



New South Wales Government
Independent Planning Commission

Vickery Extension Project SSD 7480

Statement of Reasons for Decision

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State of New South Wales through the Independent Planning Commission 2020

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EXECUTIVE SUMMARY

This Statement of Reasons has been prepared by the Independent Planning Commission (**Commission**) in its determination of the Vickery Extension Project (**Project**).

In September 2014, the delegate of the Minister for Planning approved the Vickery Coal Project (**Approved Project**) as a State Significant Development (**SSD-5000**). The Approved Project included the extraction of 135 million tonnes (**Mt**) of coal over a 30-year period, at a rate of up to 4.5 million tonnes of run-of-mine (**ROM**) coal a year (**Mtpa**) with coal hauled by trucks on public roads to the existing coal handling and preparation plant (**CHPP**) near Gunnedah, for processing and transport by rail to the Port of Newcastle.

Vickery Coal Pty Ltd (the **Applicant**), a subsidiary of Whitehaven Coal Pty Ltd, is proposing to extend the Approved Project and develop a new CHPP and train load out facility at the Vickery Coal Mine (the **Site**). The Project also includes the development of a rail spur across the Namoi River floodplain and a water supply borefield and associated infrastructure.

The key changes of the Project compared with the Approved Project include:

- an increase in total coal extraction by 33 Mt, from 135 to 168 Mt;
- an increase in the peak annual extraction rate from 4.5 up to 10 Mtpa of coal;
- an additional disturbance area of 776 hectares (ha), compared with 2,242 ha for the Approved Project, with the open cut extension area accounting for around 20% of the additional disturbance; and
- transportation of ROM coal via the rail spur including a reduction of coal haul trucks.

On 6 September 2018, the Minister for Planning requested that the Commission conduct an initial public hearing into the carrying out of the Project. The Commission conducted the initial public hearing over two days in Boggabri and Gunnedah on 4 February 2019 and 5 February 2019 (**Initial Public Hearing**). 101 speakers registered to speak at the Initial Public Hearing.

The Commission prepared an issues report, dated 30 April 2019 (**Issues Report**) which set out the actions taken by the Commission, summarised submissions and identified the key issues of the Project in accordance with the Minister's request. The Commission's Issues Report was considered by the Department of Planning, Industry and Environment (**Department**) in assessing the merits of the Project.

On 19 February 2020, the Minister for Planning and Public Spaces (**Minister**) requested that the Commission conduct a further public hearing into the Project and determine the Application. On 19 May 2020, the Department referred the Application to the Commission for determination.

The Commission Panel determining the Application is comprised of Mr John Hann (Chair), Professor Zada Lipman and Professor Chris Fell AM. The Commission conducted an electronic public hearing over two days on 2 July 2020 and 3 July 2020 (**Public Hearing**). The Commission heard from 74 registered speakers in total via video conference and telephone. As part of the public hearing, the Commission set up a remote studio in Narrabri to facilitate presentations from local residents, businesses and organisations to the Commission via video link. The Commission received a total of 2863 written public submissions including 774 submissions in support, 1108 objections, 46 comments and 935 campaign email objections on the Application.

The Commission has given consideration to a number of issues including: water resources, rehabilitation, final void and landform, greenhouse gas (**GHG**) emissions, socio-economic impacts, noise, air quality, impacts on agricultural land, road and rail transport, heritage, blasting and vibration, biodiversity and visual amenity and lighting.

The Commission acknowledges that the Project would result in additional environmental and amenity impacts associated with the increased disturbance footprint and additional mining-related infrastructure when compared to the Approved Project. The Commission also acknowledges that when compared to the Approved Project, the Project would result in some reduced impacts such as a reduction of Scope 1 emissions, reduced amenity impacts and improved road safety from reduced ROM coal truck haulage. On balance, the Commission finds that the environmental and amenity impacts of the Project are not significantly greater than those associated with the Approved Project. The Commission is of the view that the additional environmental and amenity impacts can be appropriately managed and mitigated in accordance with the applicable guidelines and policies.

The Commission finds that the Project would generate significant social and economic benefits for the local area, North West region and to NSW. This includes a direct capital investment of \$607 million and up to 450 jobs during operations.

The Commission has considered the matters in cl 14(1)(c) and cl 14(2) of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (Mining SEPP)* and finds that the Project includes appropriate measures for minimising Scope 1 and Scope 2 GHG emissions to the greatest extent practicable. The Commission acknowledges that the Project's Scope 3 emissions would become the consumer countries' Scope 1 and 2 emissions and would be accounted for under the Paris Agreement in their respective national inventories. The Commission is of the view that the GHG emissions for the Project have been adequately considered.

The Commission finds that on balance, and when weighed against the objects of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*, ecologically sustainable development (**ESD**) principles, relevant policy framework, and socio-economic benefits, the impacts associated with the Project are acceptable and the Project is in the public interest.

For the reasons set out in this Statement of Reasons, the Commission has approved the Application. In reaching its decision, the Commission carefully considered the Application, the Department's Preliminary Assessment Report, the Commission's Issues Report, the Applicant's Submissions and Amendment Report, the Department's Assessment Report, the independent expert reports, advice from relevant government agencies, submissions from Councils and concerns raised by interested individuals, groups and organisation at the Initial Public Hearing, Public Hearing and in written submissions in accordance with the requirements of the EP&A Act.

The Commission has adopted the Department's recommended conditions and has amended/imposed additional conditions to ensure that the Project complies with the relevant criteria and standards, that impacts are consistent with the predictions in the EIS and that residual impacts are minimised, mitigated and where relevant compensated for.

DEFINED TERMS

ABBREVIATION	DEFINITION
ACHMP	Aboriginal Cultural Heritage Management Plan
AEA	The Applicant's Aquatic Ecology Assessment prepared by Eco Logical Australia Pty Ltd, dated April 2018.
AIP	NSW Aquifer Interference Policy
Amendment Report	The Applicant's amendment report, dated September 2019
Applicant	Vickery Coal Pty Ltd
Application	State Significant Development Application 7480
Approved Methods	<i>Approved Methods for the Modelling and Assessment of Air Pollutants in NSW</i>
Approved Project	Vickery Coal Project (SSD 5000)
ARTC	Australian Rail Track Corporation
AQA	Applicant's Air Quality and Greenhouse Gas Assessment undertaken by Ramboll Australia Pty Ltd, dated 16 February 2018
AQA Peer Review	Applicant's AQA Peer Review undertaken by Todoroski Air Services Pty Ltd, dated 19 May 2020
AQGGMP	Air Quality and Greenhouse Gas Management Plan
AQMP	Air Quality Management Plan
AWD	Available Water Determinations
BARBOS	The Applicant's Biodiversity Assessment Report and Biodiversity Offset Strategy prepared by Resource Strategies (undated)
BARBOS Addendum	The Applicant's BARBOS addendum prepared by Resource Strategies, dated 18 October 2019
BCD	NSW Biodiversity Conservation Division
BFCG	Boggabri Farming and Community Group
BSAL	Biophysical Strategic Agricultural Land
CCPF	<i>NSW Climate Change Policy Framework</i>
CHPP	Coal handling and preparation plant
Commission	Independent Planning Commission of NSW
DCP	Development Control Plan
Department	Department of Planning, Industry and Environment
Department's AR	Department's Assessment Report
Department's PIR	Department's Preliminary Assessment Report
Department's Response	Department's response to the Commission dated 15 July 2020
DIDO	Drive in drive out
DMMS	Dorothea McKellar Memorial Society
DRG	Department's Division of Resources and Geosciences
Economic Assessment	Applicant's Economic Assessment prepared by Analytecon Pty Ltd dated August 2018
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	<i>NSW Environment Protection Authority</i>
EPCB Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
EPI	Environmental Planning Instrument
ESD	Ecologically Sustainable Development

FIFO	Fly in fly out
Flood Assessment	Applicant's Flood Assessment prepared by WRM Water & Environment Pty Ltd, dated 10 August 2018.
FMP	Floodplain Management Plan for the Upper Namoi Valley Floodplain 2019
FTE	Full time equivalent
Future of Coal Statement	<i>Strategic statement on coal exploration and mining in NSW (DRG 2020)</i>
GDE	Groundwater Dependent Ecosystem
GDE Guideline	<i>NSW Risk Assessment Guideline for Groundwater Dependent Ecosystems (NOW, 2012)</i>
GHG	Greenhouse Gas
GLEP	<i>Gunnedah Local Environment Plan 2012</i>
Groundwater Assessment	Applicant's Groundwater Assessment prepared by HydroSimulations dated August 2018
GSC	Gunnedah Shire Council
HCC	Hard coking coal
HHMP	Historic Heritage Management Plan
HMP	Heritage Management Plan
ICNG	<i>Interim Construction Noise Guideline</i>
IESC	Independent Expert Scientific Committee on Coal Seam Gas and Large Mining Development
Independent Economic Review	The Department's independent economic review undertaken by Mr Gavan Dwyer of Marsden Jacobs Associates
Independent Groundwater Expert	The Department's independent groundwater expert, Hugh Middlemiss of HydroGeologic Inc
Initial Public Hearing	The Commission's initial public hearing conducted over 2 days in Boggabri and Gunnedah on 4 February 2019 and 5 February 2019
Infrastructure SEPP	<i>SEPP (Infrastructure) 2007</i>
Kalf Peer Review	Groundwater Assessment Peer Review undertaken by Kalf and Associates Pty Ltd, dated 8 August 2018
KPoM	Koala Plan of Management
LEP	Local Environmental Plan
LFN	Low frequency noise
LGA	Local Government Area
LIA	The Applicant's Light Impact Assessment prepared by Light Naturally, dated November 2019
Mandatory Considerations	Relevant mandatory considerations, as provided in s 4.15(1) of the EP&A Act
Material	The material set out in section 4.5
MIA	Mine Infrastructure Area
Minister	Minister for Planning and Public Spaces
Mining SEPP	<i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007</i>
MNES	Matter of National Environmental Significance
MOP	Mine Operations Plan
Mtpa	Million tonnes per annum
MWD	Mine Water Dam
NBA	Applicant's Noise and Blasting Assessment prepared by Wilkinson Murray, dated August 2018

NDC	Nationally determined contribution
Net Zero Plan	<i>NSW Net Zero Plan Stage 1: 2020–2030</i>
NGERS	National Greenhouse and Energy Reporting Scheme
NLEP	<i>Narrabri Local Environment Plan 2012</i>
NPfi	<i>NSW Noise Policy for Industry</i>
NPV	Net Present Value
NRAQMP	<i>Namoi Region Air Quality Monitoring Project</i>
NSC	Narrabri Shire Council
PCT	Plant community types
PM	Particulate matter
PNTL	Project Noise Trigger Level
Public Hearing	The Commission’s electronic public hearing conducted over 2 days on 2 July 2020 and 3 July 2020
Project	Vickery Extension Project (SSD 7480)
Regulations	<i>Environmental Planning and Assessment Regulations 2000</i>
RING	<i>NSW Rail Infrastructure Noise Guideline</i>
RNP	<i>NSW Road Noise Policy</i>
ROM Coal	Run-of-mine coal
RTA	The Applicant’s Road Traffic Assessment prepared by GTA Consultants, dated 8 August
SEPP	State Environmental Planning Policy
SEPP 33	<i>SEPP No.33 – Hazardous and Offensive Development</i>
SEPP 44	<i>SEPP No.44 – Koala Habitat Protection</i>
SEPP 55	<i>SEPP No.55 – Remediation of Land</i>
SIA	Social Impact Assessment
SIA Guideline	<i>Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development</i>
Site	As described in paragraph 10 of this report
SIMP	Social Impact Management Plan
SRD SEPP	<i>SEPP (State and Regional Development) 2011</i>
SRLUP	<i>New England North West Strategic Regional Land Use Plan 2012</i>
SSCC	Semi-soft coking coal
SSD	State Significant Development
SSO	Siding Springs Observatory
Submissions Report	Applicant’s Submissions Report dated August 2019
Surface Water Assessment	Applicant’s Surface Water Assessment prepared by Advisian Worley Group, dated August 2018
Surface Water Peer Review	Applicant’s Surface Water Peer Review undertaken by Prof Tom McMahon, dated 5 August 2018
SVC	Site Verification Certificate
TARP	Trigger Action and Response Plan
TMP	Traffic Management Plan
TSP	Total suspended particles
WEA	Western Emplacement Area
WMP	Water Management Plan
VLAMP	<i>Voluntary Land Acquisition and Mitigation Policy</i>
VPA	Voluntary Planning Agreement

1 INTRODUCTION

1.1 The Minister's First Request

1. On 6 September 2018, the Minister for Planning made the following request under section 2.9(1)(d) of the EP&A Act that the Commission:
 - a) Conduct a public hearing into the Project after exhibition of the Environmental Impact Statement (**EIS**) for the Project.
 - b) Consider the EIS, submissions on the Project, relevant expert advice and relevant information.
 - c) Publish a report to the Department.
2. The Commission conducted the Initial Public Hearing at the Boggabri RSL Memorial Club, 77-79 Laidlaw St, Boggabri NSW 2382, on Monday, 4 February 2019 and at the Gunnedah Town Hall, 152 Conadilly Street, Gunnedah NSW 2380, on Tuesday, 5 February 2019.
3. The Commission's Issues Report was provided to the Department on 30 April 2019.

1.2 The Minister's Second Request

4. On 19 February 2020, the Minister requested under section 2.9(1)(d) of the EP&A Act that the Commission conduct a further public hearing into the Project and determine the Application.
5. The Minister's Request set out above in paragraph 4, was received by the Commission on 11 March 2020.

1.3 The Department's Referral

6. On 19 May 2020, the Department referred the Application to the Commission for determination. The Application seeks approval for the Vickery Extension Project located in the Gunnedah and Narrabri local government areas (**LGAs**) under section 4.38 of the EP&A Act.

1.4 The Commission Panel

7. The Commission is the consent authority in respect of the Application under section 4.5(a) of the EP&A Act and clause 8A of the *State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP)*. This is because:
 - the Project constitutes State significant development under section 4.36 of the EP&A Act; and
 - the Department received more than 50 submissions from the public objecting to the Application under the mandatory requirements for community participation in Sched 1 to the EP&A Act.
8. On 12 March 2020, Mr Peter Duncan AM, Acting Chair of the Commission directed Ms Dianne Leeson to nominate members of the Panel. Ms Diane Leeson nominated Mr John Hann (Chair), Professor Zada Lipman and Professor Chris Fell AM to constitute the Commission Panel determining the Application.

2 THE APPLICATION

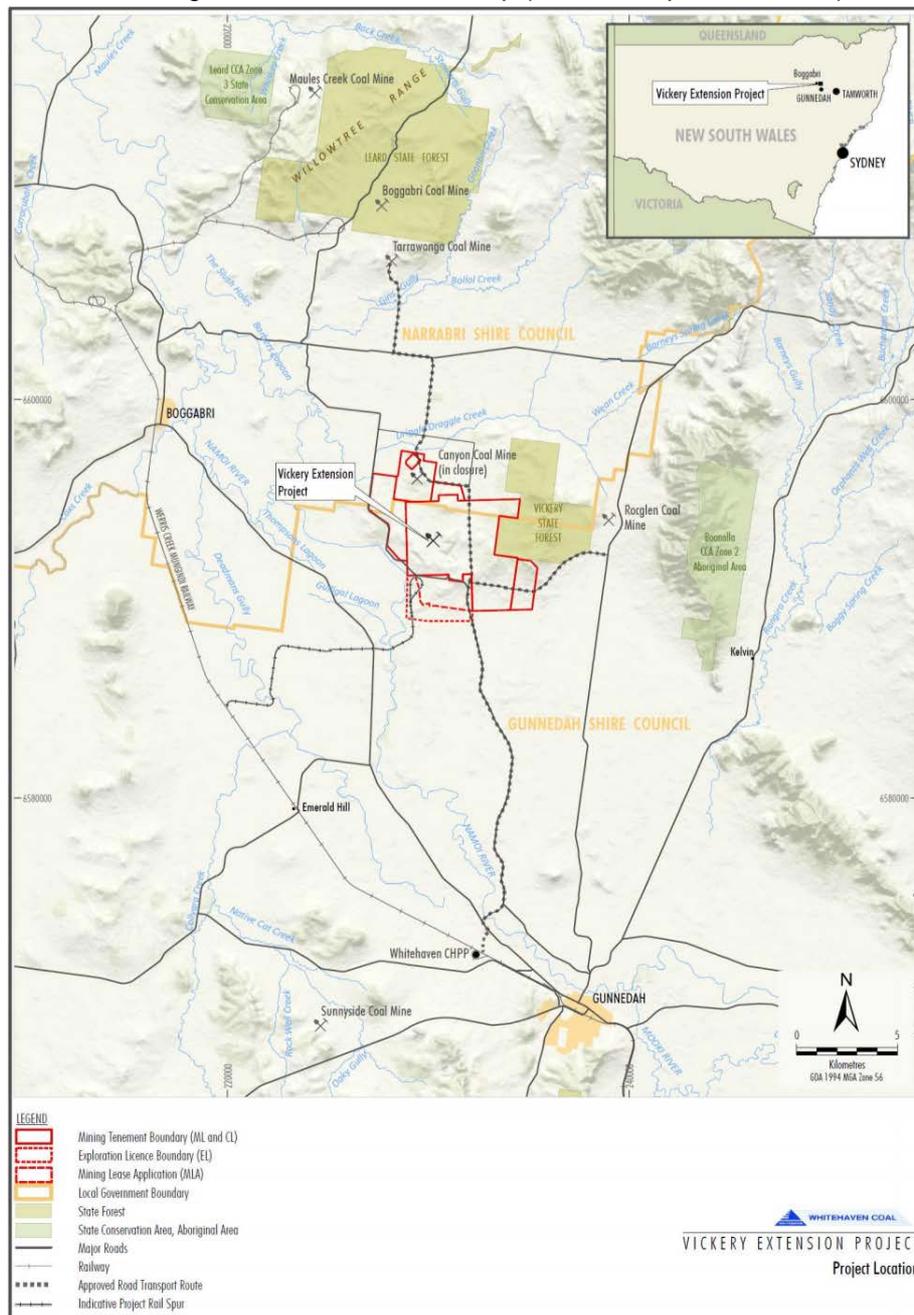
2.1 The Site and Locality

9. Paragraph 1 of the Department's Assessment Report (**Department's AR**), dated 19 May 2020, states:

Vickery Coal Pty Ltd, a subsidiary of Whitehaven Coal Pty Ltd (Whitehaven) owns the Vickery Coal Mine, located approximately 25 kilometres (km) north of Gunnedah. The project is located within the Gunnedah and Narrabri local government areas (LGAs).

10. The 'Site' for the purposes of this Statement of Reasons is illustrated in Figure 1 and Figure 2.

Figure 1 – Local Context Map (Source: Department's AR)



2.2 Existing Vickery Coal Project Approval

11. Paragraph 3 of the Department's AR states:

In September 2014, the delegate of the Minister for Planning approved the Vickery Coal Project (the Approved Project) as a State Significant Development (SSD-5000) under the Environmental Planning and Assessment Act 1979 (EP&A Act). While the Approved Project was physically commenced within the 5-year period required by the Environmental Planning and Assessment Regulation 2000, production at the mine is yet to commence.

12. Paragraphs 4 and 5 of the Department's AR also state:

The Approved Project includes the extraction of 135 million tonnes of coal over a 30-year period, at a rate of up to 4.5 million tonnes of run-of-mine (ROM) coal a year (Mtpa). Extracted coal would be hauled by trucks on public roads to Whitehaven's existing coal handling and preparation plant (CHPP) near Gunnedah, where it would be processed and loaded onto trains for transport to the Port of Newcastle. The CHPP operates under a separate development consent (DA 79_2002) and is currently approved to operate until October 2022. The Gunnedah CHPP also accepts and processes coal from other Whitehaven's mines in the region, including the Tarrawonga mine.

Whitehaven is now proposing to extend the Approved Project and develop a new CHPP and train load out facility at the mine site. It also proposes to develop a rail spur across the Namoi River floodplain to connect the load out facility to the main Werris Creek to Mungindi Railway line.

2.3 The Vickery Extension Project

13. The strategic context and Project justification are set out in Section 3 and Section 6.1 of the Department's AR.

14. Paragraph 30 of the Department's AR states that the key changes of the Project compared with the Approved Project include:

- *extracting an additional 33 Mt of coal by extending the footprint of the open cut mine to the north and south of the approved footprint;*
- *increasing the extraction rate of ROM coal from 4.5 to 10 Mtpa, with an average extraction of 6.7 Mtpa, allowing for more efficient extraction of the coal reserves;*
- *constructing and operating a CHPP, train load out facility, rail loop and rail spur line at the project site;*
- *constructing and operating a water supply borefield and pipeline; and*
- *changing the final landform by removing the eastern overburden emplacement area (which is now proposed to be used as a secondary infrastructure area), increasing the size of the approved western overburden emplacement area (the WEA) and retaining one pit lake void (rather than two).*

15. The Commission notes that although paragraph 14 above states that one void will be retained, there will be in fact two final voids: the existing Blue Vale void and the Project's final void as described by the Applicant in paragraph 231 of this report.

16. Paragraph 31 of the Department's AR states:

A fundamental change proposed to the Approved Project is to construct the CHPP and rail load out facility at the project site and make this the central hub to receive coal from other Whitehaven mines. Whitehaven is proposing to continue to use the already approved road transport route to the Gunnedah CHPP at its approved rate until the Project CHPP, rail load-out facility and rail spur line reach “full operational capacity”. Once operational, the Project CHPP would remove coal haul trucks from public roads.

17. Paragraph 33 of the Department's AR also states:

Whitehaven is also proposing to surrender the Vickery Coal Project and Canyon Coal Mine development consents if the Project is approved so that the entire site is regulated under a single consolidated development consent.

18. Paragraphs 36 to 38 of the Department's AR state that the Applicant's initial proposal for the Project sought to extract ROM coal within Mining Lease 1718 (ML 1718). The Department's Division of Resources and Geosciences (**DRG**) subsequently advised that ML 1718 was issued for mining purposes and as a result the extraction of coal in this area is not permissible. The Applicant has amended the Application by an amendment report submitted in September 2019 (**Amendment Report**) to the Department. The Commission agrees to this amendment to the Application. As part of the Amendment Report, the Applicant:

no longer proposes to extract coal from ML 1718 reducing the total resource to be extracted from 179 Mt to 168 Mt (approximately 11 Mt of ROM coal or 10 Mt of product coal). Compared with the Approved Project total ROM coal resource (135 Mt), the Project would therefore allow an additional 33 Mt of ROM coal resource to be extracted.

19. The key elements of the Project are outlined in Table 1 and the Project layout is illustrated in Figure 2 below.

Figure 2 – The Approved Project and Vickery Extension Project (Source: Department's AR)

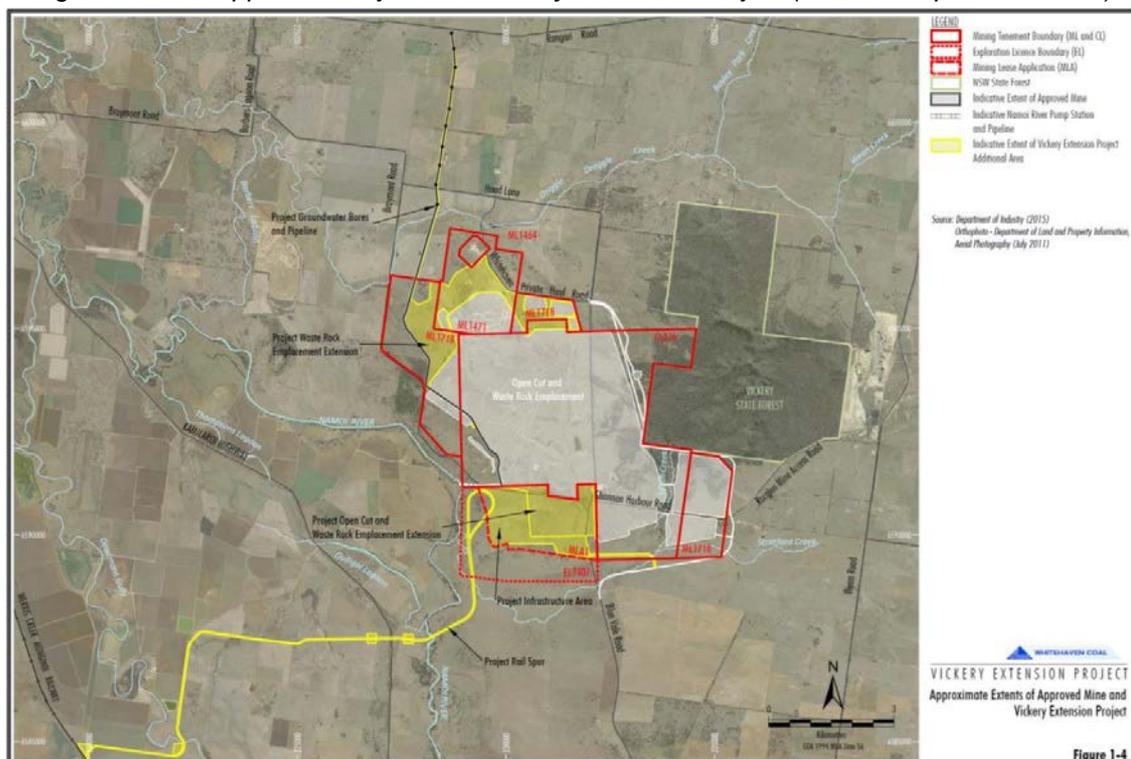


Table 1 – Key Components of the Project

Project Component	Approved Project	Vickery Extension Project	Key Changes
ROM Coal Production Rate	<ul style="list-style-type: none"> Up to 4.5 Mtpa 	<ul style="list-style-type: none"> Average rate of 6.7 Mtpa over 25 years, with a peak production rate of up to 10 Mtpa 	<ul style="list-style-type: none"> Up to 5.5 Mtpa increase No change to the depth of extraction
Project Life	<ul style="list-style-type: none"> Approximately 30 years 	<ul style="list-style-type: none"> 26 years (one year of construction and 25 years of mining operations) 	<ul style="list-style-type: none"> Approximately 4 year decrease
Mining and Reserves	<ul style="list-style-type: none"> Extraction of approximately 135 million tonnes of ROM coal from 7 coal seams within the Maules Creek Formation 	<ul style="list-style-type: none"> Extraction of approximately 168 million tonnes of ROM coal from 8 coal seams within the Maules Creek Formation 	<ul style="list-style-type: none"> 33 Mt increase One additional seam
Processing	<ul style="list-style-type: none"> On-site coal crushing and screening facilities ROM coal transported from the mine to the Gunnedah CHPP for processing 	<ul style="list-style-type: none"> As for the Approved Project until the commissioning of the Project CHPP and rail spur On-site stockpiling and processing of 13 Mtpa of ROM coal from the mine and other Whitehaven mining operations Production of up to 11.5 Mtpa of product coal from the Project CHPP 	<ul style="list-style-type: none"> On-site CHPP
Coal Transport	<ul style="list-style-type: none"> ROM coal transported by truck along the approved road transport route from the mine to the Gunnedah CHPP near Gunnedah at a cumulative rate not exceeding 3.5 Mtpa, or 4.5 Mtpa with construction of an overpass on the Kamilaroi Highway Product coal transported by rail from Gunnedah CHPP to market 	<ul style="list-style-type: none"> As for the Approved Mine, until the project CHPP, train load out facility and rail spur reach full operational capacity Up to 11.5 Mtpa of product coal to be transported to market by rail via the project rail spur to the Werris Creek Mungindi Railway 	<ul style="list-style-type: none"> Rail transport from the project site replacing transport by road
Materials Management	<ul style="list-style-type: none"> Production of 1,269 million bank cubic metres (Mbcm) of overburden Overburden emplacement in the Eastern and Western Emplacements and within the open cut void footprint Co-disposal of reject material from the CHPP within the waste rock emplacement areas 	<ul style="list-style-type: none"> Production of approximately 1,707 Mbcm of overburden Overburden emplacement in the WEA and within the open cut void footprint Co-disposal of reject material from the CHPP within the overburden emplacement areas 	<ul style="list-style-type: none"> 438 Mbcm (35%) increase in overburden
Roadworks	<ul style="list-style-type: none"> Construction of a section of private haul road and overpass of the Kamilaroi Highway; Realignment of Blue Vale Road, Shannon Harbour Road, Hoad Lane and Braymont Road. 	<ul style="list-style-type: none"> Construction of the Kamilaroi Highway overpass, if required Realignment of Blue Vale Road Closure of southern section of Braymont Road and Shannon Harbour Road 	<ul style="list-style-type: none"> No realignment of Braymont Road
Employment	<ul style="list-style-type: none"> Up to 60 construction workers 	<ul style="list-style-type: none"> Up to 500 construction workers, with 90% of the 	<ul style="list-style-type: none"> Up to 440 additional construction

Project Component	Approved Project	Vickery Extension Project	Key Changes
	<ul style="list-style-type: none"> Up to 250 operational workers with an average of 213 full time equivalent (FTE) workers over the project life. 	<p>workforce expected to reside in the approved Boggabri Accommodation Camp (currently operated by Civeo)</p> <ul style="list-style-type: none"> Up to 450 operational workers with an average of 344 FTE workers over the life of the mine. 	<p>workers</p> <ul style="list-style-type: none"> Up to 200 additional operational workers with an average of 131 full time equivalent
Capital Value	<ul style="list-style-type: none"> Approximately \$461 million 	<ul style="list-style-type: none"> Approximately \$607 million 	<ul style="list-style-type: none"> Approximately \$146 million increase
Hours of Operation	<ul style="list-style-type: none"> Mining operations 24 hours a day, seven days a week Road transport of ROM coal would occur between 6:00 am and 9:15 pm Mondays to Fridays, and 7:00 am to 5:15 pm on Saturdays 	<ul style="list-style-type: none"> Mining operations, CHPP, train loading and rail transport on the project rail spur 24 hours per day, seven days per week Road transport of ROM coal would occur between 6:00 am and 9:15 pm Mondays to Fridays, and 7:00 am to 5:15 pm on Saturdays 	<ul style="list-style-type: none"> No change
Disturbance Area, Vegetation Clearing and Biodiversity Offsets	<ul style="list-style-type: none"> Project disturbance area of 2,242 ha including 1,748 ha of native vegetation comprising: <ul style="list-style-type: none"> 464 ha of native woodland; and 1,284 ha of derived native grassland; 2,063 ha of land-based offsets; 1,360 ha of rehabilitation of the Approved Project footprint to native vegetation 	<ul style="list-style-type: none"> Total disturbance area of 2,993 ha including 2,328 ha of native vegetation comprising: <ul style="list-style-type: none"> 542 ha of native woodland; and 1,760 ha of derived native grassland Additional 993 ha of land-based offsets 2,385 ha rehabilitation to native woodland Additional offset areas, in accordance with the <i>Framework for Biodiversity Assessment</i> Land-based offsets (offset areas 6, 7 and 8 & Mount Somner property), an existing biobank site and/or additional biobanking credits; supplementary measures; and/ or contributing to the Biodiversity Conservation Trust 	<ul style="list-style-type: none"> Additional disturbance area of 776 ha including: <ul style="list-style-type: none"> 78 ha of native woodland; and 502 ha of derived native grassland Reduced disturbance of 26 ha (soil stockpile) Additional 20 ha land- based offset in Offset Area 5 1,005 ha rehabilitation of the project disturbance area to native woodland 523 ha additional mine rehabilitation to native woodland in the Approved Project area
Rehabilitation	<ul style="list-style-type: none"> Progressive rehabilitation of waste rock emplacement and surface disturbance areas Final landform to include three final voids (the existing Blue Vale void and the Northern and Southern voids) 	<ul style="list-style-type: none"> Progressive rehabilitation of waste rock emplacement and surface disturbance areas Final landform to include two final voids (the existing Blue Vale void and the open cut void) 	<ul style="list-style-type: none"> One less final void

3 THE DEPARTMENT'S CONSIDERATION OF THE APPLICATION

20. Section 1.3 and Table E-1 of the Department's AR provides an overview of the assessment process up until the Department's referral to the Commission. Table 2 below provides an overview of the key steps in the consideration of the Application.

Table 2 – Overview of Key Steps

13 August 2018	The Applicant lodged the Application and supporting EIS to the Department
6 September 2018	The then Minister for Planning requested the Commission conduct an initial public hearing
13 September 2018 – 25 October 2018	The Department publicly exhibited the EIS
30 November 2018	The Department completed its Preliminary Issues Report
4-5 February 2019	The Commission conducted Initial Public Hearing in Boggabri and Gunnedah
30 April 2019	The Commission's Issues Report was published
23 August 2019	The Applicant provided its Submissions Report to the Department
September 2019	The Applicant provided its Amendment Report to the Department
19 February 2020	The Minister requested the Commission conduct a public hearing and make a determination
19 May 2020	The Department referred the Application including the Assessment Report and draft Recommended Conditions to the Commission for determination
20 May 2020	The Commission received the Department's referral

4 THE COMMISSION'S CONSIDERATION

4.1 The Commission's Issues Report

21. On 30 April 2019, the Commission published its Issues Report to the Department. The Issues Report identified the key issues requiring detailed consideration by the Department in evaluating the merits of the Project on behalf of the Commission under section 4.6 of the EP&A Act. The Commission is of the view that the Department's AR satisfactorily addresses the material issues raised by the Commission in the Issues Report.

4.2 The Department's Assessment

22. Under section 4.6 of the EP&A Act, certain functions of the Commission are to be exercised by the Planning Secretary on behalf of the Commission, including "undertaking assessments of the proposed development and providing them to the Commission (but without limiting the assessments that the Commission may undertake)": section 4.6(b). The Planning Secretary's assessment of the Project is set out in the Department's AR.
23. Accordingly, the Commission considers that it is permitted to take into account the Department's AR, but that it should be weighed in the same manner as the other Material referred to below in 4.5 of this Statement of Reasons. To the extent that any policy outside of the EP&A Act purports to require the Commission to give the Department's AR greater weight than the other Material, the Commission has not applied that policy.

24. The Commission notes that as the development consent for the Approved Project is required to be surrendered under conditions A18 and A19 of the development consent for the Project, and the development consent for the Project includes the continuation of the development authorised by the development consent for the Approved Project, section 4.63 of the EP&A Act applies to this assessment. Accordingly, the Commission is not required to re-assess the likely impact of the Project to the extent that it could have been carried out but for the surrender of the development consent for the Approved Project. Section 4.63 of the EP&A Act does not however prohibit the Commission from undertaking such an assessment. In this Statement of Reasons, the Commission has considered, where relevant, the cumulative impacts of both the Approved Project and those aspects of the Project that were not approved under the Approved Project.

4.3 The Commission's Meetings

25. As part of its determination process, the Commission met with various persons as set out in Table 3. All meeting and site inspection notes were made available on the Commission's website.

Table 3 – Commission's Meetings

Meeting	Date of Meeting	Transcript/Notes Available on
Site Inspection	17 June 2020	1 July 2020
Department	18 June 2020	24 June 2020
Applicant	18 June 2020	25 June 2020
Narrabri Shire Council (NSC)	19 June 2020	24 June 2020
Gunnedah Shire Council (GSC)	19 June 2020	24 June 2020
Public Hearing	2-3 July 2020	10 July 2020

4.4 Public Comments

26. As referenced in paragraph 2 above, the Commission's Initial Public Hearing was undertaken on 4 February 2019 and 5 February 2019. 101 speakers registered to present to the Commission at the Initial Public Hearing. Comments received by the Commission before, during and after the Initial Public Hearing form part of the material considered by the Commission as set out in paragraph 31 below.
27. The Commission conducted the Public Hearing on Thursday 2 July 2020 and Friday 3 July 2020. In addition to listening to the public's views at the Public Hearing, the Commission also heard from the Department and the Applicant. In total, 74 speakers presented to the Commission over the two-day Public Hearing.
28. All persons were offered the opportunity to provide written submissions to the Commission up until 14 July 2020. The Commission received a total of 2863 written public submissions including 935 campaign emails on the Application. A breakdown of the submissions received by the Commission is provided below:
- 774 submissions in support of the Project;
 - 1108 objections to the Project;
 - 46 comments on the Project; and
 - 935 campaign objections to the Project.

29. The Commission received submissions raising the Applicant's regulatory compliance history and submissions suggesting that the Applicant was not a fit and proper person in respect of the Project. The Commission notes that there is no fit and proper person test in respect of development consents and that matters such as the identity of an applicant or past planning law breaches have been found to be irrelevant considerations for consent authorities such as the Commission.
30. The Public's views on the Project are referenced and considered by the Commission in section 4.9 and section 4.10 of this report.

4.5 Material Considered by the Commission

31. In this determination, the Commission has carefully considered the following material (the **Material**) along with the other documents referred to in this Statement of Reasons:
 - the Applicant's Environmental Impact Statement (**EIS**), dated 12 September 2018;
 - the Department's Preliminary Issues Report (**PIR**), dated 30 November 2018;
 - submissions made to the Department, received during exhibition;
 - the Commission's Issues Report, dated 30 April 2019, including material considered in that report;
 - the Applicant's Submissions Report (**Submissions Report**), dated August 2019;
 - the Applicant's Amendment Report, dated September 2019;
 - the Department's AR, dated 19 May 2020, including material considered in that report;
 - the Department's draft Development Consent, dated May 2020;
 - the Applicant's submission to the Commission (**Applicant's Submission**), dated 16 June 2020;
 - the Applicant's response to the Commission (**Applicant's Response**), dated 29 June 2020;
 - all speaker comments made to the Commission at the Public Hearing;
 - all written comments received by the Commission up until 5pm 14 July 2020;
 - the Department's response to the Commission (**Department's Response**) dated 15 July 2020;

4.6 Statutory Context

4.6.1 Permissibility

32. Paragraphs 76 and 77 of the Department's AR state:

The Project is located within the Gunnedah and Narrabri LGAs and located on land zoned RU1 (Primary Production) under both the Gunnedah and Narrabri LEPs.

Development for the purposes of open cut mining and railways is permissible within this zone, and hence the Project is permissible with development consent.

33. The Commission agrees with the Department and is of the view that the Project is permissible with development consent.

4.6.2 Surrender of Consent under section 4.63 of the EP&A Act

34. Paragraph 67 of the Department's AR states:

If the Project is approved, Whitehaven would surrender the Vickery Coal Project and Canyon Coal Mine development consents and all mining operations on the site would be regulated under a single consolidated contemporary development consent.

35. The Commission has imposed the Department's recommended Conditions A18 and A19 that upon commencement of the Project, the Applicant will be required to surrender the Vickery Coal Project and Canyon Coal Mine development consents within 12 months in accordance with Section 4.63 of the EP&A Act and mining operations will be regulated under a single development consent.

4.6.3 Integrated and other NSW Approvals

36. Per paragraph 81 of the Department's AR, the Commission notes that the Department has consulted with relevant public authorities responsible for integrated and other approvals and has recommended suitable conditions of consent. The Commission acknowledges that the Applicant may also require other approvals which are not integrated into the SSD process, including those listed in paragraph 80 of the Department's AR.

4.6.4 IESC Advice

37. In relation to the advice provided by the Commonwealth Independent Expert Scientific Committee on Coal Seam Gas and Large Mining Development (**IESC**), paragraph 149 of the Department's AR states that the Department considers the additional information provided by the Applicant has addressed the IESC's issues. The Department's consideration of the IESC's recommendations is set out in Table 7 of the Department's AR.
38. The Commission agrees with the Department's findings and is of the view that the IESC recommendations have been addressed by the Applicant.

4.6.5 Site Verification Certificate

39. The Commission agrees with the Department's assessment at paragraphs 82 to 84 of the Department's AR that a Gateway Certificate was not required for the Project.

4.6.6 Commonwealth Approvals

40. Paragraphs 85 and 86 of the Department's AR refer to the Commonwealth Minister for the Environment's 14 April 2016 determination that the Project is a 'controlled action' under the *Environment Protection and Biodiversity Conservation Act 1996* (Cth) (**EPBC Act**) due to the Project's potential impacts on listed threatened species and communities and a water resource.
41. The Department's consideration of impacts on listed threatened species and communities, and water resources, is set out in Section 6 and Appendix J of the Department's AR.
42. The Commission agrees with the Department and adopts the Department's AR's analysis of matters under the EPBC Act.
43. The Commission has given further consideration to Commonwealth biodiversity matters in section 4.9.8 of this report.

4.7 Mandatory Considerations

44. 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 following matters as are of relevance to the development the subject of the Application (**mandatory considerations**):
- the provisions of:
 - any environmental planning instrument;
 - any proposed instrument that is or has been the subject of public consultation under the EP&A Act and that has been notified to the Commission (unless the Planning Secretary has notified the Commission that the making of the proposed instrument has been deferred indefinitely or has not been approved);
 - any development control plan;
 - any planning agreement that has been entered into under s 7.4 of the EP&A Act, and any draft planning agreement that a developer has offered to enter into under s 7.4;
 - the *Environmental Planning and Assessment Regulations 2000* (**Regulations**) to the extent that they prescribe matters for the purposes of s 4.15(1) of the EP&A Act;
 - that apply to the land to which the Application relates;
 - the likely impacts of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality;
 - the suitability of the site for the development;
 - submissions made in accordance with the EP&A Act and Regulations; and
 - the public interest.

In accordance with s 4.15(1), the Commission has considered the mandatory considerations. They are addressed in the following sections.

45. The mandatory considerations are not an exhaustive statement of the matters the Commission is permitted to consider in determining the Project. 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.

4.7.1 Relevant Environmental Planning Instruments

46. The Commission has taken into account the following EPIs which apply to the Site:
- *State Environmental Planning Policy No.33 – Hazardous and Offensive Development* (**SEPP 33**);
 - *State Environmental Planning Policy No.44 – Koala Habitat Protection* (**SEPP 44**);
 - *State Environmental Planning Policy No.55 – Remediation of Land* (**SEPP 55**);
 - *State Environmental Planning Policy (State and Regional Development) 2011*;
 - *State Environmental Planning Policy (Infrastructure) 2007* (**Infrastructure SEPP**);
 - *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (**Mining SEPP**);
 - *New England North West Strategic Regional Land Use Plan 2012* (**SRLUP**);
 - *Gunnedah Local Environment Plan 2012* (**GLEP**); and
 - *Narrabri Local Environment Plan 2012* (**NLEP**).

47. The Commission agrees with the Department's assessment of EPIs set out in Appendix K.3 of the Department's AR. The Commission therefore adopts the Department's assessment but has also addressed some of these EPIs, and in particular cl 14 of the Mining SEPP, in the reasons below.

4.7.2 Relevant Development Control Plans

48. Footnote 8, on page 152 of the Department's AR states: "*due to the effect of clause 11 of the SRD SEPP, development control plans do not apply to SSD*".
49. The Commission agrees with the Department that development control plans (**DCP**) do not apply to the Project.

4.7.3 Relevant Planning Agreements

Gunnedah Shire Council Comments

50. GSC, in the meeting with the Commission on 19 June 2020, stated that GSC is satisfied with the Voluntary Planning Agreement (**VPA**) and at the time of the meeting had authorised the GSC General Manager to execute the document.

Narrabri Shire Council Comments

51. NSC, in its letter to the Commission dated 9 August 2019, stated that the contributions offered by the Applicant are not acceptable and not in the public interest. NSC, in its letter to the Commission dated 2 March 2020, stated that NSC resolved to reject the offer at its meeting of 17 October 2019 as it did not meet the Council endorsed objectives for a planning agreement and accepting the offer would not be in the public interest.

Department Assessment

52. Paragraph 609 of the Department's AR states:

Whitehaven has offered to enter into Voluntary Planning Agreements (VPAs) with GSC and NSC for the Project. Whitehaven's offer is consistent with that of the Approved Project which proposed a total contribution of \$7.5 M split between the two councils with 70% (\$5.25 M) to GSC and 30% (\$2.25 M) to NSC, in recognition that the Approved Project site is mainly located in the Gunnedah LGA with the majority of the workforce sourced from GSC.

The VPA offers for the Approved Project were accepted by both councils and the development consent conditions require these VPAs to be executed.

For the Project, Whitehaven has increased its VPA offer to a total of \$10.7 M again with a 70:30 split consistent with the existing VPA, with \$7.4 M to GSC and \$3.2 M to NSC. The increase in the total contribution was based on a pro-rata increase on the tonnage of coal extracted for the Project.

53. The Department's AR notes that while GSC has accepted the VPA offer from the Applicant, NSC did not accept the Applicant's VPA offer and following consultation with the Boggabri community, requested additional monetary contributions. Paragraph 615 of the Department's AR states that the Applicant made a revised offer that provided targeted funding of projects in Boggabri that resulted largely from the community consultation undertaken by NSC to the value of \$3.2 Million.
54. Paragraph 620 of the Department's AR states:

...if the VPA offered by Whitehaven is not accepted by NSC and therefore unable to be executed, it is reasonable to include a condition that Whitehaven make a monetary contribution of \$3.2 million to NSC for infrastructure, services and community projects in Boggabri prior to the commencement of construction.

55. Paragraph 622 of the Department's AR concludes that the inclusion of this recommended condition would allow funds to be directed to NSC in the event that a VPA could not be executed.

Commission's Findings

56. The Commission notes that GSC is satisfied with the VPA and, at the time of its meeting with the Commission, has authorised execution of the VPA as referenced in paragraph 50 above. The Commission notes that NSC has not accepted the VPA and does not consider the offer in the public interest as stated in paragraph 51 above.
57. The Commission agrees with the Department's assessment and has imposed the Department's recommended condition that the Applicant make a monetary contribution of \$3.2 million to NSC for infrastructure, services and community projects in Boggabri prior to the commencement of construction as stated in paragraph 54 and 55 above.

4.7.4 Applicable Regulations

NSW Dark Sky Planning Guideline

58. Per clause 92 of the EP&A Regulation (as cited in paragraph 662 of the Department's AR), the Commission has given consideration to the *NSW Dark Sky Planning Guideline* in section 4.9.8 Other Issues – Lighting of this report.

4.7.5 The Likely Impacts of the Development

59. The likely impacts of the Project have been considered in section 4.9.

4.7.6 The Suitability of the Site for Development

60. The Commission has given consideration to the suitability of the Site. The Commission finds that the Site is suitable for the following reasons:
- there is an existing development consent (see section 2.2) which permits the extraction of coal at the Site;
 - the Site has a previous history of mining operations and there is existing disturbance with the Site;
 - the Site is not Biophysical Strategic Agricultural Land (**BSAL**) (see section 4.9.6);
 - the rail corridor and infrastructure area has been designed and located within the Site to minimise impacts on amenity;
 - adverse impacts on surrounding dwellings have been minimised and where there are significant exceedances of the relevant criteria, appropriate acquisition rights under the relevant policies apply (see section 4.9.2);
 - disturbance areas would be subject to a biodiversity offset strategy and additional disturbance can be mitigated and managed through the proposed conditions of consent (see section 4.9.8);
 - the proposed extraction of coal resources at the Site is the orderly and economic use and development of land; and
 - the development of the Site for the purposes of coal mining will allow the social and economic benefits (see section 4.9.6) to be realised.

4.7.7 Submissions

61. Section 4.4 of this report set out how the Commission has considered submissions.

4.7.8 The Public Interest

62. The Commission has considered the public interest in section 4.10 of this report.

4.8 Additional Considerations

63. In determining this application, the Commission has also considered:

- *NSW Noise Policy for Industry (NPfi)*
- *Interim Construction Noise Guideline (ICNG)*
- *NSW Road Noise Policy (RNP)*
- *NSW Rail Infrastructure Noise Guideline (RING)*
- *Voluntary Land Acquisition and Mitigation Policy (VLAMP)*
- *NSW Aquifer Interference Policy (AIP)*
- *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2016) (Approved Methods)*
- *NSW Climate Change Policy Framework (CCPF)*
- *NSW Risk Assessment Guideline for Groundwater Dependent Ecosystems (NOW, 2012) (GDE Guideline)*
- *Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development (SIA Guideline)*
- *Strategic statement on coal exploration and mining in NSW (DRG 2020) (Future of Coal Statement)*
- *NSW Net Zero Plan Stage 1: 2020–2030 (Net Zero Plan)*

4.9 Key Issues

4.9.1 Water Resources

Water Balance, Demand and Supply

Public Comments

64. The Commission heard concerns from speakers at the Public Hearing and received written submissions regarding the impacts of the Project on water usage, demand and supply for the region. Concerns were raised in submissions and at the Public Hearing regarding water availability and the Applicant's ability to outbid local farmers for water.

65. Written submissions received by the Commission stated:

[Mines] outbid local farmers for water at auction and built pipelines from nearby farms to divert farming water for mining. Water availability is a serious issue in the region.

We have seen farmers struggling to get access to water while the coal mine just keeps outbidding them for this resource.

66. Concerns were also raised by the public regarding water security, the accuracy of the Applicant's estimations and the need for further modelling to be undertaken. At the Public Hearing, an expert engaged on behalf of an action group stated:

...[I]f the rates of extraction from the bore field are going to need to be bigger or additional licences are going to be required and these hydraulic parameters have not been accurately estimated in modelling, then we could be really seriously underestimating the drawdown impacts and wider impacts of the aquifer from this mine extension project.

67. The Boggabri Farming and Community Group (**BFCG**) raised the following concerns regarding water availability during drought and the potential for a water deficit in its submission to the Commission:

The site water balance provided in the proposed Vickery mine EIS and subsequently submitted material for the proposed mine fails to consider these conditions realistically when forecasting the water requirements for the proposed Vickery mine.

Council Comments

68. NSC's comments to the Commission dated 2 March 2020 noted that the Applicant "commits to holding sufficient water licences to meet operation water demands for the Project". NSC raised concern regarding farmers being priced out of the market as a result of the mine's water licensing requirements.

Applicant's Consideration

69. In relation to water balance, the Applicant's EIS states:

The site water balance modelling demonstrates Whitehaven holds sufficient groundwater and surface water licences to meet the predicted external water demands.

Periodic review and revision of the site water balance would be undertaken over the life of the Project to record and document the status of inflows (water capture), storage and consumption (e.g. dust suppression and CHPP water supply) and to optimise water management performance. The reviews would also evaluate actual external make-up water requirements, climatic conditions and long-term predictions (including consideration of Available Water Determinations [AWD] for the Lower Namoi Regulated River Water Source of the Water Sharing Plan for the Upper Namoi and Lower Namoi Regulated River Water Sources 2016).

70. In relation to water usage, the Applicant's response to the Commission dated 29 June 2020 states:

During Project operations, water reporting to the open cut would accumulate in sumps and would be pumped to either of the two mine water dams (MWD-1 and MWD-2) and used to meet water demands for dust suppression and the CHPP.

71. In relation to water licensing, the Applicant's EIS states that "all extraction from the Namoi River would be conducted in accordance with the licensed entitlements issued by DI Water and the rules in the relevant water sharing plan, impacts to the Namoi River water source are not anticipated to be significant".

72. The Applicant's Submission Report states that the Applicant holds sufficient additional water access licences to account for groundwater inflows to the open cut and induced losses from the Namoi River and associated alluvium and that these licences are dedicated for use for the Project.

73. In relation to water security in drought conditions, the Applicant's response to the Commission dated 29 June 2020 states:

In consideration of recent drought conditions experienced in the region, further analysis of recent rainfall data (i.e. up to March 2020) has been undertaken by Advisian (Attachment 1). This analysis has determined that there was no change to the driest 2, 5 and 10 calendar year periods compared to what was modelled for the EIS.

The conceptual Project water management system has also been reviewed to demonstrate the design meets the water management performance measures provided in the recommended Development Consent.

74. The Applicant's response to the Commission included an updated Site Water Balance, prepared by Advisian Worley Group dated 26 June 2020. The Site Water Balance concluded:

...it is reasonable to expect Whitehaven will have access to sufficient water for all stages of the development, including peak operations, or could adjust its operations to match available water supply accordingly (e.g. through implementing water saving initiatives or other operational measures).

Department's Assessment

75. Paragraphs 157 and 158 of the Department's AR state:

The main water demands of the Project would be for dust suppression and operation of the CHPP. Additional water demands include wash down of mobile equipment, and other non-potable uses such as ablutions and amenities.

Dust suppression of haul roads, stockpiles and hardstand areas would form the significant majority (approximately 75%) of total water demands for the Project. The water balance modelling estimated the maximum annual water demand for dust suppression would range between 1,200 – 1,350 ML/year...

76. In relation to water usage at the Project CHPP, paragraph 160 of the Department's AR states:

Operation of the CHPP is estimated to require up to 750 ML/year at full production, with the water balance assessment assuming an average of 55% of ROM coal would be processed through the CHPP, at a demand of 120 L/tonne. This demand is additional to that required for the Approved Project, given the processing of ROM coal was to occur at the Whitehaven CHPP...

77. In relation to water supply, paragraph 161 and 162 of the Department's AR state:

The main water supplies for the Project include runoff from within the mine's water management area, and groundwater inflows to the open cut. These inflows would be collected, stored and distributed in a series of mine water storages, including the Blue Vale void which would be used during initial years of the Project...

External water supply would be sourced from the Project borefield and the Namoi River. This supply would be pumped to the Project's water storages when required, based on operating rules to be established in Whitehaven's Water Management Plan [WMP] for the Project...

78. In relation to water balance, paragraph 164 of the Department states:

The water balance estimates the supply from captured runoff would gradually increase over the initial years of the Project as the disturbance area increases. The estimated supply generated by runoff would vary depending on rainfall and climate conditions and Whitehaven's assessment includes consideration of rainfall generated during dry, median and wet climate sequences (see Figure 10). Groundwater inflow is estimated to peak at approximately 533 ML/year.

79. Paragraph 165 of the Department's AR states that the water balance estimates that the average requirement for additional supply over the life of the mine ranges from about 530 ML/year to about 740 ML/year. The Department's AR states that external water would be sourced from Whitehaven's existing water access licences. In relation to public concern regarding use of water entitlements allocated to other projects for the Project (and vice versa), paragraph 169 and 174 of the Department's AR notes that the Applicant has confirmed (in Attachment 6 of the EIS) that the licence allocations used in the water balance model are applicable only to the Project.
80. In relation to dry conditions, paragraph 173 the Department's AR notes that "*Under the dry rainfall scenario, the water balance assessment predicts that the project would have sufficient licence allocations to support the operation of the mine*".
81. Paragraph 175 of the Department's AR states:

The independent surface water expert has reviewed the information provided to the Department and notes the rainfall records adopted by Whitehaven for its dry rainfall sequence (the period between 1915 to 1941) are comparable with the drying trend indicated in the Barraba data and the Department considers that Whitehaven's modelling provides appropriate representation of drought conditions. DPIE Water has advised that it has no further comments on the assessment of water supply and entitlements and noted that it will be Whitehaven's responsibility to ensure it has sufficient entitlements for the Project's water take.

82. Paragraphs 186 and 187 of the Department's AR conclude:

The Department considers that Whitehaven has identified adequate contingencies for the ongoing and appropriate management of mining operations, in the event that there is insufficient water from Whitehaven's general security access licences during dry conditions. These include the forward planning of mining operations based on climate forecasts, regular review of water consumption and measures to reduce reliance on external supply.

The Department also notes that, like any other significant water user in the State, access to adequate water supplies is a commercial risk for Whitehaven and would be regulated under the water sharing principles established under the WM Act. If Whitehaven is not able to secure enough water to meet its demands it may need to investigate additional water efficiency measures, or its operations may need to be reduced accordingly.

83. The Commission wrote to the Department on 7 July 2020 seeking additional information in relation to water resources. The Department, in its Response to the Commission dated 15 July 2020, clarified:

The Department has recommended conditions to ensure that water is appropriately managed, including the requirement to ensure it has sufficient water supply for all stages of the project or adjusting the scale of its operations to match the available water supply—see recommended condition B39.

Commission's Findings

84. The Commission notes that the main water requirements for the Project would be for the CHPP and dust suppression on haul roads and active waste rock emplacements as stated by the Department in paragraph 75 above. The Commission notes that this figure ranges between 1,200 – 1,350 ML/year for dust suppression and up to 750 ML/year for the CHPP at full production as stated by the Department in paragraphs 75 and 76 above.
85. The Commission notes that the main water supplies for the Project include runoff from within the mine's water management area, and groundwater inflows to the open cut as stated by the Department in paragraph 77 above. The Commission notes that external water supply would be sourced from the Project borefield and the Namoi River and pumped to the Project's water storages when required in accordance with the Applicant's WMP.
86. The Commission acknowledges the concerns raised by the public regarding water licencing as referenced in paragraphs 65. However, the Commission accepts that if the Applicant is required to source water from Namoi River, this will need to be undertaken in accordance with the licensed entitlements issued by DR NSW Water and the rules in the relevant water sharing plan as stated by the Applicant in paragraph 71 above and by the Department in paragraph 82 above.
87. The Commission acknowledges the concerns raised by the public regarding the Applicant's water balance modelling and the risk of insufficient water availability for the Project, particularly during extended dry periods as referenced in paragraphs 66 and 67 above and as stated by the Department in paragraph 79 above. Submissions made at the Public Hearing referred to water consumption figures for the Maules Creek mine to suggest that the Applicant's actual water usage for the Project would be much higher than that anticipated by the Applicant. However, the Commission has reviewed the relevant water balance figures for the comparable mining operations referred to in those submissions and is of the view that the modelling carried out for the Project is appropriate. The Commission is of the view that without appropriate management there may be insufficient water at times, such as during drought conditions. However, the Commission finds that the Applicant has appropriate measures (see paragraphs 88 and 89 below) in place to ensure that it will have access to sufficient water supply for their operations. The Commission accepts that the Applicant could adjust its operations to match available water supply as stated by the Applicant in paragraph 74 and the Department in paragraph 82 above and the Commission is of the view that this may need to be undertaken during prolonged drought conditions. The Commission has therefore imposed Condition B39 which requires the Applicant to, if necessary, adjust the scale of the operation to match its available water supply.
88. The Commission agrees with the Department's assessment in paragraph 82 above that the Applicant has identified adequate contingencies for the ongoing and appropriate management of mining operations, in the event that there is insufficient water from Whitehaven's general security access licences during dry conditions. The Commission agrees with the Department's assessment, that if the Applicant is not able to secure enough water to meet its demands it will need to investigate additional water efficiency measures, or its operations would need to be reduced accordingly. The Commission therefore imposes the Department's recommended Condition B39 with an amendment to ensure the appropriate management of water for the operation of the development and that efficiency and best practice measures are implemented.

89. The Commission notes that the Department's recommended Condition B53 requires the Applicant to prepare a WMP and that there is a specific requirement to prepare a Site Water Balance. Condition B53(g)(i) states that the Site Water Balance must include details regarding sources and security of water supply for the life of the Project, water use and management on Site (including water transfers or sharing with neighbouring mines) and licenced sources of external water supply which could be utilised as a contingency measure in the event of extreme climatic conditions. The Commission is of the view that imposing this condition will provide for the appropriate management of water resources.

Groundwater

Public Comments

90. The Commission heard concerns from speakers at the Public Hearing and received written submissions regarding the potential groundwater drawdown impacts of the Project:

I believe that the data that has been used to actually understand this is not sufficiently detailed and not sufficiently adequate that we can be confident that those drawdown predictions have actually been made in a way that fully considers possible risks of drawdown to the alluvium.

...if the rates of extraction from the borefield are going to need to be bigger or additional licences are going to be required and these hydraulic parameters have not been accurately estimated in modelling, then we could be really seriously underestimating the drawdown impacts and wider impacts of the aquifer from this mine extension project.

91. Concerns were also raised in submissions regarding exceedances of the AIP minimum impact criteria.
92. A hydrogeology expert briefed by an action group stated that more in-depth assessment of risks is required to ensure a full consideration of impacts to GDEs, alluvial groundwater and surface water.
93. Concerns were raised in submissions and in the Public Hearing regarding the placement of overburden and potential for contamination of the aquifer:

I object to the mine due to the planned overburden dump. There are concerns of the leaching contamination into the aquifer. We are also unaware of the long term effects that the region and aquifer may endure in this scenario.

... An overburden dump, 200 hectares in size over the Namoi alluvium with the potential to leech toxic contaminants into our underground water.

I don't think that it's all that simple and easy to predict the flow path that water from, you know, a big pile of overburden is going to take, and I don't think it can be ruled out that some of that poor quality water might actually make its way in the other direction back towards the Namoi River and the rest of the alluvium.

Applicant's Consideration

94. The Applicant's EIS included a Groundwater Assessment (**Groundwater Assessment**) prepared by HydroSimulations dated August 2018. The Groundwater Assessment was also peer reviewed by Kalf and Associates Pty Ltd (**Kalf Peer Review**) in a report dated 8 August 2018.

95. The Applicant's EIS states that there are no high priority Groundwater Dependent Ecosystems (**GDE**) identified in the Upper Namoi Groundwater Sources or Porous Rock Groundwater Sources in the vicinity of the Project. The Applicant notes that the Namoi River is considered a GDE, however states that in accordance with the GDE Guideline, the Namoi River is not considered a high value GDE. The Applicant states that the Project will present a low risk to the Namoi River.
96. In relation to groundwater borefield extraction, the Applicant's EIS states:
- Water would be extracted from the groundwater supply borefield during periods when required (e.g. when supply from the mine storages is insufficient to meet the Project water demand, and sufficient allocation from the Namoi River is unavailable). Groundwater would be extracted through a series of up to 10 bores (Section 2.4.5) constructed within the Zone 4 groundwater source of the Water Sharing Plan for the Upper and Lower Namoi Groundwater Sources 2003, to the north of the Project mining area.*
- Whitehaven holds a number of WALs for extraction from the Zone 4. Water would be extracted in accordance with the WALs and the rules prescribed in the relevant water sharing plan (i.e. the Water Sharing Plan for the Upper Namoi and Lower Namoi Groundwater Sources 2003).*
97. A sensitivity analysis was undertaken by the Applicant. The Applicant's EIS states that the climate change model scenario resulted in a less than 1% reduction in pit inflows and the the sensitivity of the groundwater model results to climate change is not considered to be significant.
98. The Applicant's Submissions Report states:
- No privately-owned bores in the vicinity of the Project, as identified by the bore census conducted in 2012, are predicted to have greater than 2 m drawdown as a result of the Project (i.e. impacts are within the 'Level 1' minimal impact criteria defined in the NSW Aquifer Interference Policy [NSW Government, 2012] [AIP]) (Appendix B of the EIS). The greatest predicted drawdown at any privately-owned bore to the west of the Project in the Namoi River alluvium is 0.2 metres (m), some 10 times less than AIP minimal impact criteria.*
99. The Applicant's Submission Report states that a drawdown of greater than one metre would not extend beyond the immediate Project mining area and into the surrounding alluvium.
100. The Applicant's Submissions Report states:
- ... should monitoring or an investigation show greater than 2 m drawdown at a privately-owned bore, and the drawdown is attributable to the Project, 'make good' provisions for the affected groundwater user would be implemented in accordance with the AIP, and may include:*
- *deepening the affected groundwater bore;*
 - *construction of a new groundwater bore; and/or*
 - *provision of an alternative water supply of appropriate quality and quantity.*
101. The Applicant's Submissions Report states that the maximum predicted cumulative drawdown at any bore is approximately 0.6 m at bore RB1 located immediately to the south of the Rocglen Coal Mine and that all other bores identified during the bore census are predicted to experience 0.2 m drawdown or less.

102. In relation to the emplacement of waste on the alluvium, the Applicant's response to the Commission states:

Seepage from the waste emplacement is likely to be of significantly lower salinity than groundwater currently within the alluvium embayment and is also of approximately similar salinity to groundwater in the Maules Creek Formation coal measures which currently report to the embayment. On this basis, and in consideration of the scale of the affected area in the context of the entire groundwater source, the Groundwater Assessment (p50) concluded...the small amount of seepage from the Western Emplacement will cause no adverse water quality impacts to the alluvium.

Department's Assessment

103. The Department's AR states that the Department commissioned an independent groundwater expert, Hugh Middlemiss (**Independent Groundwater Expert**) of HydroGeologic Inc, to provide advice on Whitehaven's groundwater assessment. The Independent Groundwater Expert provided advice to the Department on the Applicant's groundwater assessment and potential seepage from the western emplacement.

104. Paragraph 239 of the Department's AR states:

To supplement the water supply from the Namoi River, Whitehaven proposes to establish a borefield to the north of the mining area with an estimated extraction requirement of between 200 and 390 ML/year

105. In relation to GDE's, paragraphs 240, 241 and 242 of the Department's AR states:

While the EIS notes that no high priority Groundwater Dependent Ecosystems (GDE) are identified in the relevant WSPs, the Commission's Issues Report noted the IESC's request for mapping to indicate the distribution of potential GDEs that may be impacted by the Project and a risk analysis of the potential drawdown impacts to GDEs.

In its Submissions Report, Whitehaven provided further information mapping the distribution of high and moderate potential GDEs in the region (see Figure 22) and reiterated the limited extent of drawdown due to open cut mining in the Maules Creek Formation, which demonstrates that the drawdown associated with the open cut would not interact with potential GDEs. The proposed water supply borefield is located in an area devoid of potential GDEs and as shown in Figure 25, the predicted drawdown of 1 m does not interact with any mapped GDEs in Figure 22.

The independent groundwater expert has advised that Whitehaven's response to groundwater dependent ecosystem and risk analysis is adequate.

106. In relation to aquifer connectivity, paragraph 247 of the Department's AR states:

The independent groundwater expert is of the view that the EIS has adequately documented the distinctions between the alluvial and fractured rock aquifers, in terms of their characterisation and connectivity properties which have been derived from a combination of field studies, monitoring and modelling...

Based on its review of the EIS and advice from the independent expert, the Department considers that there is adequate understanding of the connectivity between the two aquifers to assess the potential impacts of the Project on the groundwater systems.

107. In relation to groundwater model uncertainty analysis, paragraphs 249 and 255 the Department's AR state:

In response to the Commission's recommendations and IESC review comments, Whitehaven provided further analysis of the uncertainties within the groundwater modelling....

The independent groundwater expert has reviewed the additional information and has advised that the groundwater model sensitivity analysis, and the application of the results to justify its interpretation of the uncertainty analysis, is adequate for assessing the potential groundwater impacts of the Project. Mr Middlemiss also agrees that additional monitoring information would be useful to verify the modelling predictions during the progressive development of the Project.

108. The Department's AR states at paragraphs 256 and 257:

...the Department considers that Whitehaven's groundwater modelling is adequate to assess the potential impacts of the Project on potentially impacted groundwater users.

To ensure the effects of the Project on the groundwater system are closely monitored the Department has recommended conditions requiring the development of a comprehensive Groundwater Management Plan which includes ongoing monitoring of the hydrogeological properties used in the modelling and validation of the modelling against the recorded data, with minimum 5-yearly independent reviews of the groundwater model.

109. In relation to groundwater predictions, the Department states at paragraph 263 and 264:

The largest potential contribution to drawdown in the alluvial aquifer is borefield pumping for contingency mine water supply during the open cut mining period. The groundwater assessment conservatively assumed an extraction of 600 ML/year (greater than the 396 ML/year licence extraction limit), which predicts that the 1 m drawdown would extend approximately 2 km to the west and east of the borefield in the Upper Namoi Alluvium, with the northern and southern extent of the 1 m drawdown intersecting with the Maules Creek Formation...

The largest predicted drawdown due to the Project at the nearest privately-owned bore is less than 0.2 m, well below the 2 m minimal impact criteria in the AIP at any privately-owned properties.

110. The Department's AR notes at paragraph 269 that the Applicant has committed to 'make good' provisions should there be a greater than 2m drawdown at a privately owned bore:

Notwithstanding, should monitoring or an investigation show greater than 2 m drawdown at a privately owned bore, and the drawdown is attributable to mining operations at the Project, Whitehaven has committed to implement "make good" provisions for the affected groundwater user, which include:

- deepening the affected groundwater bore;*
- construction of a new groundwater bore; and/or*
- provision of an alternative water supply of appropriate quality and quantity.*

111. Paragraphs 270 and 271 of the Department's AR state:

The Department has recommended conditions which require Whitehaven to provide a compensatory water supply to the owner of any privately-owned land whose water supply is adversely affected because of mining operations the development. The Department's recommended condition requires Whitehaven to provide a compensatory water supply if the loss of supply (other than a negligible impact) is due to the mine. This condition would not apply to drawdown associated with the northern production borefield as this would be regulated through bore extraction limits determined by NRAR and the provisions of the WM Act and Water Sharing Plan.

Concerns were raised in submissions about the onus of proof being on the landowner to demonstrate the mine has impacted bore water levels. The Department has drafted the compensatory water condition to make it clear that the burden of proof is on Whitehaven to demonstrate that its operations has not affected a private water supply. That is, it would be expected that unless there is clear evidence provided through Whitehaven's monitoring and modelling program and investigation and action trigger process, that Whitehaven would be required to provide compensatory water supply – particularly for stock and domestic supply.

112. In relation to the impacts of the western emplacement area (**WEA**) on the alluvium, the Department's AR states at paragraphs 274 and 275:

The groundwater assessment noted that the WEA would be located over an embayment of alluvium and assessed the potential impacts of seepage from the emplacement on alluvium water quality. The assessment predicts that the maximum long-term seepage rate from the WEA to the alluvium embayment would be very minor, ranging from 0.03 ML/day during initial recovery to 0.02 ML/day over the long-term. This is primarily due to the design of the emplacement to direct seepage towards the open cut void.

The assessment predicted that the seepage from the WEA into the alluvium embayment is likely to be of similar salinity to the groundwater in the coal measures adjacent to the alluvium and significantly lower salinity than the groundwater currently within the shallow alluvium in that location. The groundwater assessment concluded that the small amount of seepage from the WEA would cause no adverse water quality impacts to the alluvium.

113. The Department's AR states at paragraph 278:

*DPIE Water has advised that it does not support the emplacement of spoil over the alluvium, however noted that if it was approved, a monitoring and Trigger Action and Response Plan (**TARP**) would need to be prepared to respond to adverse monitoring results. The independent groundwater expert has noted the emplacement would be designed and constructed to direct potentially polluted groundwater seepage towards the open cut and final void, therefore minimizing potential for seepage towards the alluvium. The independent expert also noted the existing impacts on this area of alluvium by the Canyon Coal Mine.*

114. The Independent Groundwater Expert provided groundwater advice on the western emplacement dated 12 March 2020 stating:

Having reviewed the groundwater assessment documents, I concur with DPIE Water that the risk is not negligible, but I consider the residual risk to be quite low for the following reasons:

- a) *assuming that closure will involve a final void at the south-eastern corner of the VEP, the modelled water table at 100 years after the end of mining shows that the long term final void groundwater 'capture zone' extends across the Western Emplacement over the alluvium embayment (VEP Submissions Report, August*

2019, Figure 8b); this means that seepage from the Western Emplacement would indeed flow towards the final void sink rather than towards the alluvium.

- b) *the potential seepage flux and water quality has been adequately assessed as a low risk to the beneficial use category for the alluvium (HydroSimulations VEP Groundwater Assessment, August 2018, Sections 5.5.3, 6.1.4; Tables 19, 20).*
- c) *the embayment alluvium underlying the Western Emplacement has already been impacted by the existing Canyon Coal Mine final void, as Whitehaven Coal point out, but the potential compaction impacts on the 'clay dominated' (compressible) alluvium has not been assessed specifically.*

115. The Department's AR states at paragraph 280:

To ensure the seepage of PAF, saline and sodic materials towards the alluvium is prevented, the Department has recommended conditions including specific performance measures and the preparation of a Water Management Plan which includes baseline data, monitoring and a TARP to respond to exceedances of the criteria in the development consent.

Commission's Findings

116. The Commission acknowledges the concerns raised by a hydrogeology expert in paragraph 92 above who was of the view that a more in-depth assessment of risks to GDEs was required. The Commission has considered the Department's AR and Independent Groundwater Expert's advice regarding the Applicant's mapping and is of the view that the level of assessment is sufficient and the predicted drawdown of 1m does not interact with any mapped GDE's as stated in paragraph 105 above. The Commission agrees with the Independent Groundwater Expert's advice in paragraph 107 above, that the groundwater model sensitivity analysis, and the application of the results to justify its interpretation of the uncertainty analysis, is adequate for assessing the potential groundwater impacts of the Project.
117. The Commission notes that the Applicant proposes to establish a borefield to the north of the mining area with an estimated extraction requirement of between 200 and 390 ML/year as stated by the Department in paragraph 104 above. The Commission acknowledges the concerns raised by the public referenced in paragraphs 90 and 91 above regarding the impacts of drawdown and potential exceedances of the AIP minimum impact criteria.
118. The Commission notes that the largest predicted drawdown at any privately-owned bore to the west of the Project in the Namoi River alluvium is anticipated to be less than 0.2m as stated by the Applicant in paragraph 98 above and accepted by the Department in paragraph 109 above. The Commission acknowledges that this is below the AIP minimal impact criteria of 2m. The Commission also notes that the Applicant in paragraph 99 above and Department in paragraph 109 above state that a drawdown of greater than 1m would not extend beyond the immediate Project mining area and into the surrounding alluvium.

119. The Commission notes that the Applicant has committed to ‘make good’ provisions for impacted users should there be a greater than 2m drawdown at a privately owned bore as stated by the Applicant in paragraph 100 and the Department in paragraph 110. The Commission acknowledges that the ‘make good’ provisions may include: deepening the affected groundwater bore; construction of a new groundwater bore; and/or provision of an alternative water supply of appropriate quality and quantity as stated by the Applicant in paragraph 100 and by the Department in paragraph 110 above. The Commission notes that the Department’s recommended Conditions B41 and B42 provide for compensatory water supply, and that the Department’s recommended Condition B43 states that *“If the Applicant and the landowner cannot agree on whether the loss of water is attributed to the development or the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Planning Secretary for resolution”*. The Commission imposes these conditions with an amendment to Condition B43 to ensure that the burden of proof that any loss of water supply is not due to mining impacts rests with the Applicant.
120. The Commission acknowledges that DPIE Water has advised that it does not support the emplacement of spoil over the alluvium as reference in paragraph 113 above. The Commission notes that the Independent Groundwater Expert acknowledges DPIE Water’s concerns, but considered the residual risk to be quite low. The Commission notes that the Independent Groundwater Expert states that the seepage from the Western Emplacement would indeed flow towards the final void sink rather than towards the alluvium, the potential seepage flux and water quality has been adequately assessed as a low risk to the beneficial use category for the alluvium, and the embayment alluvium underlying the Western Emplacement has already been impacted by the existing Canyon Coal Mine final void. The Commission notes that potential compaction impacts of the clay dominated alluvium may result in a less likely and reduced flow to the alluvium, however, the Commission notes that there has not been a specific study in this regard. In order to mitigate the risks associated with the overburden emplacement on the alluvium, the Commission imposes Condition B51, Table 8 which sets out specific water management performance measures for alluvial aquifers and overburden emplacements.
121. The Commission acknowledges the Applicant’s commitment to preparing a WMP as stated in paragraph 141 below. The Commission therefore imposes Condition B53 requiring the preparation of a WMP. The Commission has made amendments to the Department’s recommended Condition B53 to ensure that detailed performance and completion criteria for evaluating the performance of the plan is included, triggering remedial action if necessary. Condition B53 requires the Applicant to periodically validate the groundwater model for the development, including an independent review of the model every five years, as part of the WMP and Groundwater Management Plan.

Final Void

Public Comments

122. The Commission heard concerns from speakers at the Public Hearing and received written submissions regarding the final void. Specific concerns were raised regarding the long-term impacts of the final void on groundwater.
123. A speaker at the Public Hearing stated:

Now, when Whitehaven walks away from this mine in 25 years they will leave the void, the mine pit as a toxic water sink. That is the plan. Who will monitor that toxic sink for many years to come? Who will manage it, fence it and remediate the damage, if indeed that were possible, (is) as toxins move into the groundwater and the aquifers? It will be New South Wales taxpayers

124. At the Public Hearing a local resident stated:

Mines only offer short gain by extraction and leave a final void with an ever-increasing salty lake at approximately sea level. The mine will do nothing except extract water to wash coal and water roads, while polluting the air with dust, carbon dioxide, methane, and create noise, and transect the floodplain with the no-plans rail spur.

125. At the Public Hearing, a representative of a local community stated:

We have read the justification and disagree that leaving a final void is a precautionary principle in action. If a void is the only way to protect the region and avoid serious environmental damage, then signing this approval means the risks of long-term impacts on the ground water is borne by the community and our children.

Applicant's Consideration

126. The Applicant's EIS states that following closure of the Project the final void would remain as a groundwater sink. The Applicant states that groundwater inflow to the final void is predicted to equilibrate at approximately 0.3 ML/day to 0.5 ML/day and that the inflow would be sustained primarily by rainfall infiltration through the Western Emplacement.

127. The Applicant's Amendment Report states:

The existing Blue Vale void would initially be used as the main water storage while the other dams are being constructed. After commissioning the other dams, the existing Blue Vale void would be used to temporarily store excess mine water, consistent with the Approved Mine water management system.

Periodic reviews of the site water balance would be conducted to enable the Project Water Management System to be adjusted as necessary.

128. The Applicant's Amendment Report also states:

The catchment area reporting to the final void would also be minimised as much as possible through the construction of up-catchment diversions and contour drains around the perimeter of the Project final void, and used as the permanent flood bund.

A water balance for the final void has been prepared for the end of the Project life and is presented in Appendix B, which demonstrates that the final void water level would remain significantly below the crest of the final void.

129. The Applicant provided a response to queries raised by the Commission at the meeting with the Applicant on 18 June 2020. The Applicant's Response to the Commission dated 29 June 2020 states:

Following completion of mining, the open cut would be rehabilitated to form a final void that is long-term safe and stable and acts as a groundwater sink to prevent migration of poor-quality water to the surrounding groundwater. The water captured in the void would potentially be available for use by third parties. Third party use of the final void water is not a component of the Project and would be subject to the agreed final land uses of the site as well as relevant separate approval processes.

Department's Assessment

130. In relation to the groundwater impacts of the final void, the Department's AR provides commentary on the Applicant's modelling of a backfilled void and the Applicant's estimated costs of backfilling the open cut at paragraphs 284 and 285.

131. The Department's AR considered the views of DPIE Water, the Resource Regulator at paragraph 289. At paragraph 290 of the Department's AR, the Department stated that:

The independent groundwater expert has indicated that the modelled final void water balance is adequate, however Mr Middlemiss considers additional geochemical analysis and updated modelling could be undertaken to establish the optimum design of the final void, with the modelling results to be used to refine the mine plan during the course of mining operations.

132. The Department's AR concluded at paragraph 292:

Based on the recommendations of the independent groundwater expert, the Department believes that Whitehaven should be required to optimise the size of the final void, to find a balance between minimising the size and depth of the final void and ensuring water from within the final void does not migrate off the site towards the alluvium. To achieve this, Whitehaven would need to periodically undertake geochemical analysis of the waste rock and other material to be placed in the open cut and update its modelling to predict the likely character of flows into and out of the final void.

Commission's Findings

133. The Commission acknowledges the concerns raised by the public regarding the impacts of the final void on groundwater as referenced in paragraphs 122 to 125 above. However, in considering the Material, the Commission agrees with the Department that, based on the recommendations of the Independent Groundwater Expert, if a final void is adopted as the ultimate landform, the Applicant should be required to optimise the size of the final void, to find a balance between minimising the size and depth of the final void while ensuring water from within the final void does not migrate off the site towards the alluvium as stated by the Department in paragraph 132 above. The Commission notes the Applicant's statement in paragraph 128 above that the catchment area reporting to the final void would also be minimised as much as possible. However, the Commission is of the view that the catchment area is to be minimised as far as practicable while still maintaining its function as a drainage catchment. For the reasons set out above, the Commission therefore imposes Conditions B53 and B101.

134. The Commission has given further consideration to final void design and rehabilitation in section 4.9.5.

Surface Water and Flooding

Public Comments

135. The Commission heard concerns from speakers at the Public Hearing and received written submissions regarding the impacts of the Project on surface water including sediment dam discharge, risk of damage to waterways and impacts on the surrounding floodplain in dealing with flooding events. The Commission also heard concerns from speakers at the Public Hearing and received written submissions regarding the placement of mine infrastructure on the floodplain including the proposed rail crossing of the Namoi River.

Applicant's Consideration

136. The Applicant's EIS included a Surface Water Assessment (**Surface Water Assessment**) prepared by Advisian dated August 2018. The EIS states that the Surface Water Assessment was peer reviewed (**Surface Water Peer Review**) by Professor Tom McMahon dated 5 August 2018.

137. The Surface Water Assessment states:

Based on the detailed assessment above, and in consideration of the IESC Information Guidelines (IESC, 2018)... the Action would not result in significant changes to the quantity or quality of surface water available to third party users or the environment. Accordingly, the Action would not have a significant impact on surface water resources.

138. The Applicant's EIS states that the Project Water Management System would be used to protect the integrity of local and regional water sources and separate runoff from undisturbed, rehabilitated and mining affected areas.

139. The Applicant's Amendment Report states that no additional environmental impacts beyond those assessed in the Project EIS (e.g. surface water, groundwater, air quality, noise) would occur as a result of the proposed amendments.

140. In relation to flooding, the Applicant's EIS included a flood assessment (**Flood Assessment**) prepared by WRM Water & Environment Pty Ltd dated 10 August 2018.

141. The Applicant's EIS states that flood management infrastructure would be constructed and has committed to a WMP:

The Water Management Plan to be developed for the Project would describe proposed flood mitigation and protection works proposed for the Project, as well as the process for undertaking remedial and/or contingency measures if potential issues with erosion, settlement or slumping of Project infrastructure are identified during visual inspections following significant flood events.

142. In relation to flooding, the Applicant's Amendment Report states that the proposed amendments would not change the Project's interaction with the flooding regime of the Namoi River or local creeks.

Department's Assessment

143. The Department's AR states at paragraph 192 and 193 that:

The Department also commissioned Martin Giles of BMT as an independent expert to provide advice on the surface water assessment and Erin Askew of WMA Water to provide advice on the flooding assessment. The initial advice was provided with the Departments Preliminary Issues Report, with updated advice provided based on the review of Whitehaven's Submissions Report and additional information

144. In relation to discharge, the Department's AR states at paragraph 205:

The EPA [Environment Protection Authority] supports Whitehaven's commitment to operate the site to achieve nil-discharge of coal contact water and it has recommended conditions to require a short-term discharge monitoring program to verify the levels of key pollutants in mine water and review mitigation measures to ensure mining operations would achieve the required performance objectives. The Department has therefore recommended a condition requiring Whitehaven to monitor the quality of water in the sediment dams prior to any discharge from these dams.

145. In relation to surface water management, the Department's AR concluded at paragraphs 212 and 213:

To ensure the appropriate management of surface water for the operation of the development, the Department has recommended contemporary conditions in consultation with DPIE Water and EPA...

With the implementation of the required water management and monitoring measures, the Department, independent water expert and EPA consider that the development can be managed such that it would not result in significant impacts on surface water resources.

146. In relation to flooding impacts, paragraph 301 of the Department's AR states that the flood modelling predicts that the Project would comply with the flood impact criteria of the recently gazetted Floodplain Management Plan for the Upper Namoi Valley Floodplain 2019 (**FMP**).

147. Paragraph 40 and 41 of the Department's AR state:

In the EIS, Whitehaven had proposed to construct the rail spur line to the west of the Namoi River using a combination of embankments and pylons/ piers.

However, in response to landowner concerns, Whitehaven has committed in its Submissions Report to construct the full length of the rail spur line on elevated pylon/ pier structures west of the Namoi River to the junction with the Werris Creek to Mungindi Rail Line, apart from a short connecting embankment into the public rail network to the north of Emerald Hill.

148. The Department's AR concludes at paragraphs 301 and 232:

The Department, the independent flood expert, and DPIE Water's flood experts consider that the rail spur line can be designed and constructed such that the 1 in 100-year design flood can be conveyed without exceeding the impact criteria in the FMP.

The Department has recommended conditions requiring the design of the Project to account for climate change variability, consistent with the recommendations of the independent expert, including periodic review of climate data and projections and consulting with the BCD on the design of the Project rail spur. On this basis, the Department and the independent flooding expert consider the Project would be able to comply with the requirements of the FMP and minimise flooding impacts on the floodplain.

Commission's Findings

149. The Commission acknowledges the concerns raised by the public regarding the placement of mine infrastructure on the floodplain including the proposed rail crossing of the Namoi River as referenced in paragraph 135 above. The Commission accepts the Applicant's flood modelling, noting that the modelling predicts that the Project would comply with the FMP. The Commission agrees with the Department's conclusion in paragraph 148 above and has imposed Condition B48 which requires the Applicant to ensure that the design and construction of the Project including the Project Rail Spur and Kamilaroi Highway overpass is consistent with the objectives of the FMP. The Commission also acknowledges the Applicant's commitment to preparing a WMP as stated in paragraph 141 above and has imposed the Department's recommended Condition B53 requiring the preparation of a WMP (also see paragraph 121).
150. The Commission also acknowledges the concerns raised by the public referenced in paragraph 135 above regarding the impacts of the Project on surface water. However, the Commission agrees with the Department, Independent Water Expert and NSW Environment Protection Authority (EPA) as referenced in paragraph 145 above that with the implementation of the required water management and monitoring measures, the Project can be managed such that it would not result in significant impacts on surface water resources. The Commission has therefore imposed Condition B49 which requires the Project Rail Spur, Project Rail Spur bridges and any upgrade to the haul road to be designed and constructed to minimise flooding and scouring impacts.

4.9.2 Noise

Public Comments

151. The Commission heard concerns from speakers at the Public Hearing regarding the potential noise impacts resulting from the Project. A local resident at the Public Hearing stated:

As a landholder only 1200 metres from the CHPP plant and a home only 2600 metres from it, we are still very concerned about the dust and noise modelling. I have read the response to your questions where you (sic) talk about cladding on the CHPP and also the new trucks that can mitigate noise. But at a recent Boggabri progress meeting, another local miner was asked questions about these trucks, and at the meeting was told that the extra weight these trucks have to carry to mitigate the noise is overshadowed by the economics, and more trucks would have to be utilised to move the same amount of dirt.

152. A local resident who is afforded acquisition rights under the Project raised concern at the public meeting in relation to noise and sleep disturbance. The local resident also noted that as their property is afforded acquisition rights, there are no specific noise limits applicable to their property under the recommended conditions:

...we've obviously been given acquisition rights and I'm the only one with acquisition rights with basically no limit supplied from what I can tell. So the concern is that it will be risky to my health let alone the noise and sleep disturbance. I just – logic tells me it won't be a pleasant place to be at, let alone live and try to sleep.

153. The Commission also received a number of written comments raising concern regarding the impacts of noise on the well-being of the local community:

I strongly object to the proposed Vickery coalmine. Whitehaven coal has proven themselves to be prepared to seriously breach their water use entitlements as well as noise and dust levels, to the detriment of the local community.

The district is covered in coal dust, massive lights at night, has constant environmental noise and the proposed expansion will only heighten this devastation.

Council's Comments

154. GSC at the Public Hearing acknowledged that the Project has been amended to address Council's concerns, including noise impacts. Council also noted that the Applicant must be mindful of noise impacts on surrounding property owners who are not afforded acquisition rights.

Applicant's Consideration

155. The Applicant's EIS included a Noise and Blasting Assessment (**NBA**) prepared by Wilkinson Murray and dated August 2018. The NBA includes a range of proposed mitigation measures to address operational noise, low-frequency noise, sleep disturbance, construction noise and road and rail traffic noise. The Applicant's NBA stated that *"significant reductions in road traffic noise are anticipated along the Approved Road Transport Route as a result of coal from the Project, Tarrawonga Coal Mine and Rocglen Coal Mine being transported from the Project CHPP by rail (rather than being hauled to the Whitehaven CHPP by road)."*

156. The Applicant's Submissions Report states that in response to the Commission's Issues Report, the Applicant would implement the following noise attenuation for the Project:

- *partial cladding for the CHPP using HushClad acoustic lining or equivalent (e.g. openings for personnel to be retained);*
- *partial cladding of the ROM bin using HushClad acoustic lining or equivalent (e.g. openings for ROM coal transfer to be retained); and*
- *covers and/or cladding of conveyors.*

157. The Applicant's Amendment Report states the proposed amendments would not result in increased air quality, noise or blasting impacts when compared to those assessed in the EIS, as:

- *activities would be no closer to privately-owned receivers;*
- *the intensity of operations (and associated fleet requirements) would be the same as those modelled in the EIS (or less); and*
- *the maximum elevation at which equipment would be working would remain unchanged. The air quality and noise monitoring and management measures outlined in the EIS would be implemented for the Project.*

Department's Assessment

158. Paragraph 317 of the Department's AR acknowledges that the Applicant's NBA is based on a range of proposed noise mitigation measures some of which include: enclosing and partially cladding coal handling equipment at the CHPP and restricting certain mining activities during the night, including dumping on the exposed areas of the WEA.

159. In relation to operational noise, the Department's AR states at paragraphs 322, 323 and 324:

Of the seven receivers (located on four landholdings) predicted to experience noise at or above the PNTL [Project Noise Trigger Level], the worst-case noise levels generated during operation of the Project would be up to 3 dB greater than the Approved Project at four residences - 127c, 131a, 131b and 132.

One residence on the Mirrabinda property (ID 127c) is predicted to experience significant noise impacts (greater than 5 dB above the PNTL) and would be afforded acquisition rights under the VLAMP. An additional dwelling within the same landholding (property ID 127b) is predicted to have moderate impacts as the noise levels are 5 dB above the PNTL. The owners of Mirrabinda are currently entitled to acquisition rights for noise impacts under the Approved Project...

The Project would exceed the PNTL by 1-2 dB at three other receivers (property ID 131a, 131b and 132) which is characterised as a negligible impact under the VLAMP. In accordance with the NPfl, the Department has recommended operational noise criteria as predicted in the NBA and Whitehaven would need to apply reasonable and feasible mitigation at the Project to strictly comply with these criteria.

160. In relation to low frequency noise (LFN), paragraph 330 of the Department's AR states that the Department accepts that LFN is unlikely to be a significant issue for the Project, and that the Project would be unlikely to trigger the LFN criteria and application of modifying factors. Paragraph 331 of the Department's AR states that the Department has recommended conditions consistent with the EPA's recommendations, requiring Whitehaven to implement all reasonable and feasible measures to minimise LFN and monitor the noise levels in accordance with the requirements of the NPfl.

161. In relation to construction noise, the Department's AR states at paragraphs 349 to 352:

Given Whitehaven proposes to operate the mining activities on a 24/7 basis there may be justification to carry out construction outside standard hours if the construction noise is within the operational noise limits. The NBA predicts construction noise levels would comply with the recommended Project daytime operational noise criteria (40 dBA) at all but three receivers (127c, 132, 144b). The Department also notes that Mirrabinda (property 127) would be afforded acquisition rights under the VLAMP.

Noise generated during construction of the rail spur outside standard construction hours would potentially exceed the relevant daytime operational PNTL of 40 dBA at receivers 132 (40 dBA) and 144b (42 dBA). Given the predicted exceedance is within 1-2 dB, under the VLAMP this construction noise would be characterised as a negligible impact if it were operational noise from the mine.

To ensure Whitehaven minimises noise generated during construction outside the standard hours, the Department has recommended the application of mining operational noise criteria to construction activities at the mine and the rail spur.

...the Department agrees that it is reasonable for construction of the Project to occur outside the standard construction hours subject to compliance with strict operational noise criteria. Consequently, the Department considers that construction activities could be undertaken outside the standard construction hours without generating unacceptable noise impacts on potentially affected residences.

162. In relation to rail and transport noise, paragraph 367 of the Department's AR states that the Applicant has committed to incorporate all reasonable and feasible noise mitigation into the detailed design of the Project rail spur. The Department also notes that the Applicant would also commission a peer review of the design and commissioning to identify measures and controls to minimise the noise impacts associated with the operation of the rail line. Paragraph 368 of the Department's AR states that the Department considers this would adequately manage noise generated by rail transport operations to acceptable levels in accordance with the RING, and has recommended conditions requiring the Applicant to:

- *implement reasonable and feasible noise mitigation measure in its design of the rail spur;*

- undertake commissioning trials to determine the optimum train speeds to minimise noise;
- comply with rail noise criteria;
- monitor noise generated by train movements along the Project rail spur to verify predictions in the NBA, the effectiveness of mitigation measures and compliance with rail spur line noise criteria, including during adverse weather conditions (inversions); and
- include procedures to respond to complaints.

163. In relation to road transport noise, the Department's AR states at paragraph 377:

The Department notes that the NBA does not assess road noise generated by coal transport of up to 4.5 Mtpa, which is proposed once the Kamillaroi highway overpass is operational (to be built in the event combined transport on Blue Vale road exceeds 3.5 Mtpa). These impacts were assessed for the Approved Project, which found that noise levels would be less than or equivalent to the noise levels associated with the continued use of the Kamillaroi Highway. The Department recommends retaining the restrictions imposed on road transport noise under the Approved Project development consent should Whitehaven construct the highway overpass and transport in excess of 3.5 Mtpa of coal by road.

164. In relation to the location of the Mine Infrastructure Area (**MIA**), paragraph 390 of the Department's AR stated that the Applicant analysed the potential relocation of the MIA to the secondary infrastructure area to the south-east of the Project. The Department noted that this option was discounted due to significant additional infrastructure costs associated with relocation of the rail loop (approximately \$70 million) and additional earthworks (\$15 million) and also due to the potential increased amenity impacts on receivers to the south-east. Paragraph 391 of the Department's AR states that the Department considers the proposed layout of the Project strikes a reasonable balance between amenity impacts and maximising the operational efficiency of the Project.

Commission's Findings

165. The Commission acknowledges the concerns raised by the public referenced in paragraphs 151 to 153 above. The Commission notes that specific concerns were raised regarding the noise impacts of the Project on local residents. The Commission notes that one residence on the Mirrabinda property (ID 127c) is predicted to experience significant noise impacts (greater than 5 dB above the Project Noise Trigger Level (**PNTL**)) and would be afforded acquisition rights under the VLAMP. The Commission also notes that an additional dwelling within the same landholding (property ID 127b) is predicted to have moderate impacts as the noise levels are 5 dB above the PNTL. The Commission acknowledges that the owners of Mirrabinda are currently entitled to acquisition rights for noise impacts under the Approved Project.
166. The Commission has imposed Condition D2 requiring the Applicant to implement additional mitigation upon request. The Commission has amended this condition to extend the ability to request noise mitigation to land listed in Condition B2 – Table 2 Kamillaroi Highway overpass noise criteria dB(A), and the owner of any residence where subsequent noise monitoring shows the noise generated by the development is equal to or greater than the relevant voluntary mitigation criteria.

167. The Commission notes that the Project would exceed the PNTL by 1-2 dB at three other receivers (property ID 131a, 131b and 132) which is characterised as a negligible impact under the VLAMP. The Commission agrees with the Department's assessment in paragraph 159 above and, in accordance with the NPfl, has imposed Conditions B1 – B4 recommended by the Department which set out operational noise criteria as predicted in the NBA. The Commission is of the view that the Applicant would need to apply reasonable and feasible mitigation at the Project to strictly comply with these criteria. The Commission acknowledges that the Applicant has committed to noise attenuation measures as stated in paragraph 156 above. The Commission has therefore made changes to Condition B14 – Noise Operating Conditions, to ensure that the Applicant undertakes partial cladding of the CHPP, ROM coal bin and conveyors to further mitigate the impacts of noise and to ensure that the Applicant takes all reasonable steps to minimise all noise from construction, operational and transport activities - including by not dumping on exposed areas of the Western Emplacement Areas at night.
168. The Commission accepts the Department's assessment in paragraph 160 above that LFN is unlikely to be a significant issue for the Project. The Commission has imposed the Department's recommended Conditions B11 and B14 consistent with the EPA's recommendations which require the Applicant to implement all reasonable and feasible measures to minimise noise, including LFN, and monitor the noise levels in accordance with the requirements of the NPfl.
169. The Commission notes that the NBA predicts construction noise levels would comply with the recommended Project daytime operational noise criteria (40 dBA) at all but three receivers (127c, 132, 144b), as stated by the Department in paragraph 161 above. As stated in paragraph 165 above, the Commission acknowledges that Mirrabinda (ID 127c) would be afforded acquisition rights under the VLAMP. The Commission notes that noise generated during construction of the rail spur outside standard construction hours would potentially exceed the relevant daytime operational PNTL at receivers 132 and 144b. The Commission agrees with the Department's assessment in paragraph 161 above that, given the predicted exceedance is within 1-2 dB, under the VLAMP this construction noise would be characterised as a negligible impact if it were operational noise from the mine.
170. The Commission agrees with the Department's assessment that construction activities could be undertaken outside the standard construction hours without generating unacceptable noise impacts on potentially affected residences as stated in paragraph 161 above. The Commission is therefore of the view that it is reasonable for construction of the Project to occur outside the standard construction hours subject to compliance with strict operational noise criteria in accordance with Condition C2.
171. The Commission accepts the Applicant's statement in the NBA (see paragraph 155 above) that, following the Project CHPP, train load-out facility and rail spur reaching full operational capacity, significant reductions in road traffic noise are anticipated along the Approved Road Transport Route as a result of coal from the Project being transported by rail.
172. The Commission notes that the Department is of the view that the Applicant has committed to incorporate all reasonable and feasible noise mitigation measures into the detailed design of the Project rail spur as stated in paragraph 162. The Commission also notes that the Applicant would also commission a peer review of the design to identify measures and controls to minimise the noise impacts associated with the operation of the rail line. The Commission agrees with the Department's assessment that this would adequately manage noise generated by rail transport operations to acceptable levels in accordance with the RING and imposes the Condition B11 as referenced by the Department in paragraph 162 above.

173. The Commission acknowledges that the Applicant analysed the potential relocation of the MIA to the south-east area of the Project as stated by the Department in paragraph 164 above. The Commission accepts that there are significant costs associated with this option and agrees with the Department's assessment that the proposed layout of the Project strikes a reasonable balance between amenity impacts and maximising the operational efficiency of the Project.

4.9.3 Air Quality

Public Comments

174. The Commission heard concerns from speakers at the Public Hearing regarding the Project's potential impacts on air quality:

I am convinced the new mine at Vickery that is erroneously called Vickery Extension is detrimental to the planet, the countryside, our community's air quality, agriculture and to water.

The impact of dust and noise will make the land unliveable and will impact the quality of crops. It will pollute the air and have negative health impacts on residents.

175. The Commission also received a number of written comments concerning air quality impacts. Specific concern was raised regarding the cumulative impacts of the project in relation to dust and air pollution:

...many people in this area have fought drought for the last 4 years adding another mine in this area will add to their stress health issues damage to water quality and dust and noise pollution. We need to have clean air and water to grow crops livestock and most of all our children. please but life over profits.

I object to anymore coal mines or extensions in the Boggabri area. The cumulative effect of coal dust and air pollution from existing mines is already too much for the local surrounding farming industry.

Council Comments

176. NSC in its submission to the Department, dated 30 October 2018, raised concern regarding air quality and health impacts and requested that an on-going independent monitoring program carried out by experts be implemented under the direction of an appropriate NSW Government agency. Council also requested that the EPA expand the Namoi Region Air Quality Monitoring Project (**NRAQMP**) to include stations at Curlewis and Boggabri to determine the level of contribution from coal mines to the local air quality.

Applicant's Consideration

177. The Applicant's EIS included an Air Quality and Greenhouse Gas Assessment (**AQA**), undertaken by Ramboll Australia Pty Ltd, dated 16 February 2018. The Applicant's EIS states that the AQA was peer reviewed (**AQA Peer Review**) by Todoroski Air Services Pty Ltd in a report dated 19 May 2020, specifically the GHG calculations in relation to Scope 3 emissions for the Project.
178. The Applicant's EIS states that the Air Quality Management Plan (**AQMP**) would be prepared for the Project and would include:

- *details of the air quality mitigation measures to be implemented for the Project;*

- the real-time air quality monitoring program;
- details of trigger levels for the investigation of additional mitigation measures;
- response protocols during adverse conditions; and
- details of the meteorological forecasting system.

179. The Applicant's Amendment Report stated that the proposed amendment would not result in increased air quality impacts when compared to those assessed in the EIS. The Applicant also stated that the air quality monitoring and management measures outlined in the EIS would be implemented for the Project.

Department's Assessment

180. The Department's AR states at paragraph 380 that the Applicant's AQA predicts:

...the 24-hour and annual average PM_{2.5}, PM₁₀, TSP and dust deposition levels from the Project would meet applicable criteria at all private receiver locations for all stages of the mine. Predictions also found that the Project would comply with the Approved Methods criteria for PM_{2.5} of 8 µg/m³ (annual average) and 25 µg/m³ (24-hour average).

181. The Department's AR states at paragraphs 382 to 384:

Submissions and the Commission's Issues Report raised questions about the predicted emissions from the Project being lower than those for the Approved Project, despite factors such as an increased production rate, larger mining footprint and overburden stockpile that suggest the air quality impacts would be greater.

Whitehaven indicated in its Submissions Report that the improved air quality modelling results are due to the changes in operations and layout of the Project, such as no longer crushing and scraping gravel on site, operating a single open pit (opposed to two for the Approved Project) and the incorporation of improved emission control factors including a haul road dust control, enclosed ROM hopper and overburden handling in the air quality modelling.

The Department and EPA consider that the adoption of improved emissions control factors in the air quality modelling is appropriate given the emission reduction efficiencies are based on verified results of air quality mitigation at other operating mines in the region.

182. In relation to air quality management, the Department's AR states at paragraph 385:

The Department has recommended a number of conditions to mitigate and manage air quality impacts in general, including requiring Whitehaven to comply with the applicable air quality criteria for privately owned properties and to develop a comprehensive air quality management plan which would include real-time air quality monitoring, predictive modelling and meteorological forecasting to manage operations.

Commission's Findings

183. The Commission acknowledges the concerns raised by the public referenced in paragraphs 174 to 175 above. However, the Commission accepts the findings of the AQA and as referenced by the Department in paragraph 180 above that the 24-hour and annual average PM_{2.5}, PM₁₀, total suspended particles (TSP) and dust deposition levels from the Project would meet applicable criteria at all private receiver locations for all stages of the mine. The Commission notes that there are no receivers requiring acquisition or mitigation in accordance with the VLAMP policy as a result of predicted air quality exceedances.

184. The Commission notes that the Commission’s Issues Report sought clarification as to “*why the dust levels of the Project are predicted to be lower than those for the Approved Project, even though the Project will be extracting and handling more coal, will have a higher production rate and includes operating a CHPP and rail load out facility*”. The Commission notes that the Department’s AR indicated in paragraph 181 above that this is due to changes in operations and layout of the Project, operating a single open pit and the incorporation of improved emission control factors.
185. The Commission acknowledges the concerns raised by NSC in paragraph 176 above in relation to air quality monitoring. The Commission notes that Condition B36 requires the preparation of an Air Quality and Greenhouse Gas Management Plan (**AQGGMP**) prepared by a suitably qualified and experienced person. The Commission notes that Condition B36(f) requires the AQGGMP to include an air quality monitoring program undertaken in accordance with the Approved Methods. The Commission agrees with NSC and is of the view that additional air quality monitoring stations under the EPA’s NRAQMP would assist in determining the level of contribution of the Project and other mining operations to the local air quality.
186. The Commission notes that the Applicant has committed to preparing an AQMP as stated in paragraph 178 above. For the reasons set out above, the Commission has imposed the Department’s recommended Conditions B32, B33 and B35 – B37 as they would assist in mitigating and managing air quality impacts of the Project.

4.9.4 Greenhouse Gas Emissions

187. GHG emissions are categorised into three different types:
- Scope 1: direct emissions from owned or controlled sources of an organisation/ development;
 - Scope 2: indirect emissions from the generation of purchased energy electricity, heat and steam used by an organisation/ development; and
 - Scope 3: all other upstream and downstream emissions related to an organisation/ development.

Public Comments

188. The Commission heard concerns from speakers at the Public Hearing and received written submissions regarding GHG emissions and the contribution of the Project and other mining operations to climate change.
189. At the Public Hearing, a local resident stated:
- This is a fossil fuel, and we’re at a time in our history of humanity where we really need to be working towards zero emissions, and we’ve reached nine of fifteen known tipping points... and we really need – if we want to be minimising the kind of climactic effects on our communities and across the globe, we really need to be not opening any new fossil fuel projects any more, and, of course, this is a new one.*
190. The Commission also received written submissions about the climate change impacts of the Project. A submission stated:

My main objection to the Vickery Coal Mine is to the amount of greenhouse gas emissions from the project. Direct emissions from burning the coal will increase the amount of CO₂ and methane in the atmosphere, leading to many problems associated with global warming. Indirect emissions from the mining and transport of the coal will also be significant. Avoid the climate crisis - no new coal mines.

191. A climate change expert engaged by an action group stated, in their submission to the Commission dated 30 June 2020, that the approval of the Project is inconsistent with the carbon budget approach to stabilisation:

Meeting the carbon budget consistent with the Paris accord climate targets therefore means that not only must currently operating mines and gas wells be closed before their economic lifetime is completed... but also that no approved (but not yet operating) and no proposed fossil fuel projects, based on existing reserves, can be implemented. This analysis applies to the Vickery Extension Project.

192. The BFCG in its submission to the Commission dated July 2020 stated:

We have seen variously, and particularly in more recent times, that the proposed Vickery mine is predominantly metallurgical production. The Department has stated that it will be 70% metallurgical and 30% thermal. In other material we have seen this as 60% metallurgical and 40% thermal... However, we have not seen any actual reliable evidence of what mix is likely... We are very concerned that it is quite difficult to get a clear picture about the actual mix of production coal for Vickery.

Applicant's Consideration

193. In relation to coal production, the Applicant's further information to the Department (Appendix 6-10 of the EIS) states that the Project:

...will produce approximately 145 Mt of saleable coal, comprising thermal coal and semi-soft coking coal (SSCC). The life of mine average proportion of thermal coal to SSCC will be 40:60. However, given its high energy content, SSCC can be used as premium quality thermal coal. At times during the life of mine, the prevailing pricing differentials between SSCC and thermal coal can drive SSCC into the premium quality thermal coal market for power generation... SSCC is classified as metallurgical coal, along with hard coking coal (HCC) and pulverised coal for injection (PCI). Metallurgical coals are essential inputs for blast furnace-based steelmaking...

194. In relation to the Project's coal quality and emissions, the Applicant's further information to the Department also states:

The relevant benchmark for premium thermal coal is a calorific value (i.e. energy content) of 6,000kcal/kg net as received (NAR). The calorific value of Vickery Extension Project's thermal coal is above this benchmark, and is higher than the average for Australia and other major coal exporters, including Indonesia, Russia, South Africa, Colombia and the United States. This means that the Project's coal performs at a higher level of boiler efficiency in power stations, compared to coal from other sources, and that a greater volume of inferior quality coal would need to be combusted to achieve the same energy output as the Project's coal.

The sulphur and ash content of the Project's thermal coal is also lower than the Australian average and lower than other major seaborne thermal coal suppliers.

The quality of the Vickery Extension Project's coal has important consequences for considering the GHG emissions of the Vickery Extension Project and the consequences of not carrying out the Vickery Extension Project.

Given the projected future demand for coal, if the Vickery Extension Project is not approved, it is likely that the demand will be met by other coal supply sources, which would result in more coal being mined and combusted to satisfy the same power needs. This would result in higher Scope 3 GHG emissions and higher concentrations of ash and sulphur being produced.

195. The Applicant's Submission Report states:

The estimated greenhouse gas emissions intensity of the Project is approximately 0.02 tonnes of carbon dioxide equivalent per tonne (t CO₂-e/t) of ROM coal (this includes all Scope 1 and 2 emissions). This is comparable to the greenhouse gas emissions intensity of other existing local mines...

196. The Applicant's Amendment Report states that predicted greenhouse gas emissions for the Project would reduce as a result of the proposed amendments. The Applicant states:

The total indirect emissions (i.e. Scopes 2 and 3) over the life of the Project are estimated to be approximately 367 Mt CO₂-e (previously 390 Mt CO₂-e), which is an average of approximately 14.7 Mt CO₂-e per annum (previously 15.6 Mt per CO₂-e annum).

197. The Applicant's AQA Peer Review dated 19 May 2020 states:

I note that the original GHG estimates in the Report were recently updated to reflect some curtailment of the open cut pit for the Amendment Report. This reduced the total amount of coal produced over the life of the mine, and of course also reduced the corresponding GHG emissions. For reference the original vs. revised Scope 1 and 3 emissions are approximately 3.1 million tonnes of carbon dioxide equivalent emissions (Mt CO₂-e) (previously 3.2 Mt CO₂-e), and 367 Mt CO₂-e (previously 390 Mt CO₂-e).

198. The Applicant's AQA Peer Review concludes that the calculations for the Scope 3 emissions for the end use of the coal (energy production) use the correct emissions factor.

199. In relation to ongoing management of GHG emissions, the Applicant's EIS states that they currently employ methods to maximise efficiency of the mining fleet at its existing operations through regular maintenance scheduling, implementation of high efficiency motors, reduction of engine idle times and, where possible, minimising the gradient and length of loaded haul runs for the operating haul trucks. The Applicant also states that revegetation of previously cleared areas as part of biodiversity offset measures would also assist with reducing the Project's net greenhouse gas emissions and that this revegetation would be in addition to the extensive on-site revegetation of Project disturbance areas. The Applicant's states that the ongoing monitoring and management of greenhouse gas emissions and energy consumption at the Project would occur through the Applicant's participation in the Commonwealth Government's National Greenhouse and Energy Reporting Scheme (NGERS).

200. The Applicant's Submission to the Commission, dated 16 June 2020 states:

The Extension Project will produce approximately 150 Mt of saleable coal comprising thermal coal and semi-soft coking coal (SSCC), which is a type of metallurgical coal. The indicative life of mine average proportion of thermal coal to SSCC will be 40:60...

...metallurgical coals, including hard coking coal (**HCC**) and SSCC are essential inputs for the current production of approximately 70% of all steel globally produced using blast furnace-basic oxygen furnace technology. HCC and SSCC are used together to produce coke, which is the primary source of carbon in steelmaking. The proportion of each coal used in the coking process is determined by various factors, including pricing differentials, blast furnace requirements and specific characteristics and qualities of the coals...

Department's Assessment

201. In relation to GHG emissions, paragraph 675 of the Department's AR states:

The Project would generate approximately 3.1 Mt carbon dioxide equivalent (CO₂-e) of Scope 1 emissions, 0.8 Mt Scope 2 and 366 Mt CO₂-e Scope 3 emissions. Whitehaven's air quality peer reviewer Aleks Todoroski undertook a review of the Scope 3 emissions from the downstream burning of coal confirming that the calculations are consistent with the emission factors set out in Commonwealth Government's National Greenhouse Energy and Reporting Scheme (NGERS).

202. Paragraph 678 of the Department's AR states:

In comparison to the Approved Project, there would be a reduction of about 1 Mt CO₂-e of Scope 1 emissions, increase of about 0.15 Mt CO₂-e Scope 2 emissions and an increase of about 100 Mt CO₂-e of Scope 3 emissions over the life of the Project. The reduction in Scope 1 GHG emissions can be partially attributed to the inclusion of the Project CHPP, rail loop and rail spur, and the associated reduction in the consumption of diesel fuel associated with ROM coal haulage by truck to the Gunnedah CHPP.

203. Paragraph 680 of the Department's AR notes that the Applicant's EIS has proposed a range of management and mitigation measures for Scope 1 and Scope 2 GHG emissions to be minimised as far as possible. Paragraph 682 of the Department's AR states that the Department has recommended conditions that:

- *all reasonable steps are taken to improve energy efficiency and reduce greenhouse gas emissions of the development; and*
- *that an Air Quality and Greenhouse Gas Management Plan is prepared describing the measures to be implemented and that best management practice is employed to minimise the Project's Scope 1 and 2 GHG emissions and to improve the energy efficiency.*

204. Paragraph 144 of the Department's AR states:

The coal resource on the site is of relatively high quality and would be processed to produce both metallurgical coal (semi-soft coking coal and Pulverised Coal Injection (PCI) coal) for use in the steel making industry, and thermal coal for use in power generation. Approximately two thirds of the resource comprise PCI and semi-soft coking coal, and one third comprises thermal coal.

205. Paragraph 707 of the Department's AR states:

The Project would produce metallurgical coal (around 70% of the product coal) including semi-soft coking coal, pulverised coal injection (PCI) coal and thermal coal (around 30% of the product coal) to supply Whitehaven's main export market customers...

206. At the Public Hearing, the Department stated:

Importantly for this project, the majority of the coal would be not thermal coal but metallurgical coal which is used for steel making overseas, approximately 70 per cent of the coal production and scope 1 and scope 2 emissions, greenhouse gas emissions, will be accounted for in Australia in terms of its commitments under the Paris agreement but in accordance with those international agreements, scope 3 would be accounted for by other country in accordance with those – the Paris agreement and other international obligations.

207. Paragraphs 688 and 689 of the Department's AR state:

The Department has considered the CCPF, which outlines the State's long-term aspirational objectives of achieving net-zero emissions by 2050 and making NSW more resilient to a changing climate. The CCPF does not set prescriptive emission reduction targets and sets policy directions for government action, for example, to improve opportunities for private sector investment in low emissions technology in the energy industry, which is needed for a transition to a net-zero emissions inventory.

On this basis, the Department considers that the Project is not inconsistent with the CCPF and notes that Whitehaven has committed to minimising its Scope 1 emissions over which it has direct control. The Department has recommended conditions in this regard to ensure that the Project's emissions are minimised to the greatest extent possible by applying best practice in GHG emissions reductions for Scope 1 and 2 emissions.

208. Paragraph 686 of the Department's AR also states:

It is noted that more recently (i.e. March 2020), the Government announced a new 10-year plan to put the State on track to achieve net-zero emissions by 2050, the Net Zero Plan Stage 1: 2020-2030. The Plan builds on the CCPF and sets out a number of initiatives to deliver a 35% cut in emissions by 2030, compared to 2005 levels.

209. In relation to Scope 3 emissions, paragraphs 690 – 693 of the Department's AR state:

Under the Paris Agreement, the Australian Government committed to a nationally determined contribution (NDC) to reduce national GHGs by between 26 and 28 percent from 2005 levels by 2030. Australia has committed to meeting this target through initiatives that focus on expanding renewable energy sources, supporting low emissions technologies, improving energy efficiencies and incentivising companies to reduce their emissions without compromising economic growth and driving up energy prices.

According to Whitehaven, the Project's Scope 1 emissions would contribute less than 0.03% of Australia's 2030 commitment under the Paris Agreement (based on a 28% reduction of GHG emissions compared to 2005 levels or about 440 Mt CO₂-e).

The Department acknowledges that the Scope 3 emissions from the combustion of product coal is a significant contributor to anthropological climate change and the contribution of the Project to the potential impacts of climate change in NSW must be considered in assessing the overall merits of the development application.

Importantly, the Project's Scope 3 emissions would not contribute to Australia's NDC, as product coal would be exported for combustion overseas. These Scope 3 emissions become the consumer countries Scope 1 and 2 emissions and would be accounted for in their respective national inventories.

210. Paragraphs 713 and 715 of the Department's AR conclude:

The Department considers that the Project has been adequately assessed against the relevant State or national policies, programs or guidelines concerning GHG emissions and would be measured and reported as required under the Commonwealth Government's National Greenhouse and Energy Report Scheme (NGERS) requirements. Importantly, neither the NSW or Commonwealth policy frameworks require the private sector in Australia to minimise or offset the GHG emissions of any parties outside of Australia.

Overall, the Department considers that the GHG emissions for the Project have been adequately considered and that, with the Department's recommended conditions, are acceptable when weighed against the relevant climate change policy framework, objects of the EP&A Act (including the principles of ESD) and socio-economic benefits of the Project.

Commission's Findings

211. Clause 14(1)(c) of the Mining SEPP requires the Commission to consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure that greenhouse gases emissions are minimised to the greatest extent practicable. Clause 14(2) requires the Commission to consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development, and to do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions. Other provisions of the Mining SEPP are considered in Section 6 and Appendix K.3 of the Department's AR.
212. The Commission has considered the public's written comments and presentations at the Public Hearing in relation to GHG emissions and the potential contribution of the Project to climate change, as referenced in paragraphs 189 and 190 above.
213. The Commission notes that the Project would generate approximately 3.1 Mt CO₂-e of Scope 1 emissions, 0.8 Mt CO₂-e of Scope 2 and 366 Mt CO₂-e Scope 3 emissions as stated above by the Department in paragraph 201, the Applicant in paragraph 196 and as confirmed by the Applicant's peer review in paragraph 197.
214. The Commission notes that in comparison to the Approved Project, there would be a reduction of about 1 Mt CO₂-e of Scope 1 emissions, increase of about 0.15 Mt CO₂-e Scope 2 emissions and an increase of about 100 Mt CO₂-e of Scope 3 emissions over the life of the Project as stated by the Department in paragraph 202 above. The Commission accepts that the reduction in Scope 1 emissions can be partially attributed to the inclusion of the Project CHPP, rail loop and rail spur, and the associated reduction in the consumption of diesel fuel associated with ROM coal haulage by truck to the Gunnedah CHPP.
215. The Commission acknowledges that the aim of the NSW Climate Change Policy Framework (CCPF) is 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" with the aim to achieve net-zero emissions by 2050 and to ensure NSW is more resilient to a changing climate. The Commission notes that the CCPF does not set prescriptive emission reduction targets and sets policy directions for government action as stated by the Department in paragraph 207 above. The Commission also notes that the NSW Government released the Net Zero Plan Stage 1: 2020–2030 (**Net Zero Plan**) in March 2020 as referenced by the Department in paragraph 208 above. The Commission notes that the Net Zero Plan builds on the CCPF and sets out a number of initiatives to deliver a 35% cut in emissions by 2030, compared to 2005 levels. The Commission agrees with the Department's assessment in paragraph 207 above that the Project is not inconsistent with the CCPF and that the Applicant has committed to minimising its Scope 1 emissions over which it has direct control.

216. The Commission notes that, under the Paris Agreement, the Australian Government committed to a nationally determined contribution (**NDC**) to reduce national GHG emissions by between 26 and 28 percent from 2005 levels by 2030. The Commission also notes that Australia does not require monitoring or reporting of Scope 3 emissions under the *NGERS* and they are not counted in Australia's national inventory of GHG emissions under the Paris Agreement. The Commission agrees with the Department's statement in paragraph 209 above that the Project's Scope 3 emissions would not contribute to Australia's NDC, as product coal would be exported overseas. The Commission notes that these Scope 3 emissions become the consumer countries' Scope 1 and 2 emissions and would be accounted for under the Paris Agreement in their respective national inventories.
217. The Commission finds that the Project's Scope 1 and Scope 2 GHG emissions have been accurately calculated and acknowledges the Applicant's commitment in paragraph 199 above to the ongoing monitoring and management of GHG emissions and energy consumption through the Applicant's participation in the *NGERS*. The Commission agrees with the Department's assessment in paragraph 210 above and acknowledges that GHG emissions would be measured and reported as required under the *NGERS* requirements.
218. The Commission has imposed Condition B35 'Air Quality Operating Conditions' which requires the Applicant to take all reasonable steps to "(a)(ii) improve energy efficiency and reduce Scope 1 and Scope 2 greenhouse gas emissions of the development". The Commission has also imposed Conditions B36 and B37 which require the preparation and implementation of an AQGGMP. Condition B36(d)(ii) requires that the AQGGMP describe the measures to be implemented to ensure best practice management is being employed to minimise the development's air quality impacts, minimise the development's Scope 1 and 2 GHG emissions and improve the development's energy efficiency.
219. The Commission has considered the matters in cl 14(1)(c) and 14(2) of the Mining SEPP and finds that the Project includes appropriate measures for minimising and managing Scope 1 and Scope 2 GHG emissions to the greatest extent practicable for the reasons set out above.
220. The Commission acknowledges the concerns raised by the public in paragraphs 188 to 191 above, including submissions made by the BFCG in relation to the burning of fossil fuels as an energy resource and meeting the Paris Agreement climate targets. The Commission notes that the 'carbon budget' approach suggested in some submissions is not endorsed by the Paris Agreement, the Australian Government or the NSW Government. Furthermore, neither the Australian nor NSW Government have indicated that the development of new coal mines or the expansion of existing mines be prohibited or restricted in any way for the purpose of achieving Australia's NDC.
221. The Commission agrees with the Department's statement in paragraph 209 above and acknowledges that Scope 3 emissions from the combustion of product coal are a significant contributor to anthropological climate change and that the contribution of the Project to the potential impacts of climate change in NSW must be considered in assessing the overall merits of the development application.

222. The Commission notes that between 60-70% of the coal proposed to be extracted is likely to be metallurgical coal, with the remainder being thermal coal as stated above by the Applicant in paragraph 200 and by the Department in paragraph 205 of this report. The Commission notes that at this point in time, metallurgical coals are essential inputs for the current production of approximately 70% of all steel globally as stated by the Applicant in paragraph 200 above. The Commission is of the view that in the absence of a viable alternative to the use of metallurgical coal in steel making and on balance, the impacts associated with the emissions from the combustion of the project's metallurgical coal are acceptable. The Commission also notes that the coal proposed for extraction is anticipated to be of relatively high quality, as stated above by the Applicant in paragraph 194 and Department in paragraph 204. The Commission notes the Applicant's statement in paragraph 194 above that the use of higher quality coal may result in lower pollutants.
223. For the reasons set out above, the Commission is of the view that the GHG emissions for the Project have been adequately considered. The Commission finds that on balance, and when weighed against the relevant climate change policy framework, objects of the EP&A Act, ESD principles (section 4.10) and socio-economic benefits (section 4.9.6), the impacts associated with the GHG emissions of the Project are acceptable and consistent with the public interest. The Commission therefore imposes the Conditions B35, B36 and B37 as recommended by the Department.

4.9.5 Rehabilitation, Final Void and Final Landform

Public Comments

224. The Commission heard concerns from speakers at the Public Hearing and received written submissions regarding the Project's final void and final landform. Concerns were also raised about the proposed rehabilitation strategies for the Project and the long-term impacts on productivity and biodiversity for the region.
225. A speaker at the Public Hearing stated:

We cannot rely on promises of future rehabilitation on timelines greater than 10 years, promises can too easily be broken. Discussing rehabilitation, to restore an integrated complex landscape is not as simple as filling in large excavated voids in the earth and planting native trees... It is incredibly difficult, if at all possible, to replace a complex ecosystem once it has been removed. And regarding translocation either away from a site or back to rehabilitated site is both, untested and likely to be successful.

226. At the Public Hearing, a representative of Cotton Australia stated:

...the mine's rehabilitation still includes a final void. It's a longstanding policy principle of Cotton Australia that final voids aren't the default option for a project. They should be a last resort used only when the ecological sustainable development benefits can be demonstrated.

Council Comments

227. NSC, in its comments to the Commission dated 2 March 2020, raised concern in relation to rehabilitation and the displacement of agricultural land uses as set out in paragraph 264.

Applicant's Consideration

228. The Applicant's EIS included a rehabilitation strategy which sets out how the Project would be progressively rehabilitated and integrated with adjoining natural and modified landscapes, and the measures that would be put in place for the long-term protection and management of the site following the cessation of mining.
229. The Applicant's EIS states that a Mine Operations Plan (**MOP**) would be prepared for the Project in consultation with the relevant government agencies, and in accordance with the relevant NSW rehabilitation and mine closure guidelines. The Applicant states that the MOP describes how rehabilitation is undertaken, provides rehabilitation performance and completion criteria and addresses aspects of rehabilitation including mine closure, final landforms and final land use.
230. The Applicant's Amendment Report states that the Project proposed the progressive rehabilitation of mining landforms, predominantly to areas of native woodland with some areas suitable for agriculture. The Applicant states that this remains unchanged from the EIS.
231. In relation to final voids, the Applicant's Amendment Report states:

At the cessation of mining, one final void would remain in the south-eastern corner of the open cut (in addition to the existing Blue Vale void) (Table 2-4). The Project would therefore reduce the number of final voids in comparison to the five final voids in the current landscape and three voids proposed for the Approved Mine.

To reduce the surface area of the final void as far as is reasonable and feasible, waste rock would be progressively placed within the footprint of the open cut over the life of the Project...

232. In relation to the justification for a final void, the Applicant's Submission Report stated:

In response to the peer reviewer's comments, HydroSimulations conducted additional groundwater modelling for a scenario where the final void is completely backfilled.

This additional modelling indicates groundwater levels within a backfilled void would recover to higher levels than the surrounding groundwater table (Figure 7). As a result, groundwater would flow from the mining area towards the surrounding Namoi River alluvium.

On this basis, it is considered this scenario (backfilled void) is environmentally inferior, as lower quality groundwater (i.e. infiltration into the backfilled void) would flow towards the Namoi River alluvium (rather than to the final void for the preferred scenario where it acts as a groundwater sink).

This scenario (backfilled void) is also economically inferior, with the cost of backfill estimated to be \$600 million (with the NSW Division of Resources and Geoscience [DRG] in its submission considering this estimate to be conservatively low as the costs did not incorporate the significant operational expense of redesigning the emplacement strategy for the Project, particularly with regard to distance required to be travelled by overburden haul trucks).

Department's Assessment

233. In relation to rehabilitation, the Department's AR states at paragraph 486 and 487:

The Department also notes that there is a comprehensive regulatory regime for mine site rehabilitation under the Mining Act 1992, and the Mining Lease would incorporate enforceable rehabilitation objectives and a requirement for Whitehaven to have a rehabilitation bond for the full cost of rehabilitating the site in accordance with the Mining Lease and the development consent.

Given these controls, the Department considers that sufficient measures are in place to ensure the rehabilitation of the Project can be successfully undertaken to avoid any long term land use liability.

234. The Department's AR noted that public submissions question the need for final voids and also noted the Commission's Issues Report requesting further justification.

235. The Department's AR noted at paragraph 491 that the Applicant:

...argues that its groundwater modelling indicates that completely filling the void would result in groundwater mounding and likely result in flow of potential lower quality saline water towards the alluvium (see Section 6.2.6), and hence maintaining the void as a permanent groundwater sink is an environmentally superior outcome.

236. In relation to costs for backfilling the voids, the Department's AR states at paragraphs 493 and 494:

Whitehaven also argues that the cost of fully and partially backfilling the voids would be prohibitive, highlighting the cost of complete backfilling alone would cost approximately \$600 million and a partially backfilled void (to a level that would avoid the formation of a void lake) would cost approximately \$440 million and potentially result in the migration of lower quality water from the void.

These arguments were acknowledged by the Division of Resources & Geoscience in its submission on the EIS which advised that it does not dispute the proposed mining method or the proposed final landform.

237. The Department's Independent Groundwater Expert was of the opinion that adequate information has not been provided regarding the adequacy of the Applicant's justification and costing of a no void option. The Department's Independent Groundwater Expert was also of the view that adequate information has not been provided long-term groundwater and water quality models for a no void option.

238. In relation to the final void, the Department's AR concluded at paragraph 495:

...the Department agrees that retaining a final void as a groundwater sink is a preferred environmental outcome for long term groundwater quality impacts, consistent with the final landform of the Approved Project. The Department also notes that while the retention of a final void would reduce the area of land available for long term land use, the proportion of land lost is minimal and is an improved outcome compared with the Approved Project.

239. The Department's AR stated at paragraph 497:

The Department has also recommended rehabilitation objectives requiring the final landform to be safe and stable, with the preparation of a Rehabilitation Strategy and Rehabilitation Management Plan to describe the measures to ensure these outcomes are achieved, including a requirement to refine the mine plan every 5 years to minimise the size of the final void...

240. In relation to final landform, the Department's AR states at paragraph 503 that:

the Department considers that the potential pollution risks associated with long term stability of the rehabilitated landform can be adequately managed. These measures would be described in a rehabilitation strategy for the Project, to be developed in consultation with Narrabri and Gunnedah Councils and the Department's Water Division and the Resources Regulator.

Commission's Findings

241. The Commission acknowledges the concerns raised by the public regarding the proposed final void and its long-term impacts as referenced in paragraphs 224, 225 and 226 above.

242. The Commission notes that the Department's Independent Groundwater Expert is of the view that adequate justification against a no void option had not been provided by the Applicant. The Commission notes that the cost of backfilling the void is estimated to be \$600 million as stated above by the Applicant in paragraph 232 and acknowledged by the Department in paragraph 236. The Commission notes that these arguments were acknowledged by the Division of Resources & Geoscience in its submission on the EIS which advised that it does not dispute the proposed mining method or the proposed final landform as stated by the Department in paragraph 236 above.

243. The Commission acknowledges that retaining a final void as a groundwater sink may assist in maintaining long term ground water quality as referenced by the Department in paragraph 238 above. The Commission accepts that there are substantial costs and, according to the modelling, potential groundwater issues associated with a no void outcome. Accordingly, the Commission has imposed the Department's recommended rehabilitation objectives set out in Condition B101 and as referenced in paragraph 239 above. The Commission has also imposed additional Conditions requiring the Applicant to provide a revised cost estimate for the final landform as part of Condition B106 - Rehabilitation Management Plan. The Commission has amended the Conditions B104, to allow for the option of a no void solution for the Project should this be found to be a viable option during the life of the Project.

244. The Commission agrees with the Department's assessment in paragraph 240 above that potential pollution risks associated with long term stability of the rehabilitated landform can be adequately managed with measures set out in the Project's rehabilitation strategy required by Condition B104.

4.9.6 Agricultural Land

Public Comments

245. The Commission heard from speakers at the Public Hearing and received written submissions regarding the Project's impacts on agricultural land. Specific concerns were raised about the long terms impacts of the Project on prime agricultural land.

Council Comments

246. NSC in its submission to the Commission states:

Whilst the aims of the LEP encourage the development of lands for mineral resources, it is required to also be orderly and protect land of significance for agricultural production and to ensure that development is sensitive to both the economic and social needs of the community.

There has been insufficient assessment on the displacement of the agricultural land uses and its impacts on the local community both during the operation of the mine and the post mining impacts of the rehabilitation and displacement of agriculture, both on and off site.

247. NSC states that in terms of inter-generational equity, the following concerns are raised in relation to the Project:

- *The proposed development will result in a loss of agricultural land post development.*
- *The proposal has the potential to deprive farming interests of their ability to pass on their interests to subsequent generations who are also likely to contribute to the future economic growth of the Narrabri LGA, despite the impacts of technological disruption on agriculture.*

Applicant's Consideration

248. In relation to impacts on BSAL, the Applicant's Submissions Report states:

On 8 February 2016, the Secretary for the DPIE issued a Site Verification Certificate (SVC) certifying that the Project extension into MLA 1 is not located on BSAL...

The Project rail spur would be located on land owned by Whitehaven or on land where an existing land access agreement is in place. The alignment of the Project rail spur has been selected in consultation with landholders to minimise impacts to existing agricultural enterprises (i.e. by running along the edge of properties it traverses and avoiding irrigated cropping areas and water management infrastructure).

Therefore, the contribution of the Project to cumulative impacts to BSAL in the region would be negligible.

249. The Applicant's Submissions Report also states:

The potential change in regional agricultural value is not expected to cause significant losses to related services. As such, agricultural production values in the region are not expected to drop below critical mass thresholds

Department's Assessment

250. Paragraphs 471 and 473 of the Department's AR state:

Approximately 256 ha of the Project mining area would be rehabilitated to agricultural land suitable for grazing, comprising 78 ha of Class 3 land and 178 ha of Class 4 land.

Approximately 83 ha of the Project rail spur land would be rehabilitated to agricultural land suitability comprising 51 ha of Class 2 land and 32 ha of Class 3 land. The 3 ha of land disturbed by the Project borefield would be rehabilitated to Class 2 land.

251. Paragraphs 477 and 478 of the Department's AR state:

While there would be a residual loss of agricultural land capacity as a result of the proposed rehabilitation strategy, approximately two-thirds of the land to be impacted by the Project is lower quality grazing land on the slopes above the alluvium, including existing rehabilitated mining land.

The Department also notes that the Project is not located on Biophysical Strategic Agricultural Land (see Section 4.6) and a significant proportion of Whitehaven-owned land surrounding the Project disturbance area supports agricultural uses in the more productive Namoi alluvium.

252. Paragraphs 480 and 487 of the Department's AR state:

the Department and BCD consider the benefits of providing a habitat corridor between the Namoi River and the Vickery State Forest (and beyond) outweigh the loss of the agricultural land capability

... the Department considers that sufficient measures are in place to ensure the rehabilitation of the Project can be successfully undertaken to avoid any long term land use liability

Commission's Findings

253. The Commission acknowledges the concerns raised by NSC in paragraphs 246 and 247 above regarding the potential impacts from the loss of agricultural land as a result of biodiversity offsets. However, the Commission agrees with the Department in paragraph 251 above that while there would be a residual loss of agricultural land capacity as a result of the proposed rehabilitation strategy, approximately two-thirds of the land to be impacted by the Project is lower quality grazing land on the slopes above the alluvium. The Commission also notes that the Project is not located on BSAL and that a significant proportion of Applicant-owned land surrounding the Project disturbance area supports agricultural uses in the more productive Namoi alluvium.

254. The Commission agrees with the Department and NSW Biodiversity Conservation Division (**BCD**) as referenced in paragraph 252 above that the benefits of providing a habitat corridor between Namoi River and Vickery State Forest outweigh the loss of agricultural land capacity especially given the Project mining area is not ideal for cultivation.

255. The Commission notes that Table 12 of Condition B101 sets out rehabilitation performance objectives for areas proposed for agricultural land. The Commission also notes that Condition B106(c)(ii) requires the Rehabilitation Management Plan to give specific consideration to agricultural land rehabilitation. The Commission agrees with the Department and is of the view that sufficient measures are in place to ensure the rehabilitation of the Project can be successfully undertaken to avoid any long-term land use liability and impact on agricultural land. The Commission therefore imposes these conditions.

4.9.7 Economic and Social Impacts

Public Comments

256. The Commission heard from speakers at the Public Hearing and received written submissions regarding both the positive and negative economic and social impacts associated with the Project and mining operations in the region. Concerns were also raised regarding the coal price assumptions and the future demand for coal.

257. The Commission received many submissions in support of the Project due to the economic and social benefits associated with employment. A local resident in their comments to the Commission stated that the Project is a positive addition to the town of Gunnedah and surrounding areas and that the Project will help to support local families through increasing the availability of jobs, increasing support for community improvements/projects, and will also bring greater professional opportunities and improved learning opportunities for our younger generations.
258. The Commission heard from representatives of local indigenous groups who highlighted the importance the employment opportunities provided by the Project have on the local indigenous community:
- Vickery Extension provides a lot of employment opportunities and the ability for a lot of Aboriginal people to gain some really meaningful employment out of that, and move forward into the future and provide a really stable and pristine life for their kiddies themselves.*
259. At the Public Hearing, a local business owner noted the importance the mining industry plays in reducing alcohol and drug use in regional towns and that this is making a tangible difference in the local community. At the Public Hearing, a local resident and business owner stated the survival of their community relies on employment and that as farming practices become more streamlined young people are met with less opportunity regionally and need the professional job prospects that the mining industry can provide
260. At the Public Hearing, a representative of WesTrac stated that they were supportive of the Project and the ongoing role of NSW thermal coal in meeting export demands. A representative from an energy advisory organisation noted their support for the Project in their submission noting the benefits of metallurgical coal in steel making and the provision of jobs:
- Whitehaven are looking to develop Vickery to produce high value metallurgical coal for steel making. This is not low value thermal coal for powergen which contributes greatly to climate change. This development will provide and sustain more jobs in mining in Australia, which is critical given the precarious nature of jobs given the Covid 19 shutdown.*
261. In a submission to the Commission, an economics and finance consultant questioned the employment benefits of the Project and was of the view that many of the jobs would be filled by workers from outside the region and hence would only bring modest economic benefits to the region.
262. At the Public Hearing, an economic expert was of the view that the Applicant's most recent economic assessment uses coal price forecasts that are out of date and that according to forecasts from the World Bank and other entities, the Project is loss making. The expert also noted that if the Project is making a loss than the benefits occurring to New South Wales actually will not materialise as a consequence.
263. A social impact expert in their submission to the Commission stated that the need for employment hides a host of social issues such as the masculinisation of the town, loss of other forms of livelihood, social conflict and division and the continuation of the gap for Aboriginal people despite the extraction activity on their traditional lands. The expert also raised specific concern regarding the possible introduction of an automated mining fleet for the Project and the impact that would have on the proposed employment benefits.

Council Comments

264. NSC in its submission to the Commission raised concerns regarding the impacts of the Project on surrounding agricultural land uses and the loss of people and jobs as a result of the land use displacement. NSC noted that due to global economic uncertainty affecting the coal market, the figures used to justify the economic benefits of the Project should be reviewed to ensure that the economic benefits are realised. NSC raised concerns regarding the methodologies used to calculate the increase in employment projections between the Approved Project and the Project.
265. NSC also raised concerns regarding the Applicant's proposal to employ 70% of the operation workforce from within the region. NSC was of the view that this may not actually benefit the Narrabri and Boggabri communities, given that many workers may choose to live in other locations such as Tamworth. NSC stated that consideration should be extended to fly-in-fly-out (**FIFO**) and drive-in-drive-out (**DIDO**) as well as impacts on local services.

Applicant's Consideration

266. The Applicant's EIS included a Social Impact Assessment (**SIA**) prepared by Elliott Whiteing Pty Ltd dated 2018. The SIA states that it was prepared in general accordance with the SIA Guideline.
267. The Applicant's EIS states that the population growth in Gunnedah and Narrabri LGAs as a result of the Project "*is not expected to significantly impact on social character in the region or provision of community infrastructure to existing residents, and has the potential to offset population decline that could otherwise occur in the absence of the Project*".
268. The Applicant's EIS states that local landholders within the immediate vicinity of the Project identified concerns regarding potential impacts to the amenity of their property, property values, water resources, flooding characteristics and rural character of the region. The Applicant stated that they would continue to work in partnership with the NSC, GSC and the local community to maximise potential opportunities and minimise potential social impacts of the Project.
269. In order to address the social impacts of the Project, the Applicant's SIA identifies the following mitigation and management strategies:
- *Stakeholder engagement and consultation strategies*
 - *Local landholder amenity and quality of life strategies*
 - *Community infrastructure and wellbeing strategies*
 - *Housing and workforce management strategies*
 - *Local business opportunities strategies*
270. The Applicant's EIS included an Economic Assessment (**Economic Assessment**) prepared by Analytecon Pty Ltd dated August 2018. In relation to direct economic contributions, the Applicant's EIS states:
- The average Project operational workforce would be in the order of approximately 344 full-time equivalent on-site personnel (Appendix J). At full development, the Project operational workforce would be in the order of 450 full-time equivalent on-site personnel (Section 2.15).*
- Construction/development activities (e.g. construction of the mine infrastructure area and service facilities) would require an additional construction workforce of up to approximately 500 full-time equivalent personnel (Section 2.15).*

The projected direct employment would be accompanied by an increase in disposable income (Appendix J):

- *approximately \$224 million in NPV [Net Present Value] terms in the region; and*
- *approximately \$271 million in NPV terms in NSW*

271. In relation to local/non-local workforce, the Applicant's Submissions Report states:

Non-local construction personnel would be encouraged by Whitehaven to use the Boggabri Accommodation Camp to relieve short-term pressure on local housing prices and availability, consistent with feedback from the local community.

Notwithstanding, approximately 70% of the operational workforce is expected to be sourced from within the region. Non-local operational personnel would be encouraged to settle permanently within the Gunnedah and Narrabri LGAs.

272. In relation to indirect economic contributions, the Applicant's EIS states:

The Project is also projected to result in indirect employment impacts associated with related upstream or downstream industries. Over the life of the Project, it is projected to generate an additional (Appendix J):

- *approximately 181 full-time equivalent jobs in the region; and*
- *approximately 316 full-time equivalent jobs in NSW.*

The projected growth in indirect employment would be accompanied by an increase in disposable income (Appendix J):

- *approximately \$92 million in NPV terms (or \$8 million per annum) in the region; and*
- *approximately \$146 million in NPV terms (or \$12 million per annum) in NSW.*

273. The Applicant's Amendment Report states that as proposed amendments only affect the Project production profile, there are no changes to:

- *employment benefits accrued to the NSW workforce, attributed to salaries and wages (including disposable income, personal income taxes and Medicare contributions);*
- *taxation benefits and land taxes/shire rates paid to NSW and local government;*
- *net benefits of the Project that would accrue to the local region; and*
- *potential economic impacts on agriculture in the local region.*

274. The Applicant's Amendment Report also states:

A revised cost benefit analysis (AnalytEcon, 2019) indicates that the net benefit to NSW of the amended Project is \$1.16 billion in net present value terms (previously \$1.21 billion) (with incremental benefits of \$454 million in net present value terms relative to the Approved Mine [previously \$499 million]).

The minor reduction in benefits to NSW is partially offset by a small reduction in the associated social cost of greenhouse gas emissions of \$0.01 million.

275. The Applicant's Submission to the Commission, dated 16 June 2020 states:

Coal is a commodity and potential future coal prices (taking into account all the factors that may cause fluctuation including competing sources of energy and climate change policy) have already been considered in the Applicant's investment decisions and indeed in the Economic Assessment for the Extension Project at Appendix J to the EIS. That Economic Assessment included a coal price sensitivity analysis to account for potential fluctuations in coal prices, including due to potential future climate change policies.

In any event, it is for the Applicant to make its own assessment of the economic viability of the Extension Project and then decide whether it wishes to proceed to seek development consent for the Extension Project. The Applicant has undertaken that course of action in lodging the development application for the Extension Project.

Department's Assessment

276. Paragraph 710 of the Department's AR states:

The Department notes that the majority of the coal is of metallurgical quality and that the thermal coal quality is a high calorific/ low ash/ low sulphur coal which is in stronger demand globally compared to lower quality (high ash/ high sulphur) coal... Under the Sustainable Development Scenario there would continue to be demand for high quality (low ash/ low sulphur/ high calorific energy) thermal and metallurgical coal, particularly in the Asia Pacific region, as provided by the Vickery coal resource.

277. In relation to coal proposed to be extracted, paragraph 707 of the Department's AR states:

The Project would produce metallurgical coal (around 70% of the product coal) including semi-soft coking coal, pulverised coal injection (PCI) coal and thermal coal (around 30% of the product coal) to supply Whitehaven's main export market customers in Japan, the Republic of Korea (South Korea) and the Republic of China (Taiwan).

278. In relation to social impacts the Department's AR states at paragraphs 578 and 579:

The Project would generate a range of social benefits for the local and regional community through additional jobs and economic growth in the regional economy. It would also generate benefits for the State through royalties and tax revenues. The social benefits of the Project are mainly through the direct and indirect employment opportunities that arise in the region and the associated flow on effects into the regional economy. In addition, there are the broader benefits to NSW through payment of royalties to the State.

However, there are potential adverse social impacts in the local community, particularly to rural residential receivers closer to the mine where there would be an increase in amenity impacts. The Department acknowledges that even where noise and dust limits are considered acceptable under NSW Government policy and guidelines, they may not be acceptable to the residents and community living near the mine.

279. The Department's AR states at paragraphs 586 and 587:

Concerns were raised in consultation on the SIA, submissions and also by NSC about social cohesion between the construction workforce residing at the Village and the town, including that there would be a high population of predominantly male construction workers. The Department notes that that Whitehaven has developed a Workforce Diversity Policy and has established a workforce Code of Conduct regarding personal behaviour.

The Department considers that the approved Boggabri Village provides suitable accommodation for the construction workforce as contemplated in the Northern JRPP approval.

280. Paragraph 724 of the Department's AR states:

The Department recognises that the project would provide major economic and social benefits for Gunnedah, Boggabri, Narrabri, the North West region and to NSW, including:

- *a direct capital investment in the project of \$607 million;*
- *up to 450 full time equivalent (FTE) direct jobs at the mine (average 344 FTE jobs) and up to 500 construction jobs;*
- *approximately 181 FTE indirect jobs in the region;*
- *increased disposable income of \$316 million (Net Present Value (NPV)) associated with the direct and indirect jobs;*
- *value added benefits of approximately \$322 million NPV in other industries in NSW; and*
- *a net economic benefit of \$1.16 billion NPV from generation of additional tax revenue and royalties.*

281. In relation to employment, the Department's AR states at paragraphs 588 and 589:

During operations, Whitehaven estimates that the peak workforce would increase from 250 FTE to 450 FTE, with the average workforce over the Project's operations to increase from 213 to 344 FTE. Based on its experience at its existing mines and its employment strategy to target a local workforce, Whitehaven anticipates that 70% of the workforce would be from the local area and 30% would be nonlocal hires.

The non-local employees would be encouraged to move to the area, but it is expected that there would be a small component of Drive in Drive Out (DIDO) or Fly in Fly Out (FIFO) workforce where Whitehaven would encourage these workers to use the Boggabri Village for accommodation to reduce impacts on short term rental accommodation.

282. In relation to indigenous employment, the Department's AR states at paragraph 590:

Whitehaven also has a goal that that Indigenous persons would make up 10% of its operational workforce. Whitehaven has been successful in this regard with 13% of its workforce at the Maules Creek Coal Mine identifying as Indigenous persons, with 9% across its broader operational workforce. Whitehaven has implemented an Indigenous Employment Strategy for its operations.

283. In relation to social impacts on landowners, the Department's AR states at paragraphs 602 and 605:

While there are benefits to the regional community and to NSW, the benefits and impacts of the Project would not necessarily be distributed equitably, and some groups within the community may be disproportionately impacted.

The Department notes that the noise and dust emission impacts from the mining operations are similar to that of the Approved Project, with only one receiver predicted to have a significant noise impact such that acquisition rights are afforded under the VLAMP. However, the key changes affecting this community are the introduction of the rail spur line and the CHPP and rail load out which would change the character of the area.

284. In relation to mine closure, the Department's AR states at paragraph 624:

Some submitters and the EDO's Dr Ziller raised concerns about inter-generational equity associated with the final landform, particularly that rehabilitation may not be completed, as has been the case historically with derelict mines in NSW. As discussed in Section 6.5.1 above, Whitehaven is required to lodge a security deposit under its Mining Lease to ensure there are sufficient funds for the NSW Government to undertake rehabilitation of the mine, if required. This security deposit is progressively reviewed such that the funds are refined to account for the level of disturbance.

285. The Department's AR states at paragraph 634:

The independent economic expert concluded that Whitehaven's economic assessment is robust, aligns with the applicable guidelines, and the results are consistent with his expectations. Mr Dwyer noted that some aspects of the assessment warranted further clarification and consideration, specifically around the implications of transport restrictions which were also raised by the Commission in its review (discussed in Section 6.1.1). However, the economic review concluded that these aspects would not significantly alter the key outcomes of the assessment.

286. The Department's AR states at paragraph 641:

While the project would largely meet relevant criteria and acceptable impact levels set under NSW Government policy and guidelines, the Department acknowledges the project has already led to increased stress and anxiety for some members of the community, particularly for landowners near the mine and the rail spur line.

287. The Department's AR states at paragraph 642 that a number of conditions have been recommended in order to mitigate impacts including requiring the Applicant to:

- *comply with strict noise, blasting and air criteria and operating conditions, and prepare noise, blasting and air quality management plans;*
- *comply with water quality objectives, discharge requirements and compensatory water requirements for any loss of water supply as a result of mining operations;*
- *independent review of potential exceedances of applicable environmental criteria, at the request of landowners;*
- *maintain complaints and incident management and reporting systems; and*
- *make a range of project-related information publicly available...*

288. The Department's AR also states at paragraph 643:

...the Department has recommended conditions requiring Whitehaven to prepare and implement a detailed Social Impact Management Plan [SIMP] for the project in consultation with NSC, GSC, the CCC and the locally affected community and other affected stakeholders.

Commission's Findings

289. The Commission received written comments and heard from speakers at the Public Hearing in support of the Project due to the social and economic benefits proposed. The Commission also acknowledges that concerns were raised regarding the negative social impacts and economic uncertainties as referenced in paragraph 257 above.
290. The Commission heard from speakers at the Public Hearing in support of the employment opportunities provided to the Indigenous community as referenced in paragraph 258 above. The Commission acknowledges the Applicant's goal that Indigenous persons would make up 10% of its operational workforce as referenced by the Department in paragraph 282 above. The Commission acknowledges the positive social and economic impacts that this may have on the Indigenous community.
291. The Commission acknowledges the significant direct economic contribution the Project may have as stated by the Applicant in paragraph 270 above and acknowledged by the Department in paragraph 280 above. The Commission accepts that in comparison to the Approved Project, the peak workforce would increase from 250 FTE to 450 FTE, with the average workforce over the Project's operations to increase from 213 to 344 FTE. The Commission also accepts that there will be an indirect economic contribution from the Project on related upstream or downstream industries as set out by the Applicant in paragraph 271 above and as raised in the Public Hearing referenced in paragraph 259 above. The Commission also acknowledges that the Project may have a positive social impact in reducing drug and alcohol use in regional areas as raised by a local business owner in paragraph 259 above.
292. The Commission accepts that the Project would generate significant benefits through a net economic benefit of \$1.16 billion NPV from generation of additional tax revenue and royalties as stated by the Department in paragraph 280.
293. The Commission acknowledges the concern raised by NSC and as referenced in paragraph 264 above regarding the methodologies used to calculate the increase in employment projections. The Commission has reviewed the Applicant's workforce projections and is of the view that they are reasonable. The Commission notes that 70% of the operational workforce is expected to be sourced from within the region as stated by the Applicant in paragraph 271 and Department in paragraph 280 above. The Commission acknowledges NSC's concerns in paragraph 265 that the 70% of the operational workforce from within the 'region' (and the 30% portion of FIFO/DIDO workforce) may not benefit Narrabri and Boggabri communities. However, the Commission is of the view that the Project will have a positive economic contribution for the region and accepts that this may extend beyond both Gunnedah and Narrabri LGAs.
294. The Commission acknowledges that there was support from local businesses and organisations regarding the role of NSW thermal coal in meeting export demands and also the need for metallurgical coal in steel making as referenced in paragraph 260 above. The Commission notes that this was also a point of contention as an action group states that there had not been any reliable evidence of the mix of metallurgical and thermal coal as referenced in paragraph 192 above. The Commission accepts that the portion of metallurgical coal is likely to range between 60% to 70% as previously stated in the Commission's Findings in paragraph 222 above.
295. The Commission acknowledges the concerns raised by the public and NSC in relation to economic uncertainty in paragraphs 261 and 264 above. The Commission notes that concerns were also raised regarding the Applicant's coal price assumptions and the future demand for coal and how this would impact the likely benefits of the Project.

296. The Commission notes that page 6 of the NSW DRG's Future of Coal Statement states:

In the short to medium term, coal mining for export will continue to have an important role to play in NSW. In our immediate region of the world, as elsewhere, there has been a reduction in demand caused by the economic impacts of COVID19. However, in the medium term, demand is likely to remain relatively stable. Some developing countries in South East Asia and elsewhere are likely to increase their demand for thermal coal as they seek to provide access to electricity for their citizens. Under some scenarios, this could see the global demand for thermal coal sustained for the next two decades or more. The use of coal in the manufacture of steel (coking coal) is likely to be sustained longer as there are currently limited practical substitutes available.

297. The Commission accepts that according to the Future of Coal Statement, there will be continued demand for both thermal coal and metallurgical coal. The Commission also accepts the Applicant's statement in paragraph 275 above that potential future coal prices have been considered by the Applicant's assessments which included a coal price sensitivity analysis to account for potential fluctuations in coal prices, including due to potential future climate change policies. The Commission agrees that it is for the Applicant to make its own assessment of the economic viability of the Project and decide whether it wishes to proceed with the Project.

298. The Commission agrees with the Department and Independent Economic Review referenced in paragraph 285 above and is of the view that the Economic Assessment is robust and aligns with the applicable guidelines. The Commission notes that the Independent Economic Review stated that some aspects of the assessment warranted further clarification and consideration. The Commission accepts the conclusion of the Independent Economic Review in that these aspects would not significantly alter the key outcomes of the assessment.

299. Overall, and for the reasons set out above, the Commission finds that the Project would generate significant social and economic benefits for the local area, North West region and to NSW.

300. The Commission notes that Condition B107(d) and (h) require the Applicant's Social Impact Management Plan (**SIMP**) to identify both positive and negative social impacts resulting from the development and following mine closure and to include a program to monitor, review and report on the effectiveness of these measures, including updating the plan 3 years prior to mine closure. The Commission has imposed Conditions B107 and B108 referenced by the Department in paragraphs 287 and 288 above as they would assist in mitigating impacts of the Project and will ensure that NSC, GSC, the CCC, the locally affected community and other affected stakeholders are consulted in preparation of the SIMP.

4.9.8 Other Issues

Road Transport and Traffic

Public Comments

301. The Commission heard from speakers at the Public Hearing and received written submissions regarding the Project's impacts as a result of ROM coal haulage. Specific concern was raised regarding impacts on the safety of the local road network. The Commission also received written submissions supporting the Project and its economic contribution to the local road network.

Council Comments

302. NSC, in the meeting with the Commission on 19 June 2020, reiterated their concerns regarding the mine-related traffic use of Braymont Road. NSC was also of the view that their safety concerns about the single-lane bridge on Rangari Road have not been adequately addressed. NSC asked the Commission to consider a condition requiring the Applicant to enter into a road maintenance agreement with NSC and also the requirement for the Applicant to liaise with NSC in relation to the preparation of a Traffic Management Plan (TMP).

Applicant's Consideration

303. The Applicant's EIS included a Road Traffic Assessment (RTA) prepared by GTA Consultants, dated 8 August 2018. The RTA stated:

It is concluded that no specific measures or upgrades to mitigate the impacts of the development on the capacity, safety and efficiency of the road network would be required as a result of the changed road traffic conditions associated with the Project.

The existing Traffic Management Plan for the Whitehaven operations should be revised before commencement of operations at the Project, in consultation with RMS, the Gunnedah Shire Council and Narrabri Shire Council.

304. In relation to the transport of ROM coal via road, the Applicant's Amendment Report states:

Until the Project CHPP, train load-out facility and rail spur reach full operational capacity, transport of ROM coal from the Project by road to the Whitehaven CHPP (Figure 1-2) would be conducted consistent with the Development Consent conditions for coal haulage for the Approved Mine (i.e. up to a total of 3.5 Mtpa, or up to 4.5 Mtpa ROM coal transport subject to the construction of the approved private haul road and Kamilaroi Highway overpass).

Once the Project CHPP, train load-out facility and rail spur reach full operational capacity, ROM coal from the Project would no longer be processed at the Whitehaven CHPP.

305. In relation to access roads and internal haul roads, the Applicant's Amendment Report states:

Access to the mine infrastructure area would initially be via Braymont Road and a private access road from Blue Vale Road. Upon closure of the part of Blue Vale Road to be intersected by the development of the open cut, the access road would be extended to the Blue Vale Road realignment...

Access to the secondary infrastructure areas would be via the realigned Blue Vale Road.

Employee, contractor and delivery movements to and from the Project would be managed by the Traffic Management Plan for Whitehaven operations, which would be revised for the Project.

Department's Assessment

306. The Department's AR states at paragraphs 551-552 and 554-555:

...the additional traffic volume generated by the Project would be accommodated while maintaining an acceptable level of performance for the road network. Further, the Department considers that the data used for the cumulative assessment represents an accurate baseline and that the assessment of cumulative impacts associated with the Project have been adequately addressed. RMS and GSC did not raise any concerns with the findings of the road transport assessment.

...the use of the roads within surrounding local road network by Project related employees and contractor vehicles was raised as a concern by NSC and by other submitters. In particular, NSC raised concerns in relation to the use of Braymont Road as an access route for the Project.

The Approved Project includes a condition restricting Project related vehicles, including employee and contractor vehicles, from accessing the mine from Braymont Road, except for certain circumstances including emergency situations, use by employees who reside along Braymont Road or as required for environmental monitoring or inspections.

The Department has recommended that this condition is retained in the Project conditions. The recommended Traffic Management Plan requires Whitehaven to implement measures to comply with its consent conditions and NSC is required to be consulted in preparing the Traffic Management Plan.

...the transport, road and traffic assessments undertaken for the Project to be adequate and that proposed management and mitigation measures would ensure the ongoing road safety and road network efficiency in the areas surrounding the Project.

Commission's Findings

307. The Commission acknowledges the concerns raised by the public in relation to the safety impacts associated with the Project ROM coal haulage. The Commission acknowledges that there was some support for the Project on the basis that there will be a positive economic contribution to improve the local road network as referenced in paragraph 301 above.
308. The Commission acknowledges the concerns raised by NSC and the public in relation to the use of Braymont Road as an access route for the Project. The Commission imposes the condition B79 restricting Project related vehicles from accessing the mine from Braymont Road, except for certain circumstances as stated by the Department in paragraph 306 above. The Commission acknowledges Council's request set out in paragraph 302 above and agrees with the Applicant's RTA that the TMP for the Project should be revised before commencement of operations at the Project, in consultation with RMS, the GSC and NSC as stated in paragraph 303 above. The Commission therefore imposes Condition B86.
309. The Commission agrees with the Department's assessment that the transport, road and traffic assessments undertaken for the Project are adequate as stated in paragraph 306 above. The Commission is of the view that the proposed management and mitigation measures required in Condition B76 - B87 would ensure the ongoing road safety and road network efficiency in the areas surrounding the Project. The Commission therefore imposes these conditions.

Rail Transport

Public Comments

310. The Commission heard from speakers at the Public Hearing and received written submissions regarding the impacts of the proposed rail line crossing of the Namoi River and flood plains. A representative of Cotton Australia raised specific concern about the potential impacts of the rail infrastructure on flooding. Specific concerns were also raised by local residents regarding the proximity of the rail spur and mine infrastructure to dwellings. One located resident also noted that the Project “*has the advantage of reducing road haulage of coal*”.

Applicant's Consideration

311. The Applicant's Amendment Report states:

Once the Project train load-out facility and rail spur are commissioned, product coal would be conveyed to the train load-out facility located at the rail loop.

Product coal would then be loaded onto trains for transportation to market via the Werris Creek Mungindi Railway and Main Northern Railway.

Annual volumes of product coal to be transported by rail would vary over the life of the Project, with a peak product rate of approximately 11.5 Mtpa (inclusive of product coal processed on-site from the other Whitehaven mining operations).

An average of 10 train movements per day would be required (i.e. five arrivals and five departures), with a maximum of 16 train movements per day (i.e. eight arrivals and eight departures).

Project train arrivals and departures would occur 24 hours per day.

Coal train capacities may vary over the life of the Project due to progressive rail capacity upgrades and changes to train configurations.

Department's Assessment

312. The Department's AR states at paragraphs 558 and 559:

Once the Project CHPP, train load-out facility and rail spur is completed, product coal would be transported via the Werris Creek Mungindi Railway, which connects to the Main Northern Railway and provides access to the Port of Newcastle for export. On average, the Project would generate between 10 to 16 train movements (up to eight arrivals and eight departures) each day.

313. In relation to the capacity of the rail network, the Department's AR states at paragraphs 562-563 and 565-567:

The rail network in the region is currently owned and managed by Australian Rail Track Corporation (ARTC). In its submission, ARTC confirmed the available capacity of the rail network in providing an adequate level of service for the Project...

The Department considers that the additional information provided by Whitehaven is sufficient for its assessment of Project related impacts on level rail crossings, road/rail capacities and to address the issues raised by the Commission. Further, that any road safety impacts associated with rail crossings could be managed through the commercial arrangements with ARTC and utilising its mechanisms within the Hunter Valley Access Undertaking to identify, plan and increase capacity as and when required...

The Commission's Issues Report raised the question of whether or not it would be appropriate to restrict the movement of coal to only permit its transport from the Project via rail following the commissioning of the Project CHPP, rail load-out facility and rail spur.

In its response, Whitehaven advised that except for the currently approved road transport of coal to domestic markets (up to 150,000 tpa), it has no objection to a condition limiting the transport of coal to only occur via rail, following commissioning of the Project rail spur.

The Department considers that the replacement of road haulage with rail transport would provide significant safety improvements to the surrounding road network. As such, the Department has recommended a condition restricting the road transport of coal from the Project following completion of the Project CHPP, rail load-out facility and rail spur, apart from the ongoing road haulage of up to 150,000 tonnes of coal to domestic customers in any financial year, as currently allowed by the Approved Project.

Commission's Findings

314. The Commission acknowledges that concerns were raised by the public in relation to the potential impacts of the rail crossing on local residents and flood prone land. The Commission acknowledges that one public comment from a local resident noted that the Project has the advantage of reducing road haulage of coal (see paragraph 310).
315. The Commission notes that in response to landowner concerns, the Applicant has committed to construct the full length of the rail spur line on elevated pylon/pier structures west of the Namoi River to the junction with the Werris Creek to Mungindi Rail Line as stated by the Department in paragraph 147 above. The Commission has therefore imposed Condition B49 which requires the Applicant to design and construct the Project Rail Spur to provide for its complete elevation above the 1% Average Exceedance Probability flood level west of the Namoi River, apart from a short connecting embankment into the public rail network to the north of Emerald Hill.
316. The Commission notes that ARTC has confirmed that the rail network has capacity to provide an adequate level of service for the Project as stated by the Department in paragraph 313 above. The Commission agrees with the Department's conclusion in paragraph 313 that replacement of road haulage with rail transport would provide significant safety improvements to the surrounding road network.
317. The Commission notes that the Applicant has no objection to a condition limiting the transport of coal to only occur via rail, following commissioning of the Project rail spur as stated by the Department in paragraph 313 above. The Commission therefore imposes Condition A14 restricting the road transport of coal from the Project following completion of the Project CHPP, rail load-out facility and rail spur, apart from the ongoing road haulage of up to 150,000 tonnes of coal to domestic customers in any financial year via the approved haulage route to the Kamilaroi Highway.

Heritage

Public Comments

318. The Commission heard from speakers at the Public Hearing and received public submissions raising concern regarding the potential impacts of the Project on Aboriginal heritage. Specific concerns were raised at the Public Hearing regarding the disturbance of the Aboriginal heritages sites within the Project area including the Aboriginal grinding groove site. The Department's AR also notes that concerns were raised by the public and interest group submissions regarding impacts to Aboriginal heritage sites and the adequacy of consultation with the Aboriginal community (see paragraph 324 below). At the Public Hearing, a speaker stated:

Also not to be forgotten is the culture and heritage of the people long before us. There are 62 Aboriginal heritage sites within the project area, 55 of which will suffer direct disturbance as a result of mining. Here is a photo taken just recently by us of an Aboriginal grinding group on the banks of the Namoi River right near the mine site..... Is it okay to just lose these heritage sites forever for the sake of a short term coal mine?

319. The Commission heard from speakers at the Public Hearing and received public submissions raising concern regarding the impacts of the Project on historic heritage. Specific concerns were raised at the public hearing and in submissions regarding the impact on Kurrumbede Homestead, its outbuildings and the surrounding landscaping. Specific concerns raised include blasting and vibration impacts in addition to the uncertainty regarding the preservation of the homestead.
320. At the Public Hearing, a representative of the Dorothea McKellar Memorial Society (**DMMS**) highlighted the heritage value of Kurrumbede Homestead noting that there has been engagement between DMMS and the Applicant, stating that *"The mining company has promised \$500,000 to makeover the garden"*.
321. At the Public Hearing, a speaker stated that the retention and preservation of Kurrumbede Homestead is extremely valuable in the context of the literary, social, cultural and pastoral history of this nation. The expert stated that Kurrumbede homestead should be given full heritage protection and preserved for future generations.

Applicant's Consideration

322. In relation to blasting and vibration impacts on items of heritage significance, the Applicant's EIS states that no exceedances of the nominated airblast and vibration criteria are predicted at either the grinding groove site (AHIMS 20-4-0009) or Kurrumbede Homestead.
323. The Applicant's Amendment Report states that the Project disturbance area would not vary as a result of the proposed amendments and that any predicted impacts to biodiversity, Aboriginal heritage and historic heritage as assessed in the EIS would remain unchanged.

Department's Assessment

324. Paragraph 511 of the Department's AR states:

Public and interest group submissions and the Commission's Issues Report raised the following concerns around heritage impacts of the Project:

- *the impacts to the "Kurrumbede" homestead, surrounding landscaping and its outbuilding used by Andrew "Boy" Charlton;*

- *adequacy of consultation with the Aboriginal community, including with regard to potential scarred trees; and*
- *impacts to Aboriginal heritage sites, including the Wilga grinding grooves and scatter sites Top Rocks and Bottom Rocks on the Namoi River.*

325. In relation to Aboriginal Cultural Heritage, the Department's AR states at paragraph 513 that the Applicant's archaeological assessment:

identified 62 Aboriginal sites in the development area and surrounding area... including 31 sites within the disturbance footprint of the Approved Project. Of the additional 31 sites identified by the assessment, the Project would result in a total loss of value for 24 isolated artefacts and artefact scatter sites, 23 of which are assessed as being of low significance and one artefact scatter site having low-moderate significance.

326. Paragraph 517 of the Department's AR states that two sites near the Project assessed as having moderate significance include an artefact scatter near the Project borefield and several axe grinding groove sites on the Namoi River, approximately 465 m from the closest blasting operations. Neither of these sites would be directly impacted by the Project.

327. The Department's AR states at paragraphs 522-523:

The Department notes that the majority of sites to be disturbed are of low scientific significance and that the proposed ACHMP would allow for effective management of disturbed sites and mitigation of any future impacts on Aboriginal cultural heritage.

With the appropriate management conditions in place, the Department considers that the Project's impacts on Aboriginal cultural heritage are acceptable.

328. In relation to historic heritage, the Department's AR states at paragraph 524-525:

No sites listed on historic heritage registers would be impacted by the Project. The historic heritage assessment identified one item of historic heritage significance (potential local significance) within the Project extension area, and three sites within the immediate vicinity of the Project.

Of these sites, two are of potential local significance and one of potential state significance (Kurrumbede Homestead associated with Australian poet Dorothea MacKellar).

329. In relation to Kurrumbede Homestead, the Department's AR states at paragraphs 530 and 532:

Whitehaven has committed to preparing a Heritage Management Plan [HMP] for the Kurrumbede Homestead which would describe the measures to be implemented prior to, during and following operation of the Project, including blast monitoring and structural inspections, maintenance of structures and enhancing significant landscaping around the site, ongoing use of the buildings to prevent deterioration and rehabilitation of the mine site and Kurrumbede property to maintain an open rural setting.

Whitehaven has also committed to consult with the Dorothea Mackellar Society regarding the implementation of the proposed landscape enhancement works.

330. The NSW Heritage Council, in its letter to the Department dated 9 September 2019, states:

The RTS [Applicant's Amendment Report] confirms that the recommendations of the Historic Heritage Assessment will be implemented. The RTS also describes two changes to the project, relating to rail spur design and coal plant noise attenuation. It is expected that any indirect heritage impacts of these changes can be addressed as part of the Heritage Management Plan.

331. The Department's AR concludes at paragraph 538:

The Department considers that the potential impacts of the Project on heritage values are relatively low and can be adequately managed. To this end, the Department has recommended strict blast and heritage management conditions in consultation with Heritage NSW and Council to ensure the surrounding heritage sites are managed and protected over the long term. The Department has also recommended conditions requiring the development of the Heritage Management Plan in consultation with the Dorothea Mackellar Society.

Commission's Findings

332. The Commission acknowledges the concerns raised by the public as referenced in paragraphs 318 above in relation to the Project's impacts on Aboriginal heritage sites. The Commission notes that specific concerns were raised regarding the impacts to the Wilga grinding grooves and scatter sites - Top Rocks and Bottom Rocks on the Namoi River as stated by the Department in paragraph 324 above.
333. The Commission notes that of the 62 Aboriginal sites identified in the development area and surrounding area, 31 of these sites are located within the disturbance footprint of the Approved Project. The Commission notes that the Project would result in a loss of value for 24 sites, 23 of which are assessed as being of low significance and one artefact scatter site having low-moderate significance as set out by the Department in paragraph 325 above. The Commission also notes that there are two sites near the Project assessed as having moderate significance and that neither of these sites would be directly impacted by the Project as stated by the Department in paragraph 326.
334. The Commission agrees with the Department in paragraph 327 above, and notes that the majority of sites to be disturbed are of low scientific significance and that the proposed Aboriginal Cultural Heritage Management Plan (**ACHMP**) would allow for effective management of disturbed sites and mitigation of any future impacts on Aboriginal cultural heritage. The Commission therefore imposes Condition B70 and B71 requiring the preparation and implementation of an ACHMP. The Commission is of the view that the requirements set out in Condition B70(d) are suitable in mitigating potential impacts of the Project on items of Aboriginal significance. The Commission has given consideration to the impacts on these items resulting from blasting and vibration in the section below.
335. The Commission is of the view that the potential impacts of the Project on historic heritage values, namely Kurrumbede Homestead and outbuildings are relatively low and can be adequately managed. The Commission agrees with the Department in paragraph 331 above, and imposes the recommended blasting and heritage management Conditions B27 and B72 to ensure the surrounding heritage sites are managed and protected over the long term. The Commission also imposes the recommended Condition B73 requiring the development of a Historic Heritage Management Plan (**HHMP**) in consultation with Heritage NSW, GSC and the Dorothea MacKellar Memorial Society. The Commission has amended Conditions B72 and B73 to ensure that the Kurrumbede 'outbuildings' are included in the HHMP and subsequent mitigation and preservation measures.

Blasting and Vibration

Public Comments

336. As stated in paragraph 318 above, the Commission received public submissions and heard from speakers at the Public Hearing who raised concerns regarding the blasting and vibration impacts on Kurrumbede Homestead.

Applicant's Consideration

337. The Applicant's NBA included an assessment of the Project's blasting impacts, including the potential ground vibration, airblast overpressure and fly rock impacts of the Project's blasting events on nearby sensitive receivers.

338. The Applicant's NBA states:

Predicted airblast and vibration levels at the Kurrumbede Homestead are below the relevant building damage criteria for heritage sites. Notwithstanding, it is recommended that monitoring is undertaken at the Kurrumbede Homestead and that the results of monitoring be used as a guide to blast design.

339. The Applicant's EIS states that blast and vibration management would be conducted in accordance with a Blast Management Plan (**BMP**) which would be prepared for the Project. The Applicant also states "*Flyrock would be managed by appropriate blast design and blast execution in accordance with best practice blast management procedures*".

340. The Applicant's Amendment Report states that the proposed amendments would not result in increased blasting impacts when compared to those assessed in the EIS.

Department's Assessment

341. As stated by the Department in paragraph 326 above, two Aboriginal heritage sites were assessed as having moderate significance include an artefact scatter near the Project borefield and several axe grinding groove sites on the Namoi River, approximately 465 m from the closest blasting operations. Neither of these sites would be directly impacted by the Project. Paragraph 518 of the Department's AR also states:

Based on the predicted vibration levels of approximately 6.3 mm/second at the 'Wilga' axe grinding groove site (AHIMS 20-4-0009), the NBA concluded that no vibration induced damage would occur at the grinding groove site.

342. Paragraph 519 of the Department's AR states that prior to commencing blasting for the Project, the Applicant proposes to:

- *commission a structural engineer to inspect the grinding groove site to confirm whether the nominated blasting criteria is suitable; and*
- *engage a suitably qualified archaeologist to inspect the grinding groove site (including ground truthing and artefact identification) to update the site card for the site.*

343. The Department's AR states at paragraph 354 that the Applicant's NBA "*indicates that the development would comply with the applicable amenity and structural damage criteria at all surrounding private residential receivers, consistent with the limits imposed on the Approved Project*".

344. The Department's AR states at paragraph 359:

The Commission's Issues Report recommended that the Department's assessment consider whether the blasting criteria determined for the Kurrumbede Homestead will protect the Homestead from damage due to blasting.

345. The Department's AR noted that the NBA recommends inspection of the homestead by a structural engineer to establish if the nominal 10 mm/s vibration criteria is appropriate. The Department's AR states at paragraph 360:

...the Department has recommended conditions requiring Whitehaven to engage a structural engineer to inspect the homestead and establish the appropriate vibration limits to protect the heritage values of the property. The Department has recommended the application of a 10 mm/s vibration limit and 133 dB overpressure limit for the Kurrumbede Homestead, unless the structural engineer's inspection recommends more appropriate limits.

346. The Department's AR concludes that blasting operations can be readily managed to meet the applicable amenity and structural damage criteria. The Department recommended a Condition B72 to ensure this occurs.

Commission's Findings

347. The Commission notes that two items of moderate Aboriginal heritage significance are located approximately 465 m from the closest blasting operations for the Project. These items include an artefact scatter near the Project borefield and several axe grinding groove sites (AHIMS 20-4-0009) on the Namoi River as referenced by the Department in paragraph 341 above. The Commission acknowledges that the NBA concluded that no vibration induced damage would occur at the grinding groove site. The Commission notes that the Applicant proposes to commission a structural engineer to inspect the grinding groove site to confirm whether the nominated blasting criteria is suitable as stated by the Department in paragraph 342 above. The Commission has imposed Condition B27(b) which requires the Applicant to ensure that blasting on site does not damage the grinding groove site (AHIMS 20-4-0009).
348. The Commission agrees with the Department's conclusion in paragraph 346 above and imposes the conditions recommended by the Department (see Conditions B17, B27 and B72) but has extended the requirement for the structural engineer to establish the appropriate vibration limit to the Kurrumbede outbuildings. The Commission is of the view that blasting operations can meet the relevant criteria for residents of privately owned land, Kurrumbede Homestead, outbuildings and all other public infrastructure as set out in Condition B17, Table 6. The Commission is of the view that impacts can be appropriately managed through the conditions referenced above.

Biodiversity

Public Comments

349. The Commission heard from speakers at the Public Hearing and received public submissions regarding the impacts of the Project on local biodiversity. The Commission received submissions highlighting the importance in preserving koala habitat for the survival of the species and raising concern regarding the Applicant's ability to secure the appropriate biodiversity offsets.

Applicant's Consideration

350. The Applicant's EIS included a Biodiversity Assessment Report and Biodiversity Offset Strategy (**BARBOS**) prepared by Resource Strategies (undated) and a BARBOS Addendum (**BARBOS Addendum**) prepared by Resource Strategies, dated 18 October 2019. The Applicant's EIS also included an Aquatic Ecology Assessment (**AEA**) prepared by Eco Logical Australia Pty Ltd dated April 2018.
351. The Applicant's EIS notes that there is an existing Biodiversity Offset Strategy for the Approved Mine. The Applicant notes that the existing Biodiversity Offset Strategy for the Approved Mine would be augmented to account for additional residual impacts on flora and fauna as a result of the Project.
352. In relation to impacts to endangered species and communities, the Applicant's Submissions Report states:
- No threatened flora species have been recorded within the additional disturbance area associated with the Project.*
- No records of the Winged Peppercross were identified within the additional Project disturbance footprint.*
- The Project requires a Biodiversity Offset Strategy that accounts for species credits for the Regent Honeyeater, Squirrel Glider and Koala.*
353. The Applicant's Submission Report states that:
- Whitehaven commits to satisfying the Project offset requirement through retiring the number and type of offset credits applicable to the Project (as determined by the OEH Credit Calculator for Major Projects and BioBanking)*
354. In relation to impacts on Koala habitat, the Applicant's Response to the Commission states:
- Impacts to Koala habitat would be offset using species and ecosystem credits.*
- Ecosystem and species offset credits for the Koala would be satisfied as per the requirements of the NSW Biodiversity Conservation Act, 2016.*
- In addition to offsetting potential impacts to Koalas, Condition B56, Schedule 2 of the recommended Development Consent requires a Koala Plan of Management [**KPoM**] to be prepared and implemented for the Project.*
355. Table 4-28 of the Applicant's EIS sets out additional biodiversity offset strategies for the Project. Some of these include mechanisms for mine site rehabilitation, acquiring or retiring credits, monetary contributions to supplementary measures (e.g. monitoring programs) and financial contributions to the Biodiversity Conservation Fund.

Department's Assessment

356. Paragraphs 463, 464 and 465 of the Department's AR state:

The Project would disturb approximately 580 ha of vegetation, of which 78 ha comprises native woodland and 502 ha of native grassland. None of the vegetation communities impacted by the Project conform to a State or Commonwealth listed EEC or CEEC. The native grasslands are currently grazed and include mine rehabilitation areas.

Whitehaven has sought to avoid and minimise impacts to biodiversity by excluding areas containing Weeping Myall Woodland EEC and minimising the footprint of the WEA. It has also proposed mitigation measures to minimise the impacts of clearing and to avoid unexpected impacts to fauna.

Whitehaven proposes to offset the residual impacts of the Project in accordance with the NSW Biodiversity Offsets Policy for Major Projects and has proposed a number of options to retire the credits required for the Project, with a current preference for rehabilitation and land-based offsets.

357. In relation to threatened fauna, paragraphs 410 and 411 of the Department's AR state:

Ecological surveys recorded 201 fauna species during surveys, including nine introduced species. 47 threatened fauna species were recorded in the locality of the Project. Of these, 11 threatened fauna species (including 6 birds, 3 bats, and the squirrel glider and Koala) have been recorded within the Project disturbance area and additional 5 in the vicinity of the Project footprint... All of these species are listed under the BC Act as 'vulnerable' with only the Koala listed under the EPBC Act as vulnerable.

Whitehaven's tests of ecological significance concluded that although the development would result in the removal of habitat for the species recorded on site, the development is unlikely to cause a significant impact on any threatened species and communities, such that a local population would be lost.

358. The Department undertook an assessment of these impacted species in Section 6 and Appendix J of the Department's Assessment Report.

359. In relation to the Regent Honey Eater, paragraph 413 of the Department's AR states:

The assessment identified 49.1 ha of potential habitat, requiring 3,703 species credits under the FBA. However, under the BC Act, the Regent Honeyeater is now identified as an ecosystem credit species as "Important Habitat" mapping completed by BCD does not identify core habitat of the Regent Honeyeater within the Project boundary. In this instance, the FBA credits could be converted into reasonably equivalent credits under the provisions of the BC Act and retired as ecosystem credits. This process is undertaken at the time of retiring these credits. That is, while a species credit liability is identified and quantified, the retirement of the ecosystem credits for the relevant vegetation communities would offset the impacts to the Regent Honeyeater

360. In relation to the Koala, paragraphs 414, 416 and 417 of the Department's AR state:

Whitehaven's investigations identified 50.3 ha of total potential Koala habitat that would be impacted by the Project, approximately 1 ha of which is core Koala habitat comprised of River Red Gum Riparian Tall Woodland along the Namoi River. Koalas were recorded during surveys along the rail spur line near the Namoi River crossing and also within the rail loop adjacent to the MIA, with no individuals identified within the mining footprint...

BCD has accepted Whitehaven's response and indicated that no further assessment of Koala habitat is required. Whitehaven's calculations using the FBA Credit Calculator determined that 1,308 credits would be required to offset the impacts of the Project on Koala habitat.

As recommended in the Commission's Issues Report and indicated in Whitehaven's Submissions Report, Whitehaven has progressed the development of the Koala Plan of Management (KPoM) for the Project in consultation with the BCD. The draft KPoM includes measures to minimise disturbance to the core Koala habitat at the Namoi River crossing, pre-clearing surveys, weed management and rehabilitation with species representative of the River Red Gum Riparian Tall Woodland. The Department has included recommended conditions requiring Whitehaven to complete the KPoM in consultation with BCD prior to commencing construction, and to implement the plan during construction and operation of the Project.

361. In relation to the squirrel glider, paragraph 418 and 419 of the Department's AR state:

The EIS identified approximately 74.7 ha of potential squirrel glider habitat within the mine and rail spur footprint. BCD sought further review of the squirrel glider habitat to be impacted by the rail spur and calculation of any additional credit requirements due to impacts on the Poplar Box Woodland on Alluvial Clay Soils.

Whitehaven provided supplementary information which indicates 3 separate patches of the woodland that may form potential squirrel glider habitat would be impacted by the rail spur. The additional 1.3 ha of this woodland increases the total area of habitat impacted by the Project to 76 ha, which consequently increased the credit requirements by 77 credits to a total of 1,672 credits. BCD has reviewed Whitehaven's response and is satisfied with the revised calculations.

362. Paragraph 86 of the Department's AR states that the Department's assessment process under the EP&A Act has been accredited under a bilateral agreement with the Commonwealth Government to assess matters of national environmental significance (MNES). Paragraph 406 of the Department's AR states the Project was determined to be a controlled action under the EPBC Act (EPBC 2016/7649) due to the potentially significant impacts on MNES for listed threatened species.

363. In relation to Commonwealth biodiversity matters, paragraph 456 of the Department's AR states:

The Department notes that the Commonwealth referral decision in determining that the action was a controlled action was based on there being likely significant impacts on 3 threatened Commonwealth listed species, including Regent Honeyeater, Swift Parrot and the Koala; and that there may be significant impacts on a further three species, South-eastern Long-eared Bat (Corben's Long-eared Bat), Large-eared Pied Bat and Murray Cod.

Because part of the Approved Project was not assessed in the previous EPBC referral decision (EPBC 2012/6263) the Project footprint assessed for Commonwealth matters is 208.6 ha larger than the footprint assessed under the NSW assessment, and totals 984.4 ha (see Figure 35), with a larger area of native vegetation impacted compared to the NSW assessment footprint, an increase from 579.8 to 728.4 ha in total.

364. In relation to GDEs, paragraph 421-422 of the Department's AR states that given the scale of the disturbance and measures to minimise clearing and maintain the condition of the vegetation communities in the riparian corridors affected by the Project, the Applicant concluded that further changes to the Project or additional offsets would not be required.
365. In relation to Aquatic Ecology, paragraph 427 of the Department's AR states that the Applicant considered that the Project has a low potential to impact on aquatic biodiversity, with the Project unlikely to impede fish passage or cause water quality impacts and that DPI - NSW Fisheries did not raise any concerns regarding impacts on aquatic resources.

366. In relation to biodiversity offsets, paragraph 431 of the Department's AR states that the EIS includes a biodiversity offset strategy that builds upon the existing strategy for the Approved Project. Paragraphs 432 and 433 of the Department's AR state that in relation to the Approved Project:

The 3,423 ha of approved existing biodiversity offsets includes 2,063 ha of offset lands and rehabilitation of 1,360 ha of land disturbed by the Approved Project and includes:

- *the Willeroi East Offset Area – comprising 1,671 ha (including 1,559 ha of native woodland); and*
- *Offset Areas 2, 3, 4 and 5 – comprising a collective total of 391.5 ha (including 207 ha of native woodland) surrounding the development site*

The offsets for the Approved Project were determined prior to the implementation of the NSW Offsets Policy and FBA and were based on a land-based ratio approach. The Department has included recommended conditions transferring the offset requirements for the Approved Project into a consolidated development consent.

367. The Department's AR at paragraph 434 states that the Project biodiversity offset strategy is in addition to the offset strategy for the Approved Project and comprises:

- *proposed additional land-based offsets, including:*
 - *an additional 13 ha extension of Offset Area 5 established under the Approved Project; and*
 - *additional 993 ha land-based offsets in the region (i.e. Offset Areas 6, 7, 8 and Mount Somner);*
- *mine rehabilitation in accordance with the provisions under the FBA including:*
 - *482 ha of mine rehabilitation to woodland on the proposed extension area; and*
 - *523 ha of additional mine rehabilitation to woodland on the Approved Project footprint that is currently required to be returned to an agricultural land use;*
- *retiring 869 available credits on Whitehaven's existing Biobanking site (which totals 13,754 credits) and/or through the Biobanking Public Register; and*
- *supplementary measures such as contributing to regional biodiversity programs and funds.*

The biodiversity assessment determined that the Project would require the retirement of 16,401 ecosystem credits (see Table 14) and 6,683 species credits (see Table 15).

368. Paragraph 438 of the Department's AR states:

The NSW Offsets Policy allows the generation of biodiversity credits from mine site rehabilitation where it can be demonstrated that the rehabilitation has been successful, and the credits have been realised through a biodiversity gain in accordance with Section 12.2 of the FBA – Generating Biodiversity Credits for Ecological Rehabilitation of Previously Mine Land. This sets maximum allowable increases in generation of credits based on 10 site attributes, for example native plant species richness and overstorey cover. Accordingly, the ecological rehabilitation credits generated are low (less than a third) compared to credits generated from land-based offsets.

369. Paragraph 444 of the Department's AR states:

BCD and the Department consider that rehabilitation could be used to offset ecosystem credits where it can be demonstrated that the rehabilitation is trending towards recognisable PCT [plant community types], as demonstrated through monitoring of performance indicators and meeting completion criteria, in accordance with the FBA ecological rehabilitation requirements.

370. Appendix J of the Department's AR states that the BCD noted that while the Applicant has not demonstrated that the land-based offsets sites would generate the necessary credits for the Koala and Regent Honeyeater, the Applicant has committed to fulfilling the offset obligation in full and in accordance with relevant legislation. BCD has advised that it is satisfied that the development consent contains relevant conditions defining the biodiversity credits required to be retired, and the options available to retire the credits. In relation to the Regent Honeyeater, the Department, in Appendix J recommends that any Commonwealth approval includes an additional requirement to validate that the 2,087 species credits (or equivalent ecosystem credits) are available within the Approved Project land-based offset area. Appendix J also notes that the Swift Parrot was not recorded within the project disturbance boundary or surrounding area and no breeding habitat was identified within the disturbance footprint. However, the Department notes that 104.7 ha of potential foraging habitat would be cleared and that 12,815 ecosystem credits would be provided for the Project.
371. Paragraph 429 of the Department's AR notes that the Applicant would implement a number of avoidance and mitigation measures to reduce impacts on biodiversity values of the Site. Paragraph 430 of the Department's AR states:

The Department and BCD are satisfied with the avoidance and mitigation measures proposed by Whitehaven to avoid impacts on EECs and threatened flora species, and considers that the Project is unlikely to result in any significant impacts subject to the implementation of suitable offsetting measures.

372. Paragraph 465 of the Department's AR states that the Applicant proposes to offset the residual impacts of the Project in accordance with the NSW Biodiversity Offsets Policy for Major Projects and has proposed a number of options to retire the credits required for the Project, with a current preference for rehabilitation and land-based offsets.
373. Paragraph 466 of the Department's AR concludes:

Overall, the Department considers that the Project has been designed to avoid, mitigate and manage biodiversity impacts where practicable, and that the required ecosystem credits could be obtained and that the retirement of these credits would sufficiently compensate for residual biodiversity impacts. The Department considers that biodiversity impacts on the site could be effectively managed under a Biodiversity Management Plan. BCD considers that the biodiversity impacts of the Project have been adequately assessed and has advised that no further assessment is required.

Commission's Findings

374. The Commission accepts that the Department's assessment process under the EP&A Act has been accredited under a bilateral agreement with the Commonwealth Government to assess MNES. The Commission notes that the Project was determined to be a controlled action under the EPBC Act as stated by the Department in paragraph 362 above.

375. The Commission notes that the 3,423 ha of approved existing biodiversity offsets includes 2,063 ha of offset lands and rehabilitation of 1,360 ha of land disturbed by the Approved Project as stated by the Department in paragraph 366 above. The Commission acknowledges that these offsets will be transferred to the development consent for the Project as required in Condition B56.
376. In relation to impacts of the Project on threatened fauna, the Commission notes that ecological surveys recorded 11 threatened fauna species (including 6 birds, 3 bats, and the squirrel glider and Koala) within the Project disturbance area and an additional 5 in the vicinity of the Project footprint as stated by the Department in paragraph 357 above. The Commission accepts the Applicant's ecological assessment that the Project is unlikely to cause a significant impact on any threatened species and communities, such that a local population would be lost as stated by the Department in paragraph 357 above. The Commission agrees with the Department in paragraph 359 above that while a species credit liability is identified and quantified, the retirement of the ecosystem credits for the relevant vegetation communities would offset the impacts to the Regent Honeyeater. The Commission notes that the BCD was satisfied with the Applicant's species credit calculations for the Squirrel Glider as stated by the Department in paragraph 361. In relation to the swift parrot, the Commission accepts that 104.7 ha of potential foraging habitat would be cleared and that 12,815 ecosystem credits would be provided for the Project as stated by the Department in paragraph 370 above.
377. In relation to Commonwealth Matters, the Commission notes that BCD is of the view that the Applicant has not demonstrated that land-based offsets for the approved project would generate the necessary credits for the Regent Honeyeater and Koala but accepts the Applicant's commitment to fulfil the offset obligations in full and in accordance with EBPC Act requirements (see paragraph 370). The Commission notes that in relation to the Regent Honey Eater, the Department recommends that any Commonwealth approval include an additional requirement to validate relevant species credits availability within 'Approved Project' land-based offset areas as stated in paragraph above.
378. The Commission acknowledges the public's concerns regarding the potential impact on Koala species and habitat. The Commission notes that the BCD has accepted the Applicant's assessment of the Project's potential impacts on Koala habitat as stated by the Department in paragraph 360 above. The Commission agrees with the Department's assessment and supports the completion of a KPoM and implementation of the measures required in the KPoM (Condition B65). The Commission is of the view that with these measures in place, impacts on Koala habitat can be mitigated and managed appropriately. The Commission has also amended the Department's recommended Condition B65 to ensure that the KPoM is completed (in consultation with BCD) and implemented prior to construction and during construction and mining operations.
379. The Commission notes that the Applicant has committed to satisfying the Project offset requirements through retiring the number and type of offset credits as determined by the OEH Credit Calculator for Major Projects and BioBanking as stated in paragraph 353 above. This is also noted by the Department in paragraph 359 above.

380. The Commission notes that the BCD is of the view that the biodiversity impacts of the Project have been adequately assessed. The Commission notes that the Applicant would be required to implement a number of avoidance and mitigation measures to reduce impacts on biodiversity values of the Site and that the Department and BCD are satisfied with these measures as stated by the Department in paragraph 371 above. The Commission agrees with the Department's conclusion in paragraph 373 above that the Project has been designed to avoid, mitigate and manage biodiversity impacts (which include minimising vegetation clearing and loss of habitat) where practicable. The Commission considers that the biodiversity impacts on the site could be effectively managed under a Biodiversity Management Plan and has therefore imposed Conditions B63 and B64 requiring the preparation and implementation of a Biodiversity Management Plan.
381. The Commission notes that the Applicant has committed to satisfying the Project offset requirements through retiring the number and type of offset credits as determined by the OEH Credit Calculator for Major Projects and BioBanking as stated in paragraph 352 above. This is also noted by the Department in paragraph 359 above.
382. The Commission accepts the Department's views in paragraph 368 above that the NSW Offsets Policy allows the generation of biodiversity credits from mine site rehabilitation where it can be demonstrated that the rehabilitation has been successful, and the credits have been realised through a biodiversity gain. The Commission agrees with the BCD and the Department in paragraph 369 that rehabilitation could be used to offset ecosystem credits where it can be demonstrated that the rehabilitation is trending towards recognisable plant community types (**PCT**), as demonstrated through monitoring of performance indicators and meeting completion criteria, in accordance with the FBA ecological rehabilitation requirements.
383. Commission notes that the Department's AR states that no further changes to the Project or additional offsets are required in relation to GDEs as stated in paragraph 364 above. The Commission notes that the Applicant states that the Project has a low potential to impact on aquatic biodiversity. The Commission also notes that the DPI - NSW Fisheries did not raise any concerns regarding impacts on aquatic resources. To ensure the ongoing management and monitoring of potential impacts on GDE's and aquatic ecosystems, the Commission has imposed Condition B51 which sets out water performance management measures for aquatic and riparian ecosystems.
384. The Commission accepts that the required ecosystem credits could be obtained and that the retirement of these credits would adequately compensate for residual biodiversity impacts as stated by the Department in paragraph 373. For the reasons set out in paragraph above, the Commission imposes Conditions B58 and B59 to ensure that the biodiversity offset credits are retired in accordance with the NSW Biodiversity Offsets Policy for Major Projects and can be achieved by acquiring or retiring 'biodiversity credits' within the meaning of the Biodiversity Conservation Act 2016. The Commission considers that the identification and/or retirement of credits within 2 years of commencing the Project is an appropriate timeframe to retire these credits but would prefer not to see any extensions to this period, unless due to circumstances beyond the control of the Applicant.

Visual Amenity

Public Comments

385. The Commission received written submissions from members of the public regarding the visual impacts of the Project on the surrounding properties and landscape. Speakers at the public meeting raised concerns regarding the visual impacts on the Kurrumbede Homestead.

Applicant's Consideration

386. The Applicant's EIS states that the mitigation and management measures that would be implemented for the maintenance of visual amenity include progressive rehabilitation of the landforms, vegetation screens (in some cases bunds). The Applicant also states that measures to mitigate potential impacts from night-lighting would be implemented where practicable without comprising operational safety.

387. The Applicant's Submissions Report states:

Once all the equipment and infrastructure components have been removed, the mine infrastructure areas would be returned to land suitable for cattle grazing and the Project rail spur corridor would be returned to agricultural land, reducing the long-term visual impact of the Project.

Department's Assessment

388. The Department's AR notes that there were concerns raised in submissions and in the Commission's Issues Report relating to visual amenity impacts and loss of scenic value. The Department's AR states at paragraph 652, 655 and 657:

The Department acknowledges that the residences and dwellings located closest to the Project mining area would have a high visual impact including properties 127, 131, 132 and 133... However, it accepts that the level of visual impact on these properties would not materially change when compared with the Approved Project.

The Department acknowledges that the Project rail spur introduces a new infrastructure element and would be visible to several residences in the vicinity and intermittently along public roads where vegetation and topography allow. The visual impact assessment has found that receivers and dwellings located approximately 1.5 km from the rail spur would have a moderate level of visual impact, which would reduce as the distance increases.

The Department recognises that the Project would result in some considerable changes to the visual landscape, particularly for the closest receivers during the early stages of the Project and development of the WEA, prior to the establishment of vegetation. The Department acknowledges Whitehaven's commitment to minimise visual impacts and notes that these impacts would reduce over time, particularly as rehabilitation of the WEA progresses and vegetation is established (from about year 7).

389. The Department's AR states that the Applicant has committed to implementing a range of on-site and off-site measures to mitigate and manage visual impacts. The Department has incorporated these measures into its recommended conditions of consent for the Project.

Commission's Findings

390. The Commission agrees with the Department's statement in paragraph 388, that although the residences and dwellings located closest to the Project mining area would have a high visual impact, the level of visual impact on these properties would not materially change when compared with the Approved Project. The Commission notes that draft Condition B90 sets requirements for the Applicant to implement in order to further mitigate the impacts of the Project on visual amenity.

391. The Commission acknowledges that the Project rail spur introduces new infrastructure which according to the Department's AR will have a moderate level of visual impact on nearby receivers. The Commission agrees with the Department in paragraph 388 and recognises that *"the Project would result in some considerable changes to the visual landscape, particularly for the closest receivers during the early stages of the Project and development of the WEA, prior to the establishment of vegetation"*.
392. The Commission acknowledges that while for some residences the visual impact will be moderate to high, the mitigation measures (such as landscaping treatments or vegetation screens) and the proposed progressive rehabilitation of the Project landform will ameliorate these impacts and the Commission is of the view that on balance, the visual impacts are acceptable. The Commission therefore imposes the Department's recommended Conditions B90 and B91 to ensure that visual impacts are mitigated and managed.

Lighting

Public Comments

393. The Commission heard from a local resident at the Public Hearing, who raised concern regarding light pollution (amongst other impacts) associated with mining. The Commission also heard from speakers who raised concern regarding the impacts of the Project on Siding Spring Observatory:

Significant concerns about how it's going to affect Siding Spring Observatory and the light issues, that they need dark skies for that to remain an internationally significant conservatory. They're already having increased problems with light because of other mines that are increasing in the area, so I think that if it does go ahead you really need to make sure that there are very strict conditions on how that mine reduces the amount of light that it has for Siding Springs and the dark skies around Coonabarabran.

Applicant's Consideration

394. The Applicant's Amendment Report included a Light Impact Assessment (**LIA**) prepared by Light Naturally, dated November 2019. The Applicant's LIA concluded *"the proposed project will comply with the Dark Sky Planning Guideline if it is consistent in its lighting output with that of the Maules Creek Mine"*.

Department's Assessment

395. The Department's AR states at paragraphs 661 and 665:

*The Commission's Issues Report raised concerns over the potential lighting impacts on the Siding Spring Observatory (**SSO**) and consideration of the NSW Dark Sky Planning Guideline (Dark Sky Guideline).*

In accordance with the consultation requirements of the Dark Sky Guideline, the SSO has reviewed the light impact assessment and has not raised any further concerns. The SSO provided minor comments which have been addressed in the final version of the light impact assessment

396. In relation to the potential impacts of lighting on surrounding receivers, the Department's AR states at paragraph 656:

Direct views of project lighting sources, particularly from the MIA, would be most likely to occur for receivers and residences located immediately west of the Project. Once completed (around Year 13), the WEA would provide a barrier to protect receivers from the Project light sources. The visual impact assessment considers the direct and indirect night lighting impacts to be similar to the that of the Approved Project. Nevertheless, Whitehaven has committed to implementing specific night lighting measures to mitigate any potential lighting impacts and the Department has incorporated this in its recommended conditions.

397. The Department AR states at paragraph 666:

The Department has recommended conditions requiring the implementation of reasonable and feasible measures to ensure that all visual and off-site lighting impacts from the Project (including the SSO) are minimised, including:

- *the use of external lighting that complies with the Australian Standard AS 4282 (INT) 1997 – control of Obtrusive Effects of Outdoor Lighting;*
- *minimising lighting impacts of the Project on the SSO;*
- *ensuring in pit mobile lighting is contained below the pit wall and the horizontal; and*
- *ensuring fixed outdoor lighting is not directed above the horizontal or building line.*

398. Paragraphs 667, 668 and 669 of the Department's AR conclude:

The Department considers the visual and light impact assessments undertaken for the Project to be adequate and that proposed management and mitigation measures would ensure that impacts are minimised as far as practicable.

The Department's assessment has found that the visual and light impacts of the Project would be comparable to the Approved Project, particularly for the WEA which would be similar in height and that the Project would not greatly increase the visual impacts for surrounding receivers.

However, the Department recognises that some visual impacts would be unavoidable for various stages of the Project (particularly during construction and early development stages) but considers that any significant change would be reasonably mitigated through progressive rehabilitation of the mine landscape and vegetation screening to acceptable levels over the life of the Project.

Commission's Findings

399. The Commission acknowledges the public's concerns about visual amenity, including impacts on the SSO. The Commission notes that the SSO has reviewed the LIA and has not raised any further concern as stated by the Department in paragraph 395 above. The Commission acknowledges that there is the potential for receivers and residences located immediately west of the Project to have direct views of project lighting sources, particularly from the MIA as stated in paragraph 396. The Commission therefore imposes the Department's recommended Condition B90 as referenced in paragraph 397 above requiring the implementation of reasonable measures to minimise visual and off-site lighting impacts from the Project.

4.10 Objects of the EP&A Act and Public Interest

Public Comments

400. The Commission heard concerns from speakers at the Public Hearing and received written submissions relating to the Project and whether it was in the public interest.
401. At the Public Hearing, a social impact expert raised concerns regarding distributional equity and lack of social benefits:

The hallmark of this project is distributional inequity, that is, a lack of social benefits for the local community. A resource extraction project should be in the public interest. The wellbeing of the local area is a critical element of the public interest. I do not believe that test has been met in this proposal.

402. The BFCG in its submission to the Commission stated:

To approve a private project of this scale and impact on the basis of unreliable and outdated data, which underpins the entire project justification, as the industry is in clear structural decline, is not sound or in the public interest. The evidence strongly suggests that the project is not financially viable... The proposed Vickery coal mine is not in the public interest and it is contrary to the principals of Ecologically Sustainable Development (ESD).

403. A speaker at the Public Hearing spoke in support of the Project noting that it had appropriately balanced the economic and social impacts and was in the public interest:

I believe strongly in this project and the benefits which will accrue so to so many individuals, as well as businesses. The government has already said this project is in the public interest and approvable and I believe has appropriately balanced the economic and social impacts.

404. The Commission received written submissions in support of the Project. A submitter wrote:

I believe that this Project is in the public interest and will provide much needed employment during this difficult time. The project is sustainable and from a mine waste geochemistry perspective has minor low risk issues that can be easily managed.

Council Comments

405. NSC in its submission to the Commission stated:

We refer to the above-mentioned State Significant Development Application and wish to lodge an objection to the proposed development on the basis of its direct and indirect economic and social impacts and relatedly on the basis that it is not in the public interest.

406. NSC also stated that in *Gloucester Resources Limited v Minister for Planning* [2019] NSWLEC 7, it was noted that:

"a positive NPV does not necessarily mean that the project is in the public interest." To the best of Council's understanding, based upon the information made available, the proponent has not demonstrated adequate consideration of intra and inter-generational or distributive equity issues relating to agricultural interests in the region and their perceived reluctance to minimise externalities related to this proposed development, through the VPA process, tends to confirm this view.

Applicant's Consideration

407. The Applicant's EIS states that "It is considered that, on balance of the predicted impacts and benefits, approval of the Project is in the public interest".

408. The Applicant's Submission Report states:

The Project is considered to be generally consistent with the objects of the EP&A Act, as:

- *The Project would facilitate local and regional employment and other socio-economic benefits.*
- *The Project would develop the State's coal resources within Whitehaven's mining and exploration tenements.*
- *The Project incorporates relevant ESD considerations (as discussed further below).*
- *The Project would allow for the economic use and development of land, while maintaining key existing land uses including grazing uses on surrounding Whitehaven-owned lands.*
- *Measures have been developed and incorporated into the Project to manage and conserve resources including water, agricultural land and natural areas and to protect the environment (including native plants and animals, threatened species and their habitats).*
- *Reasonable and feasible measures have been developed and incorporated into the Project to minimise potential amenity impacts associated with noise, blasting, air quality and visual impacts on surrounding land uses.*
- *The Project would support the provision of community services and facilities through significant contributions to State royalties, State taxes, Commonwealth tax revenue and any applicable contributions to local councils.*
- *The Project is a State Significant Development Project that would be determined by the IPC or the Minister; however, a wide range of stakeholders have been consulted throughout the assessment process.*
- *The Project would be developed in a manner that incorporates community engagement through the Project EIS consultation program as well as the public exhibition of the EIS document and the major project assessment process.*

409. The Applicant's Submission Report states that the design, planning and assessment of the Project has been carried out applying the principles of ESD, through:

- *incorporation of risk assessment and analysis at various stages in the Project design, environmental assessment and decision-making;*
- *adoption of high standards for environmental and occupational health and safety performance;*
- *consultation with regulatory and community stakeholders;*
- *assessment of potential greenhouse gas emissions associated with the Project;*
- *optimisation of the economic benefits to the community arising from the development of the Project; and*
- *taking into account biophysical considerations in the Project design.*

410. In relation to intergenerational equity, the Applicant's Submission Report states:

The Project would benefit current and future generations through employment. It would also provide significant stimulus to local and regional economies and provide NSW export earnings and royalties, thus contributing to future generations through social welfare, amenity and infrastructure

411. The Applicant's Amendment Report states:

The proposed amendments to the Project would not result in additional environmental impacts beyond those assessed in the EIS. Accordingly, the conclusion in the EIS that, on balance, the Project has merit on the basis of the positive social and economic outcomes to the local region and NSW, remains unchanged.

Department's Assessment

412. Table K1 of the Department's AR sets out the Department's consideration of the Project against the relevant Objects of the EP&A Act.
413. The Department has given consideration to public interest in Section 6.10 of the Department's AR.
414. The Department has given consideration to the ESD principles in section K.2 of the Department's AR.
415. Paragraph 726 of the Department's AR states:

The Department has carefully weighed the impacts of the project against the significance of the resource and the socio-economic impacts benefits [sic]. On balance, the Department believes that the project's benefits outweigh its residual costs, and that is in the public interest and is approvable, subject to stringent conditions.

Commission's Findings

416. The Commission has had regard to the Material before it and has considered the issues raised by speakers at the Public Hearing and in written comments to the Commission. The Commission has considered the issues raised by the public and whether the Project is in the public interest in its findings contained throughout section 4.9 of this Statement of Reasons.

Objects of the EP&A Act

417. The Commission has assessed the Project against the relevant Objects of the EP&A Act below:

(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources;

(c) to promote the orderly and economic use and development of land,

418. The Commission notes that the coal resources are located within existing mining lease areas and that the coal to be extracted is of high quality. The Commission is of the view that the extraction of coal as part of the Project is the most efficient use of the land. The Commission agrees with the Department's assessment in Table K1 of the Department AR and finds that the Project will provide ongoing socio-economic benefits to the people of NSW and ongoing employment opportunities for members of the local community.

(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment;

419. The Commission agrees with the Department's assessment in Table K1 of the Department AR and is of the view that the Project can be carried out in a manner that is consistent with the principles of ESD as set out in paragraph 425 below.

(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats;

(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),

420. The Commission agrees with the Department's assessment and is of the view that the Project:

- has sought to avoid, minimise and manage potential impacts on biodiversity and heritage;
- has offset residual biodiversity impacts in accordance with the NSW and Commonwealth Government Policy;
- would not significantly impact on either the built or cultural heritage of the site;
- has proposed mitigation and management measures that would ensure that impacts on Aboriginal cultural heritage and historic heritage are acceptable; and
- has applied both the precautionary principle and the conservation of biological diversity and ecological integrity in the assessment to avoid serious or irreversible damage to the environment wherever possible.

(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,

(j) to provide increased opportunity for community participation in environmental planning and assessment.

421. The Commission notes that the Department has consulted with GSC, NSC and other NSW Government authorities and carefully considered all responses in its assessment. The Commission has also engaged with both GSC and NSC and has considered the responses from NSW Government authorities. The Commission notes that the Department publicly exhibited the Application and the Commission has held a multi-stage Public Hearing to hear the public's views on the Project.

422. For the reasons set out above, the Commission is of the view that the Project is in accordance with the Objects of the EP&A Act.

Ecologically Sustainable Development

423. The EP&A Act adopts the definition of ESD found in the *Protection of the Environment Administration Act 1991*, as follows:

ecologically sustainable development requires the effective integration of social, economic and environmental considerations in decision-making processes. Ecologically sustainable development can be achieved through the implementation of the following principles and programs:

- (a) the precautionary principle...*
- (b) inter-generational equity...*
- (c) conservation of biological diversity and ecological integrity.... and*
- (d) improved valuation, pricing and incentive mechanisms.*

424. The Commission has given consideration to the principles of ESD in its assessment as set out below.

(a) the precautionary principle;

425. The Commission agrees with the Department's assessment on page 151 of the Department's AR that the precautionary principle has been appropriately applied through the application of mitigation and management measures set out in the Applicant's EIS and supporting documents, the Department's AR and the recommended conditions of consent. The Commission has proposed additional measures as set out through this Statement of Reasons to further mitigate Project impacts.

(b) inter-generational equity;

426. The Commission acknowledges the concerns raised by NSC and the public referenced in paragraph 401 and 406 above that the Project will result in distributional inequity due to the lack of social benefits for the local community and the lack of consideration given by the Applicant to intra and inter-generational or distributive equity issues relating to agricultural interests in the region.

427. However, the Commission agrees with the Department's assessment on page 151 of the Department's AR that:

Intergenerational equity has been addressed through maximising efficiency and coal resource recovery and developing environmental management measures which are aimed at ensuring the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

...coal and other fossil fuel combustion is a contributor to climate change, which has the potential to impact future generations. However, the Department also recognises that there remains a clear need to develop coal deposits to meet society's basic energy requirements for the foreseeable future. The proposal includes measures to mitigate potential GHGE's from the operation of the Project, which would be recommended as a requirement of the Project's operating conditions and detailed in an Air Quality and Greenhouse Gas Management Plan.

The Department's assessment of direct energy use and associated GHGE's (ie Scope 1 and Scope 2 emissions) has found that these emissions would be low and comprise a very small contribution towards climate change at both the national and global scale...

The Department considers that the socio-economic benefits and downstream energy generated by the Project would benefit future generations, particularly through the provision of national and international energy needs in the short to medium term.

428. The Commission is of the view that on balance, the social and economic benefits from the Project and downstream energy and steel production generated from the Project would benefit both current and future generations. As set out in paragraph 223 above, the Commission is of the view that the GHG emissions from the Project have been adequately considered. The Commission agrees with the Department's assessment that the Project's Scope 1 and Scope 2 emissions would be low and comprise a very small contribution towards climate change at both the national and global scale. As stated in paragraph 216 above, the Commission finds that the Project's Scope 3 emissions would not contribute to Australia's NDC, as product coal would be exported overseas. The Commission notes that these Scope 3 emissions become the consumer countries' Scope 1 and 2 emissions and would be accounted for under the Paris Agreement in their respective national inventories. As stated in paragraph 223 above, the Commission has imposed conditions which require the Applicant to implement specific measures and take all reasonable steps to ensure best practice management is employed to minimise the air quality impacts, minimise Scope 1 and 2 GHG emissions and improve the Project's energy efficiency (see section 4.9.4).

429. For the reasons set out above, the Commission is of the view that intergenerational equity has been appropriately considered and addressed.

(c) conservation of biological diversity and ecological integrity

430. The Commission agrees with the Department's assessment on page 152 of the Department AR that the conservation of biological diversity and ecological integrity has been applied through avoiding and minimising biodiversity impacts. The Commission also agrees with the Department's assessment that the Project's potential impacts would be reasonably mitigated and/or offset to enable the long-term biodiversity outcomes to be achieved for the region.

(d) improved valuation, pricing and incentive mechanisms

431. The Commission agrees with the Department's assessment on page 152 of the Department AR that careful consideration has been given to the costs and economic benefits of the Project which support the conclusion that the Project would deliver a significant net benefit to the local region and the State of NSW

432. In summary, the Commission finds that the Project is consistent with ESD, because the Project, if approved, would achieve an appropriate balance between relevant environmental, economic and social considerations.

Public Interest

433. The Commission finds that on balance, and when weighed against the relevant climate change policy framework, objects of the EP&A Act, ESD principles and socio-economic benefits, the impacts associated with the Project are acceptable and in the public interest.

434. For the reasons set out in section 4.9 above, the Commission is of the view that the Project is in accordance with the EP&A Act and is in the public interest.

5 CONCLUSION: THE COMMISSION'S FINDINGS AND DETERMINATION

435. The views of the community were expressed through public submissions and comments received (as part of exhibition and as part of the Commission's review and determination process), as well as in oral presentations to the Commission at the Initial Public Hearing and Public Hearing (section 4.9).
436. The Commission has carefully considered the Material before it as set out in section 4.5 of this report. Based on its consideration of the Material, the Commission finds that the Project should be approved subject to conditions of consent for the following reasons:
- the Commission finds that the Applicant has appropriate measures in place to ensure that it will have access to sufficient water supply for its operations. If necessary, during prolonged drought conditions, the Applicant must adjust the scale of its operations to match its available water supply (see section 4.9.1);
 - a groundwater drawdown of greater than 1m would not extend into the surrounding alluvium beyond the immediate Project mining area and the Applicant has committed to 'make good' provisions for impacted users should there be a greater than 2m drawdown at a privately owned bore (see section 4.9.1);
 - noise impacts have been adequately assessed and where there are predicted exceedances of the PNTL, mitigation and acquisition rights apply (see section 4.9.2);
 - the 24-hour and annual average PM_{2.5}, PM₁₀, TSP and dust deposition levels from the Project would meet applicable criteria at all private receiver locations for all stages of the mine (see section 4.9.3);
 - GHG emissions for the Project have been adequately considered, and in the context of the climate change policy framework (including government policy, objects of the EP&A Act, ESD principles and socio-economic benefits), the impacts associated with the GHG emissions of the Project are acceptable (see section 4.9.4);
 - potential pollution risks associated with long term stability of the rehabilitated landform can be adequately managed with measures set out in the Project's rehabilitation strategy (see section 4.9.5);
 - the Applicant has undertaken a coal price sensitivity analysis to account for potential fluctuations in coal prices, including due to potential future climate change policies. The Economic Assessment is robust and aligns with the applicable guidelines (see section 4.9.7);
 - the Project would generate significant social and economic benefits for the local area, North West region and to NSW (see section 4.9.7);
 - the transport, road and traffic assessments undertaken for the Project are adequate and the proposed management and mitigation measures would help to ensure road safety and road network efficiency in the areas surrounding the Project (see section 4.9.8);
 - the replacement of road haulage with rail transport would provide significant safety improvements to the surrounding road network (see section 4.9.8);
 - in relation to Aboriginal heritage, the Project would result in a loss of value for 24 isolated artefacts and artefact scatter sites, 23 of which are assessed as being of low significance and one artefact scatter site having low-moderate significance. These impacts are acceptable and the proposed ACHMP would allow for effective management of disturbed sites and mitigation of any future impacts on Aboriginal cultural heritage (see section 4.9.8);
 - the potential impacts of the Project on historic heritage values, namely Kurrumbede Homestead and outbuildings are relatively low and can be adequately managed (see section 4.9.8);
 - blasting operations can meet the relevant criteria for residents of privately owned land,

Kurrumbede Homestead and its outbuildings, and all public infrastructure. The impacts of blasting can be appropriately managed through the recommended conditions (see section 4.9.8);

- the implementation of the measures required in the KPoM will assist in ensuring that impacts on Koala habitat are mitigated and managed appropriately (see section 4.9.8);
- the biodiversity impacts on the Site could be effectively managed under a Biodiversity Management Plan (see section 4.9.8);
- the Applicant has committed to satisfying the Project offset requirements through retiring the number and type of offset credits as determined by the OEH Credit Calculator for Major Projects and BioBanking (see section 4.9.8);
- although the residences and dwellings located closest to the Project mining area would be subject to a high visual impact, the level of visual impact on these properties would not materially change when compared with the Approved Project. For some residences the visual impact will be moderate to high, however the mitigation measures (such as landscaping treatments or vegetation screens) and the proposed progressive rehabilitation of the Project landform will ameliorate these impacts and the Commission is of the view that on balance, the visual impacts are acceptable (see section 4.9.8);
- the Applicant will be required to implement reasonable and feasible measures to ensure that all visual and off-site lighting impacts from the Project are minimised (see section 4.9.8);
- the site is suitable for the development (see section 4.7.6);
- the Project is in accordance with the Objects of the EP&A Act (see section 4.10);
- the Project is consistent with ESD, because the Project would achieve an appropriate balance between relevant environmental, economic and social considerations (see section 4.10); and
- the Project is in the public interest (see section 4.10);

437. For the reasons set out in paragraph 436, the Commission has determined that 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 ongoing environmental management of the development.

438. The reasons for the Decision are given in this Statement of Reasons for Decision dated 12 August 2020.



John Hann (Chair)
Member of the Commission



Professor Zada Lipman
Member of the Commission



Professor Chris Fell AM
Member of the Commission