530 at [534]-[535]; *Ballina Shire Council v Palm Lake Works Pty Ltd* at [6].
[31] EIS, 1.0, p. 1.
[32] Ibid, 2.4, p. 38.
[33] Ibid, 1.1, p. 2.
[34] Ibid, 1.2, p.3.
[35] Ibid, 7.2, p. 161.

> The Project is a logical business decision for Delta Coal, **aligning the existing Delta Assets in order to provide for a local secure coal supply that aligns with the current operational requirements of the VPPS**. While the Delta Coal operations will not meet all of the VPPS demand, the ability to obtain a large percentage of VPPS coal via a local, reliable and cost-effective supply reduces VPPS's exposure to price fluctuations and supply chain restrictions. This in turn assists VPPS in supplying reliable and cost-effective electricity generation to NSW…
>
> Should the Project not be approved, VPPS would be required to source all coal from at least 2028 onwards (and likely from 2026) from other sources.
>
> **Coal sourced from other operations would be less suited to the design specifications of the VPPS operations which were specifically designed around the use of coal from the Wallarah, Great Northern and Fassifern coal seams**. The use of externally sourced coal would require additional rail movements between mines in NSW and the VPPS rail handling facilities. This would also expose the VPPS to cost fluctuations and potential supply uncertainty in the event of supply chain disruptions. The transport and handling of externally sourced coal also involved additional noise and air quality impacts. The improved operational efficiencies associated with the management of the CVC and MC operations as a single operation, **extended life of operations aligning with the planned VPPS operating life and ability to manage production rates between the two pit tops significantly reduces supply risks for VPPS.**

52. Moreover, Delta Coal and Delta Electricity are subsidiary companies of Delta Electricity Pty Ltd. Each of these entities are therefore related within a vertically integrated business model. This is acknowledged in the EIS as providing rationale for the Project. It states:[36]

> Due to proximity to VPPS and common ownership, all of the coal produced at CVC and MC is currently supplied to the VPPS. Coal resource from the Fassifern and Great Northern seams mined at CVC and MC is known to have a low sulphur content, making it a preferable supply for power generation.

53. Based on the integrated nature of CVC and MC with VPPS, it is evident that the Project has a real and sufficient link to VPPS, such that the impacts on air quality caused by VPPS are ones that 'flow' from the Project. They are therefore 'likely impacts' of the Project and must be considered as part of the environmental impact assessment of the Project because they are 'likely impacts' of the Project.

54. Currently, the EIS and AQIA does not extend to the air quality impacts caused by burning coal at VPPS. For example, emissions from coal combustion such as NO_x, SO_2, VOCs and coarse and fine particulates are not addressed by the AQIA. The EIS does not consider the secondary air quality impacts of the Project caused by VPPS. It should consider these collectively with the other direct air quality impacts of the Project.

55. Finally, it appears that Delta Coal's position is that coal soured from CVC and MC has low sulphur content and that coal sourced from 'other operations would be less well suited for burning at VPPS'[37] as VPPS operations were 'specifically designed' for coal

[36] Ibid, 2.4, p. 38-39.
[37] Ibid, p 40.

from CVC and MC.[38] Delta does not otherwise specify in what respects the coal from CVC and MC is more suited to VPPS or how VPPS is 'specifically designed' for this coal. It is also NCC's understanding that VPPS already does rely on coal from other sources. It is not clear whether Delta Coal relies on this position to assert that higher sulphur content coal or allegedly 'less well suited' coal would result in increased air emissions or environmental impact. Regardless, we note that the AQIA (or GHGEA) does not appear to provide any information that supports Delta Coal's position.

56. This same 'substitution argument' was addressed in *KEPCO Bylong Australia Pty Ltd v Bylong Valley Protection Alliance Inc* [2021] NSWCA 216 (***Kepco***). *Kepco* examined a decision of the Independent Planning Commission (**IPC**) to refuse a thermal coalmine in the Bylong Valley. In that assessment process, KEPCO asserted that if the Project was refused, it would need to secure an alternative source of coal elsewhere. It stated the following:[39]

> …if such coal is not readily available, KEPCO's power stations will continue to operate and will rely (and will probably need to rely) on substituted coal to ensure that its energy supply is not compromised. The use of lower quality coal in these power generation facilities will lead to a poorer environmental outcome…
>
> If KEPCO is required to obtain substituted coal supplies, it is likely to have a higher ash and sulphur content and will be sourced from countries such as Indonesia. This will have an adverse effect on the Australian and New South Wales economies and the Korean environment.

57. The IPC determined that there was no evidence before it to determine whether KEPCO would secure an alternative source of coal of inferior quality. The IPC was not satisfied the information supplied with the application was rationally capable of supporting KEPCO's assertion.[40] The Court upheld the IPC's decision and found that 'no evidence' means 'no evidence capable of satisfying [the tribunal] on the issues in question.[41] It is NCC's submission that in assessing the Project and Delta Coal's substitution argument, the Department should find that there is similarly no evidence before it to accept Delta Coal's position.

58. Based on the EIS in its current form, the Department cannot be satisfied that the EIS properly considers all likely impacts of the Project. It is NCC's submission that the Department cannot properly assess the Project until further information is provided by Delta Coal.

3.1.2 Other deficiencies with the air quality impact assessment

59. We make the following additional submissions with respect to the way that air quality impacts are assessed for the Project.

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[38] Ibid, p 161.
[39] *KEPCO Bylong Australia Pty Ltd v Bylong Valley Protection Alliance Inc* [2021] NSWCA 216 at [72]-[74].
[40] Ibid [Headnote 8].
[41] Ibid at [79].

60. The AQIA models and assesses air quality impacts against the NSW assessment criteria, being the standards contained within the *National Environment Protection (Ambient Air Quality) Measure* (**NEPM AAQ**). Those standards are as follows:

Pollutant	Averaging Period	Criterion	Goal for $PM_{2.5}$ from 2025
Particulate matter (PM_{10})	24-hour	50 µg/m^3	-
	Annual	25 µg/m^3	-
Particulate Matter ($PM_{2.5}$)	24-hour	25 µg/m^3	20 µg/m^3
	Annual	8 µg/m^3	7 µg/m^3
Total Suspended Particulate (TSP) matter	Annual	90 µg/m^3	-

Table 1: NEPM AAQ assessment criteria

61. The AQIA models two operational scenarios at the Project site:
    a. Scenario 1 – coal handling at the maximum approved rate of 2.8 Mt from MC; and
    b. Scenario 2 – MC operating at a coal handling rate of 1.3 Mt simultaneously with CVC operating at a coal handling rate of 1.5 Mt (for a total maximum approved rate of 2.8 Mt).

62. The AQIA concludes that based on the air dispersion and modelling results, both the predicted concentrations and deposition rates for incremental particulate matter (TSP, PM_{10}, $PM_{2.5}$ and dust deposition) are below the applicable impact assessment criteria at all assessment location of the Project for both emission scenarios. It also concludes that the cumulative impacts and cumulative concentrations and deposition rates for all air pollutants and averaging periods are below the applicable NEPM AAQ assessment criteria.

63. However, whilst the cumulative concentration and deposition results are within the NEPM AAQ criteria, we point out that this is only *just* the case for PM_{10} based on the 24-hour averaging period. For Scenario 1, PM_{10} is predicted to reach as high as 44.9µg/m^3 at receptor R12, located in the residential area Kingfisher Shores and concerningly, 44.8µg/m^3 at Mannering Park Public School. Similarly, for Scenario 2, PM_{10} is predicted to reach as high as 48.9µg/m^3 at Kingfisher Shores and 44.8µg/m^3 at Mannering Parl Public School. We note that 48.9µg/m^3 is above the 2021 World Health Organisation's (**WHO**) recommended 2021 Global Air Quality Guidelines.

64. The WHO's 2021 Global Air Quality Guidelines are as follows:

Pollutant	Averaging Period	Criterion
Particulate matter (PM_{10})	24-hour	45 µg/m^3
	Annual	15 µg/m^3
Particulate Matter ($PM_{2.5}$)	24-hour	15 µg/m^3
	Annual	5 µg/m^3

Table 2: WHO 2021 Global Air Quality Guidelines

65. The WHO's 2021 Global Air Quality Guidelines have been devised to protect public health and is in response to the real and continued threat of air pollution to public health. Whilst we acknowledge that the 2021 Air Quality Guidelines are not legally binding and have not been adopted by the NSW Government, it is our submission that despite the Project's air quality impacts being assessed as falling under the NEPM AAQ assessment criteria, they still present a health risk to the community. We expand further on the health risk in Section [3.7] of our submission.

66. The AQIA is deficient because it does not quantitatively assess the combustion emissions (being NO_x, SO_2, carbon monoxide, CO_2 and VOCs created from combustion engines such as trucks) of the Project. This is despite the Project seeking consent to transport up to 600,000 tonnes of coal by road to the Port of Newcastle annually. It is worth noting that the GHGEA assesses two scenarios – the 'Planned Scenario' and the 'Export Scenario'. If Delta Coal exports coal from the Port of Newcastle, it may result in up to 270 laden coal trucks operating from the CVC site daily, or up to 32 per hour. The combustion emissions generated from these operations should be factored into the AQIA and the assessment of air and GHG emissions should be addressed consistently (i.e. for both the Planned Scenario and the Export Scenario) in all components of the EIS.

67. In addition, we note that the relationship between climate change and poorer air quality has been established in a number of studies which demonstrate the association between climate change and air quality (for example through increased frequency and size of bushfires and dust events).[42] As a result it can no longer be assumed that past weather and air quality are good proxies for future conditions when projects will be implemented and therefore assessments must include potential future

[42] Daniel Jacob and Darrell Winner, 'Effect of Climate Change on Air Quality' (2009) 43(1) Atmospheric Environment 51; Patrick Kinney, 'Climate Change, Air Quality, and Human Health' (2008) 35(5) *American Journal of Preventive Medicine* 459; Gennaro D'Amato, Lorenzo Cecchi, Mariella D'Amato, Isabella Annesi-Maesano, 'Climate change and respiratory diseases' European Respiratory Review 2014 23: 161-169, available at: < https://err.ersjournals.com/content/23/132/161.full>; Centres for Disease Control and Prevention, 'Climate change decreases the quality of the air we breathe', available at: <https://www.cdc.gov/climateandhealth/pubs/air-quality-final_508.pdf> ; Annika Dean and Donna Green, 'Climate Change, Air Pollution and Human Health in Sydney, Australia: A Review of the Literature' (2017) 13(5) *Environmental Research Letters* 53003, 53003.

climate impacts.[43] The background air quality is likely to be changed as a result of climate change however these climate change impacts do not appear to have been adequately considered as part of the AQIA – indeed the AQIA excludes the air quality data from the period over the Black Summer bushfires of 2019-2020. The assumed background concentrations used 2018 datasets for $PM_{2.5}$ and PM_{10}[44] and in relation to PM_{10} it is expressly stated that the 2019 and 2020 datasets were excluded due to the occurrence of bushfires and drought conditions.[45] While the AQIA acknowledges that previous exceedances of air quality criteria have occurred in the context of bushfires and drought conditions[46] the EIS should include an assessment of potential future climate conditions and how that may influence whether air quality standards are met in future.

68. It is clear from the EIS that the air quality monitoring network maintained by Delta Coal is insufficient and must be improved. There are no air quality stations continuously monitoring TSP concentrations in real-time in the vicinity of MC or CVC, despite operations at CVC and MC generating TSP.[47] Such monitoring would have the benefit of triggering real-time alarms in response to dust events at CVC and MC, which could ensure appropriate operations and controls are undertaken during dust events. Real time air quality monitoring data should be made publicly available to increase transparency of mining operations for the community.

3.1.3 Recommendations

69. NCC recommends the following with respect to air quality impact assessment. That:
    a. the Department require that the EIS addresses the likely impacts of the Project in the EIS, which includes the off-site impacts on air quality caused by operations at VPPS;
    b. the Department require that the EIS and AQIA include an assessment of the optimal control strategies to control future levels of pollutants (such as $PM_{2.5}$) and an assessment of potential future climate conditions and their possible influence on the attainment of air quality objectives;
    c. the Department require that the EIS be prepared in accordance with the Approved Methods for Modelling 2022 and/or that the Minister commission an independent peer review of the AQIA to ensure the methodology contained in the AQIA is sound;
    d. the Department require that the EIS includes a quantitative assessment of the combustion emissions of the Project;

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[43] "Policies to improve air quality and human health take meteorologic variables into account in determining when, where, and how to control pollution emissions, usually assuming that weather observed in the past is a good proxy for weather that will occur in the future, when control policies are fully implemented. However, policymakers now face the unprecedented challenge presented by changing climate baselines. There is growing recognition that development of optimal control strategies to control future levels of key health-relevant pollutants like ozone and fine particles (particulate matter, PM2.5) should incorporate assessment of potential future climate conditions and their possible influence on the attainment of air quality objectives." Patrick Kinney, 'Climate Change, Air Quality, and Human Health' (2008) 35(5) *American Journal of Preventive Medicine* 459, 459
[44] Air Quality Impact Assessment (September 2022) (**AQIA**), p 30.
[45] AQIA, p 25.
[46] AQIA, p 27.
[47] EIS, 6.4.2.1, p. 90.

e. if the Minister approves the Project, that he requires as a condition of consent that an air quality station that continuously monitors TSP, $PM_{2.5}$ and PM_{10} concentrations in real-time be installed in close vicinity to CVC and MC and that data from the monitoring station is made publicly available in real time.

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