Department of Planning, Housing and Infrastructure

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Chain Valley Colliery Consolidation Project

State Significant Development Assessment Report (SSD-17017460)

December 2025

Acknowledgement of Country

The Department of Planning, Housing and Infrastructure acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land and show our respect for Elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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Executive Summary

Introduction

This report details the Department of Planning, Housing and Infrastructure's (the Department) assessment for the Chain Valley Colliery Consolidation Project (the Project) and will be provided to the Independent Planning Commission for their consideration when deciding whether to grant consent to the SSD.

Project Overview

Chain Valley Colliery (CVC) and Mannering Colliery (MC) are established underground coal mines located on the southern shore of Lake Macquarie, approximately 60 kilometres (km) south of Newcastle, within the Lake Macquarie and Central Coast local government areas (LGAs). The collieries are owned and operated by Delta Power & Energy (Chain Valley) Pty Ltd (the Applicant). The collieries are operated as an integrated complex, with shared workforce, infrastructure, and coal handling systems. Coal is delivered via conveyor to the Vales Point Power Station (VPPS), with limited haulage permitted to other customers.

The Project seeks approval to consolidate the existing approvals of CVC and MC under a single, contemporary consent; extend the mine life by two years to 31 December 2029; increase throughput at the MC pit top from 2.1 million tonnes per annum (Mtpa) to 2.8 Mtpa; and allow additional secondary coal extraction within approved mining areas beneath Lake Macquarie.

The Project is designed to ensure continuity of coal supply to the adjacent VPPS until what was its planned closure in 2029, aligning the mine's operational life with the power station and securing ongoing local employment. The Department notes that in March 2023 (after this Project was lodged), it was announced that VPPS closure would be delayed four years to 2033.

The Project does not involve expansion beyond current mining boundaries, nor does it introduce new coal transport routes.

Strategic context

The Project has been considered in accordance with key relevant Commonwealth, State and regional strategies including Australia's Long-Term Emissions Reductions Plan, NSW Climate Change Policy Framework, Strategic Statement on Coal Exploration and Mining in NSW and Central Coast Regional Plan.

The Project is generally consistent with the aims of key relevant strategies. It provides a secure and local coal supply to the VPPS, reduces reliance on external suppliers, and avoids additional greenhouse gas emissions and road transport impacts associated with sourcing coal from other regions. There are clear benefits to having a domestic supply to assist with power generation during the transition to renewables period.

Statutory Context

The Project is classified as State significant development (SSD) under section 4.36 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) because it is for the purposes of underground coal mining and it meets the criteria specified in section 5(1)(a) of Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021*.

The Independent Planning Commission is the consent authority for the Project under section 4.5A of the EP&A Act, as more than 50 unique public submissions objecting to the Project were received.

The application is permissible with consent.

Engagement

The Department exhibited the environmental impact statement (EIS) from 18 November 2022 to 16 December 2022. During the exhibition period, the Department received:

- 180 submissions from the public (7 submissions from special interest groups and 173 submissions from individuals);
- a submission from Lake Macquarie City Council supporting the Project; and
- advice from 11 State government agencies.

Of the 180 public submissions, 133 submissions objected to the Project, 45 submissions supported the Project and two provided comment.

Key issues raised included:

- potential impacts of subsidence beneath Lake Macquarie and foreshore areas;
- air quality and human health, including dust and cumulative emissions with VPPS;
- greenhouse gas emissions and consistency with climate commitments;
- noise impacts from existing and proposed operations; and
- water quality and biodiversity impacts, particularly on seagrass and benthic communities.

The Applicant responded with a Submissions Report (March 2023) and further technical information, particularly addressing subsidence, noise, greenhouse gas emissions and water quality. The Department also sought independent expert advice through the Independent Expert Advisory Panel for Mining (the Panel) on key matters, including subsidence management and the greenhouse gas assessment.

Key Assessment Issues

Subsidence

Subsidence and subsidence-related issues were raised in approximately 35% of objecting submissions. Submissions raised concerns about subsidence from mining under Lake Macquarie and surrounding foreshores causing impacts to the natural environment (water and biodiversity) as well as damage to houses, utilities and infrastructure.

The Applicant submitted a Subsidence Assessment and Geotechnical Assessment, supported by an independent review. These assessments confirmed that with careful mine design, secondary extraction beneath Lake Macquarie could comply with the existing performance measures:

- Zone A (foreshore and seagrass areas): negligible subsidence impacts (previously managed under a strict 20 mm vertical limit); and
- Zone B (beneath Lake Macquarie): subsidence up to 780 mm, consistent with historical operations and previously accepted as environmentally manageable.

The Department requested that the Panel undertake a comprehensive review of the Subsidence Assessment and advise on the adequacy of the subsidence predictions and suitability of the mitigation, management and protection measures proposed.

The Geotechnical Assessment and additional data provided to the Panel during the assessment process provided pillar stability calculations for the proposed herringbone panel layout. The Panel indicated its satisfaction with the approximations and overall methodology adopted to design the herringbone pillars (Zone A).

The proposed Zone B panel layout (both extraction widths and barrier pillar widths) was predicted to result in a maximum subsidence of 475 mm, which is below the 780 mm subsidence limit.

However, the Panel noted the high degree of reliance that the mine design places on conglomerate strata in the overburden restricting subsidence over pillar extraction workings in Zone B to achieve compliance with the subsidence limit. To address this concern, the Panel recommended:

- local conglomerate and claystone properties and thicknesses to be investigated for each set of extraction panels prior to finalising extraction and barrier width parameters; and

- the overall number of panels in any location be limited to no more than two, without the inclusion of a more substantial barrier separating adjacent mining regions.

To ensure impacts remain acceptable and manageable, the Panel also recommended:

- staged Extraction Plans, allowing adaptive mine design based on actual monitoring results;
- enhanced monitoring and auditing, including geotechnical investigations and annual independent reviews; and
- updated performance measures, focusing on environmental consequences (e.g. seagrass, foreshore stability) rather than arbitrary millimetre limits.

Should the IPC determine to approve the Project, the Department has adopted the above recommendations in the conditions of consent. The application of subsidence control zones and the recommended conditions of consent would avoid any subsidence impacts on the lake foreshore or seagrass beds and provide an adequate and appropriate level of protection for other natural features and the built environment.

Noise

Noise has historically been an issue for nearby sensitive receivers, particularly residents at Kingfisher Shores and Macquarie Shores Home Village. While noise complaints have declined following extensive mitigation programs, noise remains a concern for the community.

As part of the EIS, a Noise Impact Assessment was prepared, in accordance with the EPA's *Noise Policy for Industry (2017)*. The modelling found:

- predicted noise levels are generally within compliance at most receivers;
- some exceedances (up to 7 dB) may occur at limited locations during worst-case meteorological conditions; and
- existing and proposed mitigation, including enclosure of new coal handling equipment at CVC and continuation of strict haulage restrictions, would reduce impacts.

Should the IPC determine to approve the Project, the Department has recommended:

- consolidated and updated operational noise limits across the combined consent;
- a requirement for all feasible and reasonable mitigation on plant and equipment; and
- continuation of attended monitoring and reporting to ensure compliance.

Air Quality

Air quality impacts were a prominent concern in public submissions, particularly in relation to dust emissions and cumulative effects with VPPS. The air quality impact assessment presented as part of the EIS confirmed:

- dust emissions from mining and coal handling are well controlled through existing mitigation, including enclosures, water sprays, and restrictions on haulage;
- predicted particulate matter (PM10 and PM2.5) concentrations are within national standards; and
- cumulative impacts with VPPS are not expected to exceed relevant thresholds.

Should the IPC determine to approve the Project, the Department has recommended:

- consolidated and updated operational air quality limits across the combined consent;
- a requirement for all feasible and reasonable steps to minimise potential air quality impacts; and
- continuation of monitoring and reporting to ensure compliance.

Greenhouse Gas Emissions

Climate change and greenhouse gas emissions were key issues raised in public submissions, with 50% of the objecting submissions received relating to the Project's contribution to climate change and global warming, impacts in the locality through the burning of coal at VPPS and associated impacts to future generations.

A Greenhouse Gas and Energy Assessment was prepared as part of the EIS based on the methodologies and emission factors contained in the *National Greenhouse Accounts Factors 2020* and incorporated the principles of The *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard*. A revised greenhouse gas emission assessment was provided in September 2025.

The Project would generate approximately 13 million tonnes (Mt) of CO_2-equivalent emissions, associated with the additional two years of coal extraction. Most of these emissions (i.e. around 88 %) would be Scope 3 emissions associated with the combustion of coal by end users.

The Project would cease by 31 December 2029, prior to the NSW Government's 2030 and 2035 emissions reduction targets.

The Department requested that the Panel undertake a comprehensive review of the Applicants Greenhouse Gas and Energy Assessment as provided in the EIS and provide advice on the appropriateness of the emission calculations and adequacy of the GHG avoidance, mitigation and minimisation measures.

The Panel confirmed that the assessment was an appropriate basis for predicting GHG emissions for the Project and concluded that the sources and scopes of emissions are generally adequate to capture the material emissions from the Project.

The Panel recommended a condition requiring the preparation and implementation of a Greenhouse Gas Mitigation Plan (GHGMP), which has been adopted should the IPC determine to approve the Project. The plan would be required to identify and implement all feasible and reasonable measures to minimise Scope 1 and 2 emissions from the Project, including:

- adoption of energy-efficient mining equipment and practices;
- investigation of renewable energy procurement where feasible;
- improvements to ventilation and methane management; and
- annual reporting of emissions performance.

The Department invited the Environment Protection Authority (EPA) and DCCEEW Climate & Atmospheric Science (CAS) to also review the EIS assessment and the Panel's advice. The EPA and CAS confirmed that the emission estimates presented were calculated correctly and concluded that the sources and scopes of emissions are generally adequate to capture the material emissions from the Project. The EPA considered and CAS agreed that *the "impact of the Project on the NSW emissions reduction targets would be relatively small if the Project ceases operations in 2029"* (EPA 2025). Overall, the EPA and CAS agreed with the Panel's recommendations for improving GHG estimates and providing details and priorities on mitigation measures as part of a GHGMP.

The additional emissions from the Project (i.e. Scope 1, 2 and 3) would contribute to global climate change. Climate projections for the Central Coast and Hunter regions (including the Project area) indicate rising temperatures and sea level, increased fire risk, and more frequent extreme weather events. Community submissions highlighted concerns about these risks and their social and economic consequence.

Scope 1 and 2 emissions from the Project would contribute to the overall emissions from all NSW sources. The recent Net Zero Commission report into fugitive emissions from coal mines highlighted these challenges and issues.

EPA, as the lead regulatory authority for GHGEs in NSW noted that the GHGEs predicted to be generated by the Project are relatively minor, particularly given the Project's direct linkages to the VPPS and the fact that mining operations would cease in 2029.

Other issues

The Department has assessed the impacts of the Project on other values and issues including water resources, traffic and transport, biodiversity, social and economic, Aboriginal cultural heritage, historic heritage and rehabilitation. Should the IPC determine to approve the Project, the implementation of reasonable and feasible mitigation measures can be applied to manage the residual impacts of the Project via strict conditions of consent.

Evaluation

The Department has carefully considered the likely environmental, social, and economic impacts of the Project in accordance with the requirements of section 4.15 of the EP&A Act.

Overall, the Department's assessment contains an evaluation that demonstrates:

- the Project would secure coal supply to the VPPS until its planned closure in 2029, supporting energy security during the State's transition to renewable energy;
- the Project would consolidate multiple historic approvals into a single, contemporary consent, improving regulatory certainty, transparency, and compliance;
- key environmental impacts—have been considered including subsidence, noise, greenhouse gas, air quality, water quality, biodiversity, and heritage— which could be mitigated with strict conditions of consent;
- community concerns have been considered and incorporated through strengthened performance measures, independent reviews, and transparent monitoring and reporting;
- consideration of NSW Government strategies, including the Strategic Statement on Coal Exploration and Mining (2020), the Central Coast Regional Plan 2036, and State and National climate change policy; and
- the Project would retain approximately 390 direct jobs and a further estimated 1,000 indirect jobs across the region, supporting the Lake Macquarie and Central Coast economies.

The Department has not provided an overall recommendation but rather has undertaken a comprehensive assessment and evaluation of the Project to inform the IPC as the consent authority and assist it in its need to conclude if the Project is in the public interest. Should the IPC determine to approve the Project, the Department has provided recommended conditions.

Contents

1 Introduction

1.1 The Project

1. Delta Power & Energy (Chain Valley) Pty Ltd (the Applicant) propose to consolidate the existing mining operations and development consents of Chain Valley Colliery (CVC) and Mannering Colliery (MC) and to undertake additional secondary coal extraction by two years until 31 December 2029 (the Project).

2. The Project description and mitigation measures provided in Section 3 and Section 6 of the environmental impact statement (EIS) are the subject of this report and would form part of the development consent should the IPC determine to approve the Project.

3. An overview of the Project is provided in **Section 0**.

4. A summary of key milestone dates relevant to the Project since it was initially lodged with the Department is provided in **Appendix A**.

1.2 Site and surrounds

5. The Project area is located approximately 60 kilometres (km) south of Newcastle, on the southern shores of Lake Macquarie within the Lake Macquarie and Central Coast local government areas (LGAs) (see **Figure 1**).

6. The site includes the existing CVC and MC and the associated pit tops and ventilation fans. Both are fully owned and operated by the Applicant.

7. 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).

8. The Applicant operates CVC and MC as an integrated operation with access to the underground mining areas by employees from both pit tops. The operations are comprised of pit top facilities at both CVC and MC, and associated ventilation shaft and fan sites to support underground operations.

9. Coal is transported via an existing overland conveyor from MC to Vales Point Power Station (VPPS). The VPPS and associated ash dam are located to the south of the site.

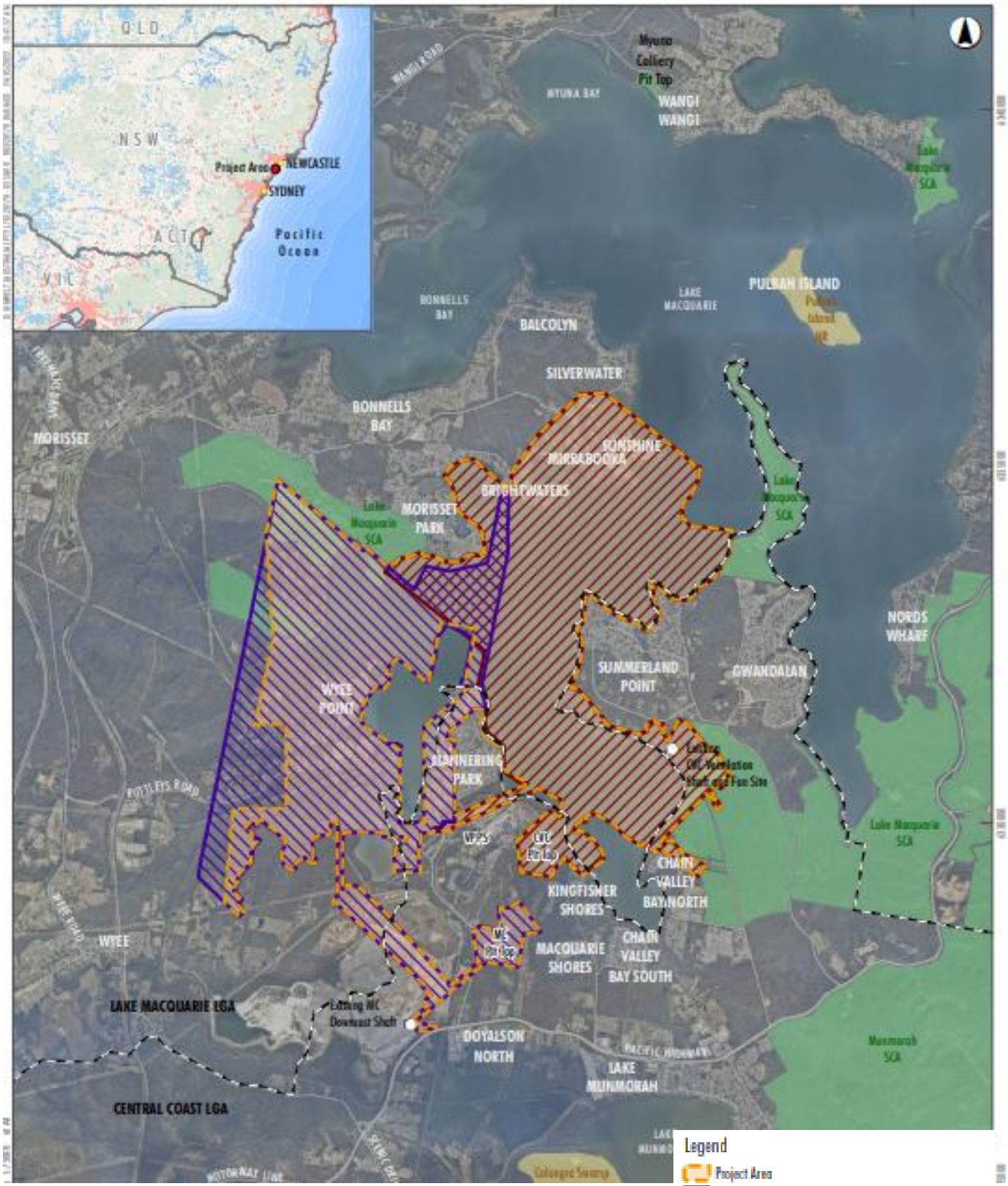

Figure 1 | Local context map
(Source: EIS)

10. The site spans approximately 3,030 hectares (ha) with approved mining operations currently occurring beneath both land areas, Lake Macquarie and parts of the Lake Macquarie State Conservation Area.

11. The Project is limited to 20 metres (m) below ground level (bgl) within the Lake Macquarie State Conservation Area (i.e. no surface disturbance within this area)). In all other areas, the Project extends to the surface. The Applicant has obtained landowner consent from the Minister administering the *National Parks and Wildlife Act 1974* for the Project.

12. Land within the site is predominately privately owned residential land. The closest residential areas to the CVC and MC pit top facilities are Macquarie Shores Home Village and the residential areas of Kingfisher Shores and Chain Valley Bay (see **Figure 1**).

2 Project

2.1 Project overview

13. On 4 November 2022, the Applicant submitted a State significant development (SSD) application and accompanying Environmental Impact Statement (EIS) for the Project under Part 4 of the EP&A Act. The application sought approval for the consolidation of the existing operations at CVC and MC under a single development consent, with changes limited to the following aspects of the currently approved operations

- the extension of mine life for two years (from 2027 to 2029);
- an increase in approved throughput at the MC pit top from 2.1 million tonnes per annum (Mtpa) to 2.8 Mt run-of-mine (ROM) coal (within an overall complex cap of 2.8 Mtpa ROM coal); and
- ability to undertake second workings in parts of the approved MC mining area below Lake Macquarie consistent with existing approved operations under the CVC Consent.

14. The Project seeks to ensure the continuity of coal supply for the VPPS for a further two years (end 2029) to align with what was the planned operational period of the VPPS and reduce reliance on external parties and supply chains. It is noted that the VPPS will now remain open longer, however the Project is still only seeking an additional two years.

15. The Project would continue to allow coal to be brought to the surface at either the CVC or MC pit tops, retain the current approved processing rate at CVC of 1.5 Mtpa and increase the processing rate at MC to 2.8 Mtpa, however applying an overall production cap of 2.8 Mtpa ROM coal for the combined operations. The cap is a reduction from the currently approved throughput under the current consents of 3.2 Mtpa, however the extended mine life would allow an overall increased approved maximum production by up to 5.6 Mt.

16. The additional coal is proposed to be sourced from an extended secondary extraction area in the approved MC mining areas located under Lake Macquarie (**Figure 2**). The Applicant has committed to ensuring the extended extraction area would be managed to ensure compliance with existing subsidence management limits of the existing CVC consent.

17. The Applicant considers that consolidation of the approvals for the Project would reduce administrative and regulatory processes and improve alignment between the operations. Additionally, the review and consolidation of the existing CVC and MC consents would provide a single contemporised approval that clarifies regulatory obligations to the community.

18. Table 1 provides an overview of the existing approved CVC and MC operations and key components of the Project. The Project area, including the proposed extended secondary extraction area at the MC is shown in Figure 2.

Table 1 | Overview of Approved and Proposed Operations

Aspect	CVC Approved Operations	MC Approved Operations	Proposed Project
Project area	Refer to Figure 1.	Refer to Figure 1.	CVC and MC project boundaries consolidated. Refer to Figure 2.
Mine Life	Approved until 31 December 2027.	Approved until 31 December 2027.	Extended by two years to 31 December 2029.
Coal Extraction	Up to 2.1 Mtpa of ROM coal from the Fassifern Seam.	Up to 1.1 Mtpa of ROM coal from the Fassifern and Great Northern Seams.	Up to 2.8 Mtpa from all mining areas.
Surface Handling	Up to 1.5 Mtpa of ROM coal	Up to 2.1 Mtpa of ROM coal	Up to 2.1 Mtpa of ROM coal at MC and up to 1.5 Mtpa at CVC with an upper maximum of 2.8 Mtpa for the complex.
Mining Method	First workings using bord and pillar mining methods. Second workings using continuous miner (bord and pillar and pillar extraction) and mini wall mining methods.	First workings only using bord and pillar mining methods.	First workings only under land areas, foreshore and seagrass beds. Second workings under Lake Macquarie, including extended secondary extraction in MC area (Figure 2).
Coal Processing	Screening and ROM coal crushing, no coal rejects are generated.	Screening and ROM coal crushing, no coal rejects are generated.	No change.

Aspect	CVC Approved Operations	MC Approved Operations	Proposed Project
Subsidence Management Zones	Zone A – maximum of 20 mm vertical subsidence on land areas and within the High-Mark Subsidence Barrier and Seagrass Protection Barrier. Zone B – maximum of 780 mm vertical subsidence under the lake.	Zone A – maximum of 20 mm vertical subsidence.	No change to maximum subsidence limits in Zone A or Zone B areas.
Infrastructure	• Personal-and-material drifts, ROM coal conveyor drift; • 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.	• Coal crushing facility. • 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.	No change other than minor upgrades to water management infrastructure, boreholes within pit top area and use of temporary stockpile areas.

Aspect	CVC Approved Operations	MC Approved Operations	Proposed Project
Product Coal Transport	• Product coal from CVC pit top to VPPS via truck on private roads only (up to 1.5 Mtpa). • Maximum of 660,000 tpa of product coal from CVC pit top on public roads to the Port of Newcastle for export. • Maximum of 180,000 tpa of product coal from CVC Pit Top on public roads to domestic customers (other than VPPS). • 2.1 Mtpa to MC via underground linkage up for subsequent delivery to VPPS.	• Up to 2.1 Mtpa ROM coal via overland conveyor to VPPS.	No change to product coal road (public or private) transport routes or volumes, other than an extension of haulage operations for an additional two years. No change to product coal transport via conveyors (underground or overland), other than an extension of haulage operations for an additional two years.
Mine Access	Via Construction Road off Ruttleys Road.	Directly from Ruttleys Road.	No change.
Hours of Operation	24 hours per day, 7 days per week.	24 hours per day, 7 days per week.	No change.
Workforce	Up to 330 full time employee personnel at CVC and within an overall CVC/MC workforce of approximately 390.		No change.

Aspect	CVC Approved Operations	MC Approved Operations	Proposed Project
Rehabilitation	Surface infrastructure to be decommissioned and the sites rehabilitated following mine closure.		No change.

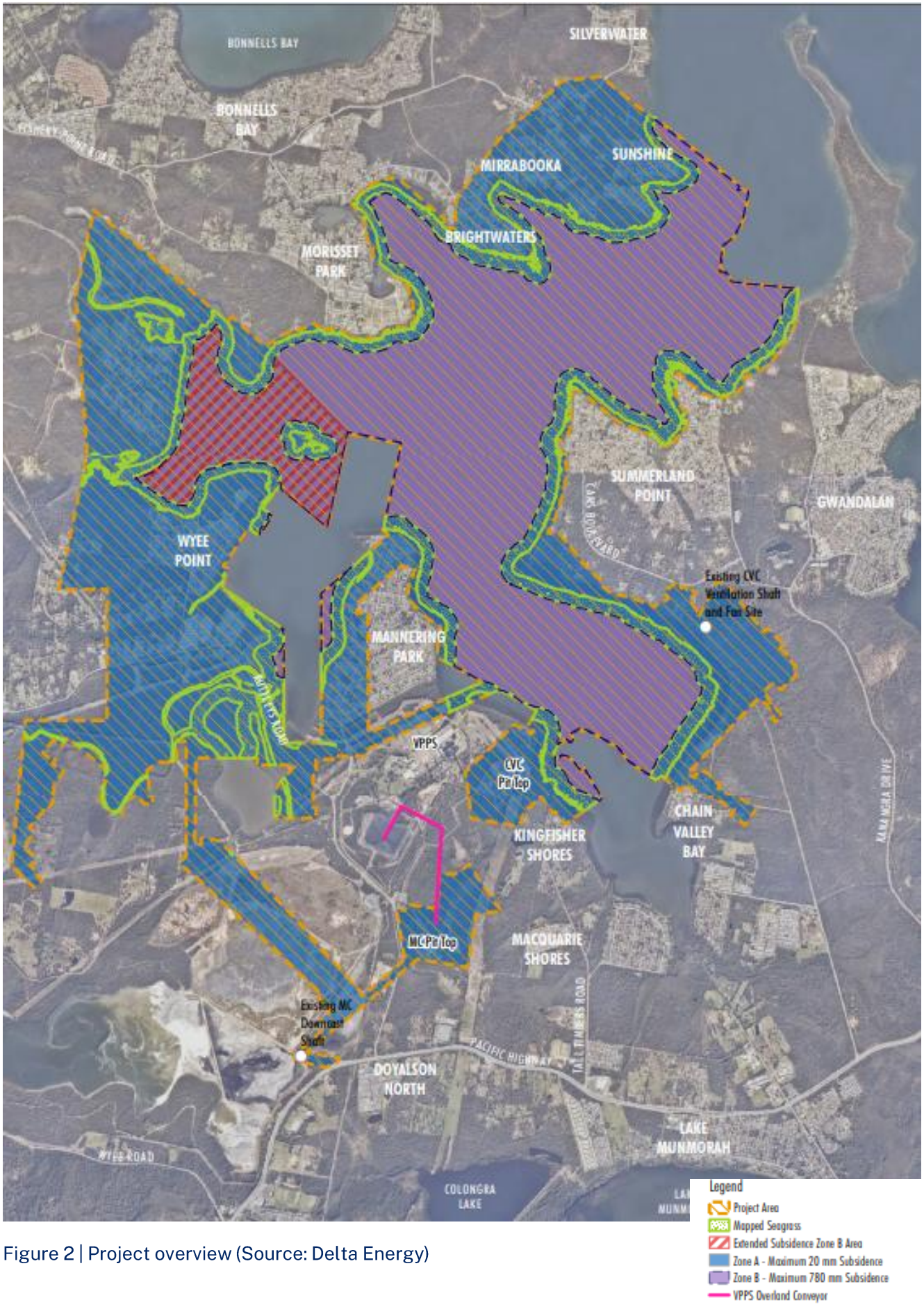

Figure 2 | Project overview (Source: Delta Energy)

3 Strategic context

3.1 Strategic justification

19. Strategically, the Applicant considers the Project to be a logical business decision, which would consolidate the existing company assets in order to provide for a local secure coal supply that aligns with the current operational requirements of the VPPS. The ability to obtain a large percentage of VPPS coal via a local, reliable and cost-effective supply would reduce VPPS's exposure to price fluctuations and supply chain restrictions.

20. This in turn assists VPPS in supplying reliable and cost-effective electricity generation to NSW in the short term. 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 such as additional greenhouse gas emissions (GHGEs) and traffic noise.

21. Current Government strategies, plans and policies are outlined in Table 2 below.

Table 2 | Summary of government strategies, plans and policies

Strategy, plan or policy	Comments
UNFCCC Paris Agreement 2015	The United Nations Framework Convention on Climate Change (UNFCCC) *Paris Agreement* (2015) is a legally binding international treaty on climate change. In June 2022, the Australian Government reaffirmed its commitments under the Paris Agreement to reduce GHGEs by 62-70% from the 2005 level by 2035 and reach a target of net zero emissions by 2050. In the unlikely event that any product coal is exported overseas, the Applicant has committed to limiting any such sales to purchasers bound by legislated commitments reflecting the destination country's commitments under the Paris Agreement. The Department notes that the Project would maintain the existing approved option to allow up to 660,000t of product coal to be exported to overseas markets. This is only likely to occur in the event of an unplanned extended shut-down of the VPPS during the life of the Project. The Department notes coal has not been exported from the site since the Applicant took ownership in 2019.
Australia's Long-Term Emissions Reduction Plan 2022	Australia's *Long-Term Emissions Reduction Plan 2022* (the Emissions Reduction Plan) is a whole-of-economy plan to achieve net zero GHG

Strategy, plan or policy	Comments
	emissions by 2050 (per Australia's commitments under the Paris Agreement), while growing the economy and developing jobs. The Emissions Reduction Plan is underpinned by rigorous Commonwealth emissions monitoring and accountability systems, including the *National Greenhouse and Energy Reporting Scheme* (NGERS) and the associated 'Safeguard Mechanism' established under the Commonwealth *National Greenhouse Gas and Energy Reporting Act 2007* (NGERS Act). As discussed in **Section 6.4.4** of this report, as a participant in the NGERS, the Applicant is required to continue to undertake regular reviews of the technologies being used and abatement measures being implemented at its operations to continue to reduce GHG emissions. This scheme provides an additional strong financial incentive for it to progressively reduce GHGs associated with its operations.
NSW Climate Change (Net Zero Future) Act 2003	The *Climate Change (Net Zero Future) Act 2023* legislates NSW emissions reduction targets, including reductions in GHGEs by at least 50% from the 2005 level by 2030, 70% by 2035 and reaching a target of net zero emissions by 2050. The Net Zero Commission was established under the Climate Change Act to monitor and advise on the state's progress towards these targets. In April 2024, the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) released projections of NSW's progress against the emissions reduction targets. Commentary from the Net Zero Commission in their first Annual Progress Report advised that NSW has made significant progress in reducing emissions since 2005, however an acceleration in effort will be required to keep targets in reach. Recent correspondence (September 2025) from the Net Zero Commission encouraged the Department to consider scope 1 emissions of any proposal compared to NSW legislated targets as well as a number of other recommendations regarding the assessment of proposals which have greenhouse gas emissions. NSW DCCEEW has recently (May 2025) updated its projections out to 2050 of predicted NSW greenhouse gas emissions based on an analysis of existing and proposed developments (including the coal sector) and assumptions about mitigation measures adopted by sectors of the NSW

Strategy, plan or policy	Comments
	economy. The modelling predicts that NSW greenhouse gas emissions are not currently on track to meet targets and are predicted to be reduced by 46% by 2030 – compared to the target of 50% and 62% by 2035 – compared to the target of 70% reduction.
NSW Climate Change Policy 2023 and Climate Change Action Plan 2023-26	In 2023, the EPA released the *NSW Climate Change Policy* and *Climate Change Action Plan 2023-26* which adopts, supports and builds on these climate change objectives and provides a framework to support industry to decarbonise and build greater preparedness and resilience to climate change risks. The key NSW policy and guidance for development applications and existing coal mining operations includes: • *NSW Guide for Large Emitters* – providing clear assessment and mitigation requirements for applicants of proposals with large projected greenhouse gas emissions. A draft version of this guide was published in May 2024, and a final version was published in January 2025. • Climate change mitigation and adaptation plans (CCMAPs): CCMAPs are proposed to be progressively required under existing and new environment protection licenses (EPLs). CCMAPs will require licensees to demonstrate how they can minimise their greenhouse gas emissions and exposure to climate risk. The EPA is currently finalising guidance for the preparation of CCMAPs and have recently exhibited a draft document *Climate Change Mitigation and Adaptation Plans: Proposed Mitigation Requirements, July 2025, Consultation Draft*, along with a *Proposed Greenhouse Gas Mitigation Guide for NSW Coal Mines Consultation Draft, July 2025.*
Strategic Statement on Coal Exploration and Mining in NSW 2020 (NSW Strategic Statement)	The *Strategic Statement on Coal Exploration and Mining in NSW* sets out the State governments' approach to transition to a low carbon future, and how to manage the impact on coal-reliant communities. The Statement identifies that there is a global transition away from fossil fuels to low carbon sources of energy to meet commitments made under the Paris Agreement. While this will ultimately lead to the global phasing out of coal for electricity generation (i.e. thermal coal), the Statement identifies that this is likely to take some decades to complete. Despite this global trend for reduced reliance on fossil fuels, coal mining is expected to continue to have an important role to play in the short to

Strategy, plan or policy	Comments
	medium term, as coal currently remains a critical energy source all over the world. The Department acknowledges that the Statement is currently under review. To support the intentions of the Statement, the former NSW Government identified a proportion of the State's coal regions where mining is not supported and/or is prohibited, and areas considered for proactive release for coal exploration. The Project is not located in any of these prohibited areas, and is located in an area where coal exploration and mining titles already exist. The Department notes that there are commitments by the NSW Government to update the Statement based on contemporary climate change settings, however at the time of this assessment there has been no revisions that can further guide the consent authority.
Central Coast Regional Plan 2036	The *Central Coast Regional Plan 2036* is the NSW Government's strategic long-term plan for guiding land use planning decisions for the Central Coast until 2036. The plan sets four goals for the region, including promoting jobs close to home; protecting the natural environment; providing housing variety. The Applicant considers that the Project is consistent with several of these goals, in that it: • increases job containment in the region by ensuring employment of up to 390 personnel; • secures the productivity and capacity of resource lands through the development of economic coal resources; and • recognises the cultural landscape of the Central Coast and protects and manages environmental values through the range of assessments and management, mitigation and monitoring measures committed to for the Project. Should the IPC determine to approve the Project, the Department has provided a range of strict conditions of consent to ensure the Project is adequately managed and consistent with the regional goals of this plan.
Greater Lake Munmorah Structure Plan: Land Use Strategy: 2021-2041	The *Greater Lake Munmorah Structure Plan* establishes a framework to guide the future growth of the area over a 20-year period, focusing on aspects such as future land uses, transport networks, infrastructure, open space and environmental features. The plan recognises that land

Strategy, plan or policy	Comments
	use recommendations in the study area will need to account for surface development restrictions and extraction potential of historic and future resource development operations in the adjacent resource areas. The Project would be undertaken within existing approved boundaries and would not result in any land use conflicts beyond what is already approved.

4 Statutory context

4.1 Permissibility and assessment pathway

22. Details of the legal pathway under which consent is sought, and the permissibility of the project are provided in Table 3 below.

Table 3 | Permissibility and assessment pathway

Consideration	Description
Assessment pathway	State significant development The Project is for the purpose of (underground) coal mining. Accordingly, the Project is declared to be State Significant development (SSD) under section 4.36 of the EP&A Act, as it meets the criteria specified in section 5(1)(a) of Schedule 1 of the Planning Systems SEPP.
Consent authority	Independent Planning Commission The IPC is the declared consent authority under section 4.5(a) of the EP&A Act and section 2.7(1) of the Planning Systems SEPP. On 16 December 2025, the Minister for Planning and Public Spaces issued terms of reference requesting that the IPC conduct a public hearing on the Project in accordance with Section 2.9(1) (d) of the EP&A Act.
Permissibility	Permissible with consent The Project is located within the Lake Macquarie and Central Coast LGAs. Relevant land zonings under each of the LEPS is shown on Figure 1. Under these LEPs, underground mining is prohibited in some parts of the Project area. However, the permissibility provisions of *State Environmental Planning Policy (Resources and Energy) 2021* (the Resources and Energy SEPP) apply to the Project and override the LEP permissibility provisions to the extent of any inconsistency (section 3.28 of EP&A Act). Clause 7 of the Resources and Energy SEPP permits underground mining to be carried out on any land with consent. Therefore, the Project is permissible with development consent.

4.2 Other approvals and authorisations

23. Under section 4.41 of the EP&A Act, several approvals are integrated in the SSD approval process and consequently are not required to be separately obtained for the project. These include approvals relating to heritage required under *the National Parks and Wildlife Act 1974* and the *Heritage Act 1977.*

24. Under section 4.42 of the EP&A Act, several other approvals (if required) cannot be refused and must be granted in terms substantially consistent with any consent for the project. These include an Environment Protection Licence (EPL) under the *Protection of Environment Operations Act 1997* (POEO Act).

25. The Department has consulted with the relevant government agencies responsible for these other approvals (see **Section 5**) and considered their advice in its assessment of the development (see **Section 6**).

4.2.1 Environment protection licence

26. The Applicant holds an existing EPL for both CVC (EPL 1770) and MC (EPL 191). A licence variation would be required, should development consent be granted for the Project.

4.3 Surrender of development consent

27. Section 4.63 of the EP&A Act provides that if a development consent is surrendered as a condition of a new development consent and the new consent includes continuation of development that was previously authorised, then the consent authority:

- is not required to re-assess the likely impact of the continued development to the extent that it could have been carried out but for the surrender of the consent;
- is not required to re-determine whether to authorise that continued development under the new development consent (or the manner in which it is to be carried out); and
- may modify the manner in which that continued development is to be carried out for the purpose of the consolidation of the development consents applying to the land concerned.

28. Should the IPC determine to approve the project, the Applicant would surrender the existing development consents for CVC (SSD-5465 (as modified) and MC (MP 06_0311 (as modified) and operations at the site would be regulated under a single contemporary development consent.

29. The consent authority is not required to re-assess the impacts of the ongoing activities of an approved project; therefore, some existing elements of the approved project have not been re-assessed, including existing site infrastructure such as access roads, processing and stockpile areas and water management features.

30. The Department's assessment has, however, considered worst-case impact scenarios to ensure the full range of impacts are considered, including the cumulative impacts of the ongoing operations of the approved Project. For example, noise, greenhouse gas and air quality impacts were assessed based on the maximum production rate.

4.4 Planning Secretary's environmental assessment requirements

31. The Department's review determined that the EIS addresses each matter set out in the Planning Secretary's environmental assessment requirements (SEARs) issued on 8 March 2022 and is sufficient to enable an adequate consideration and assessment of the Project for determination purposes.

4.5 Mandatory matters for consideration

4.5.1 Matters of consideration required by the EP&A Act

32. Section 4.15 of the EP&A Act sets out matters to be considered by a consent authority when determining a development application. The Department's consideration of these matters is shown in Table 4 below.

Table 4 | Matters for consideration

Matter for consideration	Department's assessment
Environmental planning instruments, proposed instruments, development control plans & planning agreements	Appendix C & Appendix D
EP&A Regulation	Appendix C
Likely impacts	Section 6 – Assessment
Suitability of the site	Section 1 - Project background, Section 3 - Strategic Context and Section 6 – Assessment

Matter for consideration	Department's assessment
Public submissions	Section 5 - Engagement & Section 6 - Assessment
Public interest	Section 5 - Engagement, Section 6 - Assessment & Section 7 – Evaluation

4.5.2 Objects of the EP&A Act

33. In determining the application, the consent authority should consider whether the Project is consistent with the relevant objects of the EP&A Act (section 1.3) including the principles of ecologically sustainable development. The Department has provided a consideration of those factors to assist the IPC in determining whether to approve the Project or not in its role as the consent authority (see Appendix C).

4.5.3 Biodiversity development assessment report

34. Section 7.9(2) of the *Biodiversity Conservation Act 2016* (BC Act) requires all SSD applications to be accompanied by a Biodiversity Development Assessment Report (BDAR) unless the Planning Agency Head and the Environment Agency Head determine that the project is not likely to have any significant impact on biodiversity values (as identified in the BC Act and in the *Biodiversity Conservation Regulation 2017*).

35. A BDAR waiver request was submitted to the Department on 6 June 2025. The Environment Agency Head and the Director Energy and Resource Assessments as delegate of the Planning Secretary, determined that the development is not likely to have any significant impact on biodiversity values. A BDAR waiver was granted on 2 July 2025.

5 Engagement

5.1 Preparation of SEARs

36. During the preparation of the Planning Secretary's environmental assessment requirements, the Department consulted with relevant state government agencies and local council(s).

5.2 Exhibition of the EIS

5.2.1 Public exhibition of the EIS

37. After accepting the development application and EIS, the Department:

- publicly exhibited the project from 18 November 2022 until 16 December 2022 (29 days) on the NSW Planning website;
- advertised the exhibition in the Newcastle Herald on 18 November 2022; and
- notified and invited comment from relevant government agencies, Central Coast Council and Lake Macquarie City Council (Council).

38. In undertaking these activities, the Department considers that its notification processes met the requirements of the EP&A Act and *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), and that related public participation statutory processes have been satisfied.

5.2.2 Summary of advice received from government agencies

39. The Department received advice from 11 government agencies and one council (Lake Macquarie City Council) on the EIS.

40. Council and several State government agencies raised issues or expressed concerns over specific aspects of the Project and/or provided recommendations relating to their administrative and regulatory responsibilities (Appendix B).

41. Table 5 below provides an overview of the key comments made by public authorities. Further consideration of agency advice is provided in Section 6.

Table 5 | Summary of agency advice

Agency	Advice summary
Environment Protection Authority	• Raised concerns on the proposed operational noise limits, specifically in relation to consideration of sleep disturbance criteria; residence categorisation; long-term noise goals and justification for morning shoulder period noise limits. • In its final advice, the EPA provided recommended conditions of consent related to noise limits. • The Department forwarded the GHGEA, the Panel's advice and additional GHG information provided by the Applicant to the EPA and DCCEEW Climate & Atmospheric Science (CAS) for comment. • The EPA and CAS confirmed that the emission estimates presented in the EIS GHGEA were calculated correctly and concluded that the sources and scopes of emissions are generally adequate to capture the material emissions from the Project. • The EPA and CAS considered that *the impact of the Project on the NSW emissions reduction targets would be relatively small if the Project ceases operations in 2029* (EPA 2025). Overall, the EPA and CAS agreed with the Panel's recommendations for improving GHG estimates and providing details and priorities on mitigation measures as part of a GHGMP.
Department of Climate Change, Energy, the Environment and Water	• Recommended assigning all the rights of Water Access Licence (WAL) 40461 to WAL 41508 so that there is one WAL that covers the entire Project • Noted that a Controlled Activity Approval would be required if disturbance to 'waterfront land' occurs (not proposed). • In its final advice, noted no further comments.
Department of Primary Industries - Fisheries	• Requested 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.

Agency	Advice summary
Heritage NSW (as delegate of the Heritage Council of NSW)	• Advised the EIS did not consider the Lake Macquarie Resting Place (Aboriginal Place) • Noted that advice from the relevant local council should be sought in relation to two local heritage items within the Project area. • Supported the recommendations of the EIS.
Department of Regional NSW Mining, Exploration and Geoscience	• Recommended the consideration of any potential resource sterilisation should any future biodiversity offset areas be required.

42. The following agencies raised no concerns or provided no comment:

- Department of Primary Industries – Agriculture;
- Department of Biodiversity and Conservation;
- Subsidence Advisory NSW;
- Heritage NSW (as delegate under *National Parks and Wildlife Act 1974*);
- Transport for NSW; and
- Department of Regional NSW – Resources Regulator.

5.2.3 Summary of council submissions

43. Lake Macquarie City Council made the following comments on the Project:

- noted the benefits and efficiencies arising from the consolidation of two mining operations into a single consent;
- noted Council supports the Project;
- noted that potential impacts of the Project have been appropriately addressed;
- noted the positive economic benefits of the Project;
- recommended conditions of consent in relation to best practice air quality management are adopted;
- noted that the outcomes of the biodiversity assessment are supported;
- noted Council accepts the findings of the Aboriginal heritage and European heritage assessment reports and no further assessment is required; and

- recommended conditions of consent capture the consolidated management and mitigation measures for the Project.

44. A link to the submission and advice provided by Council is provided in **Appendix B.**

45. The Department has considered Council's advice in **Section 6** and in the development of conditions of consent (see **Appendix D**).

46. Central Coast Council did not provide any comments on the Project.

5.2.4 Summary of public submissions

47. The Department received 180 submissions[1] during the public exhibition period of the EIS (seven submissions from special interest groups and 173 submissions from individuals). There were 133 submissions objecting to the Project; 45 submissions supported the Project and two provided comment. Further detail is provided in **Table 6** below and a link to all submissions in full is provided in **Appendix B.**

Table 6 | Submissions on the EIS

Submitter	Number of submissions	Position
Nearby (< 5 km)	22	Object
	2	Support
	0	Comment
Local and sub-regional (5–100 km)	59	Object
	42	Support
	2	Comment
Broader community (> 100 km)	52	Object
	1	Support
	0	Comment
TOTAL	180	

[1] Each petition or submission that contains the same or substantially the same text is counted as one submission in accordance with section 2.7(6) of the Planning System SEPP.

48. Economic, environmental, and social impacts of the Project were the most frequently raised category of issues in the 133 objecting submissions received (see **Figure** 3).

49. The frequency with which issues were raised in objecting community and special interest group submissions is depicted in **Figure** 4.

50. The dominant issue raised in submissions were concerns about air quality impacts and associated human health impacts, cumulative air quality impacts with VPPS and emissions from coal transport. Closely following these were concerns about climate change impacts and the additional greenhouse gas emissions from the Project, in addition to impacts to Australia's climate change commitments. Impacts to water resources predominately focussed on impacts of the Project on Lake Macquarie.

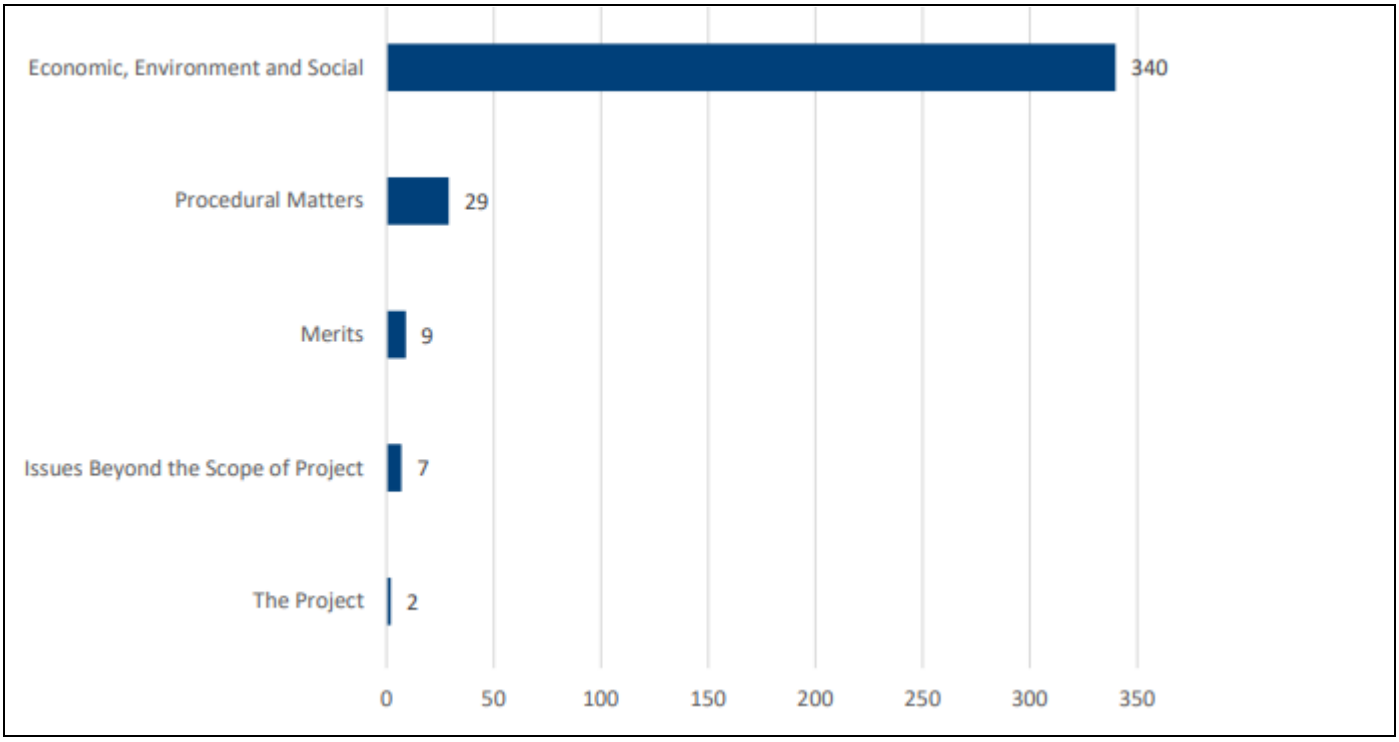

Figure 3 Broad categorisation of objecting submissions

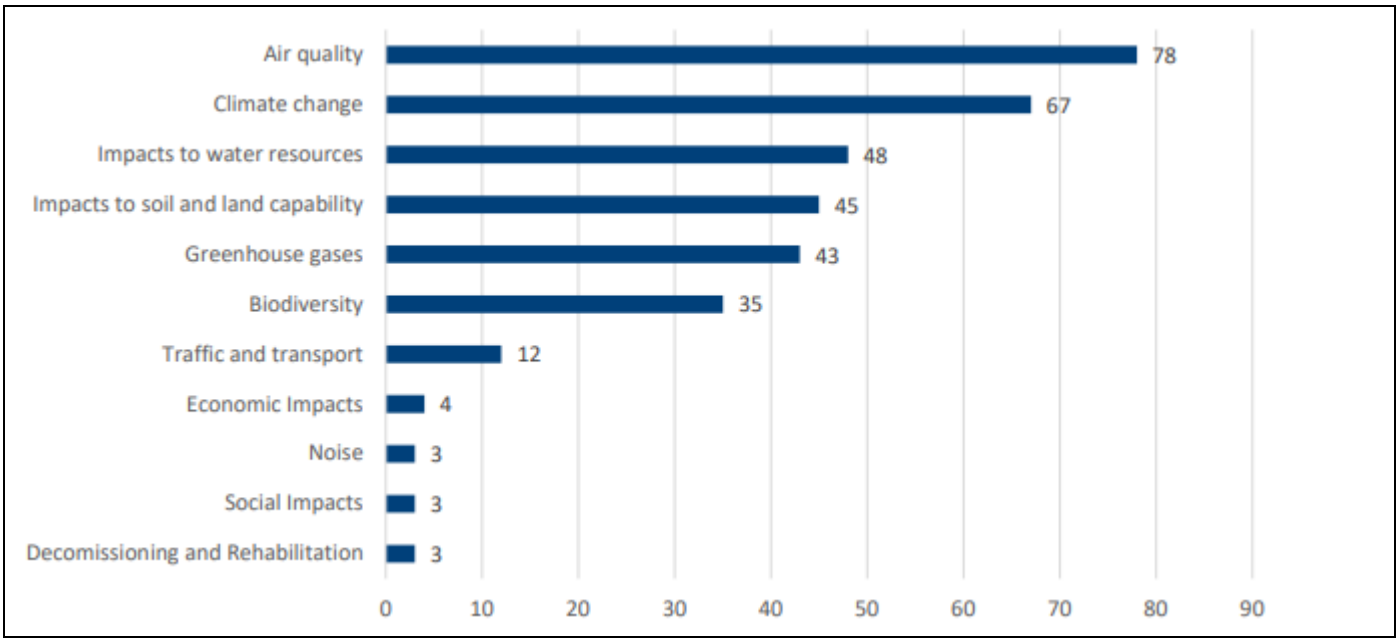

Figure 4 Breakdown of themes within objecting submissions

51. The key issues raised in community and special interest group submissions have been given detailed consideration in the assessment of the Project's impacts, as set out in **Section 6**.

5.3 Response to submissions

52. On 22 December 2022, the Department requested that the Applicant prepare a Submissions Report that responded to the issues raised in agency advice and public submissions received during exhibition of the Project.

53. On 27 March 2023, the Applicant lodged its Submissions Report (see **Appendix B**), which was published on the Department's website.

54. The Submissions Report provided consideration of issues raised in submissions and agency advice. In response to comments from the EPA, the Submissions Report provided further information in relation to the noise assessment to clarify the assessment undertaken and to assist the EPA in recommending conditions related to the management of noise impacts.

55. Additional advice on the Submissions Report was sought from key agencies and provided to the Applicant in conjunction with several requests for additional information by the Department. Responses to these requests have been carefully considered in the Department's assessment and evaluation of the Project. Where necessary, they have also been provided to relevant agencies for comment. Copies of the Department's information requests, and the Applicant's responses have also been published on the NSW planning portal.

6 Assessment

56. The Department considers that the key issues for the Project relate to subsidence from the small area of additional mining proposed, consolidation and contemporising of noise and air quality impacts and criteria between the two collieries and greenhouse gas emissions.

57. The Department's assessment and evaluation of these matters is provided in Sections 6.1, 6.2, 6.3, and 6.4 below. A summary of the Department's consideration of other issues is provided in Section 6.5.

6.1 Subsidence

6.1.1 Introduction

58. Subsidence and subsidence-related issues were raised in approximately 35% of objecting submissions. Numerous submissions considered that the discussion in the EIS of the potential impacts of subsidence was inadequate and that subsidence associated with the Project may exceed predictions. Submissions also raised concerns about subsidence from mining under Lake Macquarie and surrounding foreshores causing impacts to the natural environment (water and biodiversity) as well as damage to houses, utilities and infrastructure.

59. The EIS did not include a subsidence assessment or modelling to predict subsidence levels or impacts associated with the Project. Rather, the EIS provided commitments that mining methods would be designed to ensure that subsidence associated with the proposed first and secondary extraction would comply with the existing approved subsidence limits and performance measures specified in the existing consents. The Applicant proposed that more detailed predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed second workings in Zone B would be undertaken as part of a post approval Extraction Plan process.

60. The Department considered that more detailed subsidence information and predictions was required at the assessment stage of the Project to demonstrate that the relevant subsidence limits and performance measures can be achieved. The Applicant subsequently submitted a Subsidence Assessment (SA) prepared by Umwelt and supported by a Geotechnical Assessment (GA) prepared by Brynes Geotechnical (Brynes), which examined historical mining and local geology to determine specific mine design requirements for both panel width and pillar size to ensure the integrity of conglomerate inter-burden and prevent floor failure (see Appendix B).

61. The SA also included a specific assessment to estimate subsidence effects of a bord and pillar (herringbone) layout option for the first workings in Zone A and double-sided lifting option for second workings in Zone B.

62. Given the complexity of the geological setting in which mining is proposed and the history of subsidence in the Lake Macquarie region, the Department considers subsidence to be a key issue that requires careful consideration. Consequently, the Department requested that the Independent Expert Advisory Panel for Mining (the Panel) undertake a comprehensive review of the SA and advise on the adequacy of the subsidence predictions and suitability of the mitigation, management and protection measures proposed. During its review, the Panel requested a significant amount of additional subsidence-related information and clarification from the Applicant and held numerous meetings with the company and their consultants. The Panel submitted its advice to the Department in December 2024, with subsequent advice responding to additional information provided in March 2025 (**Appendix B**).

63. The Panel confirmed that the conceptual mine layouts proposed by the Applicant provide an adequate basis for the purpose of assessing the merits of the Project and recommended a range of approval conditions for further defining local geology, setting of performance criteria, monitoring and staging of Extraction Plans.

64. On this basis, the Department considers that there is adequate information to assess the potential subsidence effects, subsidence impacts and environmental consequences of the Project. Detailed consideration of the Panel's recommended subsidence-related approval conditions is provided below.

6.1.2 Existing Underground Mining Environment

65. The Project area is located within the Newcastle Coalfields, within which the main historically targeted coal bearing sequences include the Wallarah Seam, Great Northern Seam and Fassifern Seam. Underground mining in the CVC and MC project areas commenced in the 1960s and has involved mining in all three seams. The Applicant is now seeking approval to extend the area of secondary extraction in the Fassifern Seam, which is the deepest coal seam under Lake Macquarie with a depth of cover within the Project area ranging from approximately 150 m to 230 m.

66. The geology of the region is complex, comprising variable sequences of interbedded claystones, siltstones, fine to very coarse-grained sandstones and conglomerates. The overburden is dominated by conglomerate formations, which are low permeability sandstone stratum of variable thickness across the Project area. Layers of consolidated ash or claystones comprise the roof and floor strata over extensive areas of the coal seams, including the Fassifern Seam, as well as being present as thin bands within the seams.

67. Historical mine workings, the presence of an overburden of variable thickness of conglomerate strata and the generally weak and soft claystones in the region make mine-design challenging. The conglomerate strata can result in high pillar loading situations but also in loading conditions that change in response to variability in conglomerate thickness and the lateral extent of mining. The stability of the pillar support system can be compromised by instability of the low strength claystone pillar foundations (roof and/or floor).

68. This diverse geological environment is understood to be the cause of numerous historical subsidence events in the Newcastle coalfield in the 1980s, whereby subsidence well exceeded the predictions made at the time. These events resulted in significant research into regional geological properties and the development of appropriate mine design methodologies for these circumstances. This research has been drawn upon by the Applicant and its consultants as part of the SA, as well as by Panel members who have provided advice on the Project.

6.1.3 Subsidence Criteria and Performance Measures

69. The key approved approach[2] in place to manage subsidence associated with existing coal extraction operations at the MC and CVC involves limiting vertical subsidence in defined subsidence management zones, referred to as Subsidence Management Zone A and Zone B.

70. Subsidence Management Zone A is the most sensitive zone and is designed to manage impacts to natural and built features on land, lake foreshore areas and seagrass beds by limiting vertical subsidence in this zone to a maximum of 20 mm. The 20 mm limit is designed to ensure that only long-term stable first working mining methods, which would avoid or limit subsidence impacts, are permitted in these sensitive areas. As shown in Figure 2, this zone includes the existing Seagrass Protection Barriers (SPBs) and all areas between a High-Water Mark Subsidence Barrier (HWMSB) and the development consent boundaries. The SPBs include areas at a 26.5° angle of draw from underground second workings to the mapped seagrass on the lakebed.

71. Subsidence Management Zone B represents the primary area where coal extraction occurs and is entirely located under Lake Macquarie (Figure 2). Subsidence impacts within this zone are limited to a maximum of 780 mm, which is consistent with the maximum predicted impacts for historical secondary extraction at the CVC and is considered an acceptable level

[2] Refer to the CVC SSD 5465 consent, including definitions for Zones A and B; conditions 1, 2, 4 and 9 of Schedule 4; and Appendix 3

of subsidence to avoid significant environmental consequences of mining, including potential wave erosion and shoreline impacts and adverse impacts to the lakebed marine environment.

72. The Applicant proposes that the workings under the consolidated Project would maintain these subsidence management zones, barriers and limits, including for the proposed extension of the Zone B area into an additional area north of Wyee Point which is currently approved for first workings only under the MC consent. The existing and proposed subsidence management zone areas, barriers and limits are illustrated on **Figure 2**.

73. The existing CVC consent also defines several subsidence impact performance measures for natural and built features. These include 'negligible environmental consequences' for seagrass beds and 'serviceable and repairable' for all built features. The Applicant proposes to continue to undertake mining operations associated with the Project to comply with these performance measures.

6.1.4 Subsidence Predictions and Impacts

74. The key change associated with the Project which has the potential to result in additional subsidence impacts involves an extension of the Zone B secondary extraction area below Lake Macquarie into parts of the approved MC Zone A mining area (**Figure 2**). As discussed above, the Department required the Applicant to prepare a SA to describe conceptual mine planning and subsidence predictions for mining in this area, as well as ongoing mining in the Project boundary, to demonstrate that any impacts associated with the mining activities would comply with the subsidence criteria and performance measures of the existing CVC and MC consents.

Zone A

75. The GA included a conceptual mine layout for Zone A which involved a proposed first workings bord and pillar extraction in a herringbone configuration. The assessment included analysis of historical subsidence data over herringbone pillar panels in the Fassifern Seam from previous areas elsewhere in the collieries. This analysis concluded that the maximum vertical subsidence was approximately 15 mm, which is below the 20 mm subsidence limit for Zone A areas and therefore considered acceptable.

76. Based on this analysis, Umwelt concluded that as only negligible levels of subsidence (i.e. <20mm) are predicted, ongoing mining in Zone A areas would result in no adverse impacts to surface infrastructure, buildings or changes in elevation of foreshore areas. Umwelt noted that current and historical mining in Zone A areas at CVC and MC have not resulted in any surface impacts.

77. The Panel indicated that it was not necessarily concerned about whether the proposed first workings layout would be compliant with the 20 mm subsidence limit, but rather "*with the extreme difficulty in differentiating between natural variations in surface ground movement (due to factors such as clay swelling, shrinkage, weathering etc) and mining-induced movements at such low levels*". The Panel suggested that an alternative, risk-based measure of conformance with consent conditions that was based on consequence rather than an arbitrary prescribed upper limit of subsidence effect, was more appropriate and consistent with contemporary approaches to managing mining-induced impacts and their associated consequences.

78. In-line with the Panel's advice, should the IPC determine to approve the Project, the Department has drafted conditions replacing the current 20mm subsidence limit for Zone A workings with a negligible impact set of mining consequence criterion for all relevant parameters (including the built infrastructure). This would achieve the same objectives as those intended to be achieved by the now legacy issue of specifying an extremely low level of permissible subsidence, which has become an impractical and unmanageable control in practice.

79. The GA and additional data provided to the Panel during the assessment process provided pillar stability calculations for the proposed herringbone panel layout. The Panel indicated its satisfaction with the approximations and overall methodology adopted to design the herringbone pillars. However, the Panel raised concern regarding the presence of potentially weak/soft claystone strata in both the immediate floor and roof adjacent to the coal seam. The Panel noted that the strata horizons have the potential to contribute to different forms of underlying (and overlying) foundation failure when the pillars are more highly loaded. The Panel understood that the Applicant had taken account of these issues in relation to the presence of claystone in the floor. However, the question of claystone in the roof was considered a matter that requires further localised mine plan design variations on a panel-by-panel basis, depending on the local roof geology. To address these risks, the Panel recommended conditions requiring regular monitoring and annual reporting of all first workings, including of localised roof and floor strata conditions in each panel to identify any need to modify mine design and limit pillar loading and foundation failure.

80. The Applicant noted that monitoring of first workings is currently undertaken where mining is beneath terrestrial settings, and that it currently continues for a period of 5 years post-mining. The Applicant agreed to undertake the Panel's recommended additional monitoring and reporting of all first workings as adaptive measures to inform mine design and avoid pillar instability issues. As discussed below and should the IPC determine to approve the Project,

the Department has drafted a conditions that this be undertaken as part of a standalone Subsidence Monitoring Plan (SMP) for first workings.

81. The Panel also recommended that further design criteria should be specified for first workings, including that these workings should be designed to:

> *"a be long-term stable, and to*
>
> *b. exhibit no ongoing time-dependent deformation either within the coal pillars themselves, or the immediately surrounding roof or floor strata".*

82. Should the Project be approved, the Applicant agreed with the inclusion of the above design criteria in the consolidated consent. The requirement to ensure first working are long-term stable is already a condition of consent that should be retained and agrees that criteria intended to achieve no ongoing time-dependent deformation of coal pillars themselves or the immediately surrounding roof or floor strata is warranted for Zone A areas.

83. The proposed herringbone first workings mine layout is unlikely to result in greater than negligible levels of subsidence or any adverse surface impact. Should the IPC determine to approve the Project, implementation of a comprehensive regular monitoring, reporting and auditing regime would allow for adaptive mine design aimed at avoiding any pillar instability issues.

Zone B

84. The GA includes a pillar extraction layout proposed to be adopted in Zone B, which is based on the double-sided lifting on the retreat option currently used at CVC for the Mannering North area. The layout involves extraction panels of 103 m wide, separated by a 50 m wide inter-panel barrier of solid coal and first workings development pillars. The mine design is primarily based on a reliance on the bridging effect of the massive overlying conglomerate strata present in the overburden above the Fassifern Seam. Brynes predicted that this proposed panel layout (both extraction widths and barrier pillar widths) would result in a maximum subsidence of 475 mm, which is below the 780 mm subsidence limit for Zone B areas and therefore considered acceptable.

85. The GA included a sensitivity analysis of the mine design based on different thicknesses (between 20-40 m) and strength/stiffness (12-108 MPa) of the overlying conglomerate unit. The mine design utilised average strength of 65 MPa and conglomerate thickness of 30 m, which was considered by Brynes to be conservative given thicknesses are reported to be approximately 40 m. The analysis showed that with a conglomerate thickness of as low as 20 m and strength of 40 MPa for a 100 m span, vertical subsidence is predicted to remain below the 780 mm limit (i.e. at 700 mm).

86. The Panel noted the high degree of reliance that the mine design places on conglomerate strata in the overburden restricting subsidence over pillar extraction workings in Zone B to achieve compliance with the subsidence limit. The Panel indicated that a core issue is "*that the data base of conglomerate properties is both quite limited and extremely variable in respect of stratum thickness and strength*". Although the Panel acknowledged that sensitivity analysis can compensate to a considerable degree for this situation, to reduce risks and increase confidence in mine design input data, the Panel recommended that "*local conglomerate and claystone properties and thicknesses to be investigated for each set of extraction panels prior to finalising extraction and barrier width parameters".*

87. In response, the Applicant conducted a review of nearby borehole log data (10 boreholes in an 8 km^2 area) and completed thickness contouring of the overlying conglomerate unit which confirmed that the proposed secondary extraction panels were in areas with a conglomerate thickness of greater than 30 m. On this basis, the Applicant concluded that the thickness value utilised in the conceptual mine design and subsidence predictions was conservative.

88. To further define site specific geological properties and improve the accuracy of geotechnical subsidence predictions prior to finalising mine designs, the Applicant committed to obtaining representative conglomerate strength test data of spanning units should the Project be approved.

89. There are challenges faced in sourcing additional site-specific data to inform mine design for subsidence control. Nevertheless, additional borehole analysis has confirmed that the conglomerate thickness value applied to conceptual designs is most likely to be conservative and therefore appropriate, and that the Applicant's commitment to conduct additional investigations would improve the accuracy of geotechnical subsidence predictions prior to finalising mine designs. Should the IPC determine to approve the Project, this would be completed as part of the Extraction Plan process.

90. At the request of the Panel, the Applicant also provided reports which reviewed and compared previous miniwall layouts and secondary extraction subsidence prediction data against actual performance from mining in the Fassifern Seam. The reports highlighted the risks of excessive subsidence behaviour associated with extraction of third panels within mine-out areas and led the Panel to recommend that "*the overall number of panels in any location be limited to no more than two, without the inclusion of a more substantial barrier separating adjacent mining regions*". The Applicant agreed that this requirement can be met during the mine design development process as part of the Extraction Plan. Should the IPC determine to approve the Project, mining in Zone B areas must be designed accordingly.

91. Umwelt indicated that the higher levels of subsidence associated with secondary extraction in Zone B would result in an increase in the depth of the lakebed which has potential to cause the following impacts:

- impact benthic communities in these areas through increased pressure and reduced light penetration;
- alter wave formation/movement; and/or
- increase depth of water, possibly impacting built features such as mooring/navigation buoys, jetties and cable infrastructure located on the lakebed.

92. The assessment of these potential impacts is well understood and has previously been undertaken for Extraction Plans prepared for CVC second workings in the existing Zone B area. Based on historical data, Umwelt has confirmed that there have been no statistically significant changes to benthic communities or impacts on wave formation or transmission. There are no known jetties or cable infrastructure in the extended extraction area and minor works to avoid adverse impacts to the operation of buoys and navigation markers are readily undertaken. Umwelt concluded that no additional impacts to seagrass beds, foreshore areas (including cliffs or rock shelves), on-shore or near-shore built features or public safety are therefore anticipated from secondary extraction within the extended Zone B area.

93. Secondary extraction has been utilised in the Zone B area by CVC in the Fassifern seam since 2008 and that no impacts requiring rehabilitation works have been recorded. Should the Project be approved, the Applicant would be required to provide further detailed consideration of potential impacts and appropriate remedial measures (in consultation with infrastructure owners) as part of the Extraction Plan for the extended second workings.

94. Overall, should the IPC determine to approve the Project, the proposed double-sided second workings mine layout can be designed to ensure the 780 mm subsidence limit is not exceeded and impacts to the natural environment and built features are acceptable.

6.1.5 Subsidence Management and Monitoring

95. A description of the existing and recommended approval requirements for subsidence monitoring and management for first working Zone A and secondary working Zone B areas is provided below.

Zone A

96. The existing CVC or MC consents do not expressly require the Applicant to provide details of monitoring or reporting of first works in Zone A areas. As noted above, given the local geological properties and potential pillar stability risks associated with the presence of potentially weak claystone strata, the Panel recommended that the consolidated Project

consent require regular monitoring and reporting to inform localised first-workings mine plan design variations on a panel-by-panel basis, depending on the local roof geology. Specifically, the Panel recommended conditions requiring:

"a. regular monitoring and annual reporting of the response of all first workings over time.

b. the proposed herringbone pillar layout for the first workings in Zone A being subject to ongoing monitoring and annual reporting of localised roof and floor strata conditions in each panel, especially with respect to the nature and extent of claystone stratum, with a view to identifying any need to modify the mine design accordingly to limit pillar loading so as to avoid excessive stress levels that could lead to foundation failure of the coal pillar system.

c. auditing of annual reports by an independent third party endorsed by the Secretary".

97. Should the IPC determine to approve the Project, a condition requiring the above be undertaken as part of a standalone SMP for first workings should be included. It is noted that the monitoring regime would be required to demonstrate compliance with the recommended subsidence impact performance measures requiring *negligible environmental impacts*, and first workings design criteria requiring the first workings to be *"long-term stable, and to exhibit no ongoing time-dependent deformation either within the coal pillars themselves, or the immediately surrounding roof or floor strata".*

Zone B

98. The existing CVC consent requires the Applicant to prepare an Extraction Plan prior to commencing any secondary extraction, which is required to provide detailed mine design plans, and measures to control subsidence and to manage related impacts in Zone B areas. This requirement would continue to apply to the consolidated Project, including for the proposed extension of the Zone B area.

99. The Panel recommended "*staged approval of Extraction Plans for second workings, premised on predicted versus measured performance".* Given the diverse local geological environment, a staged approval approach for Extraction Plans is appropriate to reduce instability risks and allow for adaptive mine planning and to provide contingencies should any unpredicted level of subsidence occur. Should the IPC determine to approve the Project, a staged Extraction Plans would be prepared which includes revised predictions of potential subsidence effects, impacts and environmental consequences.

100. As discussed above, the Extraction Plans would also be required to incorporate relevant information obtained since the consent or the previous approved Extraction Plan, including the outcome of investigations in relation to site specific geological properties.

101. In line with the existing CVC consent, the Extraction Plan should continue to require the preparation of a range of sub-plans including a Built Features Management Plan, Benthic Communities Management Plan, Seagrass Management Plan, Public Safety Management Plan and Subsidence Monitoring Program.

102. Should the IPC determine to approve the Project, secondary extraction in Zone B areas should be designed to:

- ensure no more than 780 mm of surface subsidence;
- limit the overall number of panels in any location to no more than two, without the inclusion of a more substantial barrier separating adjacent mining regions; and
- comply with subsidence impact performance measures for the natural environment and built features.

6.1.6 Evaluation

103. Should the IPC determine to approve the Project, the application of subsidence control zones and the recommended conditions of consent would avoid any subsidence impacts on the lake foreshore or seagrass beds and provide an adequate and appropriate level of protection for other natural features and the built environment.

6.2 Noise

6.2.1 Introduction

104. Noise was not raised as a key issue in public submissions, with only three objecting submitters expressing concerns about ongoing noise from existing mining activities and the operation of the VPPS.

105. The Department notes that noise impacts from operations at the VPPS, MC and CVC have historically been key issues for surrounding sensitive residential receivers. While the VPPS has been the dominant noise source in the area, activities at the CVC and MC have also resulted in noise impacts, particularity for the residents in the areas of Kingfisher Shores and the Macquarie Shores Home Village (MSHV). These residential areas were established well after the approval, construction and operation of the VPPS, MC and CVC.

106. It is important to note that over the last decade the owners and operators of the MC and CVC have implemented numerous noise mitigation campaigns which have reduced noise impacts at surrounding residences. The most recent of these was completed in December 2021 as part of a significant noise reduction program required by the Department at the MC pit top,

which involved decommissioning noisy plant (e.g. rotary breaker); enclosure of coal handling and processing infrastructure; and implementation of other noise attenuation measures on surface equipment.

107. The Applicant has confirmed that these measures have resulted in noise reductions for surrounding sensitive residential receivers, and that the number of noise complaints from surrounding residences in relation to the MC pit top have subsequently reduced significantly (i.e. from an average of 41 complaints per annum between 2019-2021 to 1 complaint in 2022). Recent attended noise monitoring at surrounding residential receivers indicates that the relevant noise criteria under the existing MC and CVC consents are also being achieved.

108. The Project involves minimal changes to approved surface operations and is unlikely to result in a significant change in noise levels compared to those currently approved at residences surrounding the operations. The key proposed change which may influence the existing approved noise emissions includes extension of the life of the existing operations by two years.

109. The Project provides a further opportunity to ensure all reasonable and feasible noise mitigation measures are implemented and that contemporary and consistent noise limits and regulations are conditioned for the combined operations.

110. The EIS included a Noise Impact Assessment (NIA) prepared by EMM which assessed the construction and operational noise impacts associated with the Project, with reference to the *Interim Construction Noise Guideline* (ICNG) (DECC, 2009), *Noise Policy for Industry* (NPfI) (EPA, 2017) and *Voluntary Land Acquisition and Mitigation Policy* (VLAMP) (NSW Government, 2018). Given the Project would not change the existing approved road traffic volumes or routes, the NIA did not include a traffic noise assessment.

111. In its submission on the EIS, the EPA requested additional information on the proposed operational noise limits, including justification for excluding night $LA_{1,1\ min}$ dB limits and a receiver category for 'all other privately-owned residences'; the proposed noise limits for R13; and the inclusion of the morning shoulder period.

112. The EPA subsequently met with the Applicant to discuss these issues. Further justification of the issues raised by the EPA was then provided in the Submissions Report. The EPA has now confirmed that it is satisfied with the information provided and has recommended conditions of approval, including for operational noise limits.

6.2.2 Existing Noise Environment

113. The existing noise environment in the vicinity of the Project is typical of mixed industrial and residential land use settings, with relatively high ambient noise levels. The key contributors

to the existing noise environment include the VPPS, and to a lesser extent, the pit top activities at the MC, traffic on major roads and local residential activity. Noise from the CVC ventilation fan located at Summerland Point is also reported to be audible from the surrounding area.

114. Noise from activities at the CVC are reported to be generally inaudible at receivers in the vicinity of the pit top site, primarily due to the fact that surface operations at CVC do not currently include handling, transfer or transport of coal. However, it is important to note that these activities are approved under the current consent and are proposed to recommence if the Project is approved.

115. The location of sensitive residential receivers are shown in **Figure 1**. The residential area of Kingfisher Shores is the closest receiver area to the CVC pit top, located at about 200 - 500 m to the south-east. Residences in Chain Valley Bay are located about 1 km further to the south-east along the foreshores of Lake Macquarie. The residential area of Mannering Park is located to the north-west beyond the VPSS at about 1 km from the CVC pit top. The ventilation shaft and fan site across Lake Macquarie at Summerland Point is located about 2.3 km to the north-east of the CVC pit top.

116. The MSHV, which includes over 240 residential dwellings, is the closest residential receiver area to the MC pit top, located at about 650 - 800 m to the east, while the residential area of Doyalson North is located to the south adjacent to the Pacific Highway about 800 m from the pit top.

6.2.3 Noise Mitigation Measures

117. The Applicant indicated that a range of existing controls are currently implemented at the MC and CVC to mitigate the potential noise impacts associated with the operations. These are detailed in the Noise Management Plan (NMP) which was approved by the Department in April 2022 following approval of the CVC MOD 3 and MC MOD 5 applications. In summary, the key controls historically and/or currently implemented at the CVC include:

- coal haulage on private and public roads is undertaken using registered trucks with appropriate exhaust systems;
- air compressors and the conveyor transfer point into the final product bin are contained within enclosures;
- underground transportation of coal via a conveyor belt link to MC;
- restricting road haulage operations on public roads to between 5:30 am and 5:30 pm Monday to Friday, with no haulage on weekends or public holidays;

- not permitting road haulage operations to VPPS between 10 pm to 5:30 am during Spring and Autumn months and between 10 pm and 5:30 am during Winter months;
- restricting dispatch of coal laden trucks to 32 per hour, and a maximum of 270 per day on public roads;
- containing major surface electrical motors and components for the haulage and transport system and conveyor system within buildings; and
- conducting primary coal crushing and sizing underground.

118. The key controls implemented at the MC include:

- electric powered haulage systems for the primary entry and egress of the mine;
- enclosure of all surface conveyor coal transfer points, including the transfer point of coal into the product coal bin;
- conducting primary coal crushing and sizing underground;
- enclosure of the surface CHPP;
- avoiding or minimising loading and stockpiling activities wherever possible;
- fit for purpose equipment is used to manage the coal stockpile; and
- housing mine ventilation fan motors within dedicated buildings.

119. As mentioned above, numerous noise reduction programs required by the Department have also been implemented, with the most recent programs being the upgrade and attenuation of the CVC ventilation fans in 2020 and the noise mitigation works at the MC pit top in 2021.

120. Should the IPC determine to approve the Project, these mitigation measures should continue to be implemented as part of the combined Project operations.

6.2.4 Approach to Setting of PNTLs and Operational Noise Limits

121. As discussed in Section 0, the CVC and MC currently operate under separate development consents. Each consent contains separate, and in some cases different, noise limits for the same location. For example, assessment locations R15 and R8 are the same location (i.e. MSHV containing 241 residential home dwellings) but have different noise limits in the CVC and MC consents. This reflects the proximity of the different assessment locations to each of the surface operations. Noise requirements for each assessment location are also contained in the EPLs issued by the EPA for each site.

122. In October 2017, the EPA released the NPfI which replaced the *NSW Industrial Noise Policy* (INP) (EPA, 2000) as the relevant NSW Government policy for the management and control of industrial noise sources. The existing noise limits in the CVC consent were generally derived in accordance with the INP, while the noise limits in the MC consent were derived using a combination of policy methodologies in both the INP and NPfI. As part of the SEARs for the Project, the Department required that the operational noise limits for the Project be derived in accordance with the NPfI in order to contemporise and rationalise the noise limits for the combined operations. The NPfI provides the methodology for setting noise limits for existing industrial sites which involves:

- undertaking an initial evaluation, including whether consents/licences include noise limits and whether they are being met;
- establishing relevant Project Noise Trigger Levels (PNTLs) to establish a benchmark level to assess the need to consider noise mitigation;
- measuring/predicting the noise levels generated by the operations;
- comparing the measured/predicted noise level with the PNTLs;
- where the PNTLs are exceeded, assessing feasible and reasonable noise mitigation strategies;
- developing and refining achievable noise limits that will become long-term noise goals for the site through negotiation and discussion with regulatory authorities; and
- monitoring compliance with the agreed noise limits and reviewing and amending the noise performance of the site as required.

123. The EPA is satisfied that EMM has adequately followed this process in deriving proposed noise limits for the Project.

124. EMM conducted ambient background noise monitoring to establish the PNTLs. Under the NPfI, the PNTL for a specific location is set based on the most stringent of the project intrusiveness noise level or project amenity noise level. EMM confirmed that the Project's PNTL's are mostly derived from the intrusiveness criteria and reflect the fact that background noise levels are already quite high. The exceptions to this are at locations 9, 11, 18, 20, R8, R9, R11, R12 and R13 for the night period where the amenity criteria are more stringent and has therefore been adopted.

125. The PNTLs at each assessment location for the combined operations are shown in Table 7. It is noted that the PNTLs are generally slightly higher than the existing operational noise limits

in the CVC and MC consents (refer to 2nd and 3rd column of Table 7). EMM indicate that this is because if existing noise limits from each of the CVC and MC consents were to be combined, they would generally be higher than individual noise limits. For example, individual noise limits of 35 dB for CVC and 35 dB for MC at an assessment location would be equivalent to a combined noise limit of 38 dB (logarithmic addition) at the same location. EMM state that, when compared to existing combined noise limits, the PNTLs would generally be more stringent than the combined addition of currently permissible impacts from each operation, which would result in a positive outcome for the community.

126. The PNTLs, in conjunction with the existing noise limits and the predicted (achievable) noise levels have been considered when setting operational noise limits for the Project.

6.2.5 Predicted Noise Impacts

Operational Noise Impacts

127. EMM confirmed that the only proposed changes associated with the Project which may influence the existing approved noise emissions from surface operations includes:

- extension of the life of the existing operations by two years;
- minor increase in surface coal handling at the MC pit top (i.e. from 2.1 to 2.8 Mtpa ROM coal) and minor upgrades of surface facilities to support the proposed increased in throughput; and
- the replacement of recently demolished coal handling infrastructure at the CVC.

128. EMM modelled different operational scenarios, with the future combined operations at CVC and MC being most representative of activities associated with the Project. This scenario involved combined operation of CVC and MC, with CVC operating at 1.5 Mtpa throughput and road haulage of 1.5 Mtpa to VPPS and MC processing 1.3 Mtpa with coal transferred to VPPS via conveyor.

129. EMM indicated that the modelling:

- incorporated existing noise mitigation and controls currently implemented at the sites;
- identified that low frequency noise (LFN) above the octave thresholds stipulated in the NPfI exist at several assessment locations and, as such, applied modifying factors to noise predictions at these locations in accordance with Fact Sheet C of the NPfI; and
- represented the most critical worst case meteorological conditions for the night period (i.e. stability category F temperature inversion with 2 m/s wind speed).

130. Table 7 presents a comparison of existing noise limits in the CVC and MC consents against the PNTLs and modelled predicted noise levels for the combined operations.

131. The modelled noise levels associated with the combined operations were predicted to satisfy the PNTLs at most assessment locations. The exceptions were at locations R11, R12, R15, 7 and 8 where the operational noise levels were predicted to exceed the PNTLs during the morning shoulder period, evening period and/or night period (refer to figures in bold in Table 7). In accordance with the definitions outlined in the VLAMP, the majority of exceedances were 'negligible' (i.e. 1-2 dB), however the exceedances during the nighttime period at R15 and 8 (the MSHV) were 'moderate' (i.e. 3-5 dB) and 'significant' (i.e. 7 dB), respectively during the nighttime worst case meteorological conditions.

132. With the exception of receiver 7, the predicted noise impacts were within the higher of the existing MC or CVC consent criteria. The predicted exceedance of the existing MC and CVC criteria at receiver 7 is 1-2 dB and is considered by EMM to be negligible and unlikely to be distinguishable from existing approved levels.

133. Since several PNTLs were predicted to be exceeded at some assessment locations, EMM undertook an assessment of reasonable and feasible mitigation measures in accordance with the methodology provided in the NPfI. EMM confirmed that the main operational noise sources at CVC and MC contributing to offsite noise levels are the existing MC drift haulage shed and CHPP and the proposed CVC coal handling infrastructure (sizers and screen). The key mitigating option identified and adopted in the noise modelling is the enclosure of future coal handling infrastructure at the CVC. Should the Project be approved, the Applicant committed to implementing this measure and investigating further measures (such as noise suppression on front end loaders; noise reductions to MC drift haulage shed; and relocation of significant noise sources) during initial works.

134. Should the IPC determine to approve the Project, all reasonable and feasible noise attenuation measures on all plant and equipment would be required.

Operational Noise Limits

135. The proposed operational noise limits are presented in the last column of Table 7. The limits were established by EMM in consultation with the EPA, with consideration of the existing limits in the CVC and MC consents, the PNTLs and the modelled predicted (achievable) noise levels. The noise levels used to derive the proposed operational limits at each location are highlighted in grey shading. The approach used for setting the operational noise limits at each assessment location was:

- R5, R6, R13, R14, R17, R19, 7, 9, 11, 18 and 20: the PNTLs were adopted;

- R8, R9, 4, 5 and 6: the PNTLs for the morning shoulder, evening and night periods were higher than the existing noise limits for the day period, so the adopted operational noise limits for all periods have been adjusted to match the more stringent existing MC noise limits for the day period where these can be achieved (i.e. within the predicted levels);
- R15 and 8: the existing MC noise limits were adopted as they were considered the best achievable noise levels with implementation of all feasible and reasonable mitigation measures (e.g. mitigation of proposed CVC coal handling infrastructure) and were equivalent to the sensitive nighttime noise prediction for the Project.
- R11 and R12: predictions during more sensitive times were marginally (1-2 dB) higher than at other times and only marginally above PNTLs. Hence these have been proposed as limits for all periods to ensure they can be achieved and that less sensitive periods do not have more restrictive limits. Given these two locations are adjacent one another, the limits have been set the same.
- R22: existing noise from CVC and MC are not changing as a result of the Project and hence achievable existing limits in the MC consent have been adopted.
- All other existing privately owned residences: the lowest operational noise limit that was derived for all assessment locations for each period was adopted.

136. The EPA accepted the proposed operational noise limits. The limits for the majority of locations are appropriately set at (or marginally above) PNTLs or the existing MC limits where the PTNLs were predicted to be exceeded. Should the IPC determine to approve the Project, the limits are conservative and would result in a positive outcome for the community.

Sleep Disturbance

137. As with existing approved operations, it is proposed that both the CVC and MC would continue to operate 24 hours a day, 7 days a week. Key noise generating activities proposed during the nighttime and morning shoulder periods include the operation of front-end loaders. EMM completed a sleep disturbance assessment at each receiver location which modelled noise from these activities against sleep disturbance screening levels derived in accordance with the NPfI.

138. The night sleep disturbance screening levels were:

- 55 dB L_{Amax} and 45 $L_{Aeq,15min}$ for receiver locations R8, R9, R11, R13, 9, 11, 18 and 20; and
- 52 dB L_{Amax} and 40 $L_{Aeq,15min}$ for all other receiver locations.

139. EMM predicted that both the maximum L_{Amax} and $LA_{eq,15min}$ noise levels for the nighttime operations would satisfy the relevant sleep disturbance screening levels at all receiver locations, with the vast majority of receiver locations predicted to experience maximum L_{Amax} noise levels of below 44 dB and $LA_{eq,15min}$ noise levels of below 40 dB. The only exceedance was at receiver location 8, which was predicted to an experience $LA_{eq,15min}$ level of 42 dB (i.e. 2 dB above the relevant screening level) during the nighttime period and during worst case meteorological conditions. EMM considered this to be a negligible exceedance.

140. Similarly, the predicted maximum L_{Amax} and $L_{Aeq,15min}$ noise levels for the morning shoulder periods were well below the relevant sleep disturbance screening levels for this period.

141. In setting nighttime operational noise limits for the Project, the EPA recommended that the lower (currently in force) nighttime $L_{A1,\ 1min}$ limit should be applied instead of the L_{Amax} limits derived in accordance with the NPfI (see **Table 7**). The EPA based this position on the fact that both the CVC and MC have pre-existing nighttime $L_{A1,\ 1min}$ noise limits and that the operations do not have a history of non-compliance with these limits.

142. Should the IPC determine to approve the Project, it is recommended that the more stringent, but achievable nighttime $L_{A1,\ 1min}$ noise limits apply to the Project. The Department notes this is in line with the approach recommended in *the Implementation and Transitional Arrangements for the Noise Policy for Industry* (EPA, 2017).

Construction Noise

143. EMM modelled the predicted noise associated with the construction/upgrades of minor infrastructure at the pit tops in accordance with the ICNG. The construction noise levels predicted at all residential receivers are below the noise management level (NML) for standard hours (i.e. RBL + 10 dB), with the worst-case construction noise being 47 dB at R11 and R12 (i.e. 3 dB below the relevant NML of 50 dB at these locations). The Applicant has committed to implement reasonable and feasible work practices during construction to ensure these noise levels are maintained below the NMLs, including restricting all construction works to standard hours (i.e. 7 am to 6 pm Monday to Friday and 8 am to 1 pm on Saturdays).

6.2.6 Assessment against the VLAMP

144. The VLAMP outlines how acquisition and mitigation rights are assigned to landholders to address noise and air quality impacts from state significant mining, petroleum and extractive industry developments. Where the predicted noise levels from a development are modelled to result in 'moderate' and/or 'significant' impacts, then mitigation or voluntary land acquisition rights should be considered by the consent authority.

Table 7 | Comparison of existing noise limits, PNTLs, predicted noise levels and proposed operational noise limits ($L_{Aeq,\ 15\ mins}$ dB)

Assessment Location	Existing Operational Noise Limits		PNTLs	Predicted Noise Levels	Proposed Operational Noise Limits
	Day / Evening / Night L_{eq} / Night $L_{1,1min}$		Day / MS / Evening / Night L_{eq}	Day / MS / Evening / Night L_{eq}	Day / MS / Evening / Night L_{eq} / Night $L_{1,\ 1\ min}$
	CVC	MC			
R5	35 / 35 / 35 / 45	40 / 36 / 36 / 46	40 / 39 / 37 / 37	29 / 30/ 29 / 31	40 / 39 / 37 / 37 / 46
R6	35 / 35 / 35 / 45	40 / 36 / 36 / 46	40 / 39 / 37 / 37	30 / 31 / 29 / 32	40 / 39 / 37 / 37 / 46
R8	38 / 38 / 38 / 45	40 / 36 / 36 / 46	45 / 45 / 44 / 43	34 / 35 / 34 / 37	40 / 40 / 40 / 40 / 46
R9	35 / 35 / 35 / 45	40 / 36 / 36 / 46	45 / 45 / 44 / 43	34 / 35 / 34 / 37	40 / 40 / 40 / 40 / 46
R11	49 / 49 / 49 / 54	40 / 36 / 36 / 46	45 / 45 / 44 / 43	45 / 46 (+1) / 42 / 45 (+2)	46 / 46 / 45 / 45 / 54
R12	49 / 49 / 49 / 53	40 / 36 / 36 / 46	45 / 45 / 44 / 43	45 / 45 / 42 / 45 (+2)	46 / 46 / 45 / 45 / 53
R13	43 / 43 / 43 / 49	40 / 36 / 36 / 46	45 / 45 / 44 / 43	39 / 40 / 39 / 41	45 / 45 / 44 / 43 / 49

Assessment Location	Existing Operational Noise Limits		PNTLs	Predicted Noise Levels	Proposed Operational Noise Limits
	Day / Evening / Night L_{eq} / Night $L_{1,1min}$		Day / MS / Evening / Night L_{eq}	Day / MS / Evening / Night L_{eq}	Day / MS / Evening / Night L_{eq} / Night $L_{1, 1 min}$
	CVC	MC			
R14	35 / 35 / 35 / 45	40 / 36 / 36 / 46	40 / 39 / 37 / 37	33 / 34 / 32 / 35	40 / 39 / 37 / 37 / 46
R15	36 / 36 / 36 / 45	42 / 42 / 42 / 47	41 / 40 / 37 / 35	37 / 38 / **38 (+1)** / **40 (+5)**	42 / 42 / 42 / 42 / 47
R17	35 / 35 / 35 / 45	40 / 36 / 36 / 46	40 / 39 / 37 / 37	29 / 31 / 30 / 32	40 / 39 / 37 / 37 / 46
R19	37 / 37 / 37 / 45	40 / 36 / 36 / 46	40 / 39 / 37 / 37	33 / 35 / 32 / 35	40 / 39 / 37 / 37 / 46
R22	46 / 46 / 46 / 46	40 / 36 / 36 / 46			46 / 46 / 46 / 46 / 46
4	35 / 35 / 35 / 45	40 / 36 / 36 / 46	47 / 47 / 47 / 39	33 / 34 / 34 / 37	40 / 40 / 40 / 39 / 46
5	35 / 35 / 35 / 45	40 / 39 / 39 / 49	47 / 47 / 47 / 39	34 / 34 / 34 / 37	40 / 40 / 40 / 39 / 49
6	35 / 35 / 35 / 45	40 / 37 / 37 / 47	47 / 47 / 47 / 39	32 / 34 / 33 / 36	40 / 40 / 40 / 39 / 47

Assessment Location	Existing Operational Noise Limits		PNTLs	Predicted Noise Levels	Proposed Operational Noise Limits
	Day / Evening / Night L_{eq} / Night $L_{1,1min}$		Day / MS / Evening / Night L_{eq}	Day / MS / Evening / Night L_{eq}	Day / MS / Evening / Night L_{eq} / Night $L_{1, 1 min}$
	CVC	MC			
7	35 / 35 / 35 / 45	40 / 35 / 35 / 45	41 / 41 / 37 / 35	34 / 35 / 34 / 37 (+2)	41 / 41 / 37 / 37 / 45
8	36 / 36 / 36 / 45	42 / 42 / 42 / 47	41 / 41 / 37 / 35	39 / 39 / 39 (+2) / 42 (+7)	42 / 42 / 42 / 42 / 47
9	35 / 35 / 35 / 45	40 / 37 / 37 / 47	45 / 45 / 44 / 43	41 / 41 / 38 / 41	45 / 45 / 44 / 43 / 47
11	35 / 35 / 35 / 45	40 / 36 / 36 / 46	45 / 45 / 44 / 43	35 / 36 / 35 / 38	45 / 45 / 44 / 43 / 46
18	35 / 35 / 35 / 45	40 / 36 / 36 / 46	45 / 45 / 44 / 43	37 / 38 / 37 / 40	45 / 45 / 44 / 43 / 46
20	35 / 35 / 35 / 45	40 / 36 / 36 / 46	45 / 45 / 44 / 43	42 / 42 / 40 / 43	45 / 45 / 44 / 43 / 46
All other existing privately owned residences	35 / 35 / 35 / 45	40 / 36 / 36 / 46	-	-	40 / 39 / 37 / 37 / 46

145. The Department has considered in detail the option to offer mitigation or land acquisition rights for properties in the MSHV residential area. The Department does not consider it appropriate for the following reasons:

- the Project would not generate significantly different noise levels to those currently experienced, and would only result in an additional two years of operations beyond what is currently approved (it may not be practical to apply mitigation at properties for such a short extension to the mine life);
- the residential area was approved and constructed well after the commencement of operations at the MC and CVC;
- although the predicted nighttime noise levels are above the PNTLs, they are still equal to or below the existing noise limits in the MC consent;
- the predicted exceedances are limited to the nighttime period during worst case noise enhancing meteorological conditions (i.e. stability category F and 2 m/s wind speed), which only occurs around 2% of the time in the direction of the CVC and MC[3];
- with the implementation of the recent significant noise reduction program at the MC pit top, noise levels are in compliance with the existing consents and the number of noise complaints from surrounding residences have significantly reduced (i.e. only 1 noise compliant last year);
- the Applicant has committed to implement of all feasible and reasonable mitigation measures for the Project; and
- the proposed operational noise limits are the same as the existing noise limits in the MC consent and are considered conservative, given that if the existing noise limits for both operations were combined, they would be higher than individual noise limits.

6.2.7 Noise Monitoring and Management

146. As noted above and should the Project be approved, the Applicant has committed to continue to implement its existing noise mitigation and management strategies as part of the ongoing MC and CVC operations. It has also committed to investigating further measures during initial works, including noise suppression on front end loaders; noise reductions to MC drift haulage shed; relocation of significant noise sources; and designing the new coal handling infrastructure at the CVC to reduce noise emissions.

[3] Refer to Request for Information Response dated 23 October 2023 (prepared by EMM).

147. Should the IPC determine to approve the Project, conditions, consistent with the EPA's recommendations, require the Applicant to take all reasonable and feasible steps to manage construction, operational and road noise generated by the Project. In accordance with the existing consent conditions for the CVC and should the Project be approved, a comprehensive noise audit should be undertaken as part of the annual independent audit requirements for the development, including an action plan to implement any identified additional reasonable and feasible on-site noise mitigation measures.

148. In addition, should the IPC determine to approve the Project, the Applicant would be required to update its existing Noise Management Plan (NMP) (which was approved by the Department in April 2022) to reflect the operations associated with the Project and continue to undertake noise monitoring during operations to determine compliance with the applicable noise criteria and to inform any further noise mitigation works, if needed. The Department notes that the Applicant currently operates a comprehensive noise monitoring system which includes attended monitoring at nine locations on a quarterly basis and at 3 locations on a monthly basis, and real time monitoring at the MSHV. The Applicant's existing Noise Management Plan includes a protocol for identifying any noise-related exceedance, incident or non-compliance and for notifying the Department and relevant stakeholders of any such event. This condition would continue to apply to the Project.

149. Should the IPC determine to approve the Project, with the implementation of the existing and proposed mitigation, monitoring and management measures, noise impacts of the combined operations on affected sensitive receivers would be within operational limits.

6.2.8 Evaluation

150. The Department acknowledges that noise has historically been an issue for residents living in the vicinity of the MC and CVC, however that mitigatory works implemented at the operations have resulted in reduced noise impacts in recent times.

151. The Project would result in minimal changes to the existing noise environment, with the exception of extending colliery operations for an additional two years. The Applicant has committed to continue to implement existing noise controls, as well as implement additional controls to further reduce noise impacts associated with the Project.

152. The Applicant and the EPA have worked together to derive contemporary and consistent noise limits for the combined operations.

153. Should the IPC determine to approve the Project, the limits are conservative and would result in a positive outcome for the community.

6.3 Air Quality

6.3.1 Introduction

154. Air quality was the key issue raised in the majority of public submissions, with 59% of objecting submissions indicating concerns primarily in relation to health risks to the surrounding community; cumulative air quality impacts from the VPPS; and air quality impacts from coal transportation activities.

155. The EIS included an Air Quality Impact Assessment (AQIA) prepared by EMM which assessed the operational incremental and cumulative air quality impacts associated with the Project in accordance EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (2017) (EPA's Approved Methods) and the VLAMP.

156. Numerous public and special interest group submissions, including a submission prepared by Environment Justice Australia (EJA) on behalf of the Nature Conservation Council (NCC) of NSW, were critical of the methodology used in the AQIA. The key issues were that the AQIA did not consider the impact that burning the coal that is extracted from the CVC and MC at the VPPS would have on air quality, and that it did not include an assessment of the combustion emissions associate with the Project.

157. The Department notes that impacts associated with the combustion of coal at the VPPS are outside the scope of environmental assessment for the Project, except to the extent that they are required to be considered as part of the cumulative impact assessment. EMM confirmed that the cumulative impact assessment included in the AQIA specifically incorporated existing background air quality which included existing air quality emissions associated with the VPPS and its ash dams. The Department confirms that this is a common and appropriate approach in AQIAs where ambient monitoring data exists in the vicinity of a project source and surrounding sources in an area (e.g. the VPPS).

158. The Department required that an additional impact assessment for combustion emissions (i.e. NOx, SO2, CO and VOCs) associated with the Project be submitted. This was subsequently prepared by EMM (Appendix B).

159. In its submission on the Project, Council indicated that it was satisfied that the potential air quality impacts were appropriately addressed in the EIS and that adverse impacts are unlikely. Council recommended conditions of consent which ensure coal handling operations match the air quality modelling, including best practice dust mitigation measures.

160. The EPA also indicated that air quality impacts were adequately addressed in the EIS.

6.3.2 Air Quality Mitigation Measures

161. The Applicant indicated that a range of existing controls are currently implemented at the MC and CVC to mitigate adverse air quality impacts on surrounding areas. These are detailed in the combined *Air Quality and Greenhouse Gas Management Plan* (AQGHGMP) which was approved by the Department in March 2022. In summary, the key controls include:

- use of conveyors where possible on-site in place of haul routes to reduce dust and diesel transport;
- seal completed miniwall panels to reduce methane emissions from the goaf;
- enclosure of conveyor transfer points;
- leaning of conveyor belts to minimise spillage;
- enclosure of coal sizer and screen;
- watering at coal sizer and screen;
- watering stockpiles and exposed areas;
- paved haul routes and cleaning;
- bypassing stockpiles when possible; and
- watering and chemical suppressants used on unpaved haul routes.

162. EMM has confirmed that the air quality modelling for the Project incorporates emission reductions for these measures. The Applicant has committed to continue to implement these measures as part of the combined Project operations should the Project be approved.

163. Should the IPC determine to approve the Project, these mitigation measures would continue to be implemented as part of the combined Project operations.

6.3.3 Predicted Air Quality Impacts

164. EMM noted that the air emissions associated with the Project would not change significantly from existing operations, with the exception of the proposed extension of air emission generating activities for an additional two years beyond those already approved. The key air emission sources associated with the Project would continue to include:

- particulate matter emissions from conveying, hauling and transfer of coal; coal sizing and screening; handling of coal with FELs; and wind erosion from exposed surfaces;
- fuel combustion-based emissions on and off site from plant, equipment and coal haulage trucks; and
- odour emissions from underground vent shafts.

165. EMM completed dispersion modelling and emission estimation for two operational scenarios, including:

- *Scenario 1* – surface handling at the maximum approved rate of 2.8 Mt from MC; and
- *Scenario 2* – MC operating at a surface handling rate of 1.3 Mt simultaneously with CVC operating at a surface handling rate of 1.5 Mt (for a total maximum approved rate of 2.8 Mt).

166. The highest predicted cumulative (i.e. the Project plus background) concentrations and deposition rates for particulate pollutants and averaging periods at any assessment location are summarised in Table 8. Cumulative emissions were modelled to be highest in the vicinity of Mannering Park (i.e. assessment location R8) for Scenario 1 and highest in the vicinity of Kingfisher Shores for Scenario 2 (i.e. R11). However, the predicted cumulative concentrations and deposition rates for total suspended particulates (TSP), PM_{10}, $PM_{2.5}$ and dust deposition were all modelled to be below the applicable NSW EPA assessment criteria and VLAMP mitigation criteria at all the most impacted assessment locations. EMM has also confirmed that the Project is not predicted to increase the number of days above the 24-hour average PM_{10} and $PM_{2.5}$ criterion at any assessment location.

Table 8 | Worst Case Predicted Cumulative Concentration (µg/m^3) and Deposition Rate (g/m^2/month)

Pollutant	Averaging Period	Criterion*	Scenario 1	Scenario 2
TSP	Annual	90	42.4	45.8
PM_{10}	24-hour	50	45.2	48.9
	Annual	25	17.9	19.2
$PM_{2.5}$	24-hour	25	21.5	21.3
	Annual	8	6.7	6.4
Dust deposition	Annual	2	1.1	1.6

** EPA's impact assessment criteria for particulate matter as documented in the Approved Methods (2017) and VLAMP mitigation criteria.*

167. Further, the assessment and modelling of combustion emissions from operations at CVC and MC for the two operational scenarios showed that the predicted concentrations for incremental gaseous pollutants (NO2, SO2, CO and VOCs) were below the applicable EPA incremental and cumulative impact assessment criteria at all assessment locations.

168. EMM also undertook an assessment of the odour emissions associated with the underground ventilation shafts. The odour performance criterion adopted for the Project and outlined in the EPA's Approved Methods is 5 odour units (OU).

169. EMM modelled the odour emissions associated with the Project to be well below this criterion (i.e. ≤2 OU) at all assessment locations with the exception of at the ventilation fan located at Summerland Point (i.e. R22) where odour was modelled to be equal to the criterion (i.e. 5 OU).

170. The Department notes that ventilation operations are not proposed to be changed as part of the Project. In addition, historically there have been no complaints in regard to odour from residences surrounding the ventilation shafts.

6.3.4 Air Quality Monitoring and Management

171. As noted above and should the IPC determine to approve the Project, the Applicant has committed to continue to implement its existing air quality mitigation and management strategies as part of the ongoing combined MC and CVC operations. It has also committed to update its existing AQGHGMP to reflect the operations associated with the Project and continue to implement its existing air quality monitoring program. The existing air quality monitoring program includes:

- a real-time PM10 monitoring site located in between CVC and MC;
- 5 dust deposition gauges for recording monthly dust deposition rates at MC and 5 dust deposition dust gauges at CVC;
- real-time gas (methane and CO2), temperature, pressure and volumetric monitoring at ventilation shaft site; and
- a meteorological station.

172. In addition, a real-time $PM_{2.5}$ monitor associated with the VPPS is located in Wyee, 7 km to the west of the Project.

173. In its submission on the Project, EJA raised concerns that the air quality monitoring system does not involve real-time monitoring of TSP. In response, EMM noted that real-time PM_{10} monitoring is conducted in the immediate vicinity of the Project site, and that the relationship between TSP and PM_{10} at mining sites is well understood and can be inferred from the existing monitoring data. This justification and approach are utilised at many mines across the state and is generally accepted by regulatory agencies.

174. Should the IPC determine to approve the Project, with the continued implementation of the existing mitigation and monitoring measures, air quality impacts of the combined operations on affected sensitive receivers would be within relevant EPA limits.

6.3.5 Evaluation

175. The Department acknowledges that potential air quality impacts was a key issue raised in the public submissions.

176. The EPA are satisfied that the air quality assessments for both particulate matter and gaseous emissions were prepared in accordance with the relevant guidelines and are adequate to assess the air quality impacts associated with the Project.

177. Should the IPC determine to approve the Project, air emissions associated with the Project are likely to remain below the applicable EPA incremental and cumulative impact assessment criteria at all assessment locations. The Applicant would be required to continue implementing air quality controls and a comprehensive air quality monitoring program to ensure this is the case.

6.4 Greenhouse Gas

6.4.1 Introduction

178. The Project would generate greenhouse gas emissions from the extraction and burning of coal. Over 50% of the objecting submissions on the Project raised concern that the Project would be inconsistent with the Commonwealth Government's commitments under the *Paris Agreement 2015* as well as statewide goals to reduce greenhouse gas emissions (GHGEs).

179. The EIS included a Greenhouse Gas and Energy Assessment prepared by Umwelt (Australia) (Umwelt) Pty Ltd. The assessment framework was based on the methodologies and emission factors contained in the *National Greenhouse Accounts Factors 2020* (NGAF) (DISER 2020) and incorporated the principles of The *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (WRI/WBCSD 2004) (the GHG Protocol). Content and discussion within both assessment documents are of relevance, which are herein referred to as the 'greenhouse gas assessment' (GHGEA).

180. During the assessment process, the Department requested that the Applicant provide further consideration of how the Project addresses commitments under the *Paris Agreement 2015*, with particular consideration of Scope 3 emissions, as well as additional information to demonstrate how the Project would affect emission reduction targets given legislative force by the *Climate Change (Net Zero Future) Act 2023* (Climate Change Act).

181. In February 2025, the EPA released the *NSW Guide for Large Emitters* (the guide) which sets out assessment requirements for projects that are likely to emit 25,000 tonnes or more of scope 1 and 2 emissions of carbon dioxide equivalent (CO_2-e) in any financial year.

182. Transitional arrangements stipulate that the guide does not specifically apply to projects that had progressed beyond the EIS stage as of 20 May 2024. This was the date that the consultation draft guide was published. The Project's EIS (November 2022) was submitted prior to this date and therefore the guide does not strictly apply to the Project. Nonetheless, the EPA and the Department consider the guide sets out relevant considerations that can be used to inform the Project's assessment.

183. The Department notes in this regard the Ministerial Statement issued 20 May 2024 titled "*Updates regarding Net Zero Plan Stage 1: 2020-2030 and previous Implementation Updates*", which provides that the EPA's guidelines for high-emitting projects "must be taken into consideration by proponents as part of the planning assessment process".

184. The Department has also carefully considered a range of other relevant legislation, policy and reporting including (but not limited to) the Climate Change Act, NSW EPA Climate Change Policy, the Net Zero Commission's *2024 Annual Report* (November 2024), advice letter (September 2025) and *Coal Mining Emissions Spotlight Report* (Spotlight Report, December 2025), the DCCEEW's *NSW greenhouse gas emissions projections 2024 – Methods paper* (April 2025) and the *Strategic Statement on Coal Exploration and Mining in NSW* (2020), which is currently under review.

185. The Department requested that the Panel undertake a comprehensive review of the EIS GHGEA and provide advice on the appropriateness of the emission calculations and adequacy of the GHG avoidance, mitigation and minimisation measures proposed (**Appendix B**).

186. The Panel considered that the overall historical emissions assessment was adequate, however questioned the methodology used to calculate forecast emissions, which was based on static gas content value and did not take account of changes in the gas reservoir properties across future mining areas. Although the Panel acknowledged this methodology is consistent with the options available in the NGAF, it recommended that future assessment utilise an alternate methodology to more accurately map the GHGEs footprint. This would require differentiating between legacy, ROM and stockpile emissions and involve surveys, monitoring and analysis of gaseous emissions from the different sources and assessing the gas reservoirs size in current and future mining areas. The Panel also recommended that a stand-alone Greenhouse Gas Mitigation Plan (GHGMP) be prepared to describe the improved emission calculation methodology and provide greater details and priorities on further mitigation measures.

187. In its response to the Panel advice (refer to **Appendix B**), the Applicant agreed that the proposed alternate methodology would be more accurate, however noted that the estimate of fugitive emissions in the GHGEA were conservative and that adopting the alternative approach would be unlikely to materially impact the predicted greenhouse gas impacts of the Project or the overall assessment results. Should the IPC determine to approve the Project, the Applicant agreed to prepare a standalone GHGMP within 6 months of approval of the Project which adopts the Panel recommendations in relation to more accurate mapping of GHGEs. The Panel accepted this outcome.

188. The Department also sought advice on the EIS GHGA from the EPA, including from the Net Zero Emissions Modelling team within the Climate and Atmospheric Science (CAS) group. The EPA and CAS concluded that the sources and scopes of emissions are generally adequate to capture the material emissions from the Project.

189. The EPA and CAS considered that the GHG emissions of the of the Project were consistent with the NSW emissions reduction targets as the Project would cease operations in 2029. Overall, the EPA and CAS agreed with the Panel's recommendations for improving GHG estimates and providing details and priorities on mitigation measures as part of a GHGMP.

190. A summary of the key reports and advice relevant to greenhouse gas emissions impacts is provided in **Appendix B**.

6.4.2 Sources and Emissions

191. Umwelt indicated that the key features of the Project that would impact GHGEs are:

- extending the life of the mine by two years; and
- increasing ROM coal recovered by up to approximately 5.6 Mt over the two additional years.

192. The total estimated GHGEs for the Project (associated with the additional two years of mine life) are summarised in **Table 9**.

Table 9 | Estimated greenhouse gas emissions from the Project

Scope	Key GHG Source(s)	Estimated GHG Emissions (t CO2-e) (additional due to Project)
Scope 1	Mining and extraction related (e.g. historical mining, fugitive emissions, diesel use)	1,468,600
Scope 2	Upstream electricity	107,448

Scope	Key GHG Source(s)	Estimated GHG Emissions (t CO2-e) (additional due to Project)
Scope 3	Downstream emissions (e.g. transport of product coal, downstream coal use)	11,416,000
Total		12,992,048

Notes: Estimates in this table are based on 2025 calculations and assume a worst-case scenario with coal export.

193. The GHGEs presented in Table 9 are based on revised estimates from the Applicant dated 11 September 2025, as provided in Request for Information RFI-91431957 (Appendix A). These updated estimates also consider the requirements of the 'Safeguard Mechanism' under the Commonwealth *National Greenhouse Gas and Energy Reporting Act 2007* (NGERS Act).

194. The Department acknowledges that the calculations presented in Table 9 have been revised and differ to that presented in the EIS. The EIS included emission calculations based on assumed operational production scenarios and as such, is to be considered outdated. The revised September 2025 calculations are based on a worst-case maximum production scenario. The revised GHGEs presented in Table 9 are therefore the most appropriate estimates to consider for the Project.

195. GHGEs have not been formally calculated beyond 31 December 2029. Notwithstanding this, Umwelt notes that some GHGEs would continue beyond this time, at a significantly reduced rate, due to:

- Scope 1 fugitive emissions associated with legacy mining activities (while shafts remain unsealed and ventilated);
- Scope 1 fugitive emissions associated with rehabilitation and decommissioning activities (including demolition works); and
- Scope 2 emissions associated with the transport of demolition material and any externally sourced electricity required to support demolition works.

196. As discussed below and should the Project be approved, the Applicant has committed to continue implementing operational management and mitigation plans to minimise Scope 1 emission impacts associated with the combined Project.

197. In relation to Scope 2 emissions, Umwelt considered that the Project is relatively energy efficient, as the high-quality ROM coal only requires a simple processing stage and produces very low rates of waste material. The Project would 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.

198. Umwelt point out that Scope 3 emissions account for the vast majority of the Project's total GHGEs (i.e. around 88 %), with most Scope 3 emissions arising from the consumption of coal for power generation at the VPPS until December 2029. The GHGEs associated with burning coal to produce electricity at the VPPS are accounted for by the power station operator (i.e. one entity's Scope 3 emissions are another entity's Scope 1 emissions).

199. The close proximity of the Project to the VPPS and existing coal transport infrastructure means the emissions associated with supply coal to the VPPS from CVC and MC would be lower than supply from other domestic sources (which would have increased transport related emissions).

6.4.3 Mitigation, Minimisation and Management Measures

200. Under the existing CVC consent, the Applicant is required to implement all reasonable and feasible measures to minimise the release of GHGEs from the site. Similarly, the existing MC consent requires that best practice management be employed in respect of minimisation of GHGEs.

201. The Applicant has a direct influence over Scope 1 emissions generated from fugitive emissions and diesel use, and the company indicated that these emissions would continue to be subject to operational GHG management and mitigation measures associated with the consolidated Project. Existing measures detailed in the current AQGHGMP which would continue to be implemented include:

- sealing underground mini-wall panels at the completion of each panel to reduce release of methane emissions;
- installing ventilation control devices in Herringbone production panels to reduce fugitive emissions;
- maximising the use of conveyor systems to transport coal to reduce diesel emissions from road transport;
- real-time monitoring of gas, temperature, pressure and volumetric flow at ventilation shafts to allow accurate measurement of ventilation emissions (methane and CO_2) and assess the feasibility of reuse options;
- maintaining records of monthly electricity/diesel/acetylene/SF6/HFC/CFC and monthly ROM coal production to allow calculation of GHGEs; and
- considering energy efficiency criteria as part of the ongoing procurement process.

202. Should the Project be approved, the Applicant also committed to consider different options to mitigate emissions including pre-mining seam drainage with capture and/or combustion of

drained gas and opportunities to use or flare ventilation air from the mine or using it in the air intake of the VPPS. However, the Applicant noted that these measures may be unfeasible, primarily due to the capital cost implications and short duration of the Project. The Panel agreed that the greatest potential for reducing emissions would be realised in better controlling 'legacy emissions' from previously extracted areas.

203. The Panel considered that the GHG components of the current AQGHGMP and additional GHG information provided by the Applicant lack detail in activities, resourcing and timing. As noted above, the Panel recommended that the Applicant be required to prepare a stand-alone GHGMP which includes:

- detailed mapping of the GHGE footprint, including differentiating between legacy, ROM and stockpile emissions and assessing the gas reservoir size in current and future mining areas;
- further assessment of current and future GHGEs; and
- detailed design and prioritisation of GHGE mitigation and reduction measures, particularly for 'legacy emissions'.

204. The EPA supported this approach and recommended that the mapping of GHGEs also include more information on Scope 2 and 3 electricity consumption, and post-closure and decommissioning emissions.

205. Should the IPC determine to approve the Project, a GHGMP which addresses these recommendations would be prepared in consultation with the EPA within 6 months of commencement of development under this consent.

6.4.4 Impacts

206. During the assessment process, the Department requested that the Applicant provide further consideration of how the Project addresses commitments under the *Paris Agreement 2015*, with particular consideration of Scope 3 emissions, as well as additional information to demonstrate how the Project would affect emission reduction targets given legislative force by the Climate Change Act, having consideration to the EPA's guide.

207. The guide was released in January 2025 and requires proponents of high-emitting projects such as coal mines to assess their developments' emissions and develop GHG avoidance-mitigation-offset strategies. Although the requirements of the guide do not strictly apply to the Project (because it was released after the EIS for the Project was submitted), the EPA and Department consider that the guide sets out relevant considerations that can be used to inform the development assessment. The Department notes in this regard the Ministerial Statement issued 20 May 2024 titled "Updates regarding Net Zero Plan Stage 1: 2020-2030

and previous Implementation Updates", which provides that the EPA's guidelines for high-emitting projects "must be taken into consideration by proponents as part of the planning assessment process".

208. The Applicant engaged Umwelt to provide a response to these requests (**Appendix B**).

International and National

209. As indicated in **Section 3.1** (**Table 2**) of this report, the Commonwealth Government reaffirmed its commitments under the *Paris Agreement 2015* to reduce GHGEs by 62-70% from the 2005 level by 2035 and reach a target of net zero emissions by 2050.

210. The Department notes that the Project would maintain the existing approved option to allow up to 660,000 t of product coal to be exported to overseas markets. This is only likely to occur in the event of an unplanned extended shut-down of the VPPS during the life of the Project. The Department notes coal has not been exported from the site since the Applicant took ownership in 2019.

211. The vast majority of Scope 3 emissions would be covered under *National Greenhouse and Energy Reporting Scheme* (NGERS).

212. Irrespective, the Applicant has committed to limiting any such sales to purchasers bound by legislated commitments reflecting the destination country's commitments under the *Paris Agreement 2015*.

213. The *Long-Term Emissions Reduction Plan 2022* (the Emissions Reduction Plan) is the Commonwealth Government's plan to achieve net zero GHG emissions by 2050 while continuing to grow the economy and generate jobs. The Emissions Reduction Plan is underpinned by rigorous Commonwealth emissions monitoring and accountability systems, including the *National Greenhouse and Energy Reporting Scheme* (NGERS) and the associated 'Safeguard Mechanism' established under the Commonwealth *National Greenhouse Gas and Energy Reporting Act 2007* (NGERS Act).

214. As a participant in the NGERS, the Applicant is required to continue to undertake regular reviews of the technologies being used and abatement measures being implemented at its operations to continue to reduce GHG emissions. Under the Safeguard Mechanism, the Applicant is required to reduce the emissions intensity (EI) of its operations relative to an approved intensity level, which is annually declining and applies irrespective of ROM coal tonnages.

215. Umwelt reported that the required reductions are significant, with predicted emissions in the 2029-30 reporting period associated with the combined operations reducing to approximately one third of the emissions from operations in the 2023-24 reporting period. If

the Applicant does not meet the targets through mitigation and avoidance of impacts, the GHG reduction shortfall necessary to meet the relevant EI target is required to be met through the surrender of carbon credits under the Safeguard Mechanism. In Umwelt's view this scheme therefore provides an additional strong financial incentive for the Applicant to progressively reduce GHGs associated with its operations.

216. The Safeguard Mechanism does not preclude the need to properly understand the potential GHG impacts of proposed new or significantly modified proposals within NSW (that is, the new sources of GHG that will be released in NSW and how they are expected to change over time) and to ensure all proponents are adequately avoiding, minimising and managing their emissions over all stages of development (where development approval is granted).

State

217. The Climate Change Act legislates NSW net emissions reduction targets, including reductions in GHGEs by at least 50% from the 2005 level by 2030, 70% by 2035 and reaching a target of net zero emissions by 2050.

218. The Climate Change Act includes a number of guiding principles. The Department notes these principles apply to 'action to address climate change' and have been written primarily to guide the strategic direction of the NSW Government to develop the relevant strategies, policies and programs as identified in Principle 10(a). A consideration of the Project against the Principles is provided in **Appendix C**.

219. Should the IPC determine to approve the Project, it should consider the Department's assessment against the Principles in conjunction with this section of the report.

220. The NSW Government's relevant climate change strategies and policies that have been developed in consideration of the guiding principles and also form a key component of the Department's assessment. This includes the policy framework developed by the NSW EPA in the *NSW Climate Change Policy* and *Climate Change Action Plan 2023-26* which adopts, supports and builds on the climate change targets and provides a framework to support industry to decarbonise and build greater preparedness and resilience to climate change risks.

221. Umwelt's consideration of the Project's impact on emissions targets indicated that the Project would only approve mining operations until December 2029, therefore active mining, transportation and combustion of Project-related coal would have ceased prior to the 2030 target date for a 50% reduction in NSW GHGEs. Other Scope 1 and 2 post-mining emissions associated with demolition and decommissioning activities are predicted to be very minor.

222. Umwelt confirmed that small volumes of GHGEs would continue to be generated at or beyond 2030, with the most significant potential source associated with legacy mining activities while shafts remain unsealed and ventilated. It is acknowledged that the costs to the Applicant associated with ongoing ventilation of underground workings are significant, and that there is a strong incentive for inactive workings to be sealed as soon as practicable. As noted above, the requirement to purchase carbon credits under the Safeguard Mechanism creates additional financial incentive to minimise legacy emissions.

223. Umwelt confirmed that the Project would remain consistent with the State's ability to meet the 2050 net zero target and 2035 70% net reduction target as emissions associated with coal extraction from the Project would have finished at least 5 years prior to this target and decommissioning activities are expected to be well advanced by this target date.

224. The EPA and CAS considered that the GHGEs of the of the Project were consistent with the NSW emissions reduction targets as the Project would cease operations in 2029.

225. The former NSW Government's Strategic Statement on Coal Exploration and Mining in NSW (Strategic Statement) recognises the value of continued coal production to the State including the potential for coal production to deliver significant economic benefits to regional communities, to contribute to export earnings, and to fund public services and infrastructure through mining royalties.

226. The Strategic Statement also sets out that, despite the global transition away from fossil fuels, coal production for export markets will continue to have an important role to play in the short to medium term as coal remains a critical global energy source around the world. The Department acknowledges that the NSW Government is actively reviewing the Strategic Statement which will be subject to revision.

227. The demand for coal and its associated benefits versus the need to reduce greenhouse gas emissions is a complex issue requiring careful consideration. The ability of existing mining operators to minimise Scope 1 and Scope 2 emissions to the greatest extent practicable is important.

228. The Department acknowledges that under the current development assessment regime in NSW, coal mines and other large emitting projects will result in incremental and cumulative contributions to greenhouse gas emissions. A key question for decision makers is whether that contribution can be appropriately managed under the NSW policy framework so that the State objective for net zero emissions is not compromised.

229. Should the IPC determine to approve the Project, the contribution of the Project to NSW emissions is included in the evaluation of the merits of the Project summarised in Section 7 in line with the requirements of section 4.15 of the EP&A Act.

230. The regulation of GHGEs in NSW is in a transitional state towards the EPA being the lead regulator under the POEO Act. Under the EPA's Climate Action Plan, Climate Change Mitigation and Adaptation plans (CCMAPs) will be required under existing and new EPLs. Licensees will need to demonstrate how they can avoid and mitigate their Scope 1 and Scope 2 GHGEs and exposure to climate risk.

231. The EPA and Department consider that the guide can be used by the Applicant to inform the preparation of a GHGMP. This would allow GHG mitigation measures to be planned and developed consistently with EPA's forthcoming requirements, during this transitional period.

232. As a holder of an EPL, the Applicant will also be required to prepare a CCMAP in accordance with the requirements that are currently being prepared by the EPA.

Local

233. The consent authority must consider the potential impact of the contribution of GHG emissions and the impacts of climate change on the locality (the Central Coast and Hunter regions).

234. The potential climate change impacts from the Project were a key issue raised in community submissions during the exhibition of the Project, with 50% of the objecting submissions received relating to the Project's contribution to climate change and global warming, and associated impacts to future generations.

235. The Social Impact Assessment (SIA) prepared by Umwelt as part of the EIS noted that during consultation, community participants expressed a high level of concern regarding climate change impacts. The SIA concluded that impacts from climate were ranked as a high social impact.

236. The SIA noted that when asked about their level of concern relating to the impacts of the Project on climate change, community residents provided the highest mean level of concern (6.2 out of 7), with proximal landholders also providing a higher level of concern (on average 5.4 out of 7). Other key stakeholders (including CCC members, community groups and contractors and suppliers) provided a lower level of concern (3.9 out of 7).

237. The Climate Change Snapshot for the Central Coast and Hunter regions (the Snapshot) summarises the latest high-resolution climate change projections from the NSW and Australian Regional Climate Modelling (NARCliM) project for NSW, based on a low and high emissions scenarios.

238. The Snapshot predicted climate changes relative to the baseline climate of the locality of the Project for the period 2040-2059 as follows:

- average temperature increases between 1.1 and 1.9°C;
- number of additional hot days `per year between 5 and 5.2;
- average rainfall decline between 6.1% and 15.6%;
- sea level rise of 19 to 23 cm; and
- number of additional severe fire weather days per year of 0.8.

239. The Hunter region exhibits a number of environmental, social and economic characteristics that are likely to increase its vulnerability to these predicted climate change impacts including extensive vegetated areas susceptible to bushfire, coastal and estuarine zones at risk of sea level rise, the sensitivity of the agricultural sector and pressure on water resources like the Hunter River that are subject to existing demands from industry.

240. The environmental impacts of climate change will result in flow on social and economic impacts. As reported by AdaptNSW, climate change presents a range of risks and impacts that are expected to negatively impact the economy. These include property loss and damage, infrastructure and service costs and risks to financial stability. The impacts of climate can also impact health and wellbeing affecting livelihoods and productivity.

241. Umwelt advise that by applying the EUSEPA Social Cost of Carbon, the estimated costs of Scope 1 and 2 GHG emissions from the Project to NSW have been quantified as approximately $0.05 million, of which a smaller amount would be contributable to the locality.

242. The GHG emissions from the Project would contribute to climate change where there is a net increase to global emissions. This would contribute to the climate change impacts on the locality as described above. The Project's incremental Scope 1, 2 and 3 emissions of approximately 13 million tonnes of CO2-e (see **Table 9**) contribute to climate change (by approximately 0.0344 %) and therefore to climate impacts in the locality (by comparison to total global energy related CO2 emissions of 37.8 Gt CO2-e (latest data as at 2024 (IEA, 2025)).

243. The Department recognises those specific features of the locality that render it vulnerable to the effects of climate change in the manner described above. Should the IPC determine to approve the Project, these impacts along with the views of the local community are part of the evaluation of the merits of the Project summarised in **Section 7** in line with the requirements of section 4.15 of the EP&A Act.

6.4.5 Evaluation

244. The Department has carefully assessed the Project's greenhouse gas emissions and associated climate change impacts. The Department's assessment has been guided by NSW

and Commonwealth policies and guidelines, including (but not limited to) emissions reduction targets and guiding principles of the Climate Change Act and the *NSW Large Emitters Guide*.

245. The Climate Change Act identifies that there is a critical need to address climate change and establishes guiding principles for action to address climate change. This includes that action to address climate change should be taken as early as possible to minimise the cost and adverse impacts of climate change on communities, human health, animals and the survival of all species.

246. In its recent Spotlight Report, the Net Zero Commission advised that NSW consent authorities need to meaningfully consider how the Scope 1 and 2 emissions of coal projects would affect progress towards NSW legislated emissions reduction targets, and coal projects' Scope 3 emissions and their climate change impacts. Additionally, it was recommended that significant weight is given to these matters in making determinations. The Department has carefully considered these matters in its assessment of the Project's emissions and overall evaluation of the Project.

247. The Department has also considered the environmental, social and economic effects of climate change impacts on the locality having regard to the views of the community. It is acknowledged that additional greenhouse gas emissions generated by the Project would contribute to climate change and therefore to climate impacts in the locality.

248. Should the IPC determine to approve the Project, the Applicant would be required more accurately map the Project's GHGEs footprint and provide greater details and priorities on further mitigation measures to be implemented for the life of the Project.

249. Should the IPC determine to approve the Project, the additional Scope 1 and 2 greenhouse gas emissions generated by the Project would need to be managed under current NSW greenhouse gas policy initiatives including the development of a CCMAP under EPA's Climate Change Policy Framework, that will further investigate opportunities to minimise emissions.

6.5 Other issues

250. The Department's consideration of other issues is summarised in Table 10 below.

Table 10 | Assessment of other issues

Issue	Findings and conclusions	Recommended conditions
Water Resources		
	• Potential impacts to water resources were raised in 36% of objecting submissions, with key concerns related to pollutants in the groundwater and surface water discharges from the mine impacting Lake Macquarie. • The EIS included a Surface Water Impact Assessment (SWIA) and a Groundwater Impact Assessment (GWIA) which were prepared by GHD Pty Ltd (GHD). The GWIA and conceptual groundwater model were peer reviewed by Dr Noel Merrick of Hydro Algorithmics, who agreed with the key conclusions of the assessment and found that "*the proposed changes in this Project are minor in form and would not lead to any significant incremental impacts from what has already been approved*". • Neither the EPA or DCCEEW Water raised any concerns in relation to water resources or the associated assessments. • GHD indicated that the groundwater sources in the vicinity of the Project area are generally low yielding and predominantly within the Quaternary alluvium, weathered and/or fractured sandstone and coal seams. Active and historical coal mining operations have impacted the local and regional groundwater system through depressurisation of the strata surrounding the workings. These groundwater sources are classified as 'less productive', in accordance with the NSW Aquifer Interference Policy (AIP) due to low yields and poor groundwater quality. • The Project area is located within the surface water catchment of south Lake Macquarie, with Swindles Creek being the main tributary flowing between the pit top sites which receives existing surface water discharges from	Ensure sufficient water supply for all stages of the development. Report on water take from the site each year. Ensure all surface water discharges comply with the POEO Act. Prepare and implement a combined WMP for the development. Update the groundwater impact

Issue	Findings and conclusions	Recommended conditions
	the mine. A number of estuarine lakes exist to the south of the Project area. The waterways surrounding the Project area are considered 'slightly to moderately disturbed' systems with high salinity in accordance the ANZG (2018).	predictions as part of the Extraction Plan.
	• GHD confirmed that the main elements of the Project that have the potential to result in an incremental impact on water resources are additional groundwater inflows and discharge volumes associated with the proposed continuation in mining for two years beyond current approvals and the proposed secondary extraction in the Fassifern Seam at MC under Lake Macquarie.	
	• Modelling predicted that secondary extraction within the Fassifern Seam at MC may result in a minor and temporary increase in groundwater inflow from approximately 6.7 ML/day to 7.6 ML/day (i.e. an increase of 0.9 ML/day), resulting in a combined inflow rate to the CVC and MC mine workings of approximately 2,774 ML/year. GHD confirmed that this peak inflow is well below the current combined groundwater Water Access Licence (WAL) allocations held by CVC and MC of 4,893 ML/year under the *Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016* (Groundwater WSP).	
	• Groundwater inflow into the underground workings at CVC and MC is currently managed through pumping to and from temporary storage areas in the underground workings, with excess inflow water transferred to surface water storages at the pit tops before being discharged into Lake Macquarie via Swindles Creek through licenced discharge points (LDPs). GHD confirmed that the existing surface water management system has sufficient capacity to dewater and store the minor increase in groundwater inflow volumes associated with the Project.	
	• The Applicant currently holds Environment Protection Licences (EPLs) for the CVC and MC which have a combined discharge volume limit of 16.161 ML/day and include water quality limits for discharges via the LDPs. GHD confirmed that the existing combined discharge limit is sufficient to cater for additional groundwater inflow	

Issue	Findings and conclusions	Recommended conditions
	volumes associated with the Project. Water quality from discharges associated with the Project are predicted to be similar to those of the existing and approved operations and within existing EPL criteria. • GHD confirmed that there is no historical evidence of connectivity between underground workings and Lake Macquarie and connectivity is not expected from proposed mining operations. No drawdown of alluvial groundwater or the water table, or any impacts on baseflow to ephemeral creeks or groundwater dependent ecosystems (GDEs) are therefore predicted as a result of the Project. Further, none of the 64 registered bores identified within a 5 km radius of the Project are predicted to be impacted by drawdown greater than 2 m. • On this basis, GHD confirmed that the predicted impacts to alluvial groundwater meet the Level 1 minimal impact considerations under the NSW AIP and are therefore considered to be acceptable. Dr Merrick agreed with this outcome. • GHD confirmed that there are no other changes proposed to the existing clean and dirty water management systems at either the CVC or MC pit top facilities. • The existing surface water management and monitoring systems at the CVC and MC sites are detailed in separate Water Management Plans (WMPs), approved in April 2021 and September 2022 respectively. The WMP for the CVC includes a Groundwater Management Plan (GMP) which details the existing groundwater management and monitoring system at the site. Should the Project be approved, the Applicant has committed to review, merge and update these plans and prepare a WMP for the combined operations. • Should the IPC determine to approve the Project, the proposed secondary workings in the Fassifern Seam at MC would be subject to further approval under the Extraction Plan process before it can be undertaken. The Applicant has agreed that this process would involve updated groundwater impact predictions using the existing numerical groundwater model developed for CVC MOD 4.	

Issue	Findings and conclusions	Recommended conditions
	• In its submission on the EIS, DCCEEW Water recommended that post-approval, the Applicant should apply to assign all the existing rights under the two existing WALs into a single combined WAL which covers the entire Project. The Applicant committed to implementing this recommendation. • Should the IPC determine to approve the Project, it would result in a small incremental impact to water resources in the form of a minor and temporary increase in groundwater inflow and water discharges from the mine. The increase in groundwater inflow is predicted to be within the existing WAL volumetric limits and the surface discharges are within the water quantity and quality limits specified in the existing EPLs. The Department has recommended that a combined WMP be prepared, and an Extraction Plan be prepared for secondary workings.	
Biodiversity and Aquatic Ecology		
	• Potential impacts to biodiversity and aquatic ecology were raised in 26% of objecting submissions, with key concerns relating to potential harm to aquatic life from water discharges from the mine into Swindles Creek and Lake Macquarie. Numerous submissions also raised concerns about recent fish death incidents in Lake Macquarie. • The EIS included a Biodiversity Assessment (BA) prepared by EMM which focused on the potential impacts to seagrass and benthic communities. • Council indicated that it supported the outcomes of the BA. CPHR did not raise any concerns in relation to biodiversity or the BA. DPI Fisheries raised no objections in relation to the Project, however requested that seagrass and benthic communities continue to be monitored within the approved mining areas below Lake Macquarie, as part of the existing Seagrass Management Plan and Benthic Communities Management Plan. • EMM confirmed that the Project would not involve any additional surface disturbance beyond what is currently approved and would therefore have no direct impacts on terrestrial biodiversity values.	Prepare and implement a Seagrass Management Plan and a Benthic Communities Management Plan as part of the Extraction Plan. Subsidence impact performance measure of 'negligible environmental

Issue	Findings and conclusions	Recommended conditions
	• Given the volume and quality of water discharges from the mine into Swindles Creek and Lake Macquarie are predicted to be generally consistent with the approved operations, EMM confirmed that the Project is unlikely to result in any material impacts to aquatic biodiversity from discharges, beyond what is already approved. • EMM noted that the only potential indirect biodiversity impact associated with the Project is related to the extension of the Zone B subsidence area to parts of the approved MC mining area below Lake Macquarie. EMM state that if mining subsidence was to occur beneath seagrasses which grow around the foreshore of Lake Macquarie, then the seagrasses could be indirectly impacted as a result of increased turbidity and reduced light availability. EMM confirmed that the proposed secondary extraction associated with the Project is limited to the approved MC mining area which is not beneath the seagrass beds and is therefore unlikely to impact sensitive seagrass areas. • In accordance with DPI Fisheries' request and should the Project be approved, the existing consent requirements for the preparation and implementation of a Seagrass Management Plan and a subsidence impact performance measure of 'negligible environmental consequences' for seagrass beds should be reflected in the Project approval. • In relation to benthic communities, EMM confirmed that the proposed extension area for secondary extraction remains at Lake Macquarie water depths of between 4 m to 6 m. Extensive monitoring of benthic communities at these depths has indicated that there has been no significant changes to the communities as a result of previous and current mining below at these depths. Secondary extraction associated with the Project is therefore considered unlikely to adversely impact benthic communities. • Should the IPC determine to approve the Project, the existing consent requirements for the preparation and implementation of a Benthic Communities Management Plan and a subsidence impact performance measure of	consequences' for seagrass beds. Subsidence impact performance measure of 'minor environmental consequences, including minor changes to species composition and/or distribution' for benthic communities.

Issue	Findings and conclusions	Recommended conditions
	'minor environmental consequences, including minor changes to species composition and/or distribution' should be reflected in the Project approval. • The Department acknowledges that there have been two mass fish death events in Lake Macquarie, in both August and September 2022. Both events have been thoroughly investigated by the EPA, with the investigation associated with the second event continuing. The EPA did not identify the operations at the CVC or MC as the likely source (or contributing factor) to the August incident. EMM confirmed that monitoring data associated with discharges from the operations has not identified any anomalies that may have contributed to either fish kill incident. The EPA did not raise any concerns in relation to these events in its submission on the Project.	
Traffic and Transport		
	• Traffic and transportation issues were raised in a relatively small portion (i.e. 9%) of objecting submissions, with the key concerns relating to the presumed increase in heavy truck movements on local roads and associated safety issues. Several submissions also indicated that the traffic assessment was inadequate in describing the impact of the Project on the capacity, condition, safety and efficiency of the public road network. • The EIS included a Traffic Impact Assessment (TIA) prepared by GHD. The TIA was originally prepared as part of the CVC MOD 4 application and covered the potential impacts on the local traffic network associated with an operational timeframe to 2030 (i.e. beyond the proposed operational life of the Project). • TfNSW was satisfied the EIS adequately addressed the anticipated traffic impacts of the Project on the State road network. Council raised no issues in relation to traffic or transport.	Restrictions on transportation times, product coal volumes and number of truck movements. Preparation and implementation of a TMP. Requirement to upgrade the intersection of Ruttleys Road and

Issue	Findings and conclusions	Recommended conditions
	• The Department notes that the TIA assesses a range of scenarios for the combined CVC and MC operations, including the worst-case maximum road haulage scenario and traffic growth forecasts to 2029 which is relevant to the Project. • Coal is transported between the CVC and MC via an underground conveyor and between the MC and the VPPS via overland conveyor. Coal from the CVC is approved to be transported on public roads by trucks to the Port Waratah Coal Services in Newcastle for export or to domestic customers. A maximum of 270 laden coal truck per day and 32 laden trucks per hours are currently approved to be dispatched from the CVC site. However, it is important to note that no coal has been exported from the operations since 2017, and that the Applicant has confirmed that this is likely to continue to be the case. Export of coal via the Port Waratah Coal Services terminal would only occur in the unlikely event of an unplanned extended shut-down of the VPPS during the life of the Project. • The designated haulage route from the CVC involves trucks utilising Ruttleys Road before turning onto the Pacific Highway. Other roads utilised by trucks, employees and maintenance vehicles include Construction Road and MC Access Road which both intersect with Ruttleys Road and provide direct access to and from the CVC and MC, respectively. • GHD confirmed that the Project would not involve any change to traffic volumes or haulage routes currently approved, 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. • GHD's intersection modelling analysis indicated that all intersections are expected to continue to operate with a good Level of Service 'A' until to 2030, and that no changes to intersection design or additional traffic management measures are required for the Project, relative to the currently approved operations.	MC access road if the number of employees working at the MC exceeds 70. Requirement to pay Road Maintenance Fees to Central Coast Council in accordance with its Road Maintenance Agreement.

Issue	Findings and conclusions	Recommended conditions
	• Should the IPC determine to approve the Project, the Department has recommended conditions which reflect the existing conditions in the CVC consent in relation to restrictions on transportation times, product coal volumes and number of truck movements. The Department has also recommended that the existing Road Transport Protocol for the CVC be updated and replaced with a Traffic Management Plan (TMP) for the Project, which is to be prepared in consultation with TfNSW and Council and includes the designated transport routes, traffic management measures and a Drivers Code of Conduct. • The existing MC consent requires that, if the number of employees working at the MC exceeds 70, the Applicant is required to upgrade the intersection of Ruttleys Road and MC access road, to provide a channelised right turn into the site. It is understood that a maximum of 35-40 workers are expected to be employed at the MC site and this condition will therefore not be triggered, however the Department has recommended retaining this condition (should the Project be approved) in the Project approval as a precaution. • The existing CVC consent also requires the Applicant to pay Road Maintenance Fees to Central Coast Council in accordance with its Road Maintenance Agreement with (Condition 19 Schedule 1). This would continue to apply for the extended life of the mine.	
Social		
	• The majority of the submissions received in support of the Project (i.e. 89%) identified social benefits, particularly employment, as a key positive aspect. A small number of submissions objecting to the Project (i.e. 2%) raised adverse social impacts and potential distress on local communities as issues. • Council identified that the social impact of the Project would be substantially the same as existing operations. Council noted that the Project has the potential to impact on the Lake Macquarie community in terms of the	Pay contributions to Council community fund in accordance with the existing VPA.

Issue	Findings and conclusions	Recommended conditions
	demand for infrastructure, however, was satisfied that this impact was appropriately addressed and that impacts are unlikely where the operations occur as planned.	Continue to operate a CCC.
	• The EIS included a Social Impact Assessment (SIA) prepared by Umwelt in accordance with the *Social Impact Assessment Guideline for State Significant Projects* (DPIE, 2021). The SIA was informed by an engagement program which involved Project information newsletters, telephone contact and online engagement mechanisms with community members and groups.	Regularly publish relevant documentation on the Applicant's website.
	• Key social benefits identified by the SIA were continued employment for the existing mine workforce and continued investment and funding for community projects from the mine.	Operate a community hotline and complaints register.
	• Key social impacts identified by the SIA included negative impacts on amenity from dust and poor air quality, and livelihood impacts resulting from property damage (from the original proposal to mine in the Eastern mining area). Further analysis of negative social impacts ranked risks associated with continued climate change and conflicting views on the use of coal in energy production as social issues with high residual significance.	
	• The Applicant has an existing Voluntary Planning Agreement (VPA) with Central Coast Council which requires the company to contribute $0.035 for each tonne of coal produced to a community fund (refer to conditions 11 and 12, Schedule 3 pf the CVC consent). The fund is administered by this Council and is used to fund not-for-profit organisations to deliver projects that improve community infrastructure within Summerland Point, Gwandalan, Chain Valley Bay and Mannering Park. Umwelt indicated that as of 2021, over $200K had been allocated to the fund. The Applicant has committed to continue to contribute to the fund in accordance with the VAP agreement for the life of the Project.	

Issue	Findings and conclusions	Recommended conditions
	• Should the Project be approved, the Applicant also proposed a range of other management strategies to address the identified social impacts of the Project. These measures are additional to those proposed to mitigate the subsidence, air quality, noise, climate change and water impacts, and include commitments to: - continued communication and engagement with proximal residents regarding Project impacts; - continued employment of local workforce and procurement of contractors/suppliers; - develop a transition plan to facilitate further employment opportunities for the mine workforce in other industries e.g., renewable energy, gas/power generation, tourism, and relevant support; and to effectively manage changes to local suppliers/contractors; - develop of a fit for purpose Social Impact Management Plan including an update to Stakeholder Engagement Strategy that addresses community information requirements and preferences for engagement. • Should the IPC determine to approve the Project, the Department has recommended conditions requiring the Applicant to: - continue operating a Community Consultative Committee (CCC) in accordance with the Department's *Community Consultative Committee Guidelines: State Significant Projects* (2019); - regularly publish relevant documentation on their website; and - continue to operate a community hotline and complaints register. • Should the IPC determine to approve the Project, the implementation of the mitigation measures proposed by the Applicant and the application of the Department's recommended conditions (coupled with the management	

Issue	Findings and conclusions	Recommended conditions
	measures proposed in respect of subsidence, air quality, noise, climate change and water impacts), can appropriately manage the extent of residual social impacts of the Project.	
Economic		
	• The majority of the submissions received in support of the Project (i.e. 69%) identified economic benefits to the local and wider communities as a key positive aspect. A small number of submissions objecting to the Project (i.e. 3%) were critical of the economic assessment, claiming that it underestimated the costs of residual impacts such as impacts on human health, the environment and climate change. • Council noted that a review of the economic analysis indicated that the Project would result in a positive economic outcome. • The EIS included an Economic Assessment (EA) prepared by Gillespie Economics (Gillespie) which incorporated a Cost Benefit Analysis (CBA), a Local Effects Analysis (LEA) and a Supplementary LEA to estimate the incremental net benefits of the Project to the State and the local benefits to the Lake Macquarie and Central Coast regions. The EA was undertaken in accordance with the *Guidelines for Economic Assessment of Mining and Coal Seam Gas Proposals* (NSW Government, 2015). • The CBA estimated that the Project would have incremental (i.e. above that of the approved Project) net production benefits to NSW of $89M (2021 net present value at 7% discount rate). Gillespie confirmed that this included: - the economic cost of GHGEs attributable to the State; - the opportunity cost associated with retaining groundwater licences for an additional two years; and - $36M for royalties payable directly to the State of NSW.	No conditions necessary.

Issue	Findings and conclusions	Recommended conditions
	• In addition, the CBA estimated that the Project may have net social benefits to NSW of $85M when potential employment benefits are excluded and $155M when potential employment benefits are included. • Based on these outcomes, Gillespie indicated that relative to the "without Project" scenario, the Project is desirable and justified from an economic efficiency perspective. • The LEA indicated that the Project would provide an average operational workforce of 297 per year, with the majority of these workers (68%) to continue to reside in the local areas. Gillespie estimated that this would provide an increase in regional wages equivalent of $10M. Non-labour expenditure in the local area was estimated to be $38M per annum. • The Supplementary LEA (which allowed for divergence from full employment, job chains effects, and in-migration of labour to the region) estimated that the Project would result in the following direct and indirect contributions to the regional economy: - $263M in annual output or business turnover; - $140M in annual regional value added; - $50M in annual household income; and - 627 direct and indirect jobs. • Should the IPC determine to approve the Project, the Project would ensure the continued employment for a significant number of workers, the majority of which reside in the local area, for an additional two years. The Department also recognises that a key economic benefit of the Project would be the continued supply of coal to the VPPS to assist in meeting the power needs of NSW consumers.	

Issue	Findings and conclusions	Recommended conditions
	• Should the IPC determine to approve the Project, the Project would result in positive economic benefits to the local and regional areas and to the State of NSW.	
Heritage		
	• No public or special interest group submissions on the Project raised either Aboriginal cultural heritage or European heritage as issues. • The EIS included an Aboriginal Cultural Heritage Impact Assessment (ACHA) and a Historic Heritage Assessment (HHA), both of which were prepared by Umwelt. The ACHA was prepared in consultation with the ten Registered Aboriginal Parties (RAPs). • Heritage NSW (as a delegate under the *National Parks and Wildlife Act 1974*) raised no issues in relation to the ACHA or Aboriginal cultural heritage aspects of the Project. Heritage NSW (as a delegate of the Heritage Council of NSW) identified that the ACHA did not include assessment of the Lake Macquarie Resting Place, however stated that provided no impacts are proposed to this Aboriginal Place, the Morisset Hospital Precinct or Lake Macquarie State Conservation Area, then it supported the recommendations of the assessment reports. • Council accepted the findings of the heritage assessment reports and recommended adopting conditions of consent which capture the consolidated management and mitigation measures. • In its Submissions Report, the Applicant confirmed that the Lake Macquarie Resting Place (Aboriginal place) is located in the Lake Macquarie State Conservation Area and would not be impacted by the Project.	Implementation of Aboriginal Cultural Heritage and Historic Heritage operating conditions.

Issue	Findings and conclusions	Recommended conditions
	• The ACHA confirmed that, as the Project does not involve any changes to approved mining or surface disturbance activities which would impact land or foreshore areas, it is not predicted to have any additional impacts to Aboriginal sites relative to existing approved operations. • Based on field surveys and visual inspections, the HHA confirmed that no new potential historical heritage items, elements or sites were identified within the Project area. The HHA concluded that the Project would not result in any physical impacts (either direct or indirect) nor any visual impacts to heritage items (both listed and unlisted) located partially within or in the vicinity of the Project Area. • Should the IPC determine to approve the Project, the Project is unlikely to result in adverse impact to either Aboriginal cultural heritage or European heritage, beyond what is currently approved. • Should the IPC determine to approve the Project, the Department has recommended that the Applicant be required to carry out the development in accordance with clear Aboriginal Cultural Heritage and Historic Heritage operating conditions.	
Rehabilitation		
	• A small number of submissions objecting to the Project (i.e. 2%) raised rehabilitation and decommissioning issues as a concern. • RR indicated that it had no specific comment regarding mine rehabilitation matters in relation to the Project and confirmed that the consolidation Project would not alter approved rehabilitation outcomes. • The Applicant confirmed that the Project would not change the currently proposed decommissioning and rehabilitation plans for the operations which are described in detail in the existing Rehabilitation Management Plan (RMP) (October 2022) for the operations. This includes the primary objective to rehabilitate the site to a final land	Comply with rehabilitation objectives. Prepare and implement at RMP.

Issue	Findings and conclusions	Recommended conditions
	use that is compatible with surrounding land uses. The MC pit top and majority of CVC pit top is proposed to be restored to native bushland, except for the high voltage transmission line easement which would be rehabilitated to a native grassland community only. • On 2 July 2021, RR introduced reforms to improve compliance and reporting requirements for mine rehabilitation across NSW. The reforms prescribe new rehabilitation and reporting conditions on all mining leases, requiring progressive rehabilitation, rehabilitation risk assessments, annual reporting and detailed rehabilitation management planning. • To ensure consistency between the requirements of development consents and mining leases, the rehabilitation conditions on all mining-related development consents are progressively being reviewed and, where necessary, modified to align with the requirements of the rehabilitation reforms. Should the IPC determine to approve the Project, the Project would not change the existing rehabilitation outcomes for the sites. The rehabilitation conditions should also be contemporised to reflect the rehabilitation reforms.	

7 Evaluation

7.1.1 Introduction

251. The Department has carefully considered the environmental, social, and economic impacts of the Chain Valley Colliery Consolidation Project (the Project). The Department's assessment draws on the Environmental Impact Statement (EIS), the Submissions Report, additional information provided by the Applicant, advice from government agencies, independent expert review, and issues raised in public submissions. The Department's assessment has considered the relevant matters and objects of the EP&A Act and has been guided by a range of strategic NSW government policies and plans.

252. Section 4.15 of the EP&A Act sets out the specific evaluation requirements for the project. In summary, evaluating the merits of the project involves weighing up the potential benefits against the potential impacts and considering its consistency with relevant statutory requirements, government policy and the public interest. These matters will ultimately need to be weighed up by the consent authority, the IPC.

7.1.2 Consistency with Strategic Planning Objectives

253. The Project is designed to ensure continuity of coal supply to the adjacent VPPS until what was its planned closure in 2029, aligning the mine's operational life with the power station and securing ongoing local employment. The Department notes that in March 2023 (after this Project was lodged), it was announced that VPPS closure would be delayed four years to 2033.

254. The Project does not involve expansion beyond current mining boundaries, nor does it introduce new coal transport routes.

255. The Project is generally consistent with the aims of key relevant strategies. It provides a secure and local coal supply to the VPPS, reduces reliance on external suppliers, and avoids additional greenhouse gas emissions and road transport impacts associated with sourcing coal from other regions. There are clear benefits to having a domestic supply to assist with power generation during the transition to renewables period.

256. The Project is also aligned with the *Central Coast Regional Plan 2036*, which identifies the importance of sustaining regional employment and supporting industries that contribute to local economic resilience. The continuation of approximately 390 direct jobs and flow-on economic activity is a significant outcome for the region.

7.1.3 Benefits

257. The Project would deliver important economic and social benefits. The Department received 45 submissions of support for the Project from members of the public citing the economic and social benefits from the Project.

258. The Project would deliver:

- retention of approximately 390 direct operational jobs and associated indirect employment;
- continuation of royalties and taxes to the NSW Government, supporting State services and infrastructure;
- local expenditure by the Applicant and its workforce, supporting the Lake Macquarie and Central Coast economies;
- secure supply of coal to the VPPS, reducing reliance on imported coal and associated transport emissions; and
- regulatory certainty by consolidating the existing multiple consents into a single, contemporary consent framework.

7.1.4 Impacts

259. The Project would result in a range of direct and indirect environmental, social and economic impacts. The Department received 133 objections to the Project from members of the public and special interest groups outlining concerns of impacts from the Project.

260. Subsidence beneath Lake Macquarie and foreshore areas was identified as the most significant environmental risk. Independent expert advice confirmed that the proposed secondary extraction layouts could be designed to meet performance measures, provided strict controls are applied.

261. Should the IPC determine to approve the Project, the Department has recommended conditions requiring staged Extraction Plans, ongoing monitoring, third-party auditing, and adaptive management. These conditions would ensure subsidence is limited to negligible environmental consequences in sensitive foreshore and aquatic environments.

262. Noise modelling predicts compliance at most sensitive receivers, with limited exceedances under worst-case conditions. Mitigation measures, including enclosure of new coal handling infrastructure, strict haulage restrictions, and consolidated noise limits, would reduce impacts, should the IPC determine to approve the Project.

263. Air quality impacts due to the Project are predicted to remain below relevant standards, and cumulative impacts with VPPS are not expected to exceed relevant thresholds. Should the IPC determine to approve the Project, the Department has recommended a requirement for all feasible and reasonable steps to minimise potential air quality impacts and continuation of monitoring and reporting to ensure compliance.

264. The Project would generate approximately 13 million tonnes (Mt) of CO_2-equivalent emissions, associated with the additional two years of coal extraction. Most of these emissions (i.e. around 88 %) would be Scope 3 emissions associated with the combustion of coal by end users. Should the IPC determine to approve the Project, the Department has recommended conditions requiring a Greenhouse Gas Mitigation Plan to identify and implement feasible abatement measures.

265. The additional emissions from the Project (i.e. Scope 1, 2 and 3) would contribute to global climate change. Climate projections for the Central Coast and Hunter regions (including the Project area) indicate rising temperatures and sea level, increased fire risk, and more frequent extreme weather events. Community submissions highlighted concerns about these risks and their social and economic consequence.

266. Scope 1 and 2 emissions from the Project would contribute to the overall emissions from all NSW sources. The recent Net Zero Commission report into fugitive emissions from coal mines highlighted these challenges and issues.

267. Impacts on water quality and biodiversity, including seagrass and benthic communities, are expected to be minor and manageable under existing monitoring and management frameworks. Should the IPC determine to approve the Project, the Department has recommended conditions requiring continuation of the existing monitoring programs.

268. Should the IPC determine to approve the Project, the implementation of reasonable and feasible mitigation measures can be applied to manage the residual impacts of the Project on Aboriginal cultural heritage, historic heritage, traffic and transport, rehabilitation, social and economic via strict conditions of consent.

7.1.5 Conclusion

269. The Department has carefully considered the likely environmental, social, and economic impacts of the Project in accordance with the requirements of section 4.15 of the EP&A Act.

270. Overall, the Department's assessment contains an evaluation that demonstrates:

- the Project would secure coal supply to the VPPS until its planned closure in 2029, supporting energy security during the State's transition to renewable energy;

- the Project would consolidate multiple historic approvals into a single, contemporary consent, improving regulatory certainty, transparency, and compliance;
- key environmental impacts—have been considered including subsidence, noise, greenhouse gas, air quality, water quality, biodiversity, and heritage— which could be mitigated with strict conditions of consent;
- community concerns have been considered and incorporated through strengthened performance measures, independent reviews, and transparent monitoring and reporting;
- consideration of NSW Government strategies, including the Strategic Statement on Coal Exploration and Mining (2020), the Central Coast Regional Plan 2036, and State and National climate change policy; and
- the Project would retain approximately 390 direct jobs and a further estimated 1,000 indirect jobs across the region, supporting the Lake Macquarie and Central Coast economies.

271. The Department has not provided an overall recommendation but rather has undertaken a comprehensive assessment and evaluation of the Project to inform the IPC as the consent authority and assist it in its need to conclude if the Project is in the public interest. Should the IPC determine to approve the Project, the Department has provided recommended conditions.

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18 December 2025

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18 December 2025

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Energy, Resources and Industry Assessments

Glossary

Abbreviation	Definition
AQGHGMP	Air Quality and Greenhouse Gas Management Plan
BDAR	Biodiversity Development Assessment Report
BC Act	Biodiversity Conservation Act 2016
CAS	Climate & Atmospheric Science (within DCCEEW)
CCC	Community Consultative Committee
CHPP	Coal Handling and Preparation Plant
CIV	Capital Investment Value
CPHR	Conservation Programs, Heritage & Regulation Group of DCCEEW
CVC	Chain Valley Colliery
DCCEEW	Department of Climate Change, Energy, the Environment and Water
Department	Department of Planning, Housing and Infrastructure
DPI	Department of Primary Industries
EIS	Environmental Impact Statement
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2021*
EPI	Environmental Planning Instrument
EPL	Environment Protection Licence
ESD	Ecologically Sustainable Development

Abbreviation	Definition
FRNSW	Fire and Rescue NSW
GA	Geotechnical Assessment
GHGEA	Greenhouse Gas and Energy Assessment
GHG	Greenhouse Gas
GHGEs	Greenhouse Gas Emissions
GHGMP	Greenhouse Gas Mitigation Plan
HHA	Historic Heritage Assessment
IPC	Independent Planning Commission
IEAPM	Independent Expert Advisory Panel for Mining
LGA	Local Government Area
LEP	Local Environmental Plan
MC	Mannering Colliery
Minister	Minister for Planning
Mtpa	Million tonnes per annum
MSHV	Macquarie Shores Home Village
NCC	Nature Conservation Council
NGAF	National Greenhouse Accounts Factors
NGERS	National Greenhouse and Energy Reporting Scheme
NGERS Act	National Greenhouse Gas and Energy Reporting Act 2007
NIA	Noise Impact Assessment

Abbreviation	Definition
NPfI	Noise Policy for Industry
NPWS	National Parks & Wildlife Service
NRAR	Natural Resources Access Regulator
OU	Odour Units
Panel	Independent Expert Advisory Panel for Mining
PNTL	Project Noise Trigger Level
POEO Act	*Protection of the Environment Operations Act 1997*
Project	Chain Valley Colliery Consolidation Project
ROM	Run-of-Mine
RMP	Rehabilitation Management Plan
SA	Subsidence Assessment
Scope 1	Direct greenhouse gas emissions from mining, ventilation, and equipment
Scope 2	Indirect greenhouse gas emissions from electricity use
Scope 3	Greenhouse gas emissions from downstream coal combustion and transport
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SMP	Subsidence Monitoring Plan
SPB	Seagrass Protection Barrier
SSD	State Significant Development
SSI	State Significant Infrastructure

Abbreviation	Definition
SWIA	Surface Water Impact Assessment
TfNSW	Transport for NSW
TIA	Traffic Impact Assessment
TMP	Traffic Management Plan
TSP	Total Suspended Particulates
UNFCCC	United Nations Framework Convention on Climate Change
VPPS	Vales Point Power Station
VPA	Voluntary Planning Agreement
VLAMP	Voluntary Land Acquisition and Mitigation Policy
WAL	Water Access Licence
WMP	Water Management Plan
Zone A	Subsidence Management Zone A (foreshore and seagrass areas)
Zone B	Subsidence Management Zone B (beneath Lake Macquarie)

Appendices

Appendix A – Summary of key assessment milestone dates

A summary of the key milestone dates throughout the Department's assessment of the Project is outlined below in Table A1.

Table A1 Key assessment milestone dates

Task	Details / dates
SEARs request made	1 April 2021
SEARs issued	13 May 2021
SSD application & EIS Received	4 November 2022
EIS Exhibition	18 November 2022 -17 December 2022
Submissions Report Requested	22 December 2022
Submissions Report Received	27 March 2023
Department requested advice from IEAPM in relation to Greenhouse Gas Impact Assessment	23 June 2023
Department requested advice from IEAPM in relation to Subsidence Impact Assessment	21 November 2023
IEAPM Final Report – Greenhouse Gas Assessment	30 January 2024
IEAPM Letter – Greenhouse Gas Assessment Final Report Clarifications	28 July 2024
IEAPM Final Report – Subsidence Impact Assessment	30 December 2024
IEAPM Letter – Final Subsidence Impact Assessment Clarifications	10 March 2025
EPA & NZEM Advice	6 June 2025
BDAR Waiver Request	6 June 2025

Task	Details / dates
BDAR Waiver – CPHR Determination	27 June 2025
BDAR Waiver – Final Determination	2 July 2025

A summary of the Department's additional requests for information is provided in Table A2 below.

Table A2 Request for Information key dates

Request for Information	
RFI-57590463 *Department requested the Applicant provide evidence of landowner's consent from the relevant authority of the Lake Macquarie State Conservation Area)*	
Department requested further information	21 April 2023
Applicant response to RFI	1 February 2024
RFI-58199718 (*Department requested the Applicant provide a subsidence assessment of the proposed secondary extraction areas, in additional to a proposed conceptual mine layout and scheduling)*	
Department requested further information	5 May 2023
Applicant response to RFI	14 November 2023
RFI-61754710 *(Department requested the Applicant provide further assessment of combustion emissions for the air quality assessment)*	
Department requested further information	29 August 2023
Applicant response to RFI	26 October 2023
RFI-62221458 (*Department requested the Applicant provide further information in regard to the noise assessment)*	
Department requested further information	18 September 2023
Applicant response to RFI	10 November 2023

Request for Information	
RFI-64933030 *(Department requested the Applicant respond to the EIS submission from NSW National Parks and Wildlife Service)*	
Department requested further information	22 November 2023
Applicant response to RFI	28 November 2023
RFI-66888209 *(Department requested the Applicant respond to questions and information requests from the IEAPM in relation to subsidence)*	
Department requested further information	22 January 2024
Applicant response to RFI	18 June 2024
RFI-67365990 *(Department requested the Applicant to review and respond to the recommendations of the IEAPM Final Report- Greenhouse Gas Assessment)*	
Department requested further information	7 February 2024
Applicant response to RFI	31 May 2024
RFI-78667964 *(Department requested the Applicant to provide further information to demonstrate how the Project would affect the emissions reduction targets of the Climate Change (Net Zero Future) Act 2003, with further consideration to the EPA's Climate Change Guidelines for High Emitting Projects)*	
Department requested further information	17 December 2024
Applicant response to RFI	17 January 2025
RFI-78670957 *(Department requested the Applicant to review and respond to the recommendations of the IEAPM Final Report – Subsidence Impact Assessment)*	
Department requested further information	17 December 2024
Applicant response to RFI	17 January 2025

Request for Information	
RFI-80907710 *(Department requested the Applicant to review and respond to the recommendations from the IEAPM letter dated 10 March 2025, in relation to subsidence)*	
Department requested further information	12 March 2025
Applicant response to RFI	23 April 2025

RFI-91431957 *(Department requested the Applicant to provide further information on the effect of the Project's total greenhouse gas emissions on the local environment)*	
Department requested further information	3 September 2025
Applicant response to RFI	11 September 2025 & 16 October 2025

Appendix B – List of referenced documents

B1 - EIS: Refer to the 'EIS' folder under the 'Assessment' tab on the Department's website at: https://www.planningportal.nsw.gov.au/major-projects/projects/chain-valley-colliery-consolidation-project

B2 – Submissions: Refer to the 'Submissions' tab on the Department's website at: https://www.planningportal.nsw.gov.au/major-projects/projects/chain-valley-colliery-consolidation-project

B3 – Submissions Report: Refer to the first 'Response to Submissions' tab on the Department's website at: https://www.planningportal.nsw.gov.au/major-projects/projects/chain-valley-colliery-consolidation-project

B4– Agency Advice: Refer to the 'Agency Submissions' and 'Agency Advice' tabs on the Department's website at: https://www.planningportal.nsw.gov.au/major-projects/projects/chain-valley-colliery-consolidation-project

B5 – Additional Requests for Information: Refer to the "Additional Information' tab on the Department's website at: https://www.planningportal.nsw.gov.au/major-projects/projects/chain-valley-colliery-consolidation-project

Appendix C – Statutory considerations

Objects of the EP&A Act

A summary of the Department's consideration of the relevant objects (found in section 1.3 of the EP&A Act) are provided in Table D1 below.

Table D1 | Objects of the EP&A Act and how they have been considered

Object	Consideration
(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,	• The Project would provide operational efficiencies to maximise the recovery of coal resources. • The Project can be carried out using existing mine site and transport infrastructure, with coal to continue to be supplied directly to the adjacent VPPS. • The Project would provide economic benefits from the production of an additional 5.6 Mt of coal and security of coal supply to the VPPS for an additional two years. • The Project would provide considerable socio-economic benefits for an additional two years, including continued employment of a combined workforce of up to 390 full-time employees.
(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,	The Department's assessment has sought to integrate all significant environmental, social and economic considerations. Precautionary principle • The ESD precautionary principle requires that: "if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation". • The Project's threats of serious or irreversible environmental damage have been assessed having regard to all materials provided by the Applicant and advice from key Government agencies and the Mining Panel. • Information gathered during the assessment process has provided sufficient scientific certainty regarding environmental impacts and residual risks to enable the determination of the development application. • Should the IPC determine to approve the Project, strict performance measures and management and monitoring requirements would provide appropriate protection for environmental values and would minimise the potential for any serious and irreversible environmental damage.

Object	Consideration
	Inter-generational equity • Should the IPC determine to approve the Project, the recommended performance measures and other conditions of consent would provide an appropriate degree of protection for the health, diversity and productivity of the environment and not constrain the ability of future generations to use or enjoy the Project area in a similar way to the present and recent past. • The mining of coal and its combustion is a major contributor to anthropogenic climate change, which has the potential to impact future generations. In recognition of that risk, NSW has set clear goals for reducing greenhouse gas emissions over the next decades and achieving net zero emissions by 2050. The additional greenhouse gas emissions generated by the Project have been assessed under the current NSW and Commonwealth legislative frameworks. • Scope 3 emissions associated with the Project and associated environmental, social and economic impacts on climate change have also been carefully assessed in accordance with the requirements of section 4.15 of the EP&A Act. Conservation of biological diversity and ecological integrity • Should the IPC determine to approve the Project, there is no surface disturbance beyond what is currently approved, and the Project is unlikely to impact aquatic ecology. Improved valuation, pricing and incentive • The environmental costs of the Project have been addressed in detail and quantified to the degree possible in the cost benefit analysis prepared as part of the EIS. The direct environmental effects of the project would largely be internalised through the adoption and funding of the mitigation measures proposed by the Applicant or otherwise required by conditions to mitigate, remediate or offset them. • The primary externality would be the damage costs of greenhouse gas emissions. The costs of these externalities have been quantified in the EIS, as guided by the *Guidelines for Economic Assessment of Mining and Coal Seam Gas Proposals* (Economic Guidelines, NSW Government, 2015). • Should the IPC determine to approve the Project, it would realise the extraction of ROM coal in an area already largely approved for mining, that maximises economic benefits whilst minimising environmental and social impacts subject to conditioning.

Object	Consideration
(c) to promote the orderly and economic use and development of land,	• The Project involves a permissible land use on the subject land. • The coal resource is located within existing coal exploration and mining lease area, in an area that is already approved for coal mining operations. • The Project can be carried out using existing mine site and transport infrastructure, with coal to continue to be supplied directly to the adjacent VPPS.
(d) to promote the delivery and maintenance of affordable housing,	• Not applicable.
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,	• Should the IPC determine to approve the Project, there is no surface disturbance beyond what is currently approved, and the Project is unlikely to impact aquatic ecology.
(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	• Should the IPC determine to approve the Project, there is no surface disturbance beyond what is currently approved and as such does not involve any changes to approved mining or surface disturbance activities which would impact land or foreshore areas and therefore have any additional impacts to Aboriginal sites or historical heritage items relative to existing approved operations.
(g) to promote good design and amenity of the built environment,	• Not applicable.
(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,	• Not applicable.
(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,	• The Department has assessed the Project in consultation with Lake Macquarie City Council, Central Coast Council and other relevant NSW government authorities and has given consideration to the issues raised by these agencies in its assessment.
(j) to provide increased opportunity for community participation in environmental planning and assessment.	• The Department publicly exhibited the Project application and considered all submissions in its assessment.

Matters for Consideration under 4.15 of the EP&A Act

The Department's consideration of the matters for consideration under section 4.15 of the EP&A Act is provided in Table D2 below.

Table D2 – Matters for consideration under section 4.15 of the EP&A Act

Item	Consideration
Environmental Planning Instruments	
Lake Macquarie Local Environmental Plan (LEP) 2014 and Central Coast Local Environment Plan 2022	Most of the CVC underground mining areas fall within the Lake Macquarie LGA and are subject to the provisions of the Lake Macquarie LEP. The mining areas that fall underneath the lake are zoned as W1 – Natural Waterways. The area to the west of Lake Macquarie within the existing MC approval area includes RE1 – Public Recreation, R2 – Low Density Residential, RU4 – Primary Production Small Lots, RU6 – Transition, E1 – National Parks and Nature Reserves, E2 – Environmental Conservation, E4 – Environmental Living, B1 – Neighbourhood Centre, SP2 – Infrastructure and SP3 – Tourist. The key surface features of the Project including the existing CVC and MC pit top areas and ventilation fans are located within the Central Coast LGA and are subject to the provisions of the Central Coast LEP. The existing pit top areas are on land zoned SP2 – Infrastructure. The existing CVC ventilation shaft and fan site located on the eastern side of Lake Macquarie is zoned C2 – Environmental Conservation, C3 – Environmental Management, RE1 – Public Recreation and W1 – Waterway. Under these LEPs, underground mining is prohibited within some parts of the Project area, however the permissibility provisions of *State Environmental Planning Policy (Resources and Energy) 2021* (the Resources and Energy SEPP) apply to the Project (see below). Clause 7 of the Resources and Energy SEPP permits underground mining to be carried out on any land with consent and therefore the Project is permissible with development consent.
State Environmental Planning Policy (Planning Systems) 2021	The Project is for the purposes of coal mining which is identified as State Significant Development by Clause 5 of Schedule 1 of the Planning Systems SEPP.
State Environmental Planning Policy (Resources and Energy) 2021 (Resources and Energy SEPP)	Part 2.3 of the Resources and Energy SEPP lists matters that must be considered by a consent authority before determining an application for the purposes of mining. These matters are summarised below throughout Section 6, as applicable. Section 2.16 - Non-discretionary development standards Section 2.16 identifies non-discretionary development standards for the purposes of section 4.15(2) of the EP&A Act in relation to the carrying out of development for the purposes of mining. The EIS sets out the Applicant's consideration of the applicable standards and whether or not the Project meets them. Section 2.17 - Compatibility of mine with other land uses

Item	Consideration
	Potential impacts of the Project on land uses in the vicinity of the Project, including the surrounding industrial and residential areas has been assessed in **Section 6**. Both the CVC and MC have been operating in the area since the 1960s. Should the IPC determine to approve the Project and with the implementation of proposed mitigation and management measures, the Project would not compromise these land uses and meets the aims, objectives, and provisions of section 2.17. **Section 2.18 – Voluntary land acquisition and mitigation policy** The Project would not exceed noise or air quality criteria at any privately-owned receivers that would trigger provisions of the NSW Government's *Voluntary Land Acquisition and Mitigation Policy (September 2018)*. **Section 2.19 – Compatibility of proposed development with mining, petroleum and extractive industries** Not applicable. **Section 2.20 - Natural resource management and environmental management** Section 2.20 requires that the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure that impacts on significant surface water and groundwater resources, threatened species and biodiversity are avoided or minimised to the greatest extent practicable and that greenhouse gas emissions are minimised to the greatest extent practicable. Should the IPC determine to approve the Project, the Department has recommended a range of conditions relating to water resources, biodiversity and greenhouse gas emissions (see **Appendix D**). Assessment and evaluation of the Project is provided in **Section 6**. **Section 2.21 - Resource Recovery** The Project can be carried out in an efficient manner that optimises coal resource recovery while giving appropriate recognition and protection for environmental values. Should the IPC determine to approve the Project, suitable conditions of consent giving appropriate recognition and protection for the environmental values have been drafted. **Section 2.22 – Transport** Section 2.22 aims to limit the transport of coal, other minerals and their ores, and extractive materials on public roads. Coal would continue to be transported between the CVC and MC via an underground conveyor and between the MC and the VPPS via overland conveyor. Although the Project would continue to allow coal from the CVC to be transported on public roads by trucks to the Port Waratah Coal Services in Newcastle no coal has been exported from the operations since 2017, and the Applicant has confirmed that this is likely to continue to be the case. Export of coal via the Port Waratah Coal Services terminal would only occur in the unlikely event of an unplanned extended shut-down of the VPPS during the life of the Project.

Item	Consideration
	Section 2.23 - Rehabilitation Section 2.23 outlines particular requirements relating to consideration of whether any consent granted should be subject to conditions aimed at ensuring rehabilitation of land disturbed by mining and, in particular, whether conditions should require preparation of a rehabilitation management plan, appropriate treatment of waste, remediation of soil contamination and the avoidance of public safety risks. Should the IPC determine to approve the Project, the recommended conditions are consistent with the existing requirements and are adequate to manage rehabilitation, waste and contamination.
State Environmental Planning Policy (Resilience and Hazards) 2021	Chapter 2 – Coastal Management. Parts of the Project Area are mapped as coastal wetlands and proximity area for coastal wetlands. The development controls of Part 2.2 of the Resilience and Hazards SEPP therefore apply. Should the IPC determine to approve the Project, the current approach to manage subsidence in "Subsidence Management Zones A and B" would continue to apply to the Project. This requires subsidence to be limited to ensure 'negligible environmental consequences' in Zone A areas and to 780 mm in Zone B areas. Chapter 3 – Hazardous and Offensive Development. A consent authority is required to consider whether an industrial development is a potentially hazardous or potentially offensive industry. The Project would not alter existing storage and/or use of dangerous goods or hazardous materials and therefore does not constitute a hazardous or offensive development. Accordingly, a preliminary hazard analysis is not required. Chapter 4 – Remediation of Land. A consent authority must not consent to the carrying out of development on land unless it has considered any potential contamination issues. The Project would not result in additional surface disturbance beyond what is already approved. Should the IPC determine to approve the Project, rehabilitation objectives would require all areas affected by the Project to be safe and non-polluting, with measures to manage contamination to be included in a Rehabilitation Management Plan.
State Environmental Planning Policy (Biodiversity and Conservation) 2021	This SEPP aims to conserve and manage Koala habitat to reverse the current trend of Koala population decline. A consent authority is restricted from granting development consent for proposals on land identified as core koala habitat without the preparation of a plan of management. As the Project would not involve any surface disturbance beyond what is currently approved, the Department considers that the Project would not have any impact on koala habitat.
State Environmental Planning Policy (Transport and Infrastructure) 2021	This SEPP requires the consent authority to notify relevant public authorities about development that may affect public infrastructure or land. The Department notified TfNSW, Lake Macquarie City Council and Central Coast Council. The Department notes that the Applicant has also consulted with electricity supply authorities relevant to the Project.

Item	Consideration
	The Department carefully considered the advice from these authorities in its assessment of this application.
The likely impacts of the development	
The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality.	Refer to Section 6.
The suitability of the site for the development	
The suitability of the site for the development	Refer to Sections 1, 2, 3 and 6
Submissions	
Any submissions made in accordance with this Act or the regulations	Refer to Section 4.
Public interest	
Ecologically sustainable development (ESD)	The Department assessed the Project against the principles of ESD. Should the IPC determine to approve the Project, it can be carried out in a manner that is consistent with the principles of ESD.

Climate Change (Net Zero Future) Act 2023

A consideration of the Project against the Guiding Principles in the *Climate Change (Net Zero Future) Act 2023* is provided in Table D3.

Table D3 | Summary of assessment of the Project against Guiding Principles in the *Climate Change (Net Zero Future) Act 2023*

Guiding Principle	Consideration
(1) For this Act, the guiding principles are the principles set out in this section.	Noted

Guiding Principle	Consideration
(2) There is a critical need to act to address climate change, which is a serious threat to the social, economic and environmental wellbeing of New South Wales.	Noted
(3) Action to address climate change should be taken as early as possible to minimise the cost and adverse impacts of climate change.	Should the IPC determine to approve the Project, the Applicant would be required to meet the requirements of Commonwealth Safeguard Mechanism and the Greenhouse Gas Mitigation Plan, to be prepared in accordance with EPA's Climate Change Policy framework.
(4) Action to address climate change should be taken in a way that— *a) is fiscally responsible, and* *b) promotes sustainable economic growth, and* *c) considers the economic risks of delaying action to address climate change, and* d) *considers the impact on rural, regional, and remote communities in New South Wales.*	The Project is an extension to existing mining operations, which would have lesser environmental impacts than a new mining development. The Project would provide ongoing employment of the existing workforce and provide significant economic benefit to NSW. The Project would provide continued economic and employment benefits to the local region and NSW. Should the IPC determine to approve the Project, the Applicant would be required to meet the requirements of Commonwealth Safeguard Mechanism and the Greenhouse Gas Mitigation Plan, to be prepared in accordance with EPA's Climate Change Policy framework.
(5) Action to address climate change should be consistent with the right to a clean, healthy and sustainable environment.	The Department has undertaken a comprehensive assessment of the impacts of the Project as documented in **Section 6**.
(6) Action to address climate change should be consistent with the principles of ecologically sustainable development described in the Protection of the Environment Administration Act 1991, section 6(2).	Consideration of the principles of ESD is provided in **Table D1** above.
(7) Action to address climate change should involve appropriate consultation with affected persons, communities and stakeholders.	The Project application was publicly exhibited and the Department received a number of submissions which were in relation to GHGEs and climate change and the adjacent VPPS. The Department carefully considered the submissions and representations made on the Project as part of its assessment. The Department also consulted with relevant government agencies on the Project (refer to **Section 4**).

Guiding Principle	Consideration
(8) *Action to address climate change should take into account the following—* *(a) the knowledge and perspectives of Aboriginal communities,*	The Project application included consultation with RAPs in accordance with the NSW government's Aboriginal heritage consultation guidelines. The views of RAPs were considered in the Department's assessment of the application.
(b) the best available science,	The estimation of GHG emissions for the Project were undertaken in accordance with the *National Greenhouse Accounts Factors Workbook* (DCCEW 2024). Emissions estimates were reviewed by the Panel and EPA, including CAS. The EPA accepted that the emissions associated with the Project are very small in absolute terms. Emissions were considered in the context of the NSW emissions reduction trajectory developed by the NSW Government's Net Zero Emissions Modelling Program.
(c) the knowledge of rural, regional and remote communities in New South Wales,	The Project application included consultation with the community consultative committee (CCC) and exhibition of the EIS that informed the Department's assessment.
(d) the need to support local communities, including Aboriginal communities, who may be affected by the action, including by— *(i) considering the impact on local employment and industries, and* *(ii) diversifying local economies, and* *(iii) encouraging local procurement, and* *(iv) optimising job creation and employment transition opportunities, and* *(v) considering the impact on the amenity of local communities,*	The Project would provide ongoing employment of the existing combined workforce for an additional 2 years and provide continued support for local suppliers and associated flow on benefits to the state, regional and local economies, without significant adverse impacts on the amenity of the local community.
(e) the need for education and skills diversification,	Not applicable. The Project would provide ongoing employment of the existing combined workforce for an additional two years. The requisite education and skills have been obtained.
(f) the need to ensure essential utilities and infrastructure are provided, including energy, water, telecommunications and transport,	All public infrastructure and utilities would remain safe and serviceable at all times if the Project was to proceed.

Guiding Principle	Consideration
(g) the impact of the action on consumer costs in New South Wales, including energy costs,	The Department has recommended proposed conditions of consent to establish an appropriate framework for minimising energy usage and greenhouse gas emissions associated with the Project, including a condition requiring preparation of a Greenhouse Gas Mitigation Plan in accordance with the requirements of the EPA's *Climate Change Policy and Climate Change Action Plan* within 6 months of the determination of the Project, should the IPC determine to approve the Project.
(h) the need to reduce the risk climate change poses to human health,	Should the IPC determine to approve the Project, the Applicant would be required to meet the requirements of Commonwealth Safeguard Mechanism and the Greenhouse Gas Mitigation Plan, to be prepared in accordance with EPA's Climate Change Policy framework. On this basis, the Project is unlikely to significantly increase risk and impacts associated with human health.
(i) equity and social justice impacts on socially disadvantaged groups and economically vulnerable regions,	The Project would provide ongoing employment of the existing workforce for an additional two years and associated flow on benefits to the state, regional and local economies. Should the IPC determine to approve the Project, the Applicant would be required to meet the requirements of Commonwealth Safeguard Mechanism and the Greenhouse Gas Mitigation Plan, to be prepared in accordance with EPA's Climate Change Policy framework. On this basis, the Project is unlikely to significantly increase risk and impacts associated with equity and social justice on socially disadvantaged groups or economically vulnerable regions.
(j) the need to reduce the risk climate change poses to the survival of all species.	Should the IPC determine to approve the Project, the Applicant would be required to meet the requirements of Commonwealth Safeguard Mechanism and the Greenhouse Gas Mitigation Plan, to be prepared in accordance with EPA's Climate Change Policy framework. On this basis, the Project is unlikely to significantly increase risk and impacts associated with species survival.
(9) Action to address climate change should take into account the impact on animals.	The Project would not involve any additional surface disturbance beyond what is currently approved. The Department's assessment of biodiversity impacts is presented in **Section 6**.

Guiding Principle	Consideration
(10) The Government of New South Wales is responsible for— *(a) urgently developing and implementing strategies, policies and programs to address climate change, and* *(b) ensuring the Government of New South Wales pursues best practice in addressing climate change*	The EPA is developing these policies and plans under its *Climate Change Policy and Climate Change Action Plan* which have been considered in the assessment of this Project, including the *Large Emitters Guide*.

Appendix D – Recommended instrument of consent

Refer to the 'Recommendation' tab on the Department's website at:
https://www.planningportal.nsw.gov.au/major-projects/projects/chain-valley-colliery-consolidation-project

Appendix E – Additional information

Refer to the "Additional Information' tab on the Department's website at:
https://www.planningportal.nsw.gov.au/major-projects/projects/chain-valley-colliery-consolidation-project