



New South Wales Government
Independent Planning Commission

Mount Pleasant Optimisation Project SSD 10418

Statement of Reasons for Decision

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Mount Pleasant Optimisation Project SSD 10418 Final Report ©
State of New South Wales through the Independent Planning Commission 2022

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EXECUTIVE SUMMARY

Mount Pleasant Coal Mine is an established open cut coal mine within the Upper Hunter Valley. Mount Pleasant is located approximately 3 kilometers (km) north-west of Muswellbrook and 5km south of the village of Aberdeen. MACH Mount Pleasant Operations Pty Ltd, the Applicant and the operator of Mount Pleasant, has sought development consent for the Mount Pleasant Optimisation Project (Project). The Project seeks to extend the life of Mount Pleasant Operations until December 2048 and deepen part of the open cut mining area, allowing for the extraction of a total of approximately 444 million tonnes (Mt) of run-of-mine coal over the life of the mine (being an estimated further 406 Mt of run-of-mine coal beyond that approved under the pre-existing consent for DA 92/97). The Project would increase the approved existing annual extraction rates from 10.5 Mt per annum to 21 Mt per annum of run-of-mine coal.

On 9 September 2021, the then Minister for Planning and Public Spaces requested that the Independent Planning Commission conduct a Public Hearing into the Project and determine State significant development application (SSD-10418). On 1 June 2022, the Department of Planning and Environment finalised its whole-of-government assessment and referred the Application to the Commission for determination. The Commission is the consent authority as more than 50 unique public submissions have been made to the Department by way of objection.

Commissioners Professor Alice Clark (Panel Chair), Emeritus Professor Chris Fell AO and Mr Terry Bailey constitute the Commission Panel in making the final decision.

As part of its determination process, the Commission met with representatives of the Applicant, Department, Muswellbrook Shire Council and Upper Hunter Shire Council. The Commission also undertook a site inspection and a locality tour.

A Public Hearing was held over two days on 7 July 2022 and 8 July 2022. The Commission heard from community members at the Public Hearing and received written submissions on the Application. Concerns raised in submissions included air quality, noise, greenhouse gas (GHG) emissions and climate change, visual impacts, and land use conflicts, including impacts to the equine industry. The Commission also received submissions in support of the Application, noting the importance of stability of local area employment and commenting on the benefits of job creation and job security through both direct and indirect employment.

The Department wrote to the Commission in a letter dated 12 August 2022. Attached to this letter was advice from the Applicant dated 18 July 2022 indicating that the Legless Lizard recorded at the Site is not the Striped Legless Lizard (*Delma impar*) as previously thought but is a new species - *Delma vescolineata*. The Commission considered that it would be assisted by public submission on the Department's letter and its attachments (Additional Material) and re-opened public comments on this Additional Material. The Commission received submissions that raised concerns in relation to habitat loss and the subsequent viability of *Delma vescolineata*.

Key issues which are the subject of findings in this Statement of Reasons include: air quality, noise, GHG emissions, economics, biodiversity, water, Aboriginal and historic heritage, visual impact, rehabilitation and final landform. After consideration of the material and having taken into account the views of the community, the Commission has determined that development consent should be granted for the Application, subject to conditions. The Commission finds that the Application is consistent with the Objects of the *Environmental Planning & Assessment Act 1979* and would achieve an appropriate balance between relevant environmental, economic and social considerations, with the likely benefits of the Project warranting the conclusion that an appropriately conditioned approval is in the public interest.

The Commission has imposed strict conditions on its development consent which seek to prevent, minimise and/or offset adverse impacts and to ensure ongoing monitoring and appropriate site management. In imposing conditions, the Commission has required the Applicant to implement an Air Quality and Greenhouse Gas Management Plan, with the aim of achieving lower Scope 1 GHG emission intensities than outlined in the Application.

The Commission's reasons for approval of this Application are set out in this Statement of Reasons for Decision.

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DEFINED TERMS

ABBREVIATION	DEFINITION
Applicant	MACH Mount Pleasant Operations Pty Limited
Application	State Significant Development SSD 10418
Approved Methods	Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2016)
BCD	Biodiversity Conservation Division within the Department
BDAR	Biodiversity Development Assessment Report
CAS	Climate and Science Branch within the NSW Department of Planning and Environment
CCPF	NSW Climate Change Policy Framework
CO₂	Carbon Dioxide
Commission	Independent Planning Commission of NSW
CIC	Critical Industry Cluster
Department	Department of Planning and Environment
Department's AR	Department's Assessment Report, dated May 2022
Economic Guidelines	Guidelines for the economic assessment of mining and coal seam gas proposals (NSW Government, 2015)
EIS	The Environmental Impact Statement titled <i>Mount Pleasant Optimisation Project Environmental Impact Statement</i> , prepared by MACH Energy Australia Pty Ltd, dated January 2021, submitted with the application for consent for the development
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EPI	Environmental Planning Instrument
ESD	Ecologically Sustainable Development
Existing Approval	Consent for the existing Mount Pleasant mine, as granted on 22 December 1999 (DA 92/97), including all subsequent modifications
FTE	Full-time equivalent
GHG	Greenhouse Gas
LGA	Local Government Area
LSC	Land and Soil Capability as defined under <i>The Land and Soil Capability Assessment Scheme – Second Approximation</i> (Office of Environment and Heritage, 2012)
Mandatory Considerations	Relevant mandatory considerations, as provided in s 4.15(1) of the EP&A Act
Material	The material set out in section 3.1
MEG	Mining, Exploration and Geoscience
MLA	Mining lease area
Mount Pleasant	Mount Pleasant Coal Mine
MSC	Muswellbrook Shire Council
Muswellbrook LEP	<i>Muswellbrook Local Environmental Plan 2009</i>
Mt	Million tonnes
NDC	Nationally Determined Contribution

Net Zero Plan	NSW Net Zero Plan Stage 1: 2020-2030 and NSW Net Zero Plan Stage 1: 2020-2030 Implementation Plan
NGERS	National Greenhouse and Energy Reporting Scheme
NPV	Net present value
NSW Energy Package MOU	Memorandum of Understanding – NSW Energy Package
NSW Strategic Statement	Strategic Statement on Coal Exploration and Mining in NSW (State of NSW 2020)
Paris Agreement	United Nations Framework Convention on Climate Change Paris Agreement 2015
Planning Systems SEPP	<i>State Environmental Planning Policy (Planning Systems) 2021</i>
Project	Mount Pleasant Optimisation Project
Regional Plan	Hunter Regional Plan 2036
Regulations	<i>Environmental Planning and Assessment Regulation 2000</i>
Resources SEPP	<i>State Environmental Planning Policy (Resources and Energy) 2021</i>
ROM	Run-of-mine
RtS	Response to Submissions
SEPP	State Environmental Planning Policy
Site	Mount Pleasant Coal Mine, located within Muswellbrook Shire LGA, approximately 3km north-west of Muswellbrook and 5km south of Aberdeen
SRLUP	The Upper Hunter Strategic Regional Land Use Plan
SSD	State significant development
TfNSW	Transport for NSW
UHSC	Upper Hunter Shire Council
UNFCCC	United Nations Framework Convention on Climate Change
VLAMP	Voluntary Land Acquisition and Mitigation Policy
VPA	Voluntary Planning Agreement

1 INTRODUCTION

1. On 9 September 2021, the then Minister for Planning and Public Spaces made a request under section 2.9(1)(d) of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**) for the NSW Independent Planning Commission (**Commission**) to conduct a Public Hearing and determine State significant development (**SSD**) application SSD-10418 (**Application**) within 12 weeks of receiving the Department of Planning and Environment's (**Department**) referral of the Department's Assessment Report (**Department's AR or AR**).
2. On 1 June 2022, the Department referred the Application from MACH Mount Pleasant Operations Pty Ltd (**Applicant**) to the Commission for determination. The Application seeks approval for the Mount Pleasant Optimisation Project (**Project**) located in the Muswellbrook Shire Council (**MSC**) Local Government Area (**LGA**) under section 4.38 of the EP&A Act.
3. In accordance with section 4.5(a) of the EP&A Act and section 2.7 of the *State Environmental Planning Policy (Planning Systems) 2021* (**Planning Systems SEPP**), the Commission is the consent authority as more than 50 unique public submissions have been made by way of objection.
4. Professor Mary O'Kane AC, Chair of the Commission, determined that Professor Alice Clark (Chair), Emeritus Professor Chris Fell AO and Mr Terry Bailey constitute the Commission for the purpose of exercising its functions with respect to the Application.

2 THE APPLICATION

2.1 Site and Locality

5. The Applicant owns the Mount Pleasant Coal Mine (**Mount Pleasant**). Mount Pleasant is an established open cut coal mine located approximately 3km north-west of Muswellbrook, 5km south of the village of Aberdeen and within Muswellbrook Shire LGA (**Site**) (AR para. 1).
6. Mount Pleasant is located within a longstanding coal mining precinct in the Upper Hunter Valley. A number of other existing coal mines located within the precinct are within close proximity to Mount Pleasant, including Dartbrook to the north and Bengalla and Mt Arthur to the south (AR para. 15).
7. Mount Pleasant is also located in proximity to urban areas, including Muswellbrook to the south-east and the village of Aberdeen to the north (AR para. 18). Mount Pleasant is surrounded by a mix of land uses including mining, rural and rural-residential. Agricultural land use primarily includes grazing with cropping being undertaken on the alluvial flats adjacent to the Hunter River, to the east and south-east of Mount Pleasant (AR para. 18, 21-23).
8. Mapped Biophysical Strategic Agricultural Land (**BSAL**) and Equine and Viticulture Critical Industry Cluster (**CIC**) land in the locality is predominantly concentrated around the Hunter River (AR para. 24). Mount Pleasant is in proximity to a number of horse studs including Godolphin's Kelvinside stud and the Newgate stud which are positioned approximately 5kms to the north-east. Horse studs are also located to the east, south and south-east of Mount Pleasant.

2.2 Existing Operations

9. Development consent was granted for the existing coal mine on 22 December 1999 (DA 92/97) (**Existing Approval**) and has been subject to five modifications (MOD 5 being dated 29 June 2022). The Applicant purchased Mount Pleasant in 2016 and commenced mining operations in 2018 (AR para. 3).

10. Mount Pleasant comprises four open cut pits (North, South, Warkworth South and Piercefield Pits), with operations currently occurring in the South Pit. The Existing Approval also allows three out-of-pit rock emplacements, fines emplacement areas, water management infrastructure and provides for various road realignments and upgrades (AR para. 5 and 6).
11. Paragraph 4 of the Department's AR states that the Existing Approval permits the following:
 - extraction of up to 10.5 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal per year to 22 December 2026;
 - rail transportation of coal 24 hours per day, 7 days per week, with up to 9 trains per day; and
 - ancillary infrastructure including a coal handling and preparation plant (CHPP), rail loop and spur, conveyor and load-out facilities connecting the Mount Pleasant and Muswellbrook-Ulan rail line.

2.2.1 Bengalla Mine

12. Bengalla open cut mine (**Bengalla**) adjoins the Site immediately to the south. Mount Pleasant has infrastructure located within the ultimate extent of the Bengalla open cut pit, including the 'Stage 1 rail infrastructure' and some water management infrastructure (AR para. 9). The Existing Approval permits the relocation of the rail infrastructure, known as the 'Stage 2 rail infrastructure'. The Applicant and the Bengalla Mining Company have entered a cooperative agreement to facilitate this relocation and for ongoing management of relevant water infrastructure (AR para. 10).

2.3 The Project

13. The Applicant is seeking to extend the life of Mount Pleasant from December 2026 to December 2048 and deepen part of the open cut mining area, allowing for the extraction of a total of approximately 444 million tonnes (**Mt**) of ROM coal over the life of the mine (being an estimated further 406 Mt of ROM coal after the grant of consent to the present Application). The Project would increase approved existing annual extraction rates from 10.5 Mtpa to 21 Mtpa of ROM coal.
14. The general layout of the mine is illustrated in the Project General Arrangement at Appendix A.
15. On 11 May 2022, the Applicant wrote to the Department requesting a minor amendment to the Mount Pleasant Optimisation Project area which included a part transfer of Mining Lease (ML 1728) from the Bengalla Mining Company to facilitate water management infrastructure (AR para. 13). On 17 May 2022, the Department as delegate of the Commission agreed to the amendment of the Application (AR Appendix F).

3 THE COMMISSION'S CONSIDERATION

3.1 Material Considered by the Commission

16. In this determination, the Commission has carefully considered the following material (**Material**):
 - the Applicant's Environmental Impact Statement and supplementary information, including the Applicant's Response to Submissions (RtS) and Additional Information;
 - all public submissions on the EIS made to the Department during public exhibition;
 - all Government Agency advice made to the Department;
 - the Department's AR, dated May 2022;

- the Department’s recommended conditions of consent, received May 2022;
- comments and presentation material at meetings with the Department, Applicant, MSC and Upper Hunter Shire Council (**UHSC**), as referenced in Table 2;
- all speaker comments made to the Commission and material presented at the Public Hearing held on 7 and 8 July 2022;
- the Department’s responses to the Commission:
 - Response to Question on Notice, dated 27 June 2022;
 - Response regarding its Assessment, dated 14 July 2022;
- the following submissions made to the Commission by the Applicant:
 - Response to Questions on Notice, dated 27 and 28 June 2022;
 - Response to Additional Questions, dated 8 July 2022;
 - Submission on GHG Emissions and Climate Change, dated 4 July 2022;
 - Coal Market Substitution Study, dated 5 July 2022; and
 - Submission on Co-existence of Horse Studs and Mining, dated 15 July 2022;
- MSC Submission on Amendment to Condition B80, dated 12 July 2022;
- all written comments received by the Commission up until 5pm, Wednesday 20 July 2022, and the written submissions by Hunter Thoroughbred Breeders Association and Scone Equine Hospital received by the Commission 29 July 2021;
- the Department’s letter to the Commission dated 12 August 2022, regarding the identification of the Legless Lizard;
- the Department’s comment (dated 18 August 2022) and the Applicant’s comment (forwarded by the Department dated 17 August 2022) on the feasibility and workability of proposed conditions; and
- all written comments on the Additional Material received by the Commission between Tuesday 23 August 2022 and 5pm AEST, 30 August 2022 other than certain campaign emails, petitions and form letters excluded per the Commission’s 23 August 2022 Statement seeking submissions.

3.2 Strategic Context

3.2.1 Upper Hunter Strategic Regional Land Use Plan

17. The Upper Hunter Strategic Regional Land Use Plan (**SRLUP**) is a component of the Government’s broader Strategic Regional Land Use Policy, which comprises initiatives to address land use conflict in regional areas, with a particular focus on managing issues relating to coal mining. The SRLUP applies to five local government areas (Singleton, Muswellbrook, Dungog, Upper Hunter and Gloucester) and therefore applies to the Project.
18. Noting the significant contribution made to the region by agriculture, the SRLUP also notes the region contains approximately 40% of the State’s identified coal reserves. The SRLUP acknowledges the challenge presented in balancing mining and agricultural interests. It identifies the Gateway process as the key policy mechanism for resolving land use conflict between mining and agricultural pursuits. As the Project involves mining operations within the existing Mount Pleasant mining lease area, a Gateway Certificate is not required for the Project (AR para. 48).
19. The SRLUP notes the importance of the Equine CIC and mining in the region (as well as other industries such as other energy production industries and viticulture). It notes the “key challenges for the region revolve around maintaining and growing agricultural productivity while also supporting the development of other industries that are competing for nearby or even the same land, such as mining, coal seam gas and urban expansion”.

20. At AR paragraph 49 the Department notes that there "is some mapped BSAL and Equine CIC land within the mining lease area, however the Project would not result in any change to the impacts on this land over and above the Existing Approval, and the CIC land is not currently used for equine purposes".

3.2.2 Mining

21. In June 2020 the NSW Government released the NSW Strategic Statement, which recognises the ongoing demand for coal, particularly from the Asian export market. To support the intent of the Statement, the NSW Government has identified a portion 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 NSW Strategic Statement also states that the NSW Government will "recognise existing industry investment by continuing to consider responsible applications to extend the life of current coal mines, and by streamlining the process for exploring new areas and areas adjacent to current mining operations to deliver a better economic return to NSW".
22. The Net Zero Plan acknowledges that the NSW \$36 billion mining sector is one of the biggest economic contributors to NSW and that "Mining will continue to be an important part of the economy into the future and it is important that the State's action on climate change does not undermine those businesses and the jobs and communities they support".
23. The Hunter Regional Plan 2036 (**Regional Plan**) sets out the broader strategic policy framework to inform future land use plans, development applications and infrastructure funding decisions. The Regional Plan acknowledges "Coal mining will remain significant in the region", however, recognises the need to balance the interests of competing uses for land in this region. The Draft Hunter Regional Plan 2041 (**Draft Regional Plan**) states: "Mining is a significant source of direct and indirect jobs and underpins the Hunter's prosperity. Coal is the state's largest export commodity, and is a major source of revenue, which the NSW Government uses to help fund essential services and infrastructure such as schools, hospitals, roads and transport". The Draft Regional Plan acknowledges that coal is likely to have a finite lifespan as an energy source and states that the Government will work to support coal dependent communities to diversify for the future to ensure these communities remain vibrant places to live with good employment opportunities.
24. The Commission recognises that at this stage there is an ongoing demand for coal and that in line with the NSW Strategic Statement, the Application would not be located in any of these 'no-go' areas, but would be located in an area where coal exploration and mining titles already exist. The Commission acknowledges the policy of the NSW Government in that mining plays an important part of the NSW economy into the future and that mining needs to be undertaken sensitively to minimise impacts on the environment.

3.3 Statutory Context

3.3.1 Permissibility

25. The Site is located within MCS LGA and is subject to the *Muswellbrook Local Environmental Plan 2009 (Muswellbrook LEP)*. The Site is zoned RU1 Primary Production, E3 Environmental Management, SP2 Infrastructure and W1 Waterways. Under the Muswellbrook LEP, the Project is permissible with consent in the RU1 zone, but is prohibited in the E3, SP2 and W1 zones.

26. However, cl 2.9 of the *State Environmental Planning Policy (Resources and Energy) 2021 (Resources SEPP)* relevantly provides that mining may be carried out with consent on land where development for the purposes of agriculture may be carried out and in any part of a waterway that is not in an environmental conservation zone. Further, section 4.38(3) of the EP&A Act provides that development consent may be granted despite the development being partly prohibited by an environmental planning instrument.
27. The Commission agrees with the reasons set out by the Department at AR paragraph 65 and is of the view that the Project is permissible with consent within the E3, SP2 and W1 zoned parts of the Application area.

3.3.2 Surrender of Development Consent

28. Section 4.3 of the Department's AR states that if the Application were to be approved the Applicant would surrender the Existing Approval and the mining operations at the Site would be regulated under the new development consent.
29. For the reasons set out in this Statement of Reasons, the Commission has determined to approve the Application and has therefore imposed conditions A14 and A15 which require the Applicant to surrender the Existing Approval within 12 months of the date of commencement of development under the consent to the Application.

3.3.3 Commonwealth Matters

30. On 26 August 2020, a delegate of the Commonwealth Minister for the Environment determined that the Project is a 'controlled action' under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* due to its likely significant impacts on Matters of National Environmental Significance.
31. The Commission notes that under the Bilateral Agreement between the Commonwealth and NSW governments, the Commonwealth has accredited the NSW assessment process under the EP&A Act for the controlled action. However, the Commonwealth's decision-maker maintains a separate approval role, which will be exercised following the Commission's determination of the Application.
32. The Commission agrees with the Department and adopts the analysis of matters under the EPBC Act set out in Appendix H of the Department's AR. The Commission has given further consideration to biodiversity matters in section 5.7 below.

3.3.4 IESC Advice

33. In response to a request from the Department, the Independent Expert Scientific Committee on Coal Seam Gas and Large Mining Development (**IESC**) provided advice on the Application, dated 15 March 2021. The Department's consideration of the IESC advice is set out in section 6.4 of the Department's AR. The Commission agrees with the Department's assessment and is of the view that the IESC recommendations have been addressed by the Applicant and are capable of being addressed through conditions of consent.

3.3.5 Integrated and other NSW Approvals

34. As per section 4.5 of the Department's AR, the Commission notes the Department has consulted with the relevant government authorities that are responsible for providing integrated and other approvals. The Commission acknowledges that the Applicant may also require other approvals which are not integrated into the SSD process, including those listed in paragraph 74 of the Department's AR.

3.4 Mandatory Considerations

35. In determining this Application, the Commission is required by section 4.15(1) of the EP&A Act to take into consideration such of the listed matters as are of relevance to the development the subject of the Application (**Mandatory Considerations**). The mandatory considerations are not an exhaustive statement of the matters the Commission is permitted to consider in determining the Application. To the extent that any of the Material does not fall within the mandatory considerations, the Commission has considered that Material where it is permitted to do so, having regard to the subject matter, scope and purpose of the EP&A Act.

Table 1 - Mandatory Considerations

Mandatory Considerations	Commission's Comments
Relevant EPIs	<p>Appendix G of the Department's AR identifies relevant EPIs for consideration. The key EPIs (in their present, consolidated form) include:</p> <ul style="list-style-type: none"> • Planning Systems SEPP; • Resources SEPP; • State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP Transport and Infrastructure); • State Environmental Planning Policy (Resilience and Hazards) 2021 (SEPP Resilience and Hazards); • State Environmental Planning Policy (Biodiversity and Conservation) 2021 (SEPP Biodiversity and Conservation); <p>and</p> <ul style="list-style-type: none"> • Muswellbrook LEP 2009. <p>The Commission agrees with the Department's assessment of EPIs set out in Appendix G.3 of the AR. The Commission therefore adopts the Department's assessment.</p>
Relevant development control plans	<p>Section 2.10 of the Planning Systems SEPP states that development control plans do not apply to SSD. The Commission does not consider any development control plans to be relevant to the determination of the Application.</p>
Likely Impacts of the Development	<p>The likely impacts of the Application have been considered in section 5 of this Statement of Reasons.</p>
Suitability of the Site for Development	<p>The Commission has considered the suitability of the Site and finds that the Site is suitable for the following reasons:</p> <ul style="list-style-type: none"> • the Application is permissible with consent; • the Application would enable a reasonable 'brownfield' extension of the existing coal mine, representing economic reuse of existing infrastructure; • the proposed extraction of coal is consistent with the orderly and economic use and development of land; • impacts to biodiversity have been suitably minimised or offset; • impacts on water resources would be minimised and offset; • impacts on surrounding land uses have been minimised and are capable of being further mitigated through conditions of consent; • Aboriginal heritage to be destroyed has been suitably recorded;

	<ul style="list-style-type: none"> • impacts to other heritage have been suitably minimised; • notwithstanding the final void proposed as part of the Application, the Site is capable of being rehabilitated in accordance with Government policy; and • the extension to the life of the mine would provide social and economic benefits to the region and the state.
Objects of the EP&A Act	<p>In this determination, the Commission has carefully considered the Objects of the EP&A Act and is satisfied that the Application is consistent with the Objects of the EP&A Act.</p>
The Public Interest (Including Ecologically Sustainable Development (ESD))	<p>The Commission has considered whether the grant of consent to the Application is in the public interest. In doing so, the Commission has weighed the predicted benefits of the Application against its predicted negative impacts.</p> <p>Although not determinative in and of itself, the Commission – which has no policy formulation role – accepts that NSW Government policy (including the 2020 <i>Strategic Statement on Coal Exploration and Mining in NSW</i>) expressly supports responsible coal production – including the ‘government’s efforts to keep NSW open for business for coal production’.</p> <p>In the absence of conditions being imposed on any grant of consent to the Application, the Commission considers that the predicted negative impacts of the Application would warrant refusal of the Application.</p> <p>Nonetheless, the present Application represents a responsible application for continued coal production and an orderly extension of the Mount Pleasant Mine. The grant of consent to the Application facilitates and preserves economic and other benefits to the State and the region.</p> <p>The Commission’s consideration of the public interest has also been informed by consideration of the principles of ESD.</p> <p>The EP&A Act adopts the definition of ESD found in the <i>Protection of the Environment Administration Act 1991</i>, as follows:</p> <p><i>“ecological sustainable development requires the effective integration of economic and environmental considerations in decision-making processes. Ecologically sustainable development can be achieved through the implementation of the following principles and programs:</i></p> <p><i>the precautionary principle;</i></p> <p><i>inter-generational equity;</i></p> <p><i>conservation of biological diversity and ecological integrity; and</i></p> <p><i>improved valuation, pricing and incentive mechanisms.”</i></p> <p>The Commission has considered the principles of ESD in its determination as set out below.</p> <p>a) The precautionary principle</p> <p>The Commission finds that the precautionary principle has been applied throughout the assessment of the Application, with environmental consequences being appropriately avoided, mitigated, remediated or offset, as set out in the Application, the Department’s AR and the recommended conditions of consent. The Commission has decided to impose conditions requiring additional measures to</p>

	<p>further mitigate the impacts of the Project. Included in the conditions is a requirement for the Applicant to demonstrate how the Project will be carried out in a manner that avoids or minimises to the greatest extent practicable any serious or irreversible damage to the survival of the newly identified <i>Delma vescolineata</i>.</p> <p>b) inter-generational equity The Commission has considered inter-generational equity in its assessment of the potential environmental, social and economic impacts of the Project, including through imposing conditions seeking to leverage established and emerging technologies to significantly mitigate the potential long-term environmental impacts of the Project. The Commission finds that, subject to the imposed conditions, the Project would appropriately balance the environmental, social and economic impacts of the present generation with those of future generations.</p> <p>c) conservation of biological diversity and ecological integrity The Project's potential impacts on biodiversity, including land clearing and loss of habitat, have been a key consideration during the assessment of the Application. The Commission finds that any potential impacts must be appropriately managed (including by being mitigated and/or offset) to enable acceptable long-term biodiversity outcomes to be achieved. The Commission finds that the conservation of biological diversity and ecological integrity can be achieved through avoiding, minimising and offsetting biodiversity impacts – including through a robust Biodiversity Management Plan that meets the requirements imposed by the Commission.</p> <p>d) improved valuation, pricing and incentive mechanisms The Commission agrees with the Department that the valuation and pricing of the Project and its impacts have been appropriately considered through economic, social and cost-benefit analyses which have been completed as part of the EIS. The Commission finds that, when considering the current policy framework, scope of the Application and assessment of costs and benefits, the Application would provide net positive social and economic benefits to the local region and NSW.</p> <p>The Commission has given consideration to the principles of ESD in its assessment of each of the key issues, as set out in section 5 below. The Commission finds that, on balance, the Application is not inconsistent with ESD principles, and that the Project would achieve an appropriate balance between relevant environmental, economic and social considerations. The likely benefits of the Project warrant the conclusion that an appropriately conditioned approval is in the public interest.</p>
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3.5 Additional Considerations

36. In determining the Application, the Commission has also considered:

- United Nations Framework Convention on Climate Change (**UNFCCC**) *Paris Agreement 2015 (Paris Agreement)*;
- Australia's Long-Term Emissions Reduction Plan (**Emissions Reduction Plan**);
- NSW Noise Policy for Industry;
- Interim Construction Noise Guideline;
- NSW Road Noise Policy;
- Rail Infrastructure Noise Guideline;

- NSW Aquifer Interference Policy (**AIP**);
- NSW Biodiversity Offsets Policy for Major Projects;
- Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2016) (**Approved Methods**);
- Guidelines for the economic assessment of mining and coal seam gas proposals (NSW Government, 2015) (**Economic Guidelines**);
- Technical Notes Supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals (NSW Government, 2018) (**Technical Notes**);
- Social Impact Assessment Guideline for State Significant Projects (NSW Government, 2021);
- NSW Climate Change Policy Framework (**CCPF**);
- NSW Net Zero Plan Stage 1: 2020-2030 and NSW Net Zero Plan Stage 1: 2020-2030 *Implementation Plan* (**Net Zero Plan**);
- Memorandum of Understanding – NSW Energy Package (**NSW Energy Package MOU**);
- Strategic Statement on Coal Exploration and Mining in NSW (**NSW Strategic Statement**);
- Upper Hunter Strategic Regional Land Use Plan;
- Hunter Regional Plan 2036; and
- Draft Hunter Regional Plan 2041.

3.6 The Commission's Meetings

37. As part of the determination process, the Commission met with various persons as set out in Table 2. All meeting and site inspection notes were made available on the Commission's website.

Table 2 – Commission's Meetings

Meeting	Date of Meeting	Transcript/Notes Available on
Department	16 June 2022	24 June 2022
Applicant	16 June 2022	24 June 2022 ¹
MSC	16 June 2022	24 June 2022
UHSC	16 June 2022	24 June 2022
Public Hearing	7 and 8 July 2022	11 July 2022
Site Inspection 1	23 June 2022	3 July 2022
Site Inspection 2	12 July 2022	20 July 2022

3.6.1 Muswellbrook Shire Council Comments

38. The Commission met with representatives of MSC on 16 June 2022 to hear MSC's views on the Project. MSC noted that it did not object to the application and would only be commenting on issues it considered hadn't been addressed. MSC raised the cumulative impact of mining within the community.
39. MSC raised concerns regarding a shortage of affordable housing, noting that the Upper Hunter regularly experiences shortages in affordable accommodation and housing close to mines.

¹ The transcript for the Applicant's meeting was re-uploaded to the Commission's website 27 June 2022 to allow for correction of an error.

40. MSC commented on the final void and landform, noting the size and depth of the final void. Council commented on the size of the eastern waste rock emplacement, particularly regarding the visual impacts. Council also commented that each mine has a permanent impact on water availability in the local catchment.
41. MSC noted that air pollution is cumulative with impacts on air quality by coal mining being of concern to the health and wellbeing of the Upper Hunter community. Council commented on heritage and the impact of blasting on heritage item Kayuga Cemetery and the cemetery headstones.
42. MSC also commented on seismic activity, traffic and transport and the disposal of off-road tyres.

3.6.2 Upper Hunter Shire Council Comments

43. The Commission met with representatives of UHSC on 16 June 2022 to hear UHSC's views on the Project. UHSC noted that, as per its position statement (Position Statement Coal and Coal Seam Gas Activities, March 2015), it maintains its objection to the application. Council raised concern with the greenhouse gas (**GHG**) emissions, climate change, biodiversity, air quality impacts and affordable housing
44. UHSC noted that it was offered to enter into a voluntary planning agreement (VPA) by the Applicant, with Council resolving to enter into the VPA in April 2022.

3.7 Public Comments

45. Section 4 of this report sets out the matters raised in the submissions made to, and considered by, the Commission. Consideration has been given to these submissions in the Commission's assessment of the Project as set out in the Key Issues section of this report (see section 5). For the reasons set out in this Statement of Reasons, the Commission considers that the matters raised in submissions do not preclude the grant of development consent and that the matters can be satisfactorily addressed by the conditions of consent imposed by the Commission.

3.8 The Department's Assessment Report

46. The Department's AR was prepared to set out the Planning Secretary's whole-of-government assessment of the Application. As part of this assessment, the Planning Secretary through the Department, considered amendments to the Application with regard to the relevant statutory obligations, supplementary information provided by the Applicant, public submissions and advice from Government agencies.
47. On the second day of the Public Hearing the Commission heard from speakers who made submissions regarding the Department's approach to the assessment of the Application.
48. A speaker stated that that Department's AR '...proceeds on the basis of a comparison between what it calls the approved project and the proposed project'. The speaker was of the view that this is not an apt point of comparison.
49. Another speaker at the Public Hearing stated:

'So even if the proponent were to surrender its existing consent, the Commission would not be relieved of its obligation to fully assess the impacts of the current proposal. Unpicking the future impacts permitted under the current consent from the impacts of the proposal would at best be difficult, and in my submission impossible, based on the information currently provided to the Commission.'
50. The Commission wrote to the Department dated 11 July 2022 asking the Department for its views on these submissions and how they pertain to the assessment recorded in the Department's AR.

51. The Department, in its response to the Commission dated 14 July 2022, stated that it did not consider the above characterisation of its approach to the assessment to be correct. In response, the Department stated:
- ‘The Department has assessed the project in accordance with relevant legislation and government policy for the reasons given below. In particular, as stated in the ‘Statutory context’ section of the Department’s assessment report, this includes an assessment against:
- the objects found in section 1.3 of the *Environmental Planning and Assessment Act 1979* (EP&A Act);
 - the matters listed under section 4.15(1) of the EP&A Act, including applicable environmental planning instruments and regulations; and
 - where relevant, the provisions relating to voluntary surrender of development consent under section 4.63 of the EP&A Act...’
52. The Department confirmed that it relied on section 4.63 of the EP&A Act for part of its assessment of SSD 10418 (new development consent), due to the proposed surrender of DA92/97 (existing development consent). The Department stated:
- ‘In accordance with section 4.63(3) of the EP&A Act, the consent authority is not required to re-assess the impacts of the previously approved project. However, in this case, both the EIS and the Department’s assessment for the new development consent (which includes parts of the continued development) has gone over and above this requirement and has considered all potential cumulative impacts, applying contemporary policy and technical guidelines, on key issues such as:
- amenity (noise, air quality, blasting and visual assessments);
 - water resources of the project’s mining operations; and
 - other relevant matters (including final void and landform, traffic, social, economic, land use impacts (e.g. agricultural land) and greenhouse gas emissions).’
53. Further, the Department stated:
- ‘While under section 4.63(3) of the EP&A Act the Department is not required to re-assess the approved impacts for the continued development (approved under the existing development consent), technically it would be difficult to separate impacts of the approved project from those proposed, and therefore a contemporary assessment of the total impact of the Project was undertaken, including elements of the approved project.’
54. The Department stated that impacts in relation to biodiversity and heritage had not been assessed in this way, but had been assessed on an incremental basis allowed for under section 4.63(3):
- “This is because the approved biodiversity and heritage impacts for the continued development are related to a specific area of surface disturbance and technically the assessment methodology allows for these impacts to be assessed discretely on an incremental impact basis”.
55. The Department noted that it disagreed with the speaker as referenced in paragraph 49 above:
- the Department relied on section 4.63(3) of the EP&A Act in its approach as set out above and that is, there is no requirement to re-assess any of the likely impacts of the continued development;
 - while not all of the approved biodiversity and heritage impacts have occurred across the Site yet, the Department would remain open to the Applicant to carry out and complete such works and everything approved under the Existing Approval until 22 December 2026 but for the surrender of the existing development consent;
 - clause 6.8A of the Biodiversity Conservation Regulation 2017 supports the Department’s incremental approach in relation to biodiversity assessment;

- further, the case of *Wollar Progress Association Incorporated v Wilpinjong Coal Pty Ltd [2018] NSWLEC 92* indicates in a similar situation (that is, where existing consents are being surrendered and there is to be continuing and new development) the NSW Land and Environment Court's support for the Department's approach taken in assessing the new development consent.
56. For the reasons set out in the Department's 14 July 2022 letter, the Commission considers that the assessment carried out by the Department, as recorded in the Department's AR, was materially conducted in an appropriate manner.

4 COMMUNITY PARTICIPATION & PUBLIC SUBMISSIONS

4.1 Community Group Attendance at the Site Inspection

57. On 23 June 2022, the Commission conducted an inspection of the Site. Commissioners Alice Clark (Chair) and Terry Bailey attended the Site inspection. Due to COVID-19 restrictions, Commissioner Chris Fell was prevented from attending the Site inspection on this date. The Commission invited representatives from community groups to attend and observe at the Site Inspection. The following groups were represented:
- Hunter Thoroughbred Breeders Association;
 - Blackrock Industries;
 - Cowtime Investments Pty Limited; and
 - Wannaruah Local Aboriginal Land Council.
58. On 12 July 2022, the Commission conducted a second inspection of the Site. Commissioner Chris Fell attended the Site inspection and viewed the same inspection locations viewed by Commissioners Alice Clark and Terry Bailey on 23 June 2022. The Commission again invited representatives from community groups to attend and observe at the Site Inspection. The following groups were represented:
- Newgate Operations Pty Ltd; and
 - Denman Aberdeen Muswellbrook Scone Healthy Environment Group.

4.2 Public Hearing

59. The Commission conducted a Public Hearing over two days on 7 and 8 July 2022. The Public Hearing was held electronically with registered speakers presenting to the Commission Panel via telephone or video conference. The Public Hearing was streamed live on the Commission's website.
60. The Commission heard from the Department, the Applicant, various community group representatives and individual community members. In total, 49 speakers presented to the Commission during the Public Hearing.
61. Presentations made at the Public Hearing have been considered by the Commission as submissions and are referenced below in section 4.3.

4.3 Public Submissions

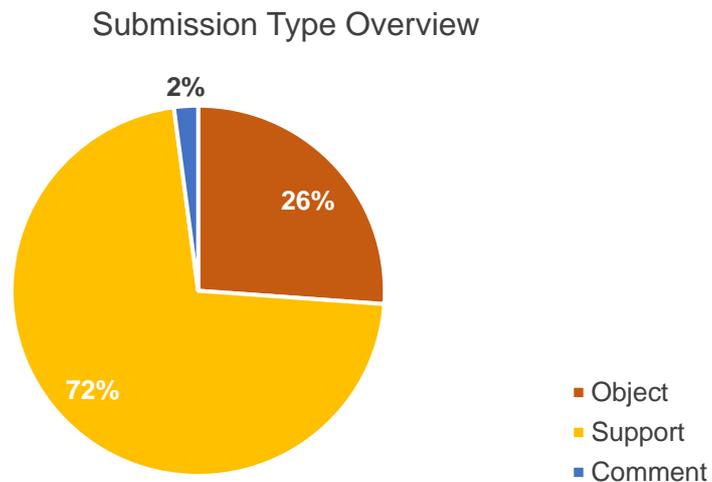
62. As part of the Commission's consideration of the Project, all persons were offered the opportunity to make written submissions to the Commission until 5pm AEST Wednesday, 20 July 2022.
63. The Commission received a total of 988 written submissions on the Application, comprising 960 submissions through its website and 28 emailed submissions. Submissions received through its website comprised:
- 689 submissions in support;
 - 251 objections; and

- 20 comments.

4.3.1 Topic Analysis

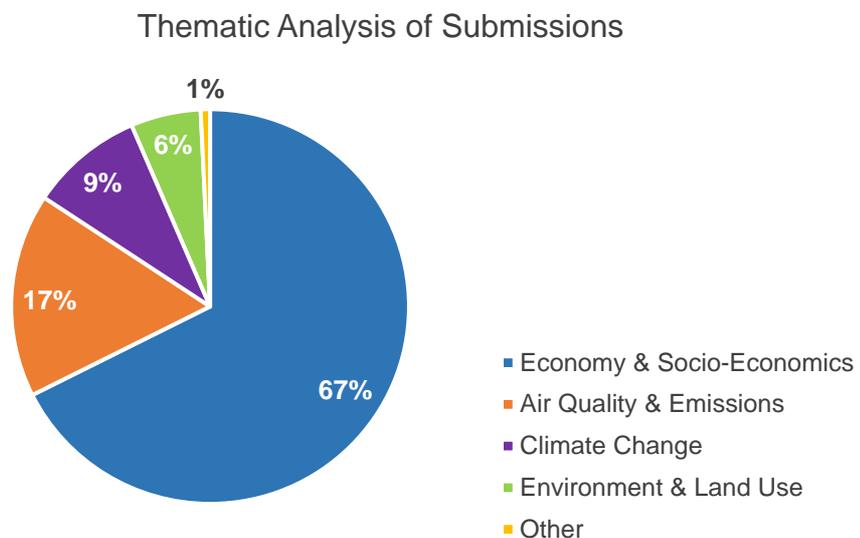
64. An analysis of submissions received by the Commission found that the majority of submissions were unique submissions, with only 1.8% of submissions providing an identical response. In addition to reviewing the text of written submissions, a supplementary analysis of those submissions was undertaken to identify the key themes raised.
65. Figure 1 provides an overview of submissions received by the Commission. The Commission observes that 72% of submissions received by the Commission were in support of the Application, while 26% of submissions objected to the Application. The remaining 2% provided comment on the Application.

Figure 1– Overview of submissions received by the Commission



66. Key themes raised in submissions are illustrated in Figure 2, which provides a thematic breakdown of submissions received by the Commission. The Commission observes that the majority of submissions relate to three topics, namely, economy and socioeconomic (67%), air quality and emissions (17%), and climate change (9%).

Figure 2 - Thematic analysis of submissions received by the Commission

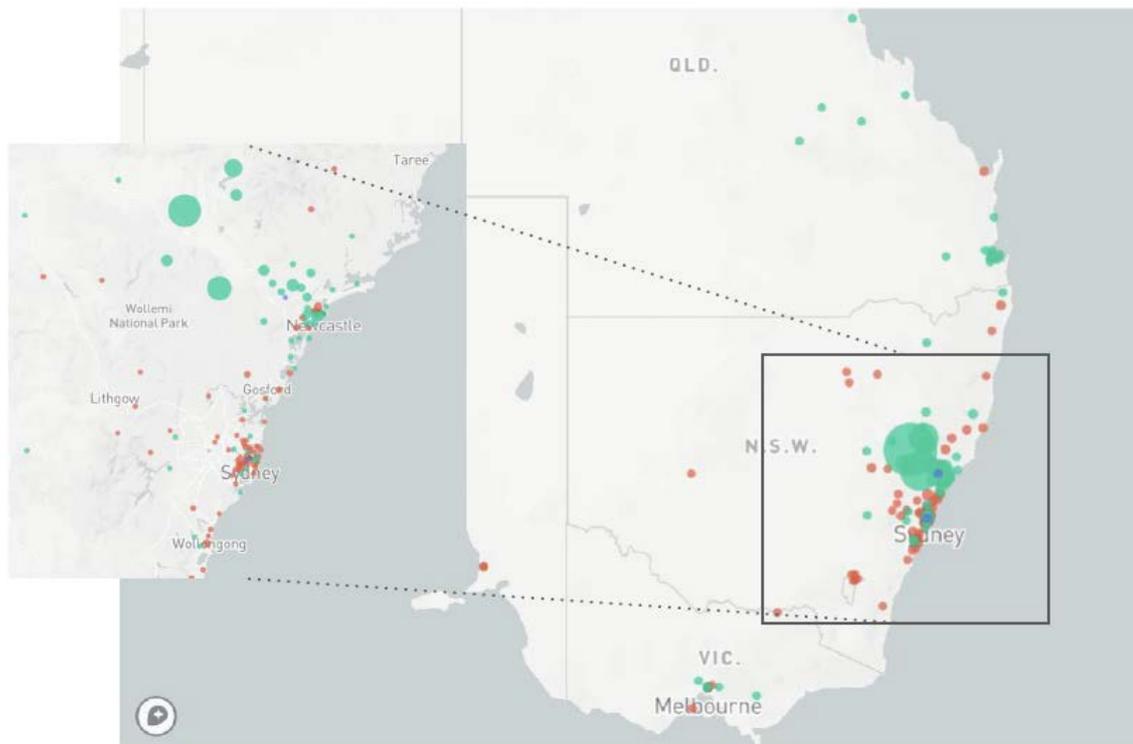


67. The Commission notes that the majority of supporting submissions were made in relation to economy and socioeconomic impacts, while the majority of objections to the Application were made in relation to air quality and emissions, and climate change.

4.3.2 Geographic Distribution

68. A geographic analysis was undertaken on the submissions received by the Commission. Figure 3 illustrates the submissions received in support, comments and objections to the Application throughout NSW and Australia, with the size of the circle indicating the relative number of submissions from that area. The Commission observes that the majority of submissions from the local area, wider region and Brisbane were in support of the Project. The Commission observes that the majority of objections were from Greater Sydney and Canberra. The Commission also observes that six international submissions were received in support of the Application.

Figure 3 - Geographic Analysis (Source: Online Gravity, 2022)



4.3.3 Key Issues Raised

69. Submissions to the Commission raised a number of key issues, which are outlined below. The Commission notes that the submissions referred to below are not an exhaustive report of the submissions considered by the Commission, they are reflective and illustrative of what the Commission regards as the key issues that emerged from the submissions.

Greenhouse gas emissions and climate change

70. The Commission received submissions that raised GHG emissions and the impact the increase in mining would have on climate change. Submissions noted the cumulative impact that GHG emissions would have and noted that while Scope 3 emissions are not counted towards NSW's emissions under the Paris Agreement, the impact is still felt globally.

71. Submissions were received by the Commission that noted that while they were concerned for environmental impacts and climate change, they were also concerned that, should the mine close, nearby towns, communities and families would suffer. Some submissions commented that the reliance on coal would continue to be important over the next 20 years until appropriate alternative energy supplies are available to Australia, noting a need for a transition period away from coal.
72. The Commission received submissions that put forward their support for the Application, stating that high-quality and low emission coal from the mine results in overall lower GHG emissions.

Air quality

73. The Commission heard from submitters who were concerned the mine would increase dust and air pollution, noting that air quality within the locality is often quite poor. Submitters stressed that they were worried about the health impacts for the local community and environment due to poor air quality.
74. The Commission received submissions from nearby horse studs regarding the impact of mining and poor air quality on the health and wellbeing of their staff and families residing on-site, as well as the horses. See section 5.2 for further discussion of air quality and the equine industry.
75. Many submissions indicated that the air quality in the Hunter is already poor and outlined concerns that the mine would only exacerbate the poor air quality. Other submissions noted that the locality has always been dusty, even prior to mining, due to farming and agriculture.

Noise impacts

76. The Commission received submissions from local residents highlighting the ongoing noise impacts from mining. Residents noted that it can be unsettling, particularly in the evening and throughout the night, often impacting resident's sleep, due to the 24-hour operation of the mine.

Socio-economic

77. The Commission received submissions in support of the Project on the basis of positive social and economic impacts. A number of submissions commented on the importance of job creation and job security, through both direct and indirect employment. Submissions noted that Mount Pleasant plays an important role in the Muswellbrook community as it is a major employer. Submissions commented on the importance of stability of local area employment and the support this provides to local families.
78. Submissions to the Commission noted the support Mount Pleasant provides to the local community through its sponsorship of social and sporting activities. Submissions noted that employment opportunities provided by Mount Pleasant opened doors to youth that would otherwise be unavailable.
79. The Commission received submissions that commented on the mental anguish of the young due to climate anxiety and climate change.
80. The Commission received submissions from community members that recognised that coal mining is important to the community until appropriate alternative energy supplies are available to Australia.

Aboriginal and Historic Heritage

81. The Commission received written submissions, and heard comments at the Public Hearing, raising concern about loss of Aboriginal heritage items and Aboriginal cultural heritage as a result of the Project. The Commission received objection to the Project based on damage to Wonnarua cultural heritage.

Biodiversity and rehabilitation

82. Submissions to the Commission raised concern with the clearing of land and the impact of this on biodiversity, stating that it has already had a huge impact. Submissions commented on the displacement of wildlife and removal of natural habitats, noting the cumulative loss from other mining projects.
83. The Commission heard from some submissions that commented on the positive benefits of the progressive nature of the rehabilitation.

Water

84. Submitters to the Commission noted that they had concerns with respect to pollution and contamination of the local waterways due to the mine. Submissions commented on their concerns for the health of local waterways and impacts on future opportunities for agriculture and new industries.

Visual

85. The Commission heard from submitters who commented on the visual impacts of the mine, particularly the eastern waste rock emplacement. Submissions noted that there would be adverse visual impacts to the countryside over a prolonged period of time.

Other

86. Some submissions commented on the potential for the height of the eastern waste rock emplacement to adversely impact telecommunications from the Rossgole Tower.

4.4 Public Submissions on Additional Material

87. On 15 August 2022, the Commission received a letter from the Department, dated 12 August 2022. Attached to this letter was advice from the Applicant dated 18 July 2022 indicating that the Legless Lizard recorded at the Site is not the Striped Legless Lizard (*Delma impar*) as previously thought but is a new species - *Delma vescolineata*. Also included in the Department's letter was advice from BCD dated 11 August 2022.
88. The Commission considered that it would be assisted by public submission on the Department's letter and its attachments (**Additional Material**) regarding the identification of the Legless Lizard (*Delma vescolineata*). In accordance with the Commission's Public Submissions Guidelines, the Commission re-opened public comments on this Additional Material (with submissions permitted by email) between Tuesday 23 August 2022 and 5pm AEST Tuesday, 30 August 2022.
89. The Commission notes that it received 704 submissions in the form of campaign emails, petitions or form letters. In accordance with the Commission's Public Submissions Guideline and the Commission's Statement, dated 23 August 2022, material of that nature was not considered nor uploaded to the Commission's website.
90. Noting the exclusions referred to above, the Commission received a total of 52 submissions on the Additional Material. A summary of these submissions is provided below.

Public Comment on Additional Material

91. Submissions received by the Commission outlined concerns in relation to habitat loss and the subsequent viability of the *Delma vescolineata*.

92. A number of submissions put forward the argument that consideration of the *Delma vescolineata* is not possible without greater knowledge of its habitat needs and conservation status. Submissions stated that surveys and research should be undertaken prior to disturbing areas of potential habitat in order to determine the extent of likely harm to the species should the Project proceed.
93. Submissions to the Commission stated that approval of the project is inconsistent with ESD and the precautionary principle.

5 KEY ISSUES

5.1 Noise

94. The Applicant's EIS was accompanied by a Noise and Blasting Assessment (**NBA**), dated 14 December 2020 and a peer review of the NBA, dated 17 December 2020 (**NBA Peer Review**). In response to Agency submissions, the Applicant submitted a Supplementary Noise and Vibration Advice, dated 11 May 2021 as part of its RtS.
95. The Commission notes the Site's proximity to Muswellbrook and sensitive receivers. According to the Department, noise has always been a key issue associated with Mount Pleasant and noted that the mine receives ongoing complaints in relation to noise (AR para 119 and 123). The Department stated that many of these complaints occur during noise enhancing conditions, such as temperature inversions and winds (AR para 124).

Operational Noise

96. Under the Existing Approval, 32 receivers have acquisition rights (28 due to noise, 2 due to air quality and 2 due to both noise and air quality) and 20 receivers have mitigation rights due to noise under Voluntary Land Acquisition and Mitigation Policy (**VLAMP**).
97. In addition to the existing noise mitigation and management measures in place for the Existing Operations, pages 93 and 94 of the Applicant's NBA (as referenced in AR para 126) stated that the following mitigations have been proposed for the Project to reduce noise impacts:
 - design of staged increase in extraction and mine progression westwards away from the township of Muswellbrook and village of Aberdeen;
 - design of the eastern emplacement to shield noise emissions;
 - continued implementation of noise suppression and acoustic design to all new major mobile equipment and fixed plant where reasonable and feasible;
 - construction of a rail noise barrier along the southern side of the Stage 2 rail infrastructure spur; and
 - operational adjustments during some mining stages, such as shutting down some equipment during adverse meteorological conditions or during sensitive time periods.
98. The Department noted that with these measures in place, the Applicant's NBA indicates that operational noise levels at receivers associated with the Project would reduce in general when compared to the Existing Approval. The Commission acknowledges that, as a result, 19 receivers currently with acquisition rights under the Existing Approval would no longer continue to have these rights under the consent for the Project, as is stated (AR para 133 and Table 5):
 - 8 of these receivers are now either mine-owned or no longer have a dwelling present;
 - 7 receivers would experience reduced noise impacts;
 - 2 receivers would experience reduced air quality impacts however would gain

- mitigation rights for noise; and
 - 2 receivers would experience reduced noise and air quality impacts.
99. The Commission notes that these changes are not a result of changes in Government policy or criteria but rather are a direct result of predicted reduced impacts on these receivers (AR para 134).
100. A summary of the affected privately-owned receivers and management approach under VLAMP is set out in Table 3 below and in further detail in Table 4 of the Department's AR. The Commission notes that the increase in the number of negligibly affected receivers is due to receivers that were previously classified as moderately and significantly impacted moving to the negligible impact category. The Commission agrees with the Department and notes that noise exceedances of 1 to 2 dB are generally not discernible by humans.

Table 3 – Summary of Operational Noise Limit Exceedances (Source: Department's AR)

Noise Exceedance	Management Approach	Number of Receivers
Significantly affected receivers (>5dB exceedance)	Acquisition	14
Moderately affected receivers (3-5dB exceedance)	Noise mitigation at receiver	14
Negligibly affected receivers (1-2dB exceedance)	Noise mitigation at source	52
Additionally affected land (>5dB exceedance on >25% of land)	Acquisition	1
Total		80 receivers - 65 properties (plus 1 land parcel)

101. The EPA in its advice dated 17 March 2021 stated that it expected the voluntary acquisition and mitigation rights under the Existing Approval to be carried over to any revised SSD approval. The Department stated that the legacy acquisition and mitigation rights should not be carried over to the Project. The Department stated that its assessment and recommendation is based on the contemporary noise assessment of the Project. The Commission agrees with the Department that this approach is consistent with VLAMP.

Rail and Road Noise

102. Project train movements are proposed to increase from the approved average of 3 laden trains a day to 6.5 laden trains a day. Maximum movements would increase from 9 laden trains a day to 10 laden trains a day (AR para 149).
103. The Commission acknowledges that rail noise on the rail infrastructure spur would generally comply with the rail noise criteria, although two receivers which were previously moderately affected by operational noise are predicted to experience negligible exceedances of the criteria (AR para 150). Both of these receivers would be entitled to voluntary mitigation measures at the receiver in accordance with the VLAMP. The Commission agrees with the Department that this measure would assist in mitigating rail noise at these receivers. The Commission notes that train movements on the wider public rail network would comply with the 2dB threshold under the Rail Infrastructure Noise Guideline (AR paras 151 and 152).

104. In relation to road noise, the Project would cause road noise to exceed relevant road noise guideline criteria at five receivers, however, the incremental increase would be minor and within the threshold in the Road Noise Policy. The Commission notes that four of these receivers are entitled to mitigation and/or acquisition in accordance with the VLAMP due to operational noise (AR para 154, 155).

Commission's Findings

105. The Commission is of the view that the Applicant has reduced the Project's operational noise impacts where practicable, through mine design and through mitigation measures. The Commission agrees with the Department and finds that the residual noise impacts of the Project can be adequately minimised, managed or at least compensated (AR para 158). The Commission has therefore imposed conditions B1, B2, B6 to B8 which require the Applicant to comply with specific noise criteria and operating conditions.
106. The Commission has also imposed Conditions C1 and C2 to afford receivers with acquisition and/or mitigation rights. The Commission notes that where acquisition has been sought outside of VLAMP, VLAMP applies, and acquisition needs to be undertaken in accordance with the policy and conditions of consent.
107. The EPA in its advice dated 26 July 2021 stated that construction noise associated with the optimisation process within the MLA has been determined to meet the operational criteria. The Commission has considered construction noise as part of its consideration of operational noise and is of the view that construction noise is capable of being managed under the conditions imposed by the Commission.
108. To ensure ongoing noise monitoring and management, the Commission has also imposed conditions B9 to B11 which require the Applicant to prepare and implement a Noise Management Plan for the Project.
109. With respect to rail and road noise, the Commission is of the view that rail and road noise associated with the Project is unlikely to result in significant additional impacts on receivers.

5.2 Air Quality

110. The Commission notes that the key air quality issues for the Project are associated with dust from general mining activities, fume from blasting activities and emissions of pollutants from machinery exhausts (AR para 160).
111. The following expert reports have been considered by the Commission as part of its consideration of air quality impacts:
- Applicant's Air Quality Impact Assessment (**AQIA**), dated 16 December 2020;
 - Applicant's Air Quality and GHG Peer Review, dated 13 January 2021;
 - Applicant's Supplementary Air Quality Advice, dated 1 July 2021;
 - Applicant's Response to Air Quality Peer Review, dated 21 December 2021;
 - Department's Independent Peer Review, dated 4 February 2022;
 - Applicant's Supplementary Air Quality Peer Review, dated 16 March 2022; and
 - Department's Independent Peer Review Final Response, dated 31 March 2022.
112. The Department has set out the predicted exceedances of cumulative annual average air quality criteria in Table 6 of the Department's AR. The Commission notes that four privately-owned receivers are predicted to exceed cumulative annual average air quality criteria. According to the Department, all four receivers are predicted to be affected with or without the contribution from the Project, and the contribution from the Project is minor (AR para 171).

113. According to the Applicant's Supplementary Air Quality Advice, the predicted incremental Project-only annual average PM_{2.5} levels at the Muswellbrook monitor range from 0.50µg/m³ to 0.67µg/m³, which is 6.2% to 8.4% of the annual average criteria, respectively.
114. The Commission notes that no receivers are predicted to exceed the Project-only 24 hour PM_{2.5} criteria (AR para 173).
115. The Department has set out predicted exceedances of Project-only short-term (24-hour) PM₁₀ air quality criteria in Table 7 of the Department's AR. Eight privately owned receivers are predicted to exceed the 24-hour PM₁₀ criteria during the life of the Project and are afforded acquisition rights in accordance with the VLAMP (AR para 174). The Commission notes that all of these receivers are also significantly affected by Project noise and under the Existing Approval have acquisition or mitigation rights.
116. According to the Department, the Applicant's AQIA indicates that with the continued implementation of reactive management measures, the Project would not result in any additional days of exceedances of the 24-hour PM₁₀ criteria, but may result in one additional day of exceedance of the PM_{2.5} criteria at 5 receivers on 4 properties (Receivers 112, 118, 120, 120c and 121). The Commission notes that all of these receivers (except Receiver 112) are also predicted to be significantly affected by noise from the Project, however, have also been afforded acquisition rights for air quality in accordance with VLAMP (AR paras 181 and 182).
117. In response to the EPA's request for a more detailed assessment of 24-hour cumulative impacts (dated 17 March 2021), the Applicant undertook further cumulative 24-hour PM₁₀ and PM_{2.5} analysis on additional receivers surrounding the Site. The analysis set out in the Applicant's Supplementary Air Quality Advice stated that the implementation of proactive/reactive dust mitigation measures is effective and therefore the findings set out in the Applicant's AQIA remain unchanged (RtS, pg 34). The EPA in its advice dated 26 July 2021 stated that their request has been adequately addressed by the Applicant's Supplementary Air Quality Advice. The Commission notes that the EPA has recommended that the Applicant be required to undertake annual reviews of the proactive/reactive management measures (AR para 186).
118. According to the Department, the Applicant has committed to "implement a range of proactive/reactive measures consistent with its real-time dust monitoring and management system, which includes various triggers for actions that are unique to each real-time monitor". The Commission notes that this would also include the implementation of temporary operational measures such as relocating operations to less exposed areas, increasing watering rates, or progressively shutting down equipment (AR para 184).

Commission's Findings

119. The Commission notes the objections to the Project received on the basis of air quality impacts, particularly in the context of the ambient Upper Hunter air quality and with respect to the potential impact on equine health.
120. The Commission is of the view that the potential air quality impacts of the Project have been adequately assessed and has imposed conditions requiring mitigation and management of these impacts. The Commission agrees with the Department and recognises that although the proposed impacts are similar to those of the Existing Approval, the impacts would be extended due to the Project's extended operation period – up to 22 December 2048.

121. The Commission is satisfied that the Applicant has adequately addressed the EPA's requirements for dust-making operations through the proposed proactive and reactive measures, noting that this includes shut down requirements, to manage particulate emissions and impacts at the affected receptors. The Commission finds that the impacts of the Project can be adequately minimised, managed or at least compensated to achieve an acceptable level of environmental performance.
122. The Commission has therefore imposed conditions B28 to B30 which set specific air quality criteria for the Project. The Commission has also imposed Condition B31 which sets out air quality and GHG operating conditions for the Project. Condition B31(c) requires the Applicant to implement both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of consent. The Commission notes that the applicable criteria may be exceeded at 13 receivers and one land parcel as a result of the Project and that these are afforded acquisition rights under the VLAMP. The Commission has therefore imposed conditions C1 and C12 to C19 which set out the land acquisition requirements for these receivers.
123. The Commission agrees with the EPA's advice described above (paragraph 117) and has imposed Condition D11 which requires the Applicant to report on the effectiveness of air quality management systems including a review of the reactive management measures implemented at the Site. The Applicant must also describe what measures will be implemented over the next calendar year to improve the environmental performance of the development.
124. Condition B32 imposed by the Commission requires the Applicant to prepare an Air Quality and Greenhouse Gas Management Plan (AQGGMP) in consultation with CAS (Climate and Atmospheric Science) and the EPA. The AQGGMP must set out measures to be implemented to ensure compliance with the air quality criteria. The AQGGMP must also include an air quality monitoring program, undertaken in accordance with the Approved Methods. The Applicant must implement the AQGGMP as approved by the Planning Secretary.

5.3 Greenhouse Gas Emissions

125. GHG emissions are generally categorised into three different types and are described by the Clean Energy Regulator as follows:
 - Scope 1: emissions released to the atmosphere as a direct result of an activity, or series of activities, at a facility level;
 - Scope 2: emissions released to the atmosphere from the indirect consumption of an energy commodity. For example, emissions from the generation of purchased energy electricity, heat and steam used by a facility; and
 - Scope 3: indirect GHG emissions other than scope 2 emissions that are generated in the wider economy. They occur as a consequence of the activities of a facility, but from sources not owned or controlled by that facility's business.²

International

126. Australia is a signatory to the UNFCCC Paris Agreement, which requires signatories to identify actions to cut emissions, and under this agreement Australia has committed to reduce national GHG emissions by 2030. These actions are referred to as a Nationally Determined Contribution (**NDC**). The UNFCCC and related articles specify that all emissions associated with an activity within Australia's border count towards Australia's total emissions.

² Clean Energy Regulator, accessed 9 August 2022 (<https://www.cleanenergyregulator.gov.au/NGER/About-the-National-Greenhouse-and-Energy-Reporting-scheme/Greenhouse-gases-and-energy>)

127. The Commission notes that the Project's Scope 3 emissions will be accounted for in the consumer countries' GHG emissions. The Commission also notes that with the adoption of the Paris Agreement, almost all countries have committed to reduce their GHG emissions and track their progress in doing so.

National

128. The National Greenhouse and Energy Reporting Scheme (**NGERS**) is a national framework for reporting on energy production, consumption and emissions by major emitters and State of origin and has been designed to support the Government's international reporting obligations. The Commission notes that NGERS does not require the reporting of Scope 3 emissions.
129. The previous Commonwealth Government developed the Emissions Reduction Plan which is a whole-of-economy plan to achieve net zero GHG emissions by 2050. The Emissions Reduction Plan describes a "technology-led" plan that aims to "reduce the cost of low emissions technologies, accelerate their deployment at scale, and position our economy to take advantage of new and traditional markets". The Emissions Reduction Plan acknowledges that "Reducing emissions across these sectors [industry, mining and manufacturing] will require a range of new and bespoke technologies" and focuses on investing in technologies to help reduce and abate GHG emissions.
130. The Commission notes that the current Commonwealth Government has committed to legislating a 43% reduction in GHG emissions by 2030.

State

131. The Commission notes that the national and State policy settings relating to climate change and GHG emissions are rapidly changing. Section 3.2 of the Department's AR identifies that there is now a range of NSW climate change policy and guidance relevant to the regulation of GHG emissions, including:
- a target of net zero emissions by 2050;
 - a reduction of approximately 50% emissions by 2030 (against a 2005 baseline); and
 - a focus on limiting fugitive emissions from coal mining (fugitive emissions of the methane contained in underground coal seams occurs when the coal is mined) (AR para 35).
132. The CCPF aims to "Maximise the economic, social and environmental wellbeing of NSW in the context of a changing climate and current and emerging international and national policy settings and actions to address climate change". Under the CCPF, the NSW Government's objective is to achieve net-zero emissions by 2050 and for NSW to be more resilient to a changing climate.
133. In January 2020, the NSW Government entered into the NSW Energy Package MOU with the Commonwealth Government which aimed at, in part, achieving emissions reductions. The NSW Energy Package MOU sets out an agreement that the Commonwealth will contribute funds to certain initiatives, including the Emissions Intensity Reduction Fund which is aimed at transitioning to low emissions solutions.
134. In 2008 the NSW Government established the Coal Innovation Fund. "The Fund's purpose is to support research, development and the demonstration of low emissions coal technologies for future commercial application. It also aims to increase public awareness of the importance of low emissions coal technologies in reducing greenhouse gas emissions." (Regional NSW³).

³ <https://www.regional.nsw.gov.au/meg/industry-support/coal-innovation>

135. In March 2020, the NSW Government released its *Net Zero Plan Stage 1: 2020-2030*, which was then updated in September 2021 with the Net Zero Plan. The Net Zero Plan identifies priorities and actions proposed in order to achieve a reduction in GHG levels by 2030.
136. According to the EPA, fugitive emissions from coal and gas make up approximately 9% of NSW's GHG emissions as of 2018-2019. Under the Net Zero Plan, limiting the fugitive emissions that come from coal mining is important to reduce the State's emissions, including capturing and combusting those emissions. The Net Zero Plan states: "Emissions reductions from the resources sector could provide a new revenue stream for mines, increase productivity, improve mine safety and improve air quality". The Net Zero Plan also acknowledges that methane released during coal mining is a potential energy source equal to all residential gas use in NSW each year.
137. In the NSW policy context, clause 2.20(1) of the Resources SEPP expressly requires the consent authority to consider:

Before granting consent for development for the purposes of mining, petroleum production or extractive industry, 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 the following—

that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable,

that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable,

that greenhouse gas emissions are minimised to the greatest extent practicable.

138. Clause 2.20(2) of the Resources SEPP also requires the consent authority to consider:
- Without limiting subsection (1), in determining a development application for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development, and must do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions.

5.3.1 Project GHG Emissions

139. The Department's AR states that fugitive emissions from mining in NSW are a significant component of GHG emissions and account for approximately 9-10% of NSW emissions (AR para 191).
140. The Applicant's EIS was accompanied by a Greenhouse Gas Assessment (**GHG Assessment**), which included a Greenhouse Gas Calculations Report, dated 11 January 2021. An Air Quality and GHG Peer Review, dated 13 January 2021 was also submitted with the EIS. CAS Advice to the Department, dated 10 December 2021 (**CAS Advice**), stated that the emission estimates in the GHG Assessment were consistent with contemporary practice and emission factors. The CAS Advice stated that the GHG Assessment calculates fugitive emissions using a site-specific intensity factor based on Method 2 of the National Greenhouse and Energy Reporting Scheme (Measurement) Determination 2008, which according to CAS is the correct approach. However, in addition to the above, the CAS Advice set out points for improvement of the Applicant's GHG Assessment. The Applicant subsequently submitted a response to CAS, providing updated GHG calculations, dated 31 March 2022 (**GHG Calculations**).
141. The Department's AR sets out the estimated Scope 1, 2 and 3 emissions for the Project as shown in Table 4 below:

Table 4 – Estimated GHG Emissions from the Project (Source: Department’s AR)

GHG	Estimated GHG Emissions (Mt CO ₂ -e)	
	Annual Average	Total
Scope 1	0.54	13.9
Scope 2	0.08	2.17
Scope 3	33.1	860
Total (excluding Scope 3)	0.62	16.07
Total (including Scope 3)	33.72	876.07

142. With respect to Scope 3 emissions, the Department notes the assessment indicates that 98% of the total GHG emissions generated as a consequence of the project are those associated with the downstream burning of product (AR para. 194).

Scope 1 and 2 Emissions

143. The anticipated further extraction of 406 Mt ROM coal is estimated to result in approximately 13.9 Mt carbon dioxide equivalent (**CO₂-e**) total Scope 1 GHG emissions, with an average of 0.54 Mt CO₂-e per year. The Commission understands the majority of these emissions are from diesel use, explosives, vegetation clearing and fugitive emissions. In relation to Scope 2 GHG emissions, the Project is estimated to result in approximately 2.17 Mt CO₂-e total GHG emissions, with an average of 0.08 Mt CO₂-e per year.

144. The Applicant’s GHG Calculations state that the Project’s Scope 1 GHG emissions to 2035 are within the Mount Pleasant’s current Safeguard Mechanism baseline emissions value of 0.664 Mt CO₂-e per annum.

145. In the GHG Calculations, the Applicant stated: “the in-situ gas content of coal seams at the Mount Pleasant Operation is low, being generally below 4 m³/t of ROM coal and on average approximately 1 m³/t” (GHG Calculations pg 6). The Applicant provided a response to supplementary questions from the Commission 8 July 2022 (**Supplementary Response**). The Supplementary Response outlines an estimation of the approximate amounts of ROM coal in relation to the average gas content as follows (Supplementary Response pg 1):

- Approximately 217 Mt has an estimated average gas content of less than 1 cubic metre per tonne (m³/t).
- Approximately 182 Mt has an estimated average gas content between 1 and 3 m³/t.
- Approximately 7 Mt has an estimated average gas content between 3 and 4 m³/t.

146. The Applicant also advised that under the Existing Approval, it has already commenced surface disturbance above the zone where the average gas content is estimated to be between 1 and 3 m³/t. Surface disturbance above the zone with a gas content above 3 m³/t is estimated to occur approximately in 2034 (Supplementary Response pg 1 and 2).

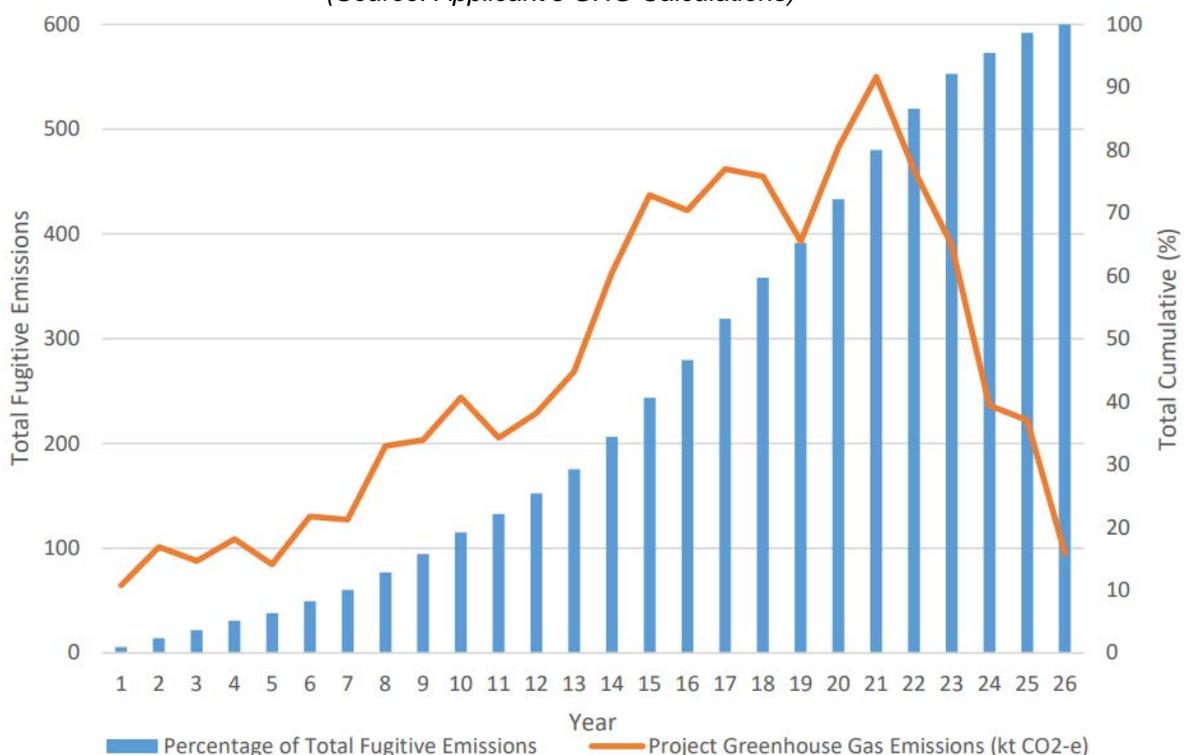
147. The Applicant stated that where in-situ gas contents are below 3 m³/t, gas drainage and subsequent flaring is technically more difficult to achieve. In the GHG Calculations, the Applicant identified currently available technologies as potential methods to extract/stimulate gas release from coal seams in advance of mining at the Project.

148. Paragraph 204 of the Department’s AR states that the Applicant, in its GHG Calculations (pg 8), stated that pre-draining the coal seam gas to reduce fugitive emissions is not considered to be currently practical or feasible given that:

- the existing gas content is relatively low due to shallow coal seams and/or depressurisation from existing mining;
- the low gas contents and low gas saturation would require high levels of advance depressurisation/dewatering and stimulation (including fracking) to stimulate sufficient gas liberation;
- these physical limitations would require many drainage wells to be developed, which would be very capital intensive and generate additional GHG emissions; and
- the low gas contents would result in a significant proportion of the in-situ gases remaining locked in the coal matrix, irrespective of the advance depressurisation and fracking.

149. The Commission notes that, as depicted in Figure 4 below, the majority of estimated Project fugitive emissions are predicted to occur in the last 10-12 years of the Project’s life (AR para 205, GHG Calculations pg 9). The Department’s AR states that annual fugitive emissions are predicted to peak at around 0.55 Mt CO₂-e in the 2040s before reducing to lower levels by the ending of mining (AR para 205). The Applicant has committed to continue to “periodically evaluate technological advancements in fugitive emission abatement technology and would implement additional reasonable and feasible fugitive greenhouse gas mitigation measures that may become available over the life of the Project” and is agreeable to require such a review as part of the AQGGMP (GHG Calculations pg 9, Response to Commission dated 28 June 2022 pg 6). In relation to Scope 2 GHG emissions, the Applicant has also committed to investigating whether it is reasonable and feasible to reduce Scope 2 GHG emissions associated with on-site electricity use over the life of the Project.

Figure 4 - Fugitive Emissions over the Life of the Project
(Source: Applicant’s GHG Calculations)



Scope 3 Emissions

150. The Commission acknowledges that the mining of coal and its combustion is a major contributor to anthropogenic climate change, which has the potential to impact future generations. The Commission acknowledges that although the Project's Scope 3 emissions would contribute to anthropogenic climate change, these are appropriately regulated and accounted for through broader national policies and international agreements (such as the Paris Agreement).
151. The Commission notes that the GHG emissions associated with burning coal to produce energy are accounted for at the international powerplants where that combustion takes place. The Commission agrees with the Department and acknowledges that under the Paris Agreement accounting rules and Australian legislation, Scope 3 emissions are not included in Project emission reporting, to avoid double counting. However, the Commission has considered all emissions associated with the Project (including Scope 3 emissions) in its assessment and determination.

5.3.2 Commission's Findings

152. The Commission received submissions that raised concerns regarding the Project's GHG emissions and the impact the increase in mining would have on climate change and future generations. Some submissions recognised that while Scope 3 emissions are not counted towards NSW emissions, the cumulative impact of GHG emissions is still felt globally.
153. The Commission recognises the concerns expressed in these submissions, however the Commission notes that under the Paris Agreement, Scope 3 emissions are attributed to the country within which they are emitted. The Commission notes that with the adoption of the Paris Agreement, almost all countries have committed to reduce global GHG emissions and to track their progress in doing so.
154. The Commission has considered the matters in clauses 2.20(1) and 2.20(2) of the Resources SEPP (in addition to the mandatory considerations under section 4.15 of the EP&A Act) and finds that the Project's Scope 1 and Scope 2 emissions have been estimated using the recommended methodologies consistent with the current national and NSW policy settings and commitments. In the absence of clear policy guidance on performance criteria or offsets, the Commission is of the view that the Project is not inconsistent with the CCPF, the Net Zero Plan or Australia's current obligations under the Paris Agreement in respect of Australia's current NDC's.
155. The Commission notes there is a growing body of international, national and State policy that is aimed at reducing GHG emissions (see paragraphs 126 - 138 above), particularly those associated with fugitive methane. The Commission is required to have regard to such applicable policies at the national and State level (under clause 2.20 of the Resource SEPP). The Commission also notes that current national and State policy recognises the ongoing demand for coal and its importance to the NSW (and Australian) economy and the regions it is located in. The current strategic direction of the NSW government, as set out in its policies, seeks to continue coal exploration, extraction and export. Instead of prescribing the refusal of development for projects such as the Project under consideration, the body of policy considered by the Commission (particularly the Commonwealth's *Australia's Long-Term Emissions Reduction Plan* and NSW's *Net Zero Plan Stage 1: 2020-2030*) indicates that the deployment of existing, emerging and future technologies to minimise and/or beneficially use fugitive methane is an important part of reducing GHG emissions from developments such as the Project.

156. The Commission notes that the majority of the Project's estimated fugitive emissions are predicted to occur in the last 10-12 years of the Project life (see paragraph 149 above). A high percentage of the Scope 1 GHG emissions of the Project are associated with fugitive emissions of methane. The Commission considers that opportunities exist for the Applicant throughout the life of the Project to deploy existing, emerging and future technologies to improve the abatement of GHG emissions and to potentially derive a revenue stream through beneficial reuse of fugitive methane emissions.
157. The Commission accepts the Applicant's estimated GHG emissions from the Project as described by the Department's AR (AR Table 8) and as set out in Table 4 above. The Commission has set specific GHG performance measures for Scope 1 and Scope 2 emissions for the Project. Condition B36 imposed by the Commission requires the Applicant to comply with the following Scope 1 GHG emissions for the life of the Project (or lower emissions as determined under the AQGGMP):
- less than 0.87 million tonnes CO₂-e emitted per calendar year;
 - less than 0.80 million tonnes CO₂-e emitted per calendar year (5-year rolling average); and
 - less than 13.9 million tonnes CO₂-e emitted over the life of the development.
158. The Commission has imposed condition B32 which requires the Applicant to prepare an AQGGMP for the Project in consultation with the CAS and EPA to the satisfaction of the Planning Secretary. The Commission has also imposed condition B36 which gives effect to the requirements set out in paragraph 157 above. Within 12 months of approval of the AQGGMP and then every 3 years during the life of mining operations (and any period of suspension of ROM coal extraction and/or processing), the AQGGMP must be updated to include a review of abatement technologies and feasibility of implementing any new, improved or best practice abatement options. As a requirement of the AQGGMP, the Applicant must describe measures that have regard to the outcomes of these investigations. As part of the AQGGMP, the Applicant must set out measures aimed at achieving, as soon as reasonably feasible but by 2034 at the latest a Scope 1 GHG emissions intensity of 0.028 tonnes of CO₂-e emitted from the development per tonne of ROM coal, based on a 5 year rolling average by calendar year (condition B34(d)(i) and (ii)). The Commission notes 0.028 tonnes of CO₂-e per tonne of ROM coal is the predicted average emissions intensity for all Scope 1 emissions between 2023 and 2033.
159. Alternatively, or in combination with the operation of condition B36 described above, the Applicant will always have the opportunity, over the entire life of the Project, to offset any GHG emissions over the prescribed limits in order to maintain compliance with the conditions. The Commission does not consider it reasonable or appropriate to require offsetting of all of the Project's GHG emissions – instead, the Applicant will retain the practical flexibility of choosing whether to:
- a) continuously implement and deploy appropriate technologies for the minimisation and/or beneficial reuse of fugitive methane and other emissions, being the outcome the conditions are intended to encourage; or
 - b) offset exceedances of the emission reduction levels prescribed under condition B36.

160. The Commission has also imposed condition B31 'Air Quality and Greenhouse Gas Operating Conditions' requiring the Applicant to take all reasonable steps to *“(a)(iii) improve energy efficiency and minimise Scope 1 and Scope 2 GHGs generated by the development”*. The Applicant will also be required to ensure that all new 'non-road' mobile diesel equipment used in undertaking the development includes reasonable and feasible emissions reduction technology as required by Condition B31(b). The Applicant must also minimise GHG emissions by using electricity generated by renewable or carbon neutral energy sources where reasonable and feasible as required by condition B36 imposed by the Commission.
161. For the reasons set out above, the Commission finds that the GHG emissions for the Project have been adequately assessed. Subject to the imposed conditions, the Commission is satisfied that the Project can achieve the requirements of the Resources SEPP, the EP&A Act and the relevant Commonwealth and NSW policy positions with respect to the reduction of fugitive emissions and the recognition of the importance of the continuation of the extraction and exportation of coal to the NSW economy. The Commission recognises that at this stage there is an ongoing demand for coal and that in line with the NSW Strategic Statement, the Project would not be located in any of these 'no-go' areas, but would be located in an area where coal exploration and mining titles already exist. The Commission acknowledges the Project's positive economic contribution to the local area through the provision of jobs and flow on economic benefits to local business (paragraph 247 below). The Commission also acknowledges that mining plays an important part of the NSW economy into the future as set out in the Net Zero Plan and that mining needs to be undertaken sensitively to minimise impacts on the environment.

5.4 Historic Heritage

162. The Applicant's EIS contained a Historical Heritage Assessment (**Heritage Assessment**) prepared by Extent, dated December 2020. The assessment identified 14 places of local heritage significance and two places of State heritage significance, namely Kayuga Bridge and Kayuga Cemetery, in the area surrounding the mine (AR Table 14).
163. Seven local heritage items are proposed to be impacted by the Project (AR Table 14). The Commission notes that each of these items is located within the approved disturbance area under the Existing Approval, and one additional local heritage item, the Broomfield homestead, is located close to the approved disturbance area and may be impacted by the Project. According to the Department, neither of the two State heritage significance items would be impacted by the Project, subject to management of indirect blasting impacts.
164. The Applicant, in its Heritage Assessment, stated that it has an ongoing commitment under the Existing Approval to ensure that all mine-related vehicles do not use or access Kayuga Bridge. All mine-related traffic is proposed to be via the central portion of Wybong Road, travelling south around the Bengalla Mine to access the Site (Heritage Assessment pg 212).
165. In relation to Kayuga Cemetery, the Applicant's Heritage Assessment states that the Project would have no adverse impact on the cemetery as a result of blasting in accordance with the approved Blast Management Plan. The Commission has given consideration to blasting impact on Kayuga Cemetery in Section 5.12 - Blasting and Vibration.

166. Heritage Council in its advice to the Department, dated 16 July 2021, was satisfied that the archaeology within the Site has been appropriately addressed. The Heritage Council recommended conditions requiring the Applicant to undertake archaeological salvage investigations in accordance with an Archaeological Research Design and Excavation Methodology, and to prepare an unexpected finds protocol (AR Table 14). Heritage Council in its advice states: “such as for the management of relics subject to impact could be addressed through preparation of a Historic Heritage Management Plan (**HHMP**)”.

Commission’s Findings

167. The Commission notes that impacts of the Project on historic heritage would be similar to those under the Existing Approval (AR Table 14). The Commission is of the view that impacts on historic heritage can be managed through conditions of consent. The Commission has therefore imposed Condition B66 which states that the Applicant must ensure that the Project does not cause any direct or indirect impact on any identified Aboriginal sites, conservation areas or heritage items located outside the approved disturbance area, beyond those predicted. The Commission has also imposed Condition B73 which requires the Applicant to prepare a HHMP for the Project in consultation with Heritage NSW, MSC and relevant landowners to the satisfaction of the Planning Secretary. The Commission agrees with the Heritage Council, as noted above, and has imposed a requirement under the HHMP for the Applicant to include a strategy for the care, control and storage of heritage relics salvaged from the Site.
168. For the reasons set out in Section 5.12 - Blasting and Vibration, the Commission finds that blasting can be managed at the Site to meet applicable blast criteria at all sensitive receiver locations. The Commission has also imposed Condition B12 which states that the Applicant must ensure that blasting does not exceed certain criteria at historic heritage sites (outside the approved disturbance area) and other locations. The HHMP referenced above also requires the Applicant to include a program to monitor the effects of blasting on heritage items (including but not limited to Kayuga Cemetery) located outside of the approved disturbance area.
169. The Commission has imposed conditions requiring the Applicant to prepare and implement a detailed Historic Heritage Management Plan. The plan would require archaeological investigations and archival recording for impacted heritage sites, preparation of Conservation Management Plans, and protection of heritage items outside the disturbance area, including from blast-related impacts.

5.5 Aboriginal Heritage

170. The Commission received written submissions, and heard comments at the Public Hearing, raising concern about loss of Aboriginal heritage items and Aboriginal cultural heritage as a result of the Project. The Commission received objection to the Project based on damage to Wonnarua cultural heritage.
171. The Applicant’s EIS contained an Aboriginal Cultural Heritage Assessment (**ACHA**), dated December 2020. The ACHA involved consultation with 88 Registered Aboriginal Parties (**RAPs**) and considered the detailed assessment and salvage operations undertaken for the approved mine (AR Table 14). The Department notes that in preparing the ACHA, the Applicant undertook further desktop analysis of small areas that were not able to be surveyed for access reasons, in response to requests from Heritage NSW (AR Table 14).

172. According to the Department, the ACHA identified 1,736 tangible Aboriginal sites in the Project area including: 1,723 artefacts scatters and isolated finds, 2 scarred trees and 1 spiritual place. The Department's AR states that of these, "1,512 sites would experience the same (or potentially decreased) impacts relative to the approved operations, noting there are more known heritage sites located within the Relinquishment Area than within the proposed additional disturbance area" (AR Table 14).
173. The Applicant's ACHA states that the additional impacts of the Project on Aboriginal Heritage would be relatively low within a local context and very low within a regional context. The ACHA states that with the implementation of mitigation measures, the impacts of the Project on Aboriginal heritage would be reduced to a minor extent.

Commission's Findings

174. The Commission agrees with the Department that Aboriginal heritage-related impacts of the Project would be similar to those under the Existing Approval. The Commission finds that harm to Aboriginal Heritage can be acceptably managed through conditions of consent. As stated in paragraph 167 above, the Commission has imposed Condition B66 which states that the Applicant must ensure that the Project does not cause any direct or indirect impact on any identified Aboriginal sites outside the approved disturbance area, beyond those predicted. The Commission has imposed Condition B67 which sets out requirements for the Applicant should suspected Aboriginal human remains be discovered on Site.
175. The Commission has also imposed Condition B69 which requires the Applicant to prepare an Aboriginal Cultural Heritage Management Plan (**ACHMP**) for the Project in consultation with Heritage NSW and RAPs to the satisfaction of the Planning Secretary. The Commission agrees with Heritage NSW recommendations in its advice to the Department, dated 9 August 2021 and has imposed a requirement for the Applicant to undertake further archaeological investigations, test excavations and analysis of scarred trees as part of the HHMP. The following measures and requirements must also be implemented under the ACHMP:
- the establishment of Aboriginal cultural heritage conservation areas (as required under the Existing Approval);
 - the protection of Aboriginal objects and Aboriginal places located outside the approved disturbance area;
 - manage the discovery of suspected Aboriginal human remains over the life of the development;
 - manage the discovery of any new Aboriginal objects or Aboriginal places;
 - facilitate the ongoing consultation and involvement of RAPs
 - the inclusion of a strategy for the care, control and storage of Aboriginal objects salvaged from the Site.

5.6 Water

176. The following water resource assessments have been provided by the Applicant:
- Groundwater Assessment, dated 1 December 2020;
 - Peer Review of the Groundwater Assessment, dated 8 December 2020;
 - Surface Water Assessment, dated 16 December 2020
 - Geochemistry Assessment, dated 2 December 2020
 - Supplementary Groundwater Advice, dated 25 June 2021
 - Applicant's Final Landform Review, dated 23 December 2021

177. The Commission notes that following the Applicant's RtS, which included the Supplement Groundwater Advice, the agencies and the Department consider that the assessments have been prepared in accordance with applicable guidelines and standards, and are 'fit for purpose' to assess the water-related impacts of the Project (AR para 225). The Department also engaged Hugh Middlemis of HydroGeoLogic to undertake an independent peer review of the Groundwater Assessment, dated 7 October 2021 (**Independent Groundwater Peer Review**), as it relates to the post-mining final void.

5.6.1 Surface Water

178. According to paragraph 234 of the Department's AR:

The project would increase the catchment area excised from the Hunter River during mining from 20.1 km² to 24.1 km², which equates to 0.55% of the total catchment area. This would result in a reduction in mean annual flows in the catchment of approximately 1,570 ML (0.55%), which is unlikely to be discernible.

179. The Department's AR paragraph 235 states that local catchments would have a greater area of catchment excised (i.e. Sandy Creek 5.3%, Rosebrook Creek 63%, and Dry Creek 20%). The Commission notes that the excised areas are similar to those under the Existing Approval, and the catchments within the Site are highly ephemeral and/or modified. The Applicant proposed to continue to undertake controlled releases from the mine during heavy rainfall periods in accordance with the Hunter River Salinity Trading Scheme (**HRSTS**).
180. The EPA in its Advice on the EIS, dated 17 March 2021 recommended that the Applicant revise the water balance model to ensure that the water balance reliably predicts the likely frequency and volume of discharges. The EPA in its Advice dated 26 July 2022 on the RtS noted that the Applicant did not provide a revised water balance. The EPA considered the residual risk to be low and recommended conditions of consent for the Applicant to revise the site water balance with the aim of minimising licensed extraction from the Hunter River and reducing discharges under the HRSTS. The EPA also recommended conditions requiring the Applicant to prepare a water pollution impact assessment for discharges. The Department agreed with these recommendations (AR para 240).

5.6.2 Groundwater

181. The Commission notes that groundwater inflows (from the Permian aquifer) to the mine would peak at approximately 303 ML/yr (in 2034/5). According to the Department this is not significantly more than that currently predicted under Existing Approval (i.e. 270 ML/yr in 2024/5), and is less than that originally predicted for the Existing Approval (i.e. 690 ML/yr). The Department notes that this reduction is due to improvements in modelling, and the desaturation caused by neighbouring mines since the original approval was granted (AR para 241).
182. DPE Water in its Advice to the Department dated 12 March 2021 notes that the Applicant has detailed that it "holds sufficient licences to account for the take from each water source, with the exception of 13 ML/year of predicted take from the Dart Brook Water Source, which is regulated under the Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources, 2009". The Department considers that the Applicant would be able to readily obtain the relatively small additional required water licences in the Dart Brook water source, given the depth of the market in the water source and the active trading history in the water source (AR para 245). DPE Water did not raise any further concerns and recommended that the Applicant be required to obtain the necessary additional water licences prior to water take.

183. According to the Groundwater Assessment (pg 92) a total of six bores on private property were predicted to experience drawdown exceeding the AIP minimal impact considerations (i.e. more than 2 metres drawdown) due to cumulative impacts from the Mount Pleasant Operations (incorporating the Project) and neighbouring mines.
184. The Groundwater Assessment and the Department's AR state that two of these bores are already dry, and a further three are not currently in use and/or are monitoring bores. The Commission notes that only one bore ('Belgrave') is active and not dry, and is predicted to experience more than 2 metres of drawdown as a result of the Project. The Commission also notes that this bore has also been historically affected by the Dartbrook mine, and as such the Project-related impacts are not expected to significantly impact the groundwater user (AR para 248). The Department has recommended that the Applicant be required to provide compensatory water supplies to the affected groundwater users, at the request of the landowner.
185. In relation to Groundwater Dependent Ecosystems (**GDEs**), the Groundwater Assessment indicates that the Project is unlikely to adversely affect any of the GDEs within the vicinity of the Project area, both during and after the mining operations. The Department has recommended conditions requiring the Applicant to monitor and protect the GDEs surrounding the Project.
186. In relation to groundwater quality, DPE Water in its Advice dated 15 July 2021 recommended that the Applicant provide additional details regarding the proposed management and monitoring of Potential Acid Forming (**PAF**) material, particularly in relation to the out-of-pit emplacement areas. DPE Water in its Advice dated 29 September 2021 that the Applicant has provided very limited detail regarding the process of identification of non-coal fine PAF material. DPE Water recommended that additional details regarding the procedures which would ensure the identification and appropriate handling of all PAF material mined under the approval being sought. The Applicant's Final Landform Review describes management measures for PAF material. The Department's AR states that any PAF material encountered (predicted to be a small proportion) would be managed in a manner that is consistent with contemporary mining standards and the Applicant's approved Mining Operations Plan. The Department further stated:

PAF material encountered during mining would be blended to produce a non-acid forming (NAF) material and disposed of in overburden emplacements, with a minimum final cover of 10 metres of inert material overlying any PAF material. Any PAF material exposed in the floor of the final void would be covered with at least 5 metres of inert NAF material, excavated and co-disposed as PAF in the emplacements, or flooded with water to prevent oxidation.

5.6.3 Final Void

187. The Project would consolidate three final voids under the Existing Approval into a single final void. The single void would be considerably larger and deeper than the approved voids in the Existing Approval (AR para 256). According to the Applicant's Final Landform Review "the final void is predicted to reach a peak water level of approximately 75 m AHD; 125 m below the spill level (i.e. the final void is contained)".
188. The Department's AR states that as with other final voids in the region (and under the Existing Approval), the void lake would gradually increase in salinity over time. The Final Landform Review states that the final void salinity is predicted to increase slowly as a result of evapo-concentration, with a predicted peak salinity of approximately 25,000 $\mu\text{S}/\text{cm}$ after 950 years.

189. The Independent Groundwater Peer Review recommended:

...aspects associated with the final landform and final void should be further investigated as part of ongoing mining, rehabilitation and environmental management for the project, including:

- consideration of groundwater aspects associated with final landform options, in particular the 'no void' option;
- sensitivity analysis of the final lake water and salt balances; and
- post-mining void lake water quality for a full range of potential pollutants.

190. According to the Independent Groundwater Peer Review there is no potential for flow of poor quality groundwater away from the final void, but notes that there are other potential causal pathways for impacts that should be appropriately managed (AR para 260).

191. The Applicant's Final Landform Review stated: "the analysis of alternatives considered the full range of competing priorities ... and concluded that any environmental benefit associated with the 'No Void' and 'Partial Backfill' scenarios was outweighed by the range of negative environmental consequences and significant additional operational costs". The Applicant also stated that it would continue to: "consider and refine final void design and land use options over the life of the Project, including potential beneficial uses of the final void (e.g. for off-river storage of supplementary water flows in the Hunter River)".

192. The Department accepts that complete backfilling of the void is not a viable option, and that it may result in adverse environmental consequences (AR para 264). The Commission notes that the Applicant has incorporated mitigation measures into the design of the final void (AR para 263):

- backfilling approximately 1.5 kilometres of the northern part of the void;
- reducing the depth of the void in areas and decreasing internal batter slopes and the highwall angle; and
- applying geomorphic design concepts to the landform draining into the void.

193. The Department has recommended that the Applicant be required to:

...minimise the size and catchment of the final void as far as practicable, to minimise any ongoing environmental impacts associated with the void and final landform, to comply with a number of best practice rehabilitation objectives, to prepare a detailed rehabilitation strategy and rehabilitation plan, and to implement comprehensive surface water and groundwater monitoring programs.

5.6.4 Commission's Findings

194. The Commission agrees with the Department, DPE Water and the EPA that the Project can be managed such that it would not result in a significant impact to surface water and groundwater resources, subject to implementation of best practice mitigation measures.

195. In relation to water licences, the Commission agrees with the Department and is of the view that the Applicant would be able to readily obtain the relatively small additional required water licences in the Dart Brook water source. The Commission has therefore imposed condition B39 which states that the Applicant must ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of the development to match its available water supply.

196. The Commission is of the view that should any groundwater users be affected by the Project, the proposed make good provisions and contingency measures would then apply. The Commission accepts the AIP and its requirements as sound and established policy requiring appropriate compensation for groundwater users affected by new developments. The Commission is of the view that the make good provisions would be sufficient in adequately compensating affected groundwater users. The Commission has therefore imposed conditions B41 to B48. Under these conditions, the Applicant must provide a compensatory water supply to any landowner of privately-owned land whose rightful water supply is adversely and directly affected. Compensatory water supply measures must also provide an alternative long-term supply of water that is equivalent, in quality and volume, to the loss attributable to the development.
197. In relation to water discharges, the Commission agrees with the EPA and the Department and has imposed conditions of consent to ensure that discharges from the Site are appropriately managed. Condition B50 imposed by the Commission sets specific water management performance measures for the Project. The Commission has imposed Condition B49 which states that the Applicant must ensure that all surface discharges from the Site comply with discharge limits set for the development in any EPL and the relevant regulatory provisions. As part of these measures the Applicant must design, install and maintain mine water storage infrastructure to avoid unlicensed or uncontrolled discharge of mine water. The Applicant must also minimise the need for discharges to the HRSTS and design, install, operate and maintain water management systems in a proper and efficient manner.
198. The Commission agrees with the Groundwater Assessment's conclusion that the Project is unlikely to adversely affect any of the GDEs within the vicinity of the Project area, both during and after the mining operations. The Commission agrees with the Department and has imposed a performance measure as part of Condition B50 which states that the Applicant must protect GDEs surrounding the site by maintaining negligible impacts as a result of the development.
199. For the reasons set out above, and to ensure ongoing management of water resources, the Commission has imposed conditions B52 – B54 which require the Applicant to prepare and implement a Water Management Plan (**WMP**) in consultation with DPE Water and the EPA to the satisfaction of the Planning Secretary. As part of the WMP the Applicant must prepare:
- Site Water Balance;
 - Erosion and Sediment Control Plan;
 - Surface Water Management and Monitoring Plan; and
 - Groundwater Management Plan (GMP).
200. In relation to the final void, the Commission agrees with the Department and accepts that complete backfilling of the void is not a viable option, and that it may result in adverse environmental consequences such as seeping of contaminants off-site. The Commission accepts the findings of the Independent Groundwater Peer Review that there is no potential for flow of poor quality groundwater away from the final void. The Commission has therefore imposed a specific rehabilitation objective as part of Condition B87 to ensure that the final void is designed as long-term groundwater sink to prevent the release of saline water into the surrounding environment, unless further mine planning and final landform design processes identify a more suitable outcome for the final void. The Commission agrees with the Department (paragraph 193 above) and acknowledges the Applicant's commitment to refine final void design. The Commission has therefore imposed Condition B89(j) which requires the Applicant to investigate opportunities to refine and improve the final landform and final void outcomes over time as part of the Rehabilitation Strategy.

5.7 Biodiversity

201. The Project includes the clearance of native vegetation and associated impacts to biodiversity, including the potential for impacts to threatened flora and fauna species and communities (AR para 268). It would disturb up to 475 hectares of native vegetation, including approximately 161 hectares of woodland and up to 314 hectares of derived native grassland (AR para 284). The Project also proposes to relinquish approval (under the Existing Approval) to disturb an area of 485 hectares (the 'relinquishment area'), and as such, there is no significant net change to the overall disturbance area proposed (AR paras 269, 284 and 285).
202. The Applicant's EIS was accompanied by a Biodiversity Development Assessment Report (**BDAR**) prepared by Hunter Eco, dated January 2021. The BDAR was prepared in accordance with the Biodiversity Assessment Method established under the *Biodiversity Conservation Act 2016 (BC Act)*. The BDAR includes biodiversity surveys of the proposed additional disturbance area, as well as consideration of the biodiversity values in the relinquishment area. The EIS also included an Aquatic Ecology Assessment, undertaken by Bio-Analysis, dated November 2020.
203. The Commission notes that both the Department and the Biodiversity Conservation Division (**BCD**) consider that the BDAR was prepared in accordance with relevant guidelines and policies and is adequate for assessing the Project's biodiversity impacts (AR para 274).
204. BCD initially requested additional information on aspects of the BDAR and raised issues regarding biodiversity offsets. The Applicant provided responses to BCD's requests, including a revised BDAR. BCD subsequently confirmed that its comments on biodiversity issues had been satisfactorily addressed (AR para 273).
205. The Applicant's revised BDAR identified eight Plant Community Types in and around the additional disturbance area (AR para 276). About half of the area was classified as one of two endangered or critically endangered ecological communities (**EECs/CEECs**) listed under the BC Act, namely Box Gum Woodland (CEEC) and Central Hunter Grey Box Ironbark Woodland (EEC) (AR para 277). One threatened flora species was recorded in the Project area (Tiger Orchid), and one 'species credit' fauna species was recorded (Squirrel Glider) (AR para 279). No threatened fish species were recorded in the Project area (AR para 291) and no high-priority groundwater dependent ecosystems are located in the vicinity of the Project area (AR para 292).
206. The Applicant has considered avoidance and mitigation measures as part of the Project. The Department's AR notes that the additional disturbance area is generally contiguous with the existing approved disturbance areas and "largely comprises fragmented and degraded vegetation areas" (AR para 281) that have been used for agricultural purposes, such as grazing, for over 100 years (AR para 275).
207. During its meeting with the Commission on 16 June 2022, the Applicant stated the relinquishment area has high-habitat values and would result in a net positive biodiversity outcome for the Project (Transcript, page 6). The Commission notes that the relinquishment area would avoid clearing of 485 hectares of native vegetation that is approved to be cleared, including 193.5 hectares of native woodland and 291.5 hectares of derived native grassland (AR para 284).
208. The biodiversity impacts of the Project on each plant community type, and ecosystem credits generated, have been calculated in accordance with the Biodiversity Assessment Method. The Department, at AR para 289, states that the proposed relinquishment area "generates significantly more ecosystem and species credits" than the additional disturbance area.

209. Overall, the Department is of the view that the Project would avoid, minimise and mitigate impacts on threatened species and communities to the greatest extent practicable, subject to the implementation of the recommended conditions. The Department considers that the residual biodiversity impacts of the Project can be appropriately offset in accordance with the Biodiversity Offsets Scheme (AR para 316).

Legless Lizard speciation

210. The Department, in its letter to the Commission dated 12 August 2022, advised that the Applicant had written to the Department in a letter dated 18 July 2022. The Applicant provided the Department with a research paper from the journal *Zootaxa* dated 11 July 2022 (**Zootaxa (2022)**) that stated that the Striped Legless Lizard (*Delma impar*) which had been recorded at the Site is the newly differentiated species *Delma vescolineata*. This reflects advice from the Applicant's consultant (paragraph 215 below) that the legless lizards detected in the vicinity of the Site were disjunct from those in southern NSW and Victoria.

211. The Applicant's letter to the Department, dated 18 July 2022, noted that *Delma vescolineata* has only recently been identified as a separate species, and in time, it could also potentially be listed as a threatened species under the BC Act. The Applicant recommended a condition that would require them to provide biodiversity offsets for the *Delma vescolineata* should it be listed under the BC Act in the 12 months following determination of the Project.

212. The Department's letter included advice from BCD, dated 11 August 2022, regarding the status of *Delma vescolineata*, the process for potential listing under the EPBC Act and BC Act, and consequential amendments to the Department's recommended conditions of consent. The Department recommended that reference to *Delma impar* be removed from the conditions of consent and that the Commission consider a specific condition for *Delma vescolineata*.

213. BCD, in an attachment to the Department's letter to the Commission dated 12 August 2022, stated:

BCD recommends that some of the offset obligation for impacts to this species could be met by funding a conservation strategy for the species under the Saving our Species program. This is because little is known about the species and its conservation needs such that land based offsets may not be sufficient to mitigate impacts. Based on the information available to date it is apparent that further surveys and research are needed to effectively manage and protect the species in the wild.

214. BCD further states that this could be effectively achieved through the funding of research to undertake widespread surveys, refine survey methods and provide further information on the species management needs. BCD also noted that Clause 6.2 (2)(cc) of the *Biodiversity Conservation Regulation 2017* allows for the funding of a biodiversity conservation action that would benefit the relevant threatened species to the equivalent cost of acquiring the required like-for-like biodiversity credits.

215. In relation to geographic distribution, *Zootaxa (2022)* identifies that *Delma vescolineata* is distributed from the Hunter Valley region to the Liverpool Plains region of NSW with four recorded sightings at Muswellbrook, Jerrys Plains, Pine Ridge and Bulga (*Zootaxa (2022)*).

216. Further to the above, the Applicant in its submission to the Commission on the Additional Material dated 30 August 2022 (prepared by Hunter Eco) stated that occurrence records of the Striped Legless Lizard (reported as *Delma impar* but now recognised as *Delma vescolineata*) in the Hunter catchment rose from two records at the Muswellbrook Common in 2013 to 45 records by 2022.

Commission's Findings

217. The Commission agrees with the Department that the biodiversity impacts of the Project have been appropriately minimised and that residual biodiversity impacts can be appropriately offset. The Commission has therefore imposed conditions B55 to B62 for the management of retiring of credits. The Commission has also imposed condition B63 requiring the Applicant to prepare, to the satisfaction of the Planning Secretary and in consultation with BCD, and implement a comprehensive Biodiversity Management Plan, including measures for protecting flora and fauna outside the disturbance areas and managing clearing within the disturbance areas.
218. During the Commission's assessment of the Application, the Commission was advised that the legless lizards identified on, or near to the Site are likely to be of the species *Delmar vescolineata* which is different from, but related to the species *Delmar impar* found in southern NSW and Victoria. The Commission acknowledges that BCD in its letter dated 11 August 2022 sets out the process for listing *Delma vescolineata* under the EPBC Act and the BC Act.
219. Public submissions raised concern regarding the limited geographic distribution of *Delma vescolineata*. The Commission notes that the distribution of *Delma vescolineata* extends beyond the Site and Zootaxa (2022) and the Applicant's submission dated 30 August 2022 have referenced documented recordings of this species elsewhere in the Hunter Valley (see paragraphs 215 and 216 above).
220. The Commission agrees with both the Department and BCD that impacts to this species on Site are capable of being managed through appropriate conditions of consent. The Commission has therefore imposed specific requirements for the Applicant's Biodiversity Management Plan, which – among other relevant requirements – requires the Applicant to demonstrate how the Project will be carried out in a manner that avoids or minimises to the greatest extent practicable any serious or irreversible damage to the survival of *Delma vescolineata*, irrespective of whether it is listed as a threatened species under the BC Act and/or EPBC Act. Condition B62 imposed by the Commission sets out biodiversity credit requirements should the species be listed under the BC Act and /or the EPBC Act during the life of the consent. The Commission agrees with BCD that some offset obligations could be met by funding a conservation strategy for the species under the Saving our Species 2016-21 program.
221. The Commission also agrees with BCD and the authors of Zootaxa (2022) that further investigations should be undertaken to support the management of this species. The Commission agrees with BCD that based on the information available to date, further surveys and research are needed to effectively manage and protect the species in the wild. The Commission has therefore imposed via condition B63(i) a specific requirement for the Applicant to investigate and identify habitat that supports populations in the wild of *Delma vescolineata*, as well as identifying and implementing measures to manage threats to that population.
222. The Commission acknowledges the concerns raised in submissions regarding habitat loss and the subsequent viability of *Delma vescolineata*. The Commission has imposed condition B63(j) which states that the Applicant must demonstrate how the Project will be carried out in a manner that avoids or minimises to the greatest extent practicable any serious or irreversible damage to the survival of *Delma vescolineata*.
223. The Commission notes the Project is subject to Commonwealth approval under the EPBC Act. As such, the Applicant is also required to secure offsets via a conservation covenant (AR para 309) and provide funding over the life of the Project towards recovery actions (AR para 310).

5.8 Rehabilitation and Final Landform

224. The Existing Approval incorporates three final voids and measures for macro- and micro-relief to create a natural appearing landform. The final landform includes a mixture of pasture and forest for agriculture and biodiversity conservation (AR Table 1). This Application seeks to introduce additional micro-relief and varying topography at the eastern waste rock emplacement, an accelerated progressive rehabilitation for the emplacement and one final void. Final land uses include permanent water infrastructure and storage areas, agricultural land, native woodland and grassland areas and the final void.
225. The Commission received submissions identifying concerns that the Project will result in rehabilitation legacy issues arising during or beyond the life of the Project. Objections particularly raised the likelihood of early mine closure in the context of fluctuations in commodity prices, and the risk that poses to rehabilitation objectives being achieved. The Commission also heard objections noting the proposed rehabilitation is not sufficient to compensate for the loss of ecosystems that will result from the expansion of the mine.
226. At the Public Hearing, the Applicant commented on the method undertaken for the progressive rehabilitation, allowing for the rapid formation of complex geomorphic features and to progressively topsoil and seed new areas as they become available to reduce amenity impacts (Public Hearing transcript page 19). The Applicant also noted that once rehabilitation is in place, there is less dust generated from the exposed footprint (Public Hearing transcript page 21).
227. In response to concerns about a potentially early mine closure, the Applicant noted rehabilitation works would be progressive during the life of the mine, rather than occurring in the later years of mining. The Applicant also raised rehabilitation bonds, which are managed by the Resources Regulator, noting the rehabilitation bond requirements cover the completion of rehabilitation works in the unlikely event that the Applicant is unable to finish the full rehabilitation of the Site (Public Hearing Transcript page 21).
228. At its meeting with the Commission on 16 June 2022, the Applicant was asked if the geomorphic landforms being formed onsite would be capable of being used as farmland. The Applicant noted that in its view, they could be capable of being used as grazing land, however, they are under “an obligation to – particularly our EPBC approval, to restore a certain amount of endangered woodland” (Applicant Meeting Transcript pg 24).
229. The Department consulted with the Department of Primary Industries-Agriculture, which initially recommended that consideration be given to establishing more agricultural land in the final landform for the mine, and that rehabilitation focuses on the reestablishment of a Land and Soil Capability (**LSC**) Class of 3 and 4 (generally suited to grazing). The Department also consulted with the Resources Regulator, who, on review of the RTS, advised it had no further comments in relation to mine rehabilitation matters.
230. The Department accepts the Applicant should focus on re-establishing equivalent LSC class land as far as practicable but accepts that the proposed final landform/land use presents a reasonable balance between woodland rehabilitation to meet biodiversity commitments, and agriculture (AR Table 14).

231. The Department has recommended conditions requiring the Applicant to minimise any ongoing environmental impacts associated with the void and final landform, re-establish agricultural land areas as shown on the final landform plan, implement reasonable and feasible measures to rehabilitate agricultural land areas to LSC Class 3 and 4 and to prepare a detailed rehabilitation strategy and rehabilitation plan (AR para 267 and AR Table 14). With respect to the LSC Class, the Commission notes the Department's comment in its letter to the Commission dated 18 August 2022, which clarifies that at Table 10 of the recommended conditions of consent, the Department recommends LSC Class 3 to 4, consistent with advice from the Department of Primary Industries – Agriculture.
232. In relation to concerns raised, at the Public Hearing, about the risk to rehabilitation works if the mine was to close early, the Department described how the rehabilitation bonds are managed by the Resources Regulator. The Department noted through the rehabilitation management plan process, the rehabilitation bond is regularly updated to reflect the stage of the mine in order to determine what the costs are to meet the rehabilitation objectives of the mine at that particular point in time. The Department is confident that processes are in place to ensure there will always be a sufficient rehabilitation bond to meet the rehabilitation objectives for the relevant stage of the mine, which will cover rehabilitation costs in the event of an early closure (Public Hearing transcript page 15).
233. In its meeting with the Department the Commission asked the Department to comment on the long-term stability of the final void. The Department provided a response in its Response to Questions on Notice dated 27 June 2022. The Department noted that the geomorphic modelling of erosion potential post-mining undertaken by the Applicant indicated that long term erosion rates for the final landform would be similar to erosion rates for the natural hillslopes in the area. The Department further noted that the assessment included a geotechnical stability review of the operational highwalls and final landforms and concluded that the slopes would be geotechnically stable, with adequate factors of safety.

Commission's Findings

234. The Commission has considered the Material before it, with respect to rehabilitation and final landform matters. The Commission notes clause 2.23 of the Resources SEPP outlines requirements that relate to whether any consent granted should be subject to conditions that ensure rehabilitation of land disturbed by mining occurs satisfactorily 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.
235. The Commission's consideration of the final void landform and rehabilitation are discussed above, in Section 5.6.3 and paragraph 200, and matters relating to the objections received by the Commission about rehabilitation in the context of the impact on ecosystems presented by the mine expansion are discussed at section 5.7.
236. In terms of the final geomorphic landform design and stability, the Commission is satisfied that the proposed final landforms and rehabilitation plans could be achieved to meet contemporary best practice in the NSW mining industry. The Commission has recommended conditions B87 to B92 which relate to the establishment of rehabilitation objectives, the preparation of a Rehabilitation Strategy and Rehabilitation Management Plan and a requirement to implement reasonable and feasible measures to rehabilitate agricultural land areas to LSC Class 3 to 4.

237. The Commission is also satisfied that the progressive rehabilitation measures proposed, along with the mechanisms in place through the Resources Regulator for rehabilitation bonds will require rehabilitation costs to be revised regularly through the rehabilitation management plan process to ensure there will be funds available to complete rehabilitation works in the event of an early mine closure.

5.9 Visual Impacts

238. The Commission acknowledges that the Site is located in an intensive mining area, with the surrounding landscape being affected by historic and existing mining. The Department considers the key visual impact associated with the Project is the eastern waste rock emplacement, which will have a high level of visibility during its construction from the north, east and south, including in parts of Muswellbrook and Aberdeen. The Department notes that the eastern waste rock emplacement, while highly visible, will provide a buffer between the mine and residences, assisting to mitigate noise and other impacts in Muswellbrook (AR, Table 14).

239. The proposed eastern waste rock emplacement is approximately 360m AHD. The Existing Approval allows for a maximum waste rock emplacement of approximately 320m AHD, which is 40m less than the proposed. The Existing Approval also includes two additional out-of-pit emplacement areas, south-west and north-west, which due to the increased height of the proposed eastern waste rock emplacement are no longer needed (AR, Table 14). The Department considers that the emplacement will provide a screen to mining operations once constructed and rehabilitated, with the visual impact of the mine gradually reducing over time. The Commission understands the proposed waste rock emplacement utilises geomorphic design to provide a more natural-looking final land form and an accelerated progressive rehabilitation for the emplacement (AR, Table 14).

240. The Commission received written submissions and heard from speakers at the Public Hearing that raised concerns with the landform changes resulting from the Project. Submissions commented on distress caused by environmental change and changing views for the local community. Concerns were also raised regarding the loss of views of the distant mountain range when viewed from Muswellbrook.

Commission's Findings

241. The Commission agrees with the Department's that the visual impacts associated with the Project would be generally similar to the Existing Approval. The Commission acknowledges that, while a number of receivers would have significant visual impacts as a result of the eastern waste rock emplacement, the Commission finds that these impacts would be reduced over time as a result of the rehabilitation of landforms (AR Table 14).

242. To further mitigate these impacts on receivers, the Commission has imposed Condition B80 which states that upon receiving a written request from the owner of any residence on privately-owned land which is within 2 km of mine landforms and has, or would have, significant direct view of the mining operations on site, the Applicant must implement visual mitigation measures on the land in consultation with the landowner.

243. In addition to the above, the Commission has imposed condition B76 which requires the Applicant to minimise the visual and off-site lighting impacts of the development, including the visual impact of any new buildings or structures. Conditions B77 to B79 imposed by the Commission require the Applicant to prepare a Visual Impact Management Plan to ensure public views of the Project are reasonably shielded, including by constructing visual bunds and planting vegetation screens.

5.10 Economics

244. The Applicant's EIS was accompanied by an Economic Assessment, dated January 2021. The Economic Assessment included a cost benefit analysis (**CBA**) and a local-effects analysis (**LEA**).
245. The Economic Assessment states that the "incremental net benefit of the Project for NSW is estimated at \$855 million in net present value (**NPV**) terms, consisting of royalties of \$684 million in NPV terms, and the NSW share of company income tax of \$172 million in NPV terms".
246. According to the Department's AR, the sensitivity analysis indicates that the Project would have a net positive benefit under a range of variables (AR Table 14).
247. The Project would have a range of economic benefits for the local area and region as set out in the Department's AR (AR Table 14):
- 447 direct and indirect FTE [**full-time equivalent**] jobs in the SA3 region (Muswellbrook and Upper Hunter LGAs), 643 FTE jobs in the wider Hunter Valley region, and 444 FTE jobs [elsewhere] in NSW;
 - \$140 million (NPV) in incremental disposable income in the SA3 region, \$189 million in the wider Hunter Valley and \$276 million in NSW; and
 - \$1.4 billion (NPV) in incremental direct value added benefits in NSW.
248. Mining, Exploration and Geoscience (**MEG**) in its advice to the Department dated 25 February 2021 considered the Project would provide an appropriate return to the NSW Government and is considered to be an efficient use of resources. The Applicant's RtS provided a response to concerns raised in submissions regarding the future global market for thermal coal which was assumed to be stable over the mines projected life. In its advice to the Department on the Applicant's RtS, MEG raised no further issues.
249. The Department in its letter to the Applicant on 24 December 2021 noted that the Economic Assessment included a calculation (based on proportion of the NSW GSP as a percentage of World Gross Domestic Product) to reduce the direct GHG emissions attributable to NSW. The Department stated that it did not support this approach and considers that it is inconsistent with the Economic Guidelines Technical Note 9. The Department stated that it is of the view that the costs associated with all Scope 1 and Scope 2 emissions should be alternatively apportioned to NSW and that that the Economic Assessment should present a range of carbon prices via sensitivity testing for the cost-benefit analysis. The Department requested that the Applicant recalculate the net benefits of the Project in net present value terms and ensure that GHG emission costs are alternatively apportioned to NSW, including a sensitivity analysis around carbon pricing.
250. The Applicant provided a response to this request dated 27 January 2022 (**Additional Economic Analysis**). The Applicant maintained that its approach in the Economic Assessment is consistent with the Technical Notes. Notwithstanding this position, the Applicant provided additional sensitivity analysis of the externality cost of the Scope 1 and 2 GHG emissions to NSW using prices from:
- Australian Treasury Clean Energy Future Policy Scenario (high price scenario); and
 - US EPA Social Cost of Carbon (low price scenario).

According to the Applicant's Additional Economic Analysis, the revised net benefit to NSW as a result of the Project in all circumstances remain positive. This is noted by the Department on pg 77 of the AR.

251. The Department's AR concludes that "the project would have considerable economic benefits for the region and NSW. Further, as the project represents a brownfields extension to an existing mine, the project would make use of existing infrastructure established for the mine".
252. In addition to the above, the Commission notes that that Applicant has negotiated a VPA with MSC. The Commission also notes that although the Project is not located in the Upper Hunter LGA, the Applicant has also agreed to enter into a VPA with UHSC to provide contributions towards community infrastructure and services. The Department has therefore recommended conditions requiring the Applicant to enter into VPAs with MSC and UHSC.

Commission's Findings

253. As set out above, the Commission notes that current NSW Government policy recognises the demand for coal and its importance to the NSW economy and the regions it is located in, and that the NSW Government's current strategic direction seeks to continue coal exploration, extraction and export. The Commission notes that in the NSW Strategic Statement, the NSW Government recognises the ongoing demand for coal, particularly in the Asian export market, where demand for Australian high quality thermal coal will continue because of its ability to be used in high efficiency coal-fired electricity-generating facilities. The Commission acknowledges that the Project proposes to sell coal products almost exclusively to the Asian market.
254. The NSW Strategic Statement also states that the NSW Government will recognise existing industry investment by continuing to consider responsible applications to extend the life of current coal mines. Although the NSW Strategic Statement does not bind the Commission, the Commission is nonetheless of the view that the Project represents a reasonable and responsible extension to the life of an existing coal mine that would enable the economic and beneficial reuse of existing infrastructure. The Commission agrees with MEG and considers the Project to be an efficient use of resources.
255. The Regional Plan sets out the broader strategic policy framework to inform future land use plans, development applications and infrastructure funding decisions. The Regional Plan acknowledges "Coal mining will remain significant in the region" (Regional Plan pg 34), however, recognises the need to balance the interests of competing uses for land in this region. The Draft Regional Plan recognises that the "mining, energy and industrial sectors all make the Hunter an economic powerhouse. They will remain important contributors to the regional economy into the future" (Draft Regional Plan pg 22). The Draft Regional Plan goes on to recognise that coal "is likely to have a finite lifespan as an energy source" and the government "will work to support coal-dependent communities to diversify for the future" (Draft Regional Plan pg 22).
256. The Commission received submissions that commented on the importance of job creation and job security, through both direct and indirect employment. Some speakers at the Public Hearing raised the importance of mining and agriculture working side by side. The Commission also recognises the economic benefits associated with having a diverse regional economy.
257. The Commission has been assisted in its economic benefits consideration by the scenarios it put to the Applicant and in public submissions. The Commission notes that the Applicant's Economic Assessment was the subject of public submissions to the effect that the cost allocated to Scope 1 and Scope 2 GHG emissions were understated.
258. The weight the Commission has given to its consideration of the CBA has been qualified by a number of factors, including:

- the substantial discount of future benefits and costs if a high discount factor is used (particularly when a project extends over several decades and is subject to significant external influences, such as the high variability in coal prices);
 - commercial decisions about the conduct of the Project (within the scope of the law and the conditions imposed by the Commission) being a matter for the Applicant;
 - differing interpretations of the Economic Guidelines, which – among other matters – are contested with respect to how the cost of GHG emissions should be apportioned to NSW (see paragraphs 249, 250 and 251 above);
 - the potential impact of the Commission's imposition of GHG emission conditions (see paragraphs 157 - 160 above) on the calculation of GHG related costs of the Project.
259. The Commission notes that the Economic Guidelines are not legislation and are subject to differing interpretations. The Panel of the Commission constituted for the present Application accepts that different interpretations may be adopted, including by other Panels of the Commission (equally, other Panels of the Commission have adopted the present Panel's approach).
260. The Commission notes that the Applicant's Additional Economic Analysis provided further sensitivity analysis on the externality cost of the Scope 1 and 2 GHG emissions and concluded that the revised net benefit to NSW as a result of the Project in all circumstances remain positive.
261. The Commission finds that the Project would have a positive economic impact in relation to employment through the provision of up to an average of 447 direct and indirect FTE jobs in the Muswellbrook and Upper Hunter LGAs, 643 FTE jobs in the wider Hunter Valley region, and 444 FTE jobs elsewhere in NSW. The Commission also finds that the Project would also result in approximately \$140 million (NPV) in incremental disposable income in the Muswellbrook and Upper Hunter LGAs , \$189 million in the wider Hunter Valley, \$276 million in NSW and \$1.4 billion (NPV) in incremental direct value added benefits in NSW (see paragraph 247 above).
262. The Commission acknowledges the importance of Indigenous employment in regional areas and recognises that the Project would also play a role in providing employment and creating long term career opportunities for young people in the region.
263. Overall, the Commission finds that on balance and when weighed against the impacts, the Project is likely to generate net positive economic benefits for the local area, Hunter region and to NSW more broadly through employment, royalties and tax revenue.

5.11 Social Impacts

264. The EIS was accompanied by a Social Impact Assessment (**SIA**), prepared by Just Add Lime. The SIA identifies the social impacts of the Application as a continuation of the existing social impacts of the Mount Pleasant Operation. The SIA identifies that both positive and negative social impacts will be experienced, whether the Application is approved or not, and that social impacts are experienced cumulatively with other mines in the locality.

265. At its meeting with the Commission, MSC noted that Hunter communities have undergone rapid transitions associated with the expansion of the mining industry and over the next few decades they face the coal mining industry declining, noting that an “abrupt or an unplanned transition will have a resounding social and economic impact on this region, and indeed potentially the State” (Meeting Transcript pg 7). MSC also highlighted the shortfall of affordable housing and high demand for rental accommodation within the community, noting the cumulative impacts of mines within the area.
266. The Commission heard from speakers at the Public Hearing and received written submissions that brought attention to the employment opportunities the mine provides within the local community, noting the importance of job security. Submitters highlighted the importance of both direct and indirect employment opportunities provide, with a number of local businesses noting their ongoing working relationship with the mine.
267. A number of submitters raised the negative social impacts of mining within the local community, including impacts to health and wellbeing, emotional distress caused by the changing environment and landscape, impacts to the quality of the environment, cultural impacts and community division between those who support and oppose mining.
268. At its meeting with the Commission, the Applicant noted that it has run an Aboriginal Community Development Fund since 2006, contributing money to projects for the local Aboriginal community. (Applicant Meeting Transcript pg 6). The Applicant commented that “we will continue to contribute to and sponsor community organisations” (Applicant meeting transcript, pg 7).
269. The Application would provide an increase and continuation of direct employment at the mine, as outlined at 247 above. The Department states the social impacts of the Application would continue to be similar to existing social impacts “including impacts on way of life (including population, housing, health and wellbeing, community services and facilities and recreation), and culture and community cohesion, with no significant adverse impacts anticipated.” (AR Table 14). The Department notes the Applicant “proposes to continue to implement a number of measures to mitigate negative social impacts, including stakeholder engagement, working with industry groups, targeting local employment and training, and supporting Aboriginal stakeholder groups.” (AR Table 14).

Commission’s Findings

270. The Commission considers that the Applicant has assessed the social impact of the Application in sufficient detail. The Commission agrees with the Department that there are no significant adverse social impacts anticipated. The Commission is of the view that on balance, the social benefits associated with permanent and construction-related employment outweigh any potential negative social impacts.

5.12 Other Issues

5.12.1 Blasting and Vibration

271. The Existing Approval permits a maximum of one blast per day and five blasts per week, averaged over a calendar year. The Application proposes to increase blast frequency to two blasts a day and eight blasts a week, averaged over a calendar year. Blasts are undertaken between 9am and 5pm Monday to Friday (AR Table 14).
272. At its meeting with the Commission, MSC commented on potential blast impacts on Kayuga Cemetery (cemetery headstones) and regional seismic activity. MSC also stated that it would seek to have minimal disruption to public roads due to blasting, with its preference being for no roads to be closed due to blasting. MSC also raised these issues in its submission to the Department.
273. The Department considers impacts to the cemetery “are unlikely given the separation distance (some 1.5km) and given appropriate mitigation and monitoring measures.” (AR Table 14). In its RtS, the Applicant stated that a review “of the Geoscience Australia National Seismic Hazard Assessment 2018 appears to suggest that Muswellbrook has similar seismic hazard risk to much of eastern NSW and Victoria” (RtS, pg 143).
274. During its meeting with the Commission on 16 June 2022, MSC raised concerns about impacts to Kayuga Cemetery. MSC stated that the cemetery’s headstones are fragile and could be toppled as a result of vibrations from the Project. MSC requested that the Commission consider a condition requiring a monument specialist to be engaged to assess the condition of the headstones prior to the commencement of mining operations, and to provide remediation as required. Council also suggested that the headstones be monitored regularly to mitigate any impacts from blast vibrations.
275. At its meeting with the Applicant, the Commission asked for information on measures taken to ensure there would be no significant impacts as a result of blasting on Kayuga cemetery. The Applicant stated that “while the draft conditions do specify a 10-millimetre per second vibration limit for the cemetery, in fact a more stringent 5-millimetre per second criteria applies to private residences 20 which actually sit between the project and the cemetery” (Applicant Meeting Transcript, pg 12). The Applicant was of the view that blasting can be managed to avoid any impacts on the cemetery. The Commission also asked the Applicant to comment on the coordination of blasting between adjoining mines and the impact this might have on social amenity. The Applicant advised that they have a system for blasting coordination with adjoining mines. The Applicant stated that this is formalised through their website and that blast schedules also advise public road closures.

Commission’s Findings

276. The Commission notes that at AR Table 14 the Department state that in general, as mining activities move away from Muswellbrook, blasting amenity issues should gradually lessen. The Commission agrees with the Department that, subject to conditions, blasting can be managed at the Site to meet applicable amenity and structural damage blast criteria at all sensitive receiver locations (AR Table 14). The Commission has therefore imposed conditions B14 and B15 which state that blasting may only to be carried out between 9am and 5pm, Monday to Saturday, with the Applicant being permitted to carry out a maximum of two single blast events a day and eight single blast events a week, averaged over a calendar year.
277. Noting the concerns raised in relation to the impacts of blasting on private property, the Commission has imposed condition B12 which states that the Applicant must ensure that blasting does not exceed certain criteria at privately owned residences, mine-owned residences, historic heritage sites and public infrastructure.

5.12.2 Traffic and Transport

278. The Applicant proposes to retain the existing mine access road off Wybong Road as the primary site access. Ancillary site access for environmental monitoring, general land management, exploration activities and local deliveries would continue to be permitted from local roads. The Applicant proposes to realign the Northern Link Road, submitting two alternative realignment options. The Application also includes use of the new rail loop and an increase to the number of laden trains per day from an average of 3 laden trains a day to 6.5 laden trains a day and maximum movements of 9 laden trains a day to 10 laden trains a day.
279. The Existing Approval requires the Applicant to close Wybong Road and construct the Western Link road to enable access to underlying coal reserves. The Applicant no longer proposes to access the underlying coal and as such construction of the upgraded Western Road Link is not required (AR Table 14).
280. In its submission to the Department, Transport for NSW (**TfNSW**) requested the inclusion of a condition requiring all construction workers to be shuttled to the site to generate a lower traffic impact on the surrounding road network. The Department has recommended a condition to ensure that workers associated with major construction activities are transported to the site via shuttle bus.
281. At its meeting with the Commission, MSC suggested an amendment to draft condition B95(b) to include the full length of Castle Road “and the intersection of Dorset Road and Kayuga Road”. MSC also requested the inclusion of a condition to limit mining to a distance of not less than 200m to any public road boundary (MSC Meeting Discussion Points pg 2).

Commission’s Findings

282. The Commission is satisfied with the proposed realignment options for the Northern Link Road however, notes a preference for Option 1 as this does not dissect the relinquishment area. The Commission imposes condition B96(a) to require the Applicant to construct the Northern Link Road realignment via Option 1 or Option 2.
283. The Commission finds that the Department’s recommended condition B97(c), to ensure that workers associated with major construction activities are transported to the site via shuttle bus, sufficiently addresses TfNSW’s recommendation and imposes the condition accordingly.
284. At AR Table 14 the Department notes a number of road related recommendations from MSC that have been included in the recommended conditions. The Commission agrees with the inclusion of these recommendations and imposes conditions B96(b), B97(a) and B97(b).
285. Further to this, with respect to the recommended condition amendments MSC put to the Commission, the Commission finds it reasonable to include Council’s recommended amendment to condition B96(b). Accordingly, the Commission imposes condition B96(b) requiring the Applicant to undertake (at its own expense) a safety audit for the full length of Castlerock Road and the intersection of Dorset Road and Kayuga Road.
286. With respect to MSC’s request to limit mining to a distance of not less than 200m to any public road reserve, the Commission has imposed condition A28 which requires the Applicant to ensure that mining activities on the site are not reasonably likely to cause damage to road reserves outside the site.

287. With respect to the increase in rail usage due to the proposed increase in the number of laden trains per day, the Department consulted with the Australian Rail Tack Corporation which did not raise any significant issues, however made recommendations with respect to rail noise. The Commission notes that noise associated with the proposed increase to laden trains has been assessed at paragraphs 102 to 104 above. The Commission is satisfied that the rail network is capable of accommodating the additional train movements and imposes condition A9 permitting a maximum of 10 laden trains to leave the site in any 24-hour period.

5.12.3 Waste

288. With respect to general waste management at the Site, the Commission is of the view that the Site's waste is capable of being managed through conditions of consent and has imposed Condition B81 which states that the Applicant must take all reasonable and feasible steps to minimise the waste (including coal rejects and tailings) generated by the development. The Commission is of the view that this condition is sufficient and that a waste management plan is not required.

5.12.4 Bushfire and Hazards

289. The hazards associated with the Application have been considered, including dangerous goods storage, bushfire, declared dams, geotechnical risk and spontaneous combustion. In relation to bushfire management, the Commission has imposed Condition B84 to ensure the Site provides for asset protection in accordance with the latest *Planning for Bushfire Protection* (Rural Fire Service, 2019) guideline, to ensure the Site is suitably equipped to respond to fires and assist the Rural Fire Service and emergency services if there is a fire within the vicinity of the site. The Commission has imposed Condition B85 requiring the Applicant to prepare a Bushfire Management Plan in consultation with the Rural Fire Service. The Commission is satisfied that hazards associated with the Application can be sufficiently managed through conditions of consent.

5.12.5 Radio Transmission

290. Written submissions to the Commission raised concern regarding the impacts of the Project, in particular the eastern emplacement, on reception of broadcasting services in Muswellbrook and surrounding area. The Commission notes that these concerns were also raised during exhibition. The Applicant, in its response to the Department dated 22 September 2021, stated that as the eastern out-of-pit emplacement landform rises in elevation (Existing Approval), it would begin to obscure line of sight between some facilities on the Rossgole Transmission tower and lower residential areas of Muswellbrook. The Applicant states that transmission signal effects are likely to be exacerbated by the Project. The Applicant stated that it would not object to a condition requiring make-good provisions (e.g. such as raising an existing tower or construction of an additional transmission station), should such an adverse impact be demonstrated to occur.

291. The Commission acknowledges the concerns raised by the Community and also the Applicant's commitment above to resolve any impacts to transmission services as a result of the Project. The Commission has therefore imposed Condition A30 which states: Should the increased elevation of the development's waste rock emplacement result in adverse impacts on the reception of broadcasting services from the Rossgole Tower transmission facilities, the Applicant must implement make-good provisions to the satisfaction of the Planning Secretary (such as raising the existing tower or construction of a re-transmission station) which would meet the siting and technical requirements of the Australian Communications and Media Authority.

6 THE COMMISSION'S FINDINGS AND DETERMINATION

292. The views of the community were expressed through public submissions and comments received (as part of exhibition and as part of the Commission's determination process), as well as in oral presentations to the Commission at the Public Hearing. The Commission carefully considered all of these views as part of making its decision.
293. The Commission has carefully considered the Material before it as set out in section 3.1 of this report. Based on its consideration of the Material, the Commission finds that the Project should be approved subject to stringent conditions of consent for the following reasons:
- air quality and noise impacts of the Project are capable of being minimised, managed or at least compensated;
 - the GHG emissions for the Project have been adequately estimated and are permissible in the context of the current climate change policy framework;
 - opportunities exist for the Applicant throughout the life of the Project to deploy existing, emerging and future technologies to improve the abatement of GHG emissions;
 - impacts on historic heritage are capable of being managed;
 - harm to Aboriginal cultural heritage can be acceptably managed through conditions of consent;
 - biodiversity impacts can be suitably avoided, mitigated and/or offset;
 - the Project can be managed such that it would not result in a significant impact to surface water and groundwater resources;
 - visual impacts associated with the Project would be generally similar to the Existing Approval and would reduce over time as a result of the progressive rehabilitation of the landform;
 - the proposed final landforms and progressive rehabilitation plans can be managed to meet contemporary best practice in the NSW mining industry. The progressive rehabilitation measures proposed and the mechanisms in place through the Resources Regulator are sufficient to ensure there will be funds available to complete rehabilitation works in the event of an early mine closure;
 - blasting is capable of being managed at the Site to meet applicable amenity and structural damage blast criteria at all sensitive receiver locations;
 - the Project would have a net positive economic impact in relation to employment through the provision of up to an average of 447 direct and indirect FTE jobs in the Muswellbrook and Upper Hunter LGAs, 643 FTE jobs in the wider Hunter Valley region, and 444 FTE jobs elsewhere in NSW. The Project would provide long-term employment opportunities for Indigenous workers and young people in the region;
 - the Project would result in approximately \$140 million (NPV) in incremental disposable income in the Muswellbrook and Upper Hunter LGAs, \$189 million in the wider Hunter Valley, \$276 million in NSW and \$1.4 billion (NPV) in incremental direct value added benefits in NSW;
 - the Project represents a reasonable and responsible extension to the life of an existing coal mine that would enable the economic and beneficial reuse of existing infrastructure. The Project is sufficiently likely to result in positive economic benefits;
 - the Site is suitable for the development;
 - the Project is in accordance with the Objects of the EP&A Act;
 - the Project is not inconsistent with the ESD principles, because it would achieve an appropriate balance between the relevant environmental, economic and social considerations; and

- the Project is in the public interest.
294. For the reasons set out in paragraph 293, the Commission has determined that the consent should be granted subject to conditions. These conditions are designed to:
- prevent, minimise and/or offset adverse environmental impacts;
 - set standards and performance measures for acceptable environmental performance;
 - require regular monitoring and reporting; and
 - provide for the on-going environmental management of the development.
295. The reasons for the Decision are given in the Statement of Reasons for Decision dated 6 September 2022.



Prof. Alice Clark (Chair)
Member of the Commission

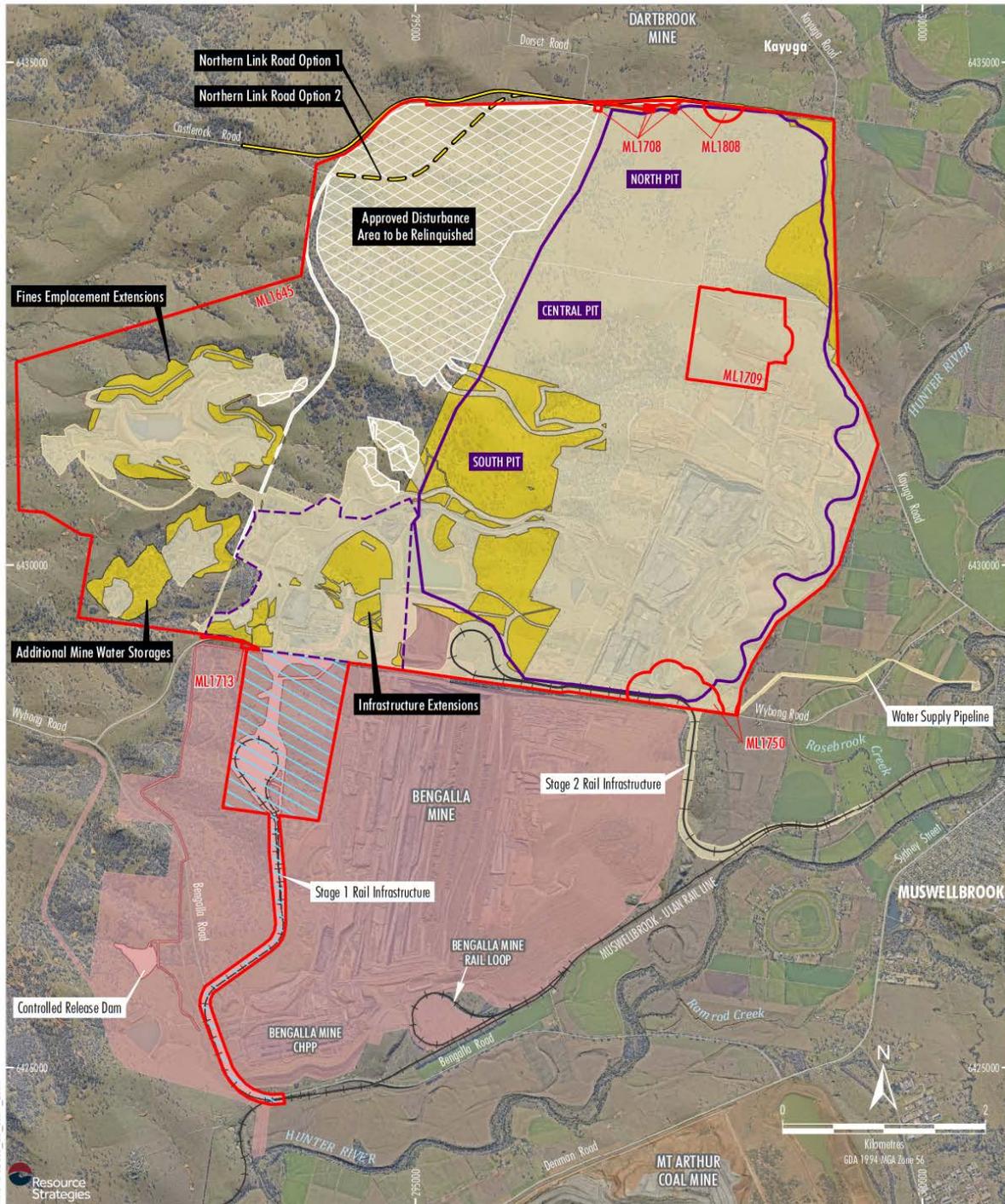


Prof. Chris Fell AO
Member of the Commission



Mr Terry Bailey
Member of the Commission

APPENDIX A – PROJECT GENERAL ARRANGEMENT



- LEGEND**
- Existing Mine Elements**
- Mining Lease Boundary (Mount Pleasant Operation)
 - Approximate Extent of Existing/Approved Surface Development (DA92/97) ¹
 - Infrastructure to be removed under the Terms of Condition 37, Schedule 3 (DA92/97)
 - Bengalla Mine Approved Disturbance Boundary (SSD-5170)
 - Existing/Approved Mount Pleasant Operation Infrastructure within Bengalla Mine Approved Disturbance Boundary (SSD-5170) ¹
- Additional/Revised Project Elements**
- Approved Disturbance Area to be Relinquished ²
 - Approximate Additional Disturbance of Project Extensions ¹
 - Northern Link Road Option 1 Centreline ³
 - Northern Link Road Option 2 Centreline
 - Approximate Extent of Project Open Cut and Waste Rock Emplacement Landforms
 - Revised Infrastructure Area Envelope

- NOTES**
1. Excludes some incidental project components such as water management infrastructure, access tracks, topsoil stockpiles, power supply, temporary offices, other ancillary works and construction disturbance.
 2. Subject to detailed design of Northern Link Road alignment.
 3. Preferred alignment subject to landholder access.

Source: MACH (2020); NSW Spatial Services (2020); Department of Planning and Environment (2016) Orthophoto: MACH (2020)

MACHEnergy
MOUNT PLEASANT OPTIMISATION PROJECT
Project General Arrangement

Figure 1-4