



Doc Owner:

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Chain Valley Colliery and Mannering Colliery  
**Noise Management Plan**  
(incorporating Noise Monitoring Program)

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<b>Date:</b>	20/04/2022

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## 1 Introduction

### 1.1 Purpose

Great Southern Energy Pty Ltd t/as Delta Coal (Delta Coal) have prepared this Noise Management Plan (NMP) for Chain Valley Colliery (CVC) and Manning Colliery (MC) in order to satisfy requirements detailed within:

- CVC: Condition 9, Schedule 3 of Development Consent SSD-5465 (Modification 4)
- CVC: Requirements of Environmental Protection License (EPL) 1770
- MC: Condition 3C, Schedule 3 of Project Approval 06\_0311 (Modification 5)
- MC: Requirements of EPL 191.

The purpose of the NMP is to:

- Detail the impact assessment criteria applicable to each site
- Identify the noise monitoring and reporting requirements
- Identify measures to control off-site noise impacts
- Identify the requirements for noise incident reporting and revision of the NMP
- Identify persons responsible for implementation of the requirements of the NMP
- Document regulatory consultation in relation to the NMP.

### 1.2 Background

CVC and MC are neighbouring underground coal mines located on the southern side of Lake Macquarie approximately 60 km south of Newcastle and 80 km north of Sydney, the sites locality has been identified on **Figure 1**. The CVC and MC pit tops are located approximately 1.5 km south-east and 3 km south of the township of Manning Park respectively, at the southern extent of Lake Macquarie.

Development of the CVC site commenced in August 1960 with drift and shaft sinking starting shortly thereafter. Production of coal from the Wallarah Seam at CVC commenced with the first delivery to adjacent Vales Point Power Station (VPPS) in April 1963. In 2001 LakeCoal Pty Ltd was formed and acquired an 80% share of the Wallarah Coal Joint Venture (WCJV) from BHB Billiton, with the remaining 20% of WCJV owned by Sojitz Corporation. In March 2009 LDO Coal Pty Ltd purchased LakeCoal and in March 2011 LDO acquired the remaining 20% of the WCJV held by Sojitz Corporation. The WCJV had operated the Wallarah, Moonee and Chain Valley underground coal mines and the Catherine Hill Bay Coal Preparation Plant. At the time of LakeCoals acquisition by LDO Coal both the Wallarah and Moonee mines were closed.

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Due to changes to the Mining Act 1992 and amendments to the Environmental Planning and Assessment Regulation 2000, additional approval was required to permit continued operation of the Mine. Approval for CVC was granted in January 2012 (MP10\_0161) following the submission of an Environmental Assessment (EA) (AECOM, 2011). Development consent (SSD-5465) was subsequently approved in December 2013 granting approval for underground mining over an additional area of Lake Macquarie and a consolidation of approved activities granted by virtue of MP10\_0161.

Development of MC (formerly known as Wye Mine) began in 1960 in conjunction with the construction of VPPS and was operated by Powercoal Pty Ltd. Production commenced in 1961 with extensive mining (first workings and secondary extraction) of the Great Northern and Fassifern Seams. Coal production temporarily ceased in June 2002 when the operation was placed on care and maintenance. Centennial Coal acquired Powercoal in August 2002 and Wye Mine remained on care and maintenance. Wye Mine was renamed to ‘Manning Colliery’ and production in the Fassifern Seam recommenced in December 2005. MC was placed on care and maintenance in November 2012. In 2013 Centennial Coal entered agreements with LakeCoal to operate Manning Colliery until 2023 effective 17 October 2013.

LakeCoal was placed into voluntary administration on 3 October 2018. The receivers continued operation of both MC and CVC from 3 October 2018 to 1 April 2019. As of 1 April 2019, Great Southern Energy Pty Ltd (trading as Delta Coal) own and operate the two underground coal mines. Mining is currently undertaken at CVC with coal being transported underground via a series of underground crushers and sizers to MC where the coal is screened and sent directly to VPPS via an overland conveyor.

### 1.3 Approved Operations

CVC undertakes coal extraction through both first workings (Bord and Pillar extraction methods) and secondary workings (miniwall extraction methods), with run of mine (ROM) coal from both the first and second workings transported underground to MC where the coal is crushed and screened and sent directly to VPPS.

CVC was granted Development Consent SSD-5465 Modification 3 and MC was granted Project Approval 06\_0311 Modification 5 (MC Project Approval) on 26 June 2020.

The primary alterations within Modification 3 to the CVC Development Consent allowed for:

- An increase in the rate of ROM coal extraction from 1.3 million tonnes per annum (Mtpa) to 2.1 Mtpa; and
- Extension of allowed operations until 31 December 2027.

The primary alterations within Modification 5 to the MC Project Approval allowed for:

- An increase in the rate of ROM coal handled at MC and transported to VPPS via overland conveyor to increase from 1.3 Mtpa to 2.1 Mtpa;

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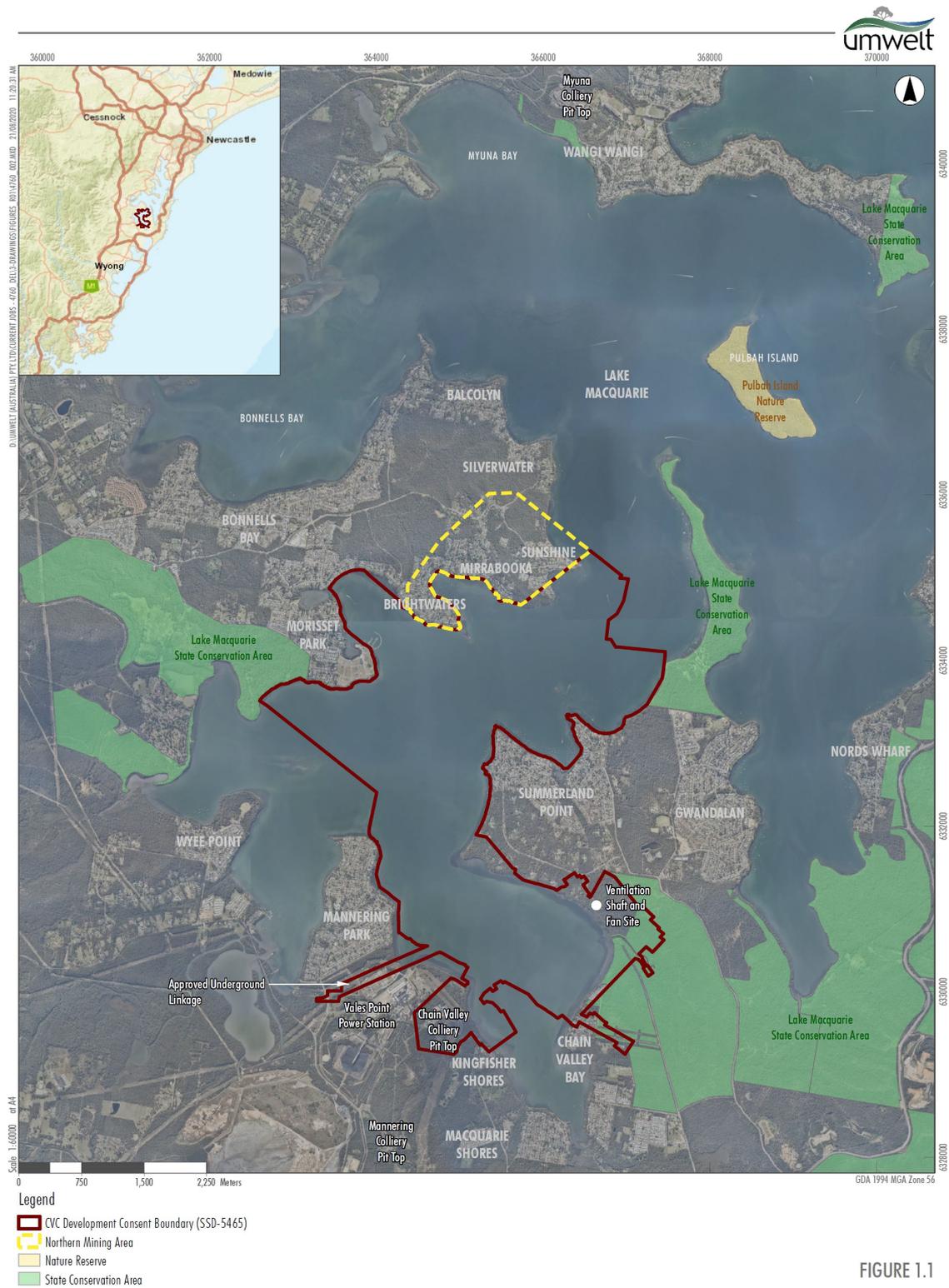
- An extension of allowed operations until 31 December 2027; and
- Use of alternate bord and pillar mine designs.

CVC was granted Development consent SSD-5465 Modification 4 on 5 August 2021. The primary alterations within Modification 4 to the CVC Development Consent allowed for:

- The extraction of coal in the Northern Mining Area in Brightwaters, Mirrabooka and Sunshine with the northern mining area shown on **Figure 1**.

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**Figure 1: Chain Valley Colliery and Manning Colliery Regional Context**



**FIGURE 1.1**  
**Locality and Site Context**

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## 1.4 Surface Infrastructure

### 1.4.1 Chain Valley Colliery Surface Infrastructure

Surface infrastructure at CVC comprises limited facilities at the 14-hectare pit top area, located adjacent VPPS, off Construction Road at Manning Park. There is an additional 0.3-hectare area at the ventilation facility located at Summerland Point. Both the pit top and ventilation facilities have remained largely unchanged since their establishment.

CVC operates 24 hours per day, seven days per week. Surface infrastructure with potential to generate audible noise comprises:

- Haulage system associated with the primary mine entry/exit for personnel and materials;
- Activities undertaken in the workshop and storage yard facilities including materials handling;
- Water management equipment, including pumps;
- Mine ventilation fans; and
- Air compressors.

### 1.4.2 Manning Colliery Surface Infrastructure

MC operates 24 hours per day, seven days per week. Surface infrastructure with potential to generate audible noise comprises:

- Haulage system associated with the primary mine entry/exit for personnel and materials;
- Haulage system associated with the coal conveyor drift;
- Coal-handling facilities for breaking, crushing, sizing and storing materials;
- Use of earth moving equipment to manage the product on the coal stockpile (currently a front-end loader, previously an excavator or dozer);
- Overland conveyor system to VPPS (noting the YE1 overland conveyor system is owned and operated by Delta Electricity);
- Maintenance activities undertaken in the workshop facilities;
- Water management equipment including pumps;
- Mine ventilation fans; and
- Air compressors.

As part of a noise reduction program undertaken at MC, the following noise mitigation works were undertaken at MC in June 2020:

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- Decommissioning of the above ground rotary breaker (in accordance with Condition 3B, Schedule 3 of the MC Project Approval) where an underground crusher and sizer was installed as replacement;
- Enclosure of the coal handling plant, which previously had several openings and no doors; and
- Installation of noise attenuation for the by-pass of the rotary breaker.

## 1.5 Consultation

In accordance with Condition 9, Schedule 3 of Development Consent SSD-5465 (MOD 4) and Condition 3, Schedule 3 of PA 06\_0311 (MOD 5) this NMP has been revised following the approval of the most recent modifications.

This revision of the NMP (v1) is to be provided to the NSW Environmental Protection Authority (EPA) for consultation during the development of the monitoring program in accordance with Condition 3 (a1).

This NMP is based substantially on the previously approved NMPs for CVC and MC, however reflects changes related to development consent and project approval modifications, as well as combining the NMPs to a Delta Coal overarching management plan. It has been prepared by Delta Coal environmental personnel and reviewed by Katie Teyhan of EMM Consulting Pty Limited; endorsement of these “suitably qualified and experienced persons” as required by Condition 3C Schedule 3 of PA 06\_0311 (MOD 5) is provided in **Appendix A**.

**Table 1: Consultation Summary**

Stakeholder	Comments	Response/Action
NSW EPA	Correspondence received following submission of NMP, encouraging the preparation of the Noise Management Plan but noting the EPA does not approve or endorse these documents in their role as a regulatory authority ( <b>Appendix B</b> ).	Nil required.
NSW DPIE	Approved V1 of the NMP on 19/04/2022.	Nil required.

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## 2 Statutory Requirements

### 2.1 Key Legislation, Policy and Guidelines

Both State and Commonwealth environmental legislation applies to DC’s operation and activities. A number of legislative requirements, government policies and guidelines relating to management of noise are applicable. Key items of legislation, standards and guidelines relevant to this NMP are:

- *Protection of the Environment Operations Act 1997* (POEO Act)
- *Environmental Planning and Assessment Act 1979* (EP&A Act)
- *Mining Act 1992*
- NSW EPA, Industrial Noise Policy (INP 2000)
- NSW EPA, Noise Policy for Industry (NPfi 2017)
- AS 1055:2018 Acoustics – Description and Measurement of Environmental Noise
- AS/NZS IEC 61672.1:2019 Electroacoustics – Sound Level Meters, part 1: Specification.

### 2.2 Chain Valley Colliery Development Consent SSD-5465

In accordance with Condition 7, Schedule 3 of SSD-5465 (MOD 4) works will be undertaken in accordance with Development Consent for the site as well as in general accordance with the Statement of Environmental Effects (SEE) (MOD 1), SEE (MOD 2), SEE (MOD 3), SEE (MOD 4) Project Layout Plans and Statement of Commitments.

Noise related requirements of the Development Consent SSD-5465 together with where they are addressed in this NMP are provided in **Appendix C**.

### 2.3 Manning Colliery Project Approval 06\_0311

In accordance with Condition 2, Schedule 2 of Project Approval 06\_0311 (MOD 5), works will be undertaken in accordance with the Project Approval as well as in general compliance with the Environmental Assessment (EA), EA (MOD 1), EA (MOD 2), EA (MOD 3), EA (MOD 4), SEE (MOD 5), Project Layout Plans and Statement of Commitments.

Noise related requirements of Project Approval 06\_0311 (MOD 5) (hereafter referred to as the Project Approval), together with where they are addressed in this NMP are provided in **Appendix D**.

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## 2.4 Chain Valley Colliery Environmental Protection License 1770

CVC operates under EPL 1770 issued by the NSW EPA under the POEO Act. The EPL has been modified, most recently on 2 April 2019 acknowledging the transfer of ownership from LakeCoal Pty Ltd to Great Southern Energy Pty Ltd.

Noise related requirements of EPL 1770 together with where they are addressed in this NMP are provided in **Appendix E**.

## 2.5 Manning Colliery Environmental Protection License 191

Manning Colliery operates under EPL 191 issued by the NSW EPA under the POEO Act. The EPL has been modified, most recently on 1 April 2019 following the statutory five-year review and consisting of a number of variations which were mostly administrative in nature.

Condition L5 of EPL 191 notes that noise limits are not specified, with the Department of Planning, Industry and Environment being the appropriate authority for regulating noise conditions under Project Approval 06\_0311.

## 2.6 Operational Noise Criteria

Noise limits within CVC Development Consent SSD-5465 and MC Project Approval 06\_0311 have been outlined in **Table 2**.

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**Table 2: Consented Operational Noise Criteria dB(A) for Delta Coal Collieries**

Consent/Approval/EPL Location	Day		Evening		Night		
	L <sub>Aeq</sub> (15 min)		L <sub>Aeq</sub> (15 min)		L <sub>Aeq</sub> (15 min)		L <sub>A1</sub> (1 min)
<b>Chain Valley Colliery</b>							
R8 (EPL Point 8)	38		38		38		45
R11 (EPL Point 11)	49	41 <sup>^</sup>	49	41 <sup>^</sup>	49	41 <sup>^</sup>	54
R12 (EPL Point 12)	49	41 <sup>^</sup>	49	41 <sup>^</sup>	49	41 <sup>^</sup>	53
R13 (EPL Point 13)	43	41 <sup>^</sup>	43	41 <sup>^</sup>	43	41 <sup>^</sup>	49
R15 (EPL Point 15)	36		36		36		45
R19 (EPL Point 19)	37		37		37		45
R22 (EPL Point 22)	46	40 <sup>^</sup>	46	40 <sup>^</sup>	46	40 <sup>^</sup>	46
All other privately-owned land	35		35		35		45
<b>Manning Colliery</b>							
4 – di Rocco	40		36		36		46
5 – Keighran	40		39		39		49
6 – Swan	40		37		37		47
7 – Druitt	40		35		35		45
8 – Macquarie Shores Home Village	42		42		42		47
9 – Jeans	40		37		37		47
11 – Jeans	40		36		36		46
18 – Jeans	40		36		36		46
20 – Knight and all other privately-owned residences	40		36		36		46

<sup>^</sup> = Long Term Noise Goals (where long-term goals differ from consented criteria)

Noise criteria outlined in **Table 2** do not apply if Delta Coal has an agreement with the owner/s of the relevant residence or land to exceed the noise criteria and Delta Coal has advised the EPA and DPIE in writing of the terms of this agreement.

As CVC has been operating for approximately 58 years, some of the predicted noise impacts at local receivers are greater than would usually be permissible without the requirement to offer noise treatments or voluntary acquisition. Notably the relocation of coal handling from CVC to MC in 2017 significantly improved CVC progression toward realising the long-term goals at receivers R11 to R13, where currently monitoring typically notes that occasional forklift and plant start-up warnings can be heard during monitoring at these receivers, while typically the site is inaudible. Consistent with noise monitoring results, community complaints from residents at these receivers regarding noise emissions has significantly decreased.

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In the case of Receiver 22 (R22), replacement of the old axial fan with new centrifugal fans in January 2020 has reduced the noise levels at this residence, but works were still unable to satisfy the long term noise goal of 40 dB(A), with initial monitoring and modelling anticipating a 42.5 dB impact at R22.

Delta Coal have been set requirements to facilitate the long-term noise emissions from the site moving toward the long term noise goals which are identified in **Table 2**. CVC's progress towards achieving the long-term noise emission goals for the site will be documented within CVC's Annual Reviews.

To further identify noise attenuation options to realise the long-term noise goals within Development Consent SSD-5465, Delta Coal will complete a noise mitigation options assessment by 31 June 2022 which will be provided to the Planning Secretary. The noise options assessment will assess feasible and reasonable measures to mitigate noise from CVC operations and the CVC ventilation fan site.

Notably, the Statement of Commitments (Appendix 9) of Development Consent SSD-5465 outlines the following feasible commitments to target long-term noise goals:

- Modification to belt/movement alarms;
- Investigation of surface conveyor and coal preparation equipment to determine if noise reductions are possible (Coal handling at CVC has ceased, as such this has been achieved)
- Identifying sound attenuation options for the surface bulldozer and front-end loader (this equipment no longer operates at CVC);
- Strategic placement of acoustics barriers;
- Attenuation for the surface screener/shaker (this equipment was decommissioned in 2020);
- Installation of quiet rollers for surface conveyor belts (conveyor belts at CVC were decommissioned in 2020 and ceased operation late 2017);
- Acoustic treatments around compressors; and
- The use of conveyor stacker for product coal stockpiling (stockpiling of coal no longer occurs at CVC).

## **2.7 Applicable Meteorological Conditions**

### **2.7.1 Chain Valley Colliery**

The CVC Development Consent SSD-5465 specifies the following meteorological conditions under which noise limits do not apply:

- during periods of rain or hail;
- average wind speed at microphone height exceeds 5 m/s;

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- wind speeds greater than 3 m/s at 10 m above ground level; or
- temperature inversion conditions greater than 3°C/100 m.

The CVC EPL 1770 specifies the following meteorological conditions under which noise limits do not apply:

- wind speeds greater than 3 m/s at 10 m above ground level;
- stability category F temperature inversion conditions and with wind speeds greater than 2 m/s at 10 m above ground level; or
- stability category G temperature inversion conditions.

It is noted that the meteorological exclusions defined in the EPL are more conservative (i.e. noise criteria are likely to be applicable more often than under the exclusion conditions provided in the Development Consent). Therefore, the meteorological exclusions defined in the EPL have been adopted for the purpose of determining the applicability of noise limits. If noise limits are satisfied adopting the EPL meteorological conditions exclusion rules, then the Development Consent noise limits will also be met.

Delta Coal is to take all reasonable steps to minimise the noise impacts of the developments during meteorological conditions where the noise criteria do not apply including:

- Reducing heavy vehicle movement where achievable and practicable, targeting operations on the MC ROM coal stockpile area;
- Utilising underground coal storage capacity through planning to reduce the coal handling plant operation where achievable during very noise enhancing meteorological conditions without impact to the developments coal production; and
- Ensuring enclosure as best as practicable of significant noise generating activities (i.e. doors to coal handling plant and workshops).

### 2.7.2 Manning Colliery

Schedule 3 Condition 2 of PA 06\_0311 state that “Noise generated by the development must be monitored and measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Noise Policy for Industry (EPA, 2017).”

Hence, MC noise limits as provided in Schedule 3 Condition 2 of PA 06\_0311 are applicable under the meteorological conditions used in the environmental assessment process, that is, standard and noise-enhancing meteorological conditions. For ‘very noise-enhancing meteorological conditions’ the noise limit is set based on the relevant limit provided in **Table 2** plus 5 dB. Very noise-enhancing meteorological conditions are defined as those outside of the range of either standard or noise-enhancing meteorological conditions and are as follows:

- wind speeds greater than 3 m/s at 10 m above ground level;

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- stability category F temperature inversion conditions and with wind speeds greater than 2 m/s at 10 m above ground level; or
- stability category G temperature inversion conditions.

### 2.7.3 Measured Meteorological Data

With the exceptions of rain, hail and wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station at MC.

## 2.8 Modifying Factors for Annoying Noise Characteristics

For the purpose of determining the noise generated by each site, relevant modifying factors must be considered. The INP application notes state that Section 4 of the INP has been withdrawn and the modifying factor adjustments outlined in Fact Sheet C of the NPfI are to be used when assessing the characteristics of a noise source.

### 2.8.1 Low Frequency Noise

Fact Sheet C of the NPfI 2017 provides guidelines for applying modifying factor corrections to account for low frequency noise emissions. The NPfI 2017 specifies that a difference of 15 dB or more between site 'C-weighted' and site 'A-weighted' noise emission levels identifies the potential for an unbalanced noise spectrum and potential increased annoyance at a residential receiver.

Where a difference of 15 dB or more between site 'C-weighted' and site 'A-weighted' noise emission levels is identified, the one-third octave noise levels recorded will be compared to the low frequency noise threshold values presented in Table C2 of the NPfI 2017 which has been reproduced in **Table 3** below.

**Table 3: One-third Octave Low Frequency Noise Thresholds**

Frequency (Hz)	10	12.5	16	20	25	31.5	40	50	63	80	100	125	160
dB (Z)	92	89	86	77	69	61	54	50	50	48	48	46	44

Where any of the one-third octave noise levels are exceeded the following modifying factor adjustments are to be applied:

- Where one-third octave values are exceeded by up to or less than 5 dB and cannot be mitigated, a 2 dB positive adjustment to measured/predicted A-weighted levels applies for the evening/night period.
- Where one-third octave values are exceeded by more than 5 dB and cannot be mitigated, a 2 dB positive adjustment to measured/predicted A-weighted levels applies for the evening/night period.

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Methods to mitigate low frequency noise where identified to be causing environmental harm or community impact can include:

- Closing doors on enclosures and buildings at sensitive times
- Enclosing materials handling areas and installing insulation
- Attenuating the exhaust noise of vehicles
- Enclosing conveyors and/or using conveyors with components that do not emit low-frequency or tonal noise (including rollers with noise attenuation designs)
- Where low frequency noise is difficult to isolate, obtaining specialist advice about machinery redesign/alternatives.

### 2.8.2 Tonal noise

Tonal noise is defined in the NPfl as noise containing a prominent frequency and characterised by a definite pitch. Fact sheet C of the NPfl provides guidelines for applying modifying factor adjustments to account for tonal noise emissions.

The NPfl specifies that a 5 dB positive adjustment to measured/predicted A-weighted levels applies if the level of one-third octave band centre frequency (measured using unweighted or Z-weighted weighting) exceeds the level of the adjacent band on both sides by:

- 5 dB or more if the centre frequency of the band containing the tone is in the range 500-10,000 Hz; or
- 8 dB or more if the centre frequency of the band containing the tone is in the range 160-400 Hz; or
- 15 dB or more if the centre frequency of the band containing the tone is in the range 25-125 Hz.

## 2.9 Construction Noise

In accordance with Condition 1, Schedule 3 of the MC Project Approval, noise generated by construction work is to be managed in accordance with the requirements outlined in the NSW Department of Environment and Climate Change (DECC), Interim Construction Noise Guideline (ICNG), 2009.

Condition 8, Schedule 3 of the Development Consent SSD-5465 also requires that Delta Coal implement best management practice to minimise construction noise generated by the development.

Prior to any undertaking any construction project at CVC or MC (as defined in the POEO Act), the following steps are to be undertaken to manage noise impacts from construction activities:

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1. Identify sensitive land uses that may be affected
2. Identify hours for the proposed construction works
3. Identify noise impacts at sensitive land uses
4. Select and apply the best work practices to minimise noise impacts.

It is recommended that where construction projects are to occur on the surface that these works be undertaken during recommended standard hours being Monday to Friday 7 am to 6 pm and Saturday 8 am to 1 pm as outlined in the ICNG (DECC 2009).

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### 3 Management and Mitigation

#### 3.1 Noise Management Strategy

The noise management strategy has been based on the principals of the noise mitigation strategies outlined in the NPfI (2017), and prioritises avoiding activities which will create noise disturbance (i.e. planning activities in less sensitive hours), minimising noise output from operating plant and machinery and finally to manage noise emissions. The Delta Coal noise management strategy is presented in order of most preferred to least preferred being:

- Controlling noise at the source using best management practices where possible and practicable;
- Controlling noise transmission, such as the implementation of physical barriers;
- Receiver controls, such as improving insulation and implementing window glazing at identified receivers.

#### 3.2 Noise Management System

The Delta Coal Noise Management system includes the management / feasible mitigation of noise, assessing the noise performance of the developments and reporting the effectiveness of the noise management system. Management and mitigation of noise generating plant and equipment during the operation of the collieries is outlined within **Section 3**, the effectiveness of this noise management system is evaluated by undertaking noise monitoring (**Section 4**) and assessing the noise impact to community through received noise complaints (**Section 6.1**). The outcomes of assessment of the noise management system are reported as per routine reporting, annual reporting and incident/non-compliance reporting outlined in **Section 5**.

##### 3.2.1 Chain Valley Colliery

For the activities undertaken at CVC with potential to generate noise emissions, the following controls are implemented to minimise, monitor and manage the noise impacts associated with the mine operations:

- Coal haulage, both on private property and on public roads, is undertaken using road registered trucks with adequate exhaust systems;
- Air compressors are contained within a 3-sided enclosure to limit noise propagation;
- The upgraded ventilation fans had acoustic modifications and design changes applied to target noise reductions and reduce tonal noise compared to the old fan installation, including; acoustic enclosure of the fan motors; silencers on the inlet side of the main impeller housing; outlet silencers on the vertical stack of each fan and increased fan casing thickness.
- Coal is transported under-ground via a link to MC. Road haulage operations from CVC on public roads when/if required are only undertaken between the hours of 5:30am and 5:30pm Monday to Friday, and not at all on weekends or public holidays;

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- Road haulage operations to Vales Point Power Station are restricted during the hours of 10pm to 5:30am during Spring and Autumn months and not permitted between 10pm and 5:30am during Winter months.
- Major surface electrical motors and components for the haulage and transport system and conveyor system are contained within buildings;
- The conveyor transfer point into the final product bin is enclosed;
- Primary coal crushing and sizing occurs underground;
- Attended monitoring is undertaken on a quarterly basis (every 3 months) and provides results to identify potential or actual non-compliances and primary noise sources, which allows any necessary management actions to be developed based on results of ongoing monitoring;
- A maintenance/work order system is used to ensure equipment repairs and maintenance are conducted so that all plant and equipment used on site are maintained and operated in a proper and efficient manner.

### 3.2.2 Manning Colliery

For the activities undertaken at MC with potential to generate noise emissions, the following controls are implemented to minimise, monitor and manage the noise impacts associated with the mine operations:

- Both haulage systems for the primary entry and egress of the mine are electrically powered;
- All conveyor coal transfer points are enclosed;
- The transfer of coal into the product coal bin is enclosed;
- Primary coal crushing and sizing occurs underground;
- The surface coal crushing and sizing facilities are enclosed;
- Loading and stockpiling activities are avoided or minimised wherever possible;
- Fit for purpose equipment is used to manage the coal stockpile;
- Mine ventilation fan motors are housed within a dedicated building to reduce noise propagation;
- Attended monitoring is undertaken on a monthly basis and provides results to identify potential or actual non-compliances and primary noise sources, which allows any necessary management actions to be developed based on ongoing monitoring; and

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- A maintenance/work order system is used to ensure equipment repairs and maintenance are conducted so that all plant and equipment used on site are maintained and operated in a proper and efficient manner.

The personnel responsible for the above management measures are detailed in **Section 9**.

### 3.3 Noise Mitigation Measures

#### 3.3.1 Chain Valley Colliery

It is noted that there was a noticeable reduction in complaints and incidents following the introduction of the underground link road which enabled ROM coal transfer underground between CVC and MC. The relocation of coal handling operations to MC has been the primary noise mitigation measure and reason for noise reduction at CVC.

A comparison of the proposed noise mitigation measures outlined within the CVC NMP (2016) and mitigation measures undertaken in 2019/2020 is provided below in **Table 4**.

**Table 4 Noise Mitigation Comparison**

Location	2016 CVC Noise Management Plan Proposal	2020 Mitigation Status
CVC Fan Site	Additional acoustic treatment for the main ventilation fans	Fan upgrade undertaken in December 2019 including the installation of acoustic attenuation
CVC Pit Top	Acoustic treatments around compressors	Compressors housed in brick sheds and previously identified at nearest potentially affected receptors (CVC mine cottages) were demolished in August 2020

Further actions for reducing noise impacts will be implemented as determined by future noise audits, which are to be completed in conjunction with each independent environmental audit (refer Section 7.2).

Delta Coal will complete a noise mitigation options assessment to further determine potential noise reduction methods, in particular, to target long-term noise goals.

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### 3.3.2 Manning Colliery

#### 3.3.2.1 Noise Mitigation Report

In addition to the existing mitigation strategies identified in Section 3.1.2, upon recommencement of underground coal production at MC, a noise mitigation report (EMM Consulting Pty Ltd, April 2019) was prepared to investigate noise mitigation measures required to achieve the noise limits applied to the site. The report was prepared in consultation with the NSW EPA and DPIE and submitted for approval within 6 months after recommencement of underground coal extraction. Actions arising from the noise mitigation report were implemented along with associated noise mitigation measures.

Within the Statement of Commitments (Commitments for Modification 5) appended to the Project Approval, Delta Coal committed to the decommissioning of the surface rotary breaker to reduce noise emissions. The surface rotary breaker was decommissioned in June 2020.

Condition 3A(g) of the MC Project Approval required Delta Coal to implement reasonable and feasible measures to further enclose the structure housing the coal crusher in order to further mitigate noise from operational activities. Delta Coal completed enclosure of openings within the structure housing the surface coal crusher in July 2020.

#### 3.3.2.2 Noise Compliance Report

A Noise Compliance Report (NCR) was prepared for MC in 2019 by EMM Consulting Pty Ltd in order to investigate and evaluate the effectiveness of the noise mitigation measures required within previous Project Approval (MOD 4).

The minimum requirements in terms of number and timing of noise compliance surveys were achieved. Results of the operator-attended noise monitoring program determined that the noise emissions from MC generally complied with the relevant noise limits at the nearest residential areas.

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## 4 Monitoring and Measurement

### 4.1 Noise Sensitive Receptors

#### 4.1.1 Chain Valley Colliery

The nearest noise sensitive receptors to CVC are considered to comprise:

- Kingfisher Shores approximately 400 m to the east
- Manning Park approximately 1,000 m to the northwest
- Macquarie Shores Home Village (MSHV) approximately 1,200 m to the southeast
- Tom Barney Oval approximately 700 m to the west.

#### 4.1.2 Manning Colliery

The nearest noise sensitive receptors to MC are considered to comprise:

- Kingfisher Shores located approximately 1,350 m to the northeast
- Macquarie Shores Home Village (MSHV) located approximately 700 m to the east
- Rural residential properties to the south and fronting the Pacific Highway.

### 4.2 Attended Noise Monitoring Locations and Limits

A summary of attended noise monitoring locations for CVC and MC has been provided below with attended monitoring locations and identified receivers are shown on **Figure 2 (Manning Colliery)** and **Figure 3 (chain Valley Colliery)**

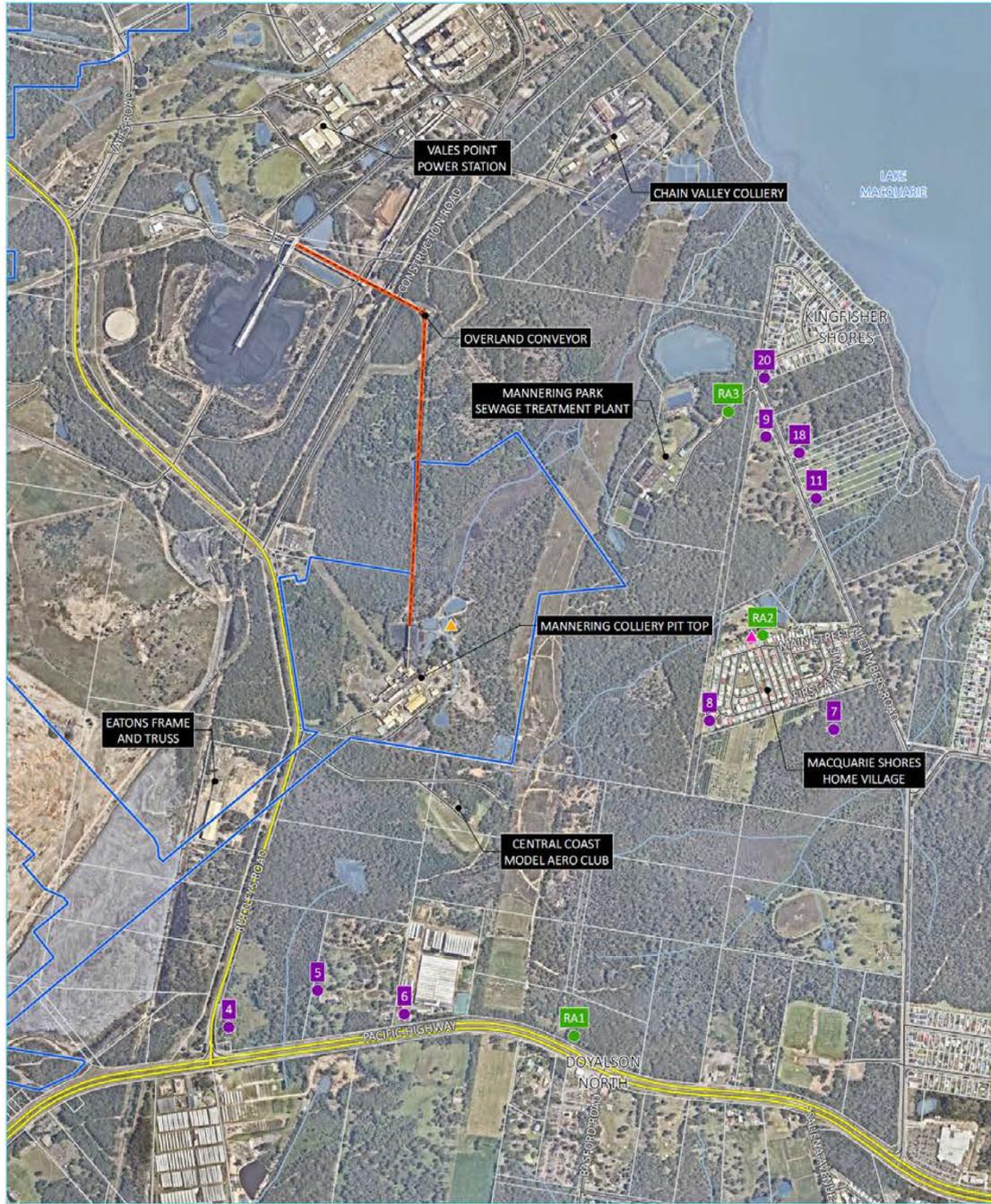
#### 4.2.1 Compliance to Noise Limits

Attended noise monitoring is to be undertaken at required frequencies (**Section 4.3**) to determine the Collieries compliance with noise limits (**Section 2.6**). Attended monitoring is undertaken by a suitably qualified person and the noise contributions of the site are to be determined during the attended monitoring periods.

Site contributions to receiving environment determined during attended monitoring are to be compared to the applicable site's noise limits to evaluate the effectiveness of the on-site noise management system and compliance against the noise operating conditions.

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**Figure 2: Manning Colliery Noise Monitoring Locations**



Source: EMM (2019); NeurMap (2019); DFSI (2017)

0 250 500  
3 m  
GDA 1994 MGA Zone 56 N

**KEY**

- Manning Colliery project approval boundary
- Alignment of overland conveyor to VPPS
- Main road
- Local road
- Watercourse/drainage line
- Waterbody
- Cadastral boundary
- Assessment location
- Attended monitoring location
- ▲ Continuous monitoring location
- ▲ Meteorological station

Noise monitoring and assessment locations

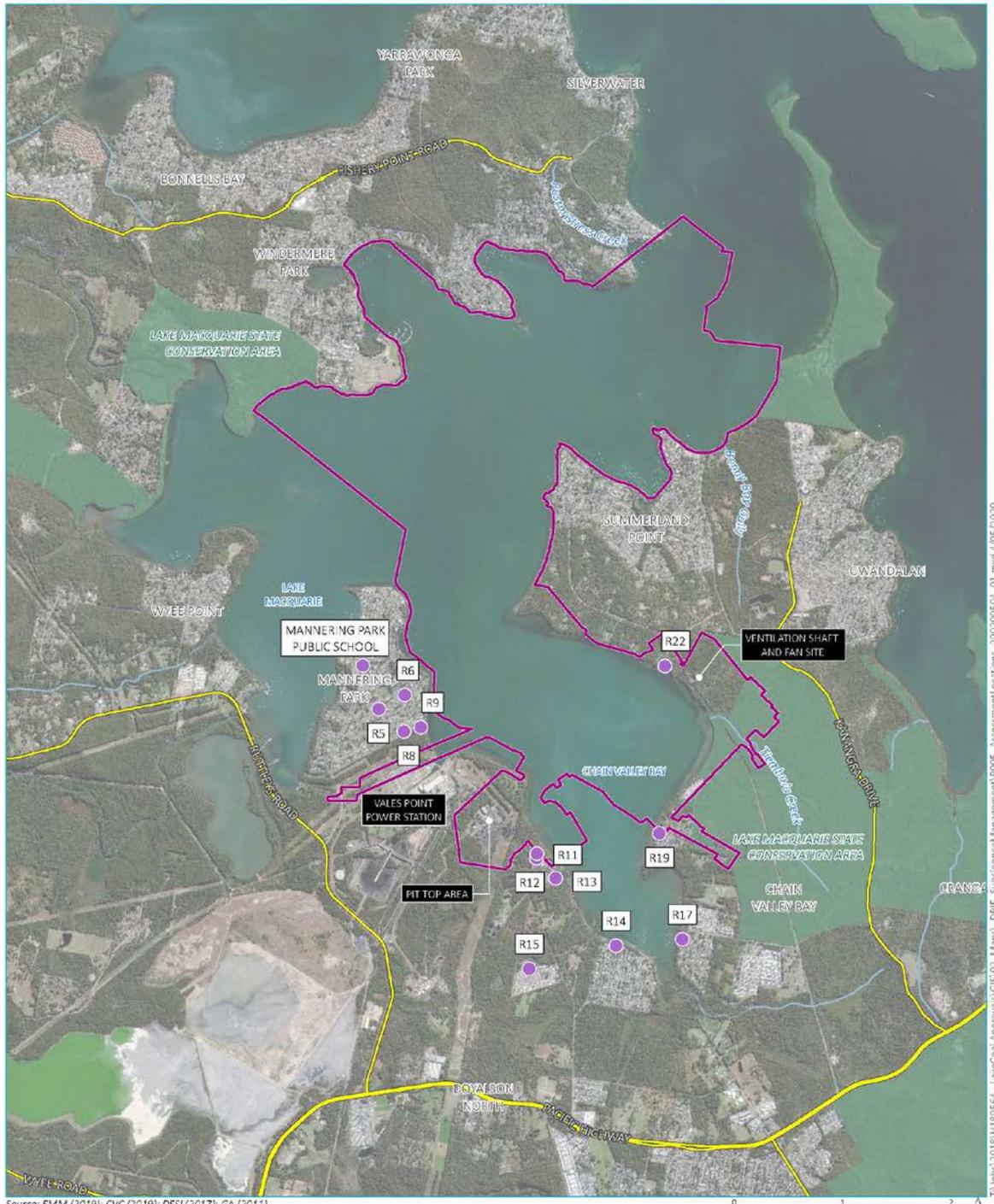
Manning Colliery  
Noise monitoring program  
Figure 2



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**Figure 3: CVC Noise Monitoring Locations and Receivers**



Source: EMM (2019), CVC (2019), DFSI (2017), GA (2011)

- KEY**
- Assessment location
  - Chain Valley Colliery development consent boundary
  - Main road
  - Watercourse/crainage line
  - NPWS reserve

Assessment locations

Chain Valley Colliery  
Modification 3

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#### 4.2.2 Chain Valley Colliery

Consistent with the noise impact assessment prepared by AECOM Pty Ltd for CVC in 2011 and undertaken as part of the Environmental Impact Statement (EIS) for Development Consent of SSD-5465, residential receivers have been divided into seven (7) noise catchment areas with similar geographical and acoustic features. The following points are considered representative of each noise catchment area:

- ATN001, representative of EPL 1770 monitoring point identification number 9, also identified in Development Consent SSD-5465 as receiver 'R8'. The attended monitoring point captures noise emissions at privately-owned residential properties located in Manning Park, northwest of the Chain Valley Colliery pit top. The dominant noise sources in this area are birds, insects, traffic and other industrial sources;
- ATN002, representative of EPL 1770 monitoring point identification number 12, also identified in Development Consent SSD-5465 as receiver 'R11'. The attended monitoring point captures noise emissions at privately-owned residential properties located in Kingfisher Shores, south-east of the Chain Valley Colliery pit top. The dominant noise sources in this area are birds, insects, traffic and other industrial sources;
- ATN003, representative of EPL 1770 monitoring point identification number 16, also identified in Development Consent SSD-5465 as receiver 'R15'. The attended monitoring point captures noise emissions at privately-owned relocatable residences within MSHV, south of the Chain Valley Colliery pit top. The dominant noise sources in this receiver area are birds, insects, traffic and other industrial sources. Activities at Manning Colliery are also audible at times;
- ATN004, representative of Development Consent SSD-5465 receiver 'R14'. The attended monitoring point captures noise emissions at privately-owned residential properties located in Chain Valley Bay South, south-east of the Chain Valley Colliery pit top. The dominant noise sources in this area are birds, insects, traffic and other industrial sources;
- ATN005, representative of Development Consent SSD-5465 receiver 'R17'. The attended monitoring point captured noise emissions at privately-owned residential properties located in Chain Valley Bay East, south-east of the Chain Valley Colliery pit top. The dominant noise sources in this area are birds, insects, traffic and other industrial sources;
- ATN006, representative of EPL 1770 monitoring point identification number 20, also identified in Development Consent SSD-5465 as receiver 'R19'. The attended monitoring point captures noise emissions at privately-owned residential properties located in Chain Valley Bay North, east of the Chain Valley Colliery pit top. The dominant noise sources in this area are birds, insects, traffic and other industrial sources
- ATN007, representative of EPL 1770 monitoring point identification number 23, also identified in Development Consent SSD-5465 as receiver 'R22'. The attended monitoring point captured

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noise emissions at privately-owned residential properties located in Summerland Point, surrounding Chain Valley Colliery’s Summerland Point ventilation shaft and fan site. The dominant noise sources in this area are birds, insects, traffic and the Summerland Point ventilation shaft and fan site.

It is noted that, with reference to the requirements of the EPL, two receivers were not considered to be captured by the seven (7) noise catchment areas outlined in the EIS and as such, monitoring is to be undertaken at the following points in addition to locations ATN001 to ATN007:

- R12, identified in EPL 1770 as noise monitoring point 13, noted to be adjacent to ATN002 at Kingfisher Shores on Lakeshore Avenue, Kingfisher Shores; and
- R13, identified in EPL 1770 as noise monitoring point 14, located on Karoola Avenue, Kingfisher Shores.

The spatial locations of the CVC attended monitoring locations and relevant noise criteria are detailed in **Table 5** below.

**Table 5: Noise Monitoring Locations and Limits for Chain Valley Colliery**

Location	Receivers Represented	Coordinates	Day	Evening	Night	Night
	EPL 1770 ID SSD-5465 ID		<i>L<sub>Aeq(15 min)</sub></i> dB (A)	<i>L<sub>Aeq(15 min)</sub></i> dB (A)	<i>L<sub>Aeq(15 min)</sub></i> dB (A)	<i>L<sub>A1(1 min)</sub></i> dB (A)
ATN001	EPL #9	364140 E	35	35	35	35
	R8	6330594 N				
ATN002	EPL #12	365218 E	49	49	49	54
	R11	6329388 N				
ATN003	EPL#16	365165 E	36	36	36	45
	R15	6328323 N				
ATN004	N/A	365949 N	35	35	35	45
	R14	6328530 E				
ATN005	N/A	366560 N	35	35	35	45
	R17	6328590 E				
ATN006	20	366305 N	37	37	37	45
	R19	6329321 E				
ATN007	23	366425 N	46	46	46	46
	R22	6331135 E				
R12	13	365185 N	49	49	49	53
	R12	6329352 E				
R13	14	365391 N	43	43	43	49
	R13	6329169 E				

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The above noise monitoring locations are representative of residential receivers most likely to be affected by CVC operational noise. Adherence with the relevant noise criteria at these locations will indicate that noise criteria will be met at other surrounding noise-sensitive locations.

#### 4.2.3 Manning Colliery

Consistent with the Noise Impact Assessment (EMM 2019) undertaken as part of the Project Approval MP06\_0311 MOD 5, rural and residential receivers have been divided into three (3) receiver areas (RA's) with similar geographical and acoustic features. The following points are considered representative of each receiver area:

- RA1, rural residential properties south of MC and fronting the Pacific Highway. The dominant noise source in this area is road traffic. Birds, insects and other industrial sources are also audible at times.
- RA2, privately-owned relocatable residences within the MSHV, east of MC. The dominant noise sources in this RA are birds, insects, traffic and other industrial sources. Activities at MC are also noted to be audible at times.
- RA3, various rural residential residences on Tall Timbers Road at Kingfisher Shores and adjacent to the Chain Valley Bay suburban area. The dominant noise sources in this RA are birds, insects, other industrial sources and traffic movements. Activities at MC are also noted to be audible at times.

The attended noise monitoring locations for MC and relevant noise criteria are identified below in **Table 6**.

**Table 6: Noise Monitoring Locations and Limits for Manning Colliery**

<b>Location</b>	<b>Receivers Represented MP06_0311 ID</b>	<b>Coordinates</b>	<b>Day</b> <i>L<sub>Aeq(15 min)</sub></i> <i>dB (A)</i>	<b>Evening</b> <i>L<sub>Aeq(15 min)</sub></i> <i>dB (A)</i>	<b>Night</b> <i>L<sub>Aeq(15 min)</sub></i> <i>dB (A)</i>	<b>Night</b> <i>L<sub>A1(1 min)</sub></i> <i>dB (A)</i>
RA1	4, 5, 6	364646E 6327221N	40	36	36	46
RA2	7, 8	365164E 6328332N	40	40	40	45
RA3	9, 11, 18, 20	365069E 6328953N	40	39	39	49

The above noise monitoring locations are representative of residential receivers most likely to be affected by MC operational noise. Adherence with the relevant noise criteria at these locations will indicate that noise criteria will be met at other surrounding noise-sensitive locations.

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Justification of the noise limits presented in **Table 6** is made in the letter report; *Manning Colliery noise limit recommendations at noise compliance monitoring locations* (EMM, 2020) and provided in **Appendix F**. The EMM August 2020 letter report provided the following justification of each attended monitoring location:

- RA1 – A conservative approach was taken in determining applicable noise limits for RA1, with the minimum noise limit applicable to any of the representative residences adopted;
- RA2 – The existing noise model for Manning Colliery was updated to include monitoring location RA2. Noise levels were predicted based on the worst-case, applicable meteorological conditions and are consistent with those presented in the Noise Impact Assessment (EMM, 2019) undertaken as part of Project Approval MP06\_0311; and
- RA3 - The existing noise model for Manning Colliery was updated to include monitoring location RA3. Noise levels were predicted based on the worst-case, applicable meteorological conditions and are consistent with those presented in the Noise Impact Assessment (EMM, 2019) undertaken as part of Project Approval MP06\_0311.

### 4.3 Attended Noise Monitoring Frequency

The frequency of attended noise monitoring at both MC and CVC has been outlined in **Table 7** below.

**Table 7: Attended Monitoring Frequencies**

Monitoring Location ID	Frequency	Monitoring Periods
<b>Chain Valley Colliery</b>		
ATN001	Quarterly (at least every 3 months)	Day  Evening  Night
ATN002		
ATN003		
ATN004		
ATN005		
ATN006		
ATN007		
R12		
R13		

Manning Colliery		
RA1	Monthly	Evening Night
RA2		
RA3		

#### 4.4 Attended Noise Monitoring Methodology

Attended monitoring is used to evaluate compliance with the consented noise limits. Attended monitoring methodology varies slightly between CVC and MC due to variation between EPL 1770 and Development Consent SSD-5465. Attended monitoring durations are as follows:

- Manning Colliery: each attended noise survey is of a 15-minute duration during the evening and night period (as defined in the NPfI) at frequencies in accordance with **Table 7**.
- Chain Valley Colliery: for three (3) quarters each attended noise survey is to be of a 15-minute duration during each day, evening and night (1am – 4am) period. For one (1) quarter monitoring must occur during each day, evening and night period as defined in the NSW Industrial Noise Policy (EPA, 2000) for a minimum of 1.5 hours during the day; 30 minutes during the evening; and 1 hours during the night. Each quarterly monitoring must be undertaken on different day(s) of the week not including Saturdays, Sundays and public holidays.

Attended measurements are undertaken and assessed by suitably qualified persons engaged to complete the monitoring.

All attended noise monitoring undertaken as part of the noise monitoring program shall be in accordance with the requirements of AS 1055:2018 Acoustics - Description and measurement of environmental noise, and relevant guidelines.

If at any time during monitoring, meteorological conditions are such that noise limits do not apply, then monitoring and reporting will still be carried out, however it will be outlined within the report what the meteorological conditions were at the time.

All acoustic instrumentation used for the monitoring will have current calibration certificates and shall be designed to comply with the requirements of AS/NZS IEC 61672.1:2019 Electroacoustics - Sound level meters, Part 1: Specifications.

During each attended monitoring survey, the following information will be recorded:

- Person undertaking the monitoring;
- location of monitoring;

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- date and time that monitoring began and ended for each location;
- recording intervals;
- meteorological conditions, including temperature, wind speed, wind direction, cloud cover and humidity;
- notes identifying all noise sources that contribute to measured levels;
- sound level meter and calibrator type/serial number;
- calibration details before and after the monitoring period;
- the LAeq(15minute) and LA1(1minute) noise levels (to allow comparison with the relevant criteria);
- statistical noise level descriptors including LAmin, LA90, LA10, LA1 and LAmax;
- an estimate of the noise contribution from the relevant operations (i.e. MC or CVC);
- data in one-third octave bands to assess if the noise sources exhibit characteristics that may require application of modifying factors; and
- C-weighted and A-weighted levels to assess low frequency noise in accordance with the NPfl 2017 and determine if a correction is required.

The results from the attended monitoring, including determination of compliance with noise criteria, are undertaken and reported back to Delta Coal in a formal report following the completion of each monitoring survey.

In addition to the regular monthly reporting as detailed above, the monitoring consultant is to be instructed to report any non-compliance immediately to the Environmental Compliance Coordinator (ECC) who will commence the non-compliance reporting process as detailed in **Section 5.3**.

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#### 4.5 Real-Time Continuous Monitoring

Delta Coal operates a continuous directional and omni-directional noise logger located adjacent to the attended monitoring location at Short Street (RA2) representative of receivers at Macquarie Shores Home Village. The monitoring data is remotely accessible and is used to supply continuous noise data in accordance with Condition 3B, Schedule 3 of the Project Approval MP06\_0311. The real-time noise monitoring location has been termed RA4 and is identified on **Figure 2**, further details pertaining to the continuous noise monitor are provided in **Table 8**. Real time continuous directional noise monitoring provides for instant feedback as well as alarm notification to site personnel in periods of elevated noise levels or what may be a potential noise exceedance, triggering investigation into potential noise sources where the colliery’s contribution to real-time recorded noise can be evaluated and when applicable management or mitigation actions can be implemented. Delta coals response to alarms from the real-time directional noise monitor is provided in **Section 4.7**.

Figure 4 – Delta Coal BarnOwl - Real-time directional noise monitor.

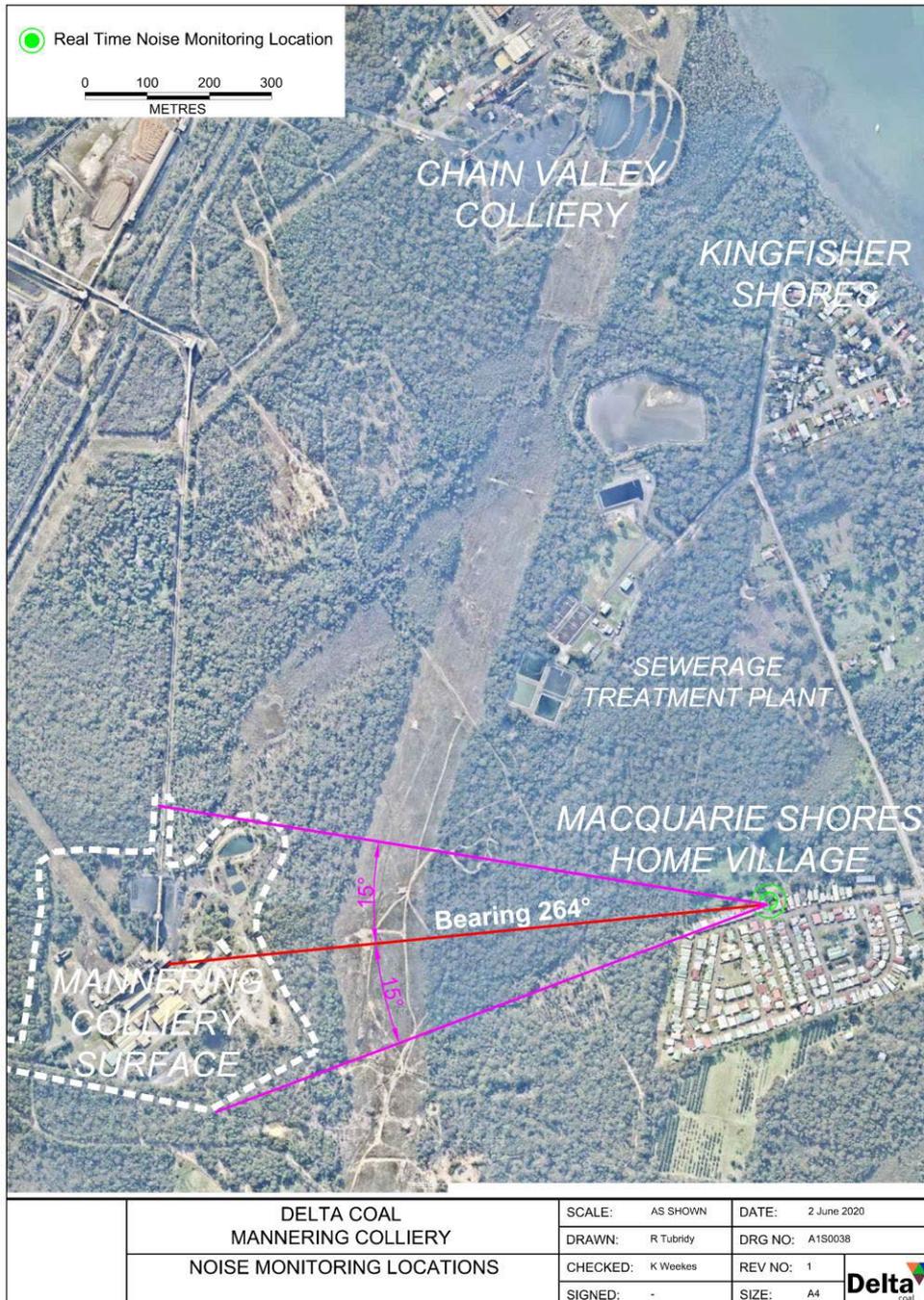


The real-time directional noise monitoring is utilised for guidance to understanding Manning Colliery’s contribution to noise at monitoring location RA2 and receivers 7 and 8 in Project Approval MP06\_0311. The continuous real time monitoring data is not utilised to determine compliance with noise limits as the noise levels recorded by the monitor does not represent noise sourcing only from Manning Colliery, rather records noise from all sources. Filters (particularly low-pass frequency filters) and directional filters can be applied to the data post recording to assist with improving the representation of Manning Colliery within the data set. The data is used to determine the noise

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contribution from the MC pit-top and its potential noise effects on the nearby Macquarie Shores Home Village residents. The location and filtered direction of the real-time directional noise monitor to other potential industrial sources is shown on **Figure 5**. Manning colliery operations have been identified to be in ranges below 800Hz, as such a filter for 10Hz to 800Hz can be reviewed to determine MC contributions to potential alternate higher frequency interference (i.e. insects and birds). Recordings can be physically retrieved from the logger following alarms to identify potential noise sources (for example where an alarm is received from the logger).



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Delta Coal has operated a continuous noise monitor which is located adjacent the former CVC mine cottages near the Lake Macquarie foreshore (RTN001). The CVC mine cottages are noted to have been demolished in July 2020, which were considered to be the only private receivers represented by the logger. As detailed within the Delta Coal Show Cause Notice response on the 17<sup>th</sup> October 2019 to DPIE the noise logger was removed by Lake Coal. The continuous noise monitor was reinstated by Delta Coal in October 2019. Due to the change of major surface activities, particularly coal handling from CVC to MC, a continuous noise monitor was installed to monitor noise sourcing from MC as discussed above. Delta Coal considers the requirement for a continuous monitor to be installed at the former CVC mine cottages to have been superseded by the removal of potential receivers at the monitoring location and the requirement to have a continuous noise monitor within Project Approval MP06\_0311 Condition 3C(d), Schedule 3.

*Table 8 Continuous Noise Monitor*

Monitoring Location ID	Coordinates	Monitoring Unit
RA4	365177E 6328349N	Barn Owl Monitor – all pass and low pass, directional and omni-directional noise monitor.

In accordance with Condition 3C of Schedule 3 within the MC Project Approval, Delta Coal is to ensure the calibration and validation of real-time noise monitoring results with attended monitoring results over time. Delta Coal achieves this by:

- Monthly comparison and review of attended monitoring results to directional monitoring results, calculating the difference between comparable measurements, and site contribution to directional monitoring results and used in calibration and improving the representativeness of the real-time monitoring system. Records of comparison are maintained within the Delta Coal Environmental Management System. Real time data from Delta Coals noise loggers is accessible to the attended monitoring consultant and compared following attended monitoring. Attended monitoring result comparisons are to be provided to the specialist contractor for the unit to aid in calibration; and
- Maintaining records of monthly calibrations of the real-time noise monitor within Delta Coal’s Environmental Management System.

#### 4.6 Meteorological Monitoring

Delta Coal operate a meteorological station at MC in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales, method AM-4. The location of the

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meteorological station is identified on **Figure 2**. Real-time meteorological data collected is utilised to inform the noise management system of the applicable noise limits (or when noise limits are applicable discussed in **Section 2.7**) by measuring following meteorological parameters relevant to the assessment of noise emissions:

- Wind speed and wind direction at 10 m above ground level;
- Sigma-theta at 10 m above ground level (temperature inversion stability class);
- Delta temperature ( $\Delta T$ ) between 2m and 10m;
- Rainfall.

The meteorological station is identified as Point 26 in EPL 1770 and Point 8 in EPL 191.

Bureau of Meteorology data for Manning Park is utilised to forecast potential noise enhancing conditions, particularly significant forecasts to potential noise enhancing conditions for nearby receptors are wind direction, wind speed and minimum and maximum temperatures.

#### **4.7 Noise Exceedance Protocol**

If attended noise monitoring identifies that noise emissions from Delta Coal operations have met or exceeded any of the relevant noise criteria presented in **Table 4** and **Table 5**, the Trigger Action Response Plan presented in **Table 9** will be implemented.

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Table 9 - Noise Monitoring Trigger Action Response Plan

1. Attended Noise Monitoring	Normal	Trigger 1 –	Trigger 2 – Attended noise monitoring results for CVC/MC contribution to noise at the receiver exceeds noise limits
	Site contributions are inaudible or less than the noise limit.	Attended noise monitoring results for CVC/MC contribution to noise at the receiver is equivalent to noise limit.	Attended noise monitoring results for CVC/MC contribution to noise at the receiver exceeds the noise limit.
<b>ACTIONS</b>	The operation / activity may continue.	<ol style="list-style-type: none"> <li>1. Notify the Control Room Operator and Environmental Compliance Officer immediately prompting an immediate review of operating plant to determine if noise mitigation is achievable.</li> <li>2. Follow-up investigation including: <ul style="list-style-type: none"> <li>o review of meteorological conditions to determine if 'very noise enhancing conditions' were applicable (NPfl 2017)</li> <li>o Identifying the on-site source of noise for meeting the noise limits</li> <li>o Review operation of plant/equipment and any potential malfunctioning requiring correctional maintenance</li> <li>o If the source of noise is due to normal operations identify mitigation methods for on-site noise (<b>Section 3</b>)</li> </ul> </li> <li>3. Implement reasonable and feasible methods to mitigate noise generated from the site.</li> </ol>	<ol style="list-style-type: none"> <li>1. Consultant conducting monitoring to Contact the Delta Coal Control Room Operator and Environmental Compliance Coordinator immediately following the exceedance of the limit to confirm the operational status of the site.</li> <li>2. Delta Coal CRO to undertake an immediate review of operating plant in consultation with the monitoring consultant to determine what noise generating equipment was likely to cause the exceedance and to cease its operation.</li> <li>3. Following confirmation of the mitigation measures to be implemented by Delta Coal (within a 45-minute period), an additional measurement will be undertaken at the receiver to confirm compliance. <ul style="list-style-type: none"> <li>o Determine if very noise enhancing meteorological conditions were occurring, by reviewing MC meteorological station data and if +5db(A) is applied to limits; and</li> <li>o If the follow-up round of monitoring does not confirm compliance with noise limits, surface operations at the exceeding site are to cease until day.</li> </ul> </li> <li>4. Delta Coal must notify regulatory agencies (DPIE and NSW EPA) immediately (within the day of being aware or in the event of evening/night monitoring the following day) of the exceedance (<b>Section 5.3</b>).</li> <li>5. Investigate the incident, and implement corrective measures (in the event of a malfunction of equipment) or mitigation measures as required to satisfy noise limits. <ul style="list-style-type: none"> <li>o if the plant is considered critical to the operation, restrict operation of plant identified to have caused or significantly contributed to the noise exceedance to day periods only, until mitigation measures can be implemented. If the plant is non-critical or an alternative can be feasibly arranged the plant is not to operate until mitigation is achieved.</li> </ul> </li> <li>6. Follow up monitoring is to be scheduled within 7 days of any recorded exceedance where meteorological conditions where applicable and impacted land-owners are to be notified.</li> </ol>

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2. Continuous Directional Noise Monitor (MC)	Normal	Trigger 1	Trigger 2
<b>ACTIONS</b>	<ul style="list-style-type: none"> <li>MC directional (low frequency) not exceeding noise limits</li> </ul>	<ul style="list-style-type: none"> <li>MC directional (all pass and low frequency) continuous monitoring approaches noise limits (within 1 dB(A) of the noise limit during evening/night period)</li> </ul>	<ul style="list-style-type: none"> <li>MC directional (low frequency) exceeds noise limits (evening/night).</li> </ul>
	<ol style="list-style-type: none"> <li>The operation / activity may continue.</li> </ol>	<ol style="list-style-type: none"> <li>Warning alarm (email) sent to Environmental Compliance Coordinator.</li> <li>Review of site operations, noise data, meteorological conditions and recorded audio (as required) to identify likely cause of approaching noise limits and if reasonable and feasible mitigation measures can be implemented.</li> </ol>	<ol style="list-style-type: none"> <li>Email to be sent to environmental Compliance Coordinator and the Delta Coal Control Room Officer.</li> <li>Control room officer to initiate a review of MC operations to determine likely cause of the elevated recorded noise, and where achievable noise mitigation measures are to be implemented until a review of the measured noise levels can be undertaken.</li> <li>Review of site operations, noise data, meteorological conditions and recorded audio (as required) to identify likely cause of exceeding noise limits.</li> <li>if the cause is considered to be attributed to the site's operations, attended noise monitoring is to be scheduled within 7 days of the exceedance or as soon as reasonably practicable to further assess MCs compliance to noise limits.</li> </ol>

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## 5 Reporting

### 5.1 Routine Monitoring Reporting

Upon receipt of each noise monitoring report, results will be reviewed to confirm compliance with the noise limits specified in **Table 4** and **Table 5**. This will ensure corrective action is taken where results or trends indicate a non-compliance or risk of future non-compliance.

Following receipt and acceptance of results by Delta Coal, within 7 days reports will be published on the Delta Coal website ([www.deltacoal.com.au](http://www.deltacoal.com.au)).

### 5.2 Annual Review

Noise monitoring results for CVC and MC will be presented within the applicable Annual Review for each site and will include:

- Summaries of monitoring results for the previous calendar year
- Comparison of noise monitoring results against the noise impact criteria
- Comparison of the measured noise impacts to those predicted in the Environmental Assessment
- Analysis of the potential cause(s) of any significant discrepancies between measured and predicted levels.

The Annual Review for each site will also identify any trends in noise impacts and identify any non-compliance over the year as well as describing any actions currently implemented or planned to ensure compliance with the noise impact criteria.

The Annual Reviews will be provided to the relevant authorities and a copy placed on the Delta Coal website.

### 5.3 Incident or Non-Compliance Reporting

If results of noise compliance monitoring determine that Delta Coal operational noise emissions have exceeded the relevant noise limits, Delta Coal is to notify relevant agencies as soon as practicable of a non-compliance to noise limits and follow the trigger action response plan (**Section 4.7 – Table 9**). Relevant agencies will be notified by phone or email at the earliest opportunity of an incident that causes or threatens to cause material harm to the environment. For all other incidents, relevant agencies will be notified by phone or email as soon as practicable. In accordance with Condition 6, Schedule 6 of Development Consent SSD-5465 the notification must be emailed to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) and submitted also to the Major Projects Planning Portal website.

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The investigation into the incident will consider any activities, plant operations or other factors that may have caused or contributed substantially to the non-compliance and an investigation report will be prepared. The investigation report will be provided to any affected landowner and/or existing tenants, including tenants of mine owned properties. The report will:

- Describe the date, time and nature of the exceedance / incident;
- identify the cause (or likely cause) of the exceedance / incident;
- describe what action has been taken to date; and
- describe the proposed measures to address the exceedance / incident.

Delta Coal will address suspected sources of noise outlined in the incident and undertake, when practicably achievable, the recommendations of the investigation in order to minimise the potential for any similar future non-compliance issues.

Additional details of the incident reporting procedure are provided within the Delta Coal Environmental Management Strategy.

In accordance with the Development Consent SSD-5465, where an exceedance is measured against CVC noise limits, the incident/non-compliance report will be provided to the affected landowner as well as DPIE and EPA within seven (7) days of the date of the incident.

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## 6 Stakeholder Management, Response and Training

### 6.1 Complaint Protocol

Delta Coal has a 24-hour telephone hotline (1800 115 277) through which members of the public can lodge complaints, concerns or raise issues associated with the operation. This service aims to promptly and effectively address community concerns and environmental matters. All complaints are recorded and responded to and corrective actions implemented where necessary.

All complaints are to be documented in the sites complaints register, along with the corrective action(s) undertaken. The information recorded in the complaints register includes:

- Date and time the complaint was lodged and when applicable, date and time the complaint is referencing
- Personal details provided by the complainant (i.e. name, contact number, address / residence location)
- Method by which the complaint was made
- Nature of the complaint
- Action taken or, if no action was taken, the reasons why
- Details of any follow up contact with the complainant.

Following a noise complaint an investigation is undertaken by Delta Coal to assess the noise disturbance and identify specific contributing plant/equipment where reasonable and feasible mitigation methods can be implemented to reduce noise disturbance. Upon receiving a complaint Delta Coal is to immediately acknowledge the complaint and within 7 days of the complaint the outcomes of the investigation or an update on the investigation is to be provided to the complainant with an otherwise agreed time to determine the outcomes of the investigation.

Additionally, the following measures may be implemented or undertaken as relevant:

- A review of management practices to systematically identify and implement options to modify site practises so as to ensure effective control of noise-generating activities and achieve the noise criteria stated in this plan
- Additional noise monitoring at a complainant’s request at their property, and at an appropriate/agreed frequency and duration
- The independent dispute resolution process or independent review process as defined within the Development Consent SSD-5465 / Project Approval MP06\_0311.

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## 6.2 Independent Review

As detailed within Condition 1 of Schedule 4 the MC Project Approval and Condition 2 of Schedule 5 within the Development Consent SSD-5465, if an owner of privately-owned land considers the development to be exceeding the relevant criteria, then he/she may ask the Planning Secretary in writing for an independent review of the impacts of the development on his/her land.

## 6.3 Dispute Resolution

If the response of Delta Coal is not considered to satisfactorily address the complainant’s concerns, a meeting may be convened with the complainant, Mine Manager together with the ECC to determine any further options to reduce their concerns. Any actions agreed from the meeting will be implemented by Delta Coal. After implementation of the proposed actions the complainant will be contacted and advice sought as to the satisfaction or otherwise with the measure(s) taken.

If no agreed outcome is determined or the complainant remains not satisfied by the action(s) taken, then the matter can be referred to the Secretary for resolution.

## 6.4 Training Awareness and Competence

Training is an essential component to the implementation of this NMP. The ECC will ensure that training and awareness processes are implemented to manage, identify and minimise potential noise impacts of Delta Coal operations and to ensure that relevant personnel are aware of their roles and responsibilities in terms of noise management.

Generally, training at Delta Coal consists of site induction training for new starters and contractors. Additionally, environmental awareness training is completed at bi-annual intervals and ongoing “toolbox” training for all permanent employees, as required. Toolbox Talks are used as a way of communicating changes in work systems to improve and control noise emissions from the site.

As the document owner, the ECC is the contact point for any person that does not understand this NMP or their specific responsibilities pertaining to this NMP. The ECC will provide guidance and training to any person that requires additional information or clarification regarding this NMP.

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## 7 Audit and Review

### 7.1 Review and Improvement

In accordance with Condition 5, Schedule 5 of the MC Project Approval and Condition 5, Schedule 6 of the CVC Development Consent, this NMP shall be reviewed, and if necessary revised, within 3 months of the following:

- The submission of an Annual Review
- The submission of an Incident Report
- The submission of an Independent Environmental Audit
- Following any modification to the CVC Development Consent, MC Project Approval or either of the EPL's granted to Delta Coal.

In accordance with Condition 24, Schedule 2 of the CVC Development Consent and Condition 17, Schedule 2 of the MC Project Approval, if the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant conditions of the approval/consent.

It is noted that if deemed necessary, the Planning Secretary may require that this NMP be revised, to the satisfaction of the Planning Secretary. Where revisions are required the revised document must be submitted to the Planning Secretary for approval within six (6) weeks of the review of the management plan.

### 7.2 Audits

Internal and external audits of this document will be carried out as described below. Internal and external audits shall be objective and if possible be conducted by a person or organisation independent of the document being audited.

Audits shall be carried out by personnel who have the necessary qualifications and experience to make an objective assessment of the issues. The extent of the audit, although pre-determined, may be extended if a potentially serious deviation from this document is detected.

Any audit non-conformances and/or improvement opportunities will have corrective and preventative actions implemented to avoid recurrence, these actions will be loaded into the site incident database to ensure the actions are assigned to the relevant people and completed.

External audits will be conducted utilising external specialists and will consider this document and related documents. External auditors shall be determined based on skills and experience and upon what is to be accomplished.

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### 7.2.1 Independent Environmental Audits

An Independent Environmental Audit (IEA) was completed by SLR Consulting Pty Ltd for CVC and MC and was provided to DPIE in 2019 (June and May respectively). In accordance with applicable conditions of the CVC Development Consent and MC Project Approval, an IEA is to be completed every three years (unless the Secretary directs otherwise) by an audit team whose appointment has been endorsed by the Secretary. A comprehensive noise audit of the development is to be completed in conjunction with each IEA and an action plan is to be implement describing any additional reasonable and feasible onsite noise mitigation measures identified by each audit.

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## 8 Records and Document Control

### 8.1 Records

Generally, the ECC will maintain all Environmental Management System records which are not of a confidential nature. Records that will be maintained include:

- Monitoring data and equipment calibration
- Environmental inspections and auditing results
- Environmental incident reports
- The complaints register
- Licenses and permits.

All records will be stored such that they are legible, readily retrievable and protected against damage, deterioration and loss. Records will be maintained for a minimum of four (4) years or as otherwise required under any legislation, licence, lease, permit or approval.

### 8.2 Document Control

This document and all others associated with the Environmental Management System shall be maintained in a document control system which is in compliance with the site Document Control Standard which is available to all site personnel. Any proposed change to this document will be made via the ECC.

Details regarding document revisions are provided in **Table 8**.

Table 10: Noise Management Plan Revision Details

Version	Date	Details of Revision	Company	Reviewed by	Authorised by
1	20/04/2022 (approved)	Delta Coal NMP	Great Southern Energy Pty Ltd t/a Delta Coal	K. Teyhan (Acoustical consultant, EMM Consulting Pty Limited)	L. McWha Delta Coal ECC,

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## 9 Roles and Responsibilities

All employees and contractors undertaking works on Delta Coal operated sites are responsible for environmental management including noise management responsibilities. All employees and contractors are made aware of these requirements through the mandatory introduction to site procedure to undertake work on Delta Coal sites. However, various positions in the organisation have roles, responsibilities and authorities for managing environmental aspects, action plans, programs and controls. Roles and responsibilities specific to completing the requirements of this NMP are identified in **Table 9**.

Role	Responsibilities
Managing Director	Ensure that adequate financial and personnel resources are made available for the implementation of the NMP.
Manager of Mining Engineering (Mine Manager)	Maintain overall responsibility for environmental compliance with Mining Lease, EPL, PA and other mining approvals as they pertain to noise management. Ensure that adequate training is provided so that plant and equipment is operated in a proper and efficient manner. Ensure that a maintenance system is in place to ensure plant and equipment is maintained in a proper and efficient manner.
Environmental Compliance Coordinator	Undertake planning to ensure adequate resources are available to implement this NMP. Review and update the NMP when required. Co-ordinate external audits, corporate reporting and management; Co-ordinate environmental monitoring, reporting, inspections, environmental training, authority liaison, maintenance of complaints register and community liaison. Ensure appropriate allocation of resources within area of responsibility and budget. Implementation and adherence to this NMP. Provide adequate training to employees and contractors regarding their requirements under this NMP. Delegate tasks associated with this NMP when responsible personnel are absent. Co-ordinate noise monitoring, through the use of attended and real-time monitoring. Develop management actions, if required, from the monitoring results. Review attended monitoring results when received from the monitoring consultant. Instruct the monitoring consultant to report any noise incidents as soon as practicable.

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Role	Responsibilities
	<p>Compile the Annual Review.</p> <p>Follow up noise related complaints or disputes.</p> <p>Complete environmental monitoring data summaries and place on the DC website.</p> <p>Ensure meteorological monitoring is undertaken at the site.</p> <p>Respond to any potential or actual non-compliances and report these as required to regulatory bodies and other stakeholders.</p> <p>Undertake reviews of this document.</p> <p>Undertake or coordinate the required audits of this document.</p> <p>Periodically review real-time noise monitoring results and interrogate and validate data against attended noise monitoring results.</p>
All employees and contractors	Comply with the requirements of this NMP.

## 10 References

Documents referenced in the preparation of this NMP are detailed in Table 9.

Reference	Title
Australian Standards	<ul style="list-style-type: none"> <li>AS 1055:2018 Acoustics – Description and measurement of environmental noise</li> <li>AS/NZS IEC 61672.1:2019 Electroacoustics - Sound level meters, Part 1: Specifications.</li> <li>AS/NZS ISO 14001:2004 Environmental management systems – Requirements with guidance for use.</li> <li>AS/NZS ISO 14004:2004 Environmental management systems – General guidelines on principles, systems and support techniques.</li> </ul>
Legislation and Regulations	<ul style="list-style-type: none"> <li>Environmental Planning and Assessment Act 1979 (EP&amp;A Act)</li> <li>Environment Protection Licence (EPL) 1770</li> <li>EPL 191</li> <li>Mining Act 1992</li> <li>Development Consent SSD-5465 (as modified)</li> <li>Project Approval 06_0311 (as modified)</li> <li>Protection of the Environment Operations Act 1997 (POEO Act)</li> </ul>

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Delta Coal documents	<ul style="list-style-type: none"> <li>• Environmental Management Strategy</li> <li>• Environmental Monitoring Program</li> </ul>
External documents	<ul style="list-style-type: none"> <li>• NSW EPA, Industrial Noise Policy (INP) 2000 (superseded)</li> <li>• Noise Policy for Industry (NPfI)</li> </ul>

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## 11 Definitions

**A-weighting, dBA** Noise level measurement units are decibels (dB). The “A” weighting scale is used to estimate human response to noise

**Day** The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays

**Evening** The period from 6pm to 10pm

**Night** The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays

**CVC** Chain Valley Colliery

**DC** Delta Coal

**Decibel dB** A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds  $s_1$  and  $s_2$  is given by  $20 \log_{10}(s_1/s_2)$ . The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is  $20\mu\text{Pa}$

**DPIE** NSW Department of Planning, Industry and Environment

**EMS** Environmental Management System

**EPA** NSW Environment Protection Authority

**EPL** Environment Protection Licence

**EP&A Act** *Environmental Planning and Assessment Act 1979*

**INP** NSW Industrial Noise Policy

**$L_A$**  The weighted root mean squared noise level at any instant

**$L_{Aeq}$**  The average A-weighted noise energy during a measuring period

**$L_{Amax}$**  The maximum noise level over a sample period is the maximum level, measured on fast response, during the sample period

**$L_{A1}$**  The noise level which is exceeded for 1% of the sample period. During the sample period, the noise level is below the  $L_{A1}$  level for 99% of the time

**$L_{A10}$**  The noise level which is exceeded for 10% of the sample period

**$L_{A50}$**  The noise level which is exceeded for 50% of the sample period

**$L_{A90}$**  The noise level which is exceeded for 90% of the sample period. This measure is commonly referred to as the background noise level

**MC** Manning Colliery

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**NPfl** Noise Policy for Industry

**POEO Act** *Protection of the Environment Operations Act 1997*

**ROM** Run of Mine

**Secretary** Secretary of the Department of Planning, Industry and Environment, or nominee

**Sound Pressure** Sound, or sound pressure is a fluctuation in air pressure over the static ambient pressure

**Sound Power Level ( $L_w$ )** The sound power of a source is the rate at which it emits acoustic energy. As with sound pressure levels, sound power levels are expressed in decibel units (dB or dBA), identified by the  $L_w$ , or by the reference unit  $10^{-12}W$ . The relationship between sound power and sound pressure may be linked to an electric radiator, which is characterised by a power rating, but has an effect on the surrounding environment that can be measured in terms of a different parameter, temperature

**Sound Pressure Level ( $L_p$ )** The sound pressure relative to a standard reference pressure of  $20\mu Pa$  ( $20 \times 10^{-6}$  Pascals) on a decibel scale

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## APPENDIX A – PLANNING SECRETARY APPROVAL



**Planning,  
Industry &  
Environment**

Planning and Assessment  
Energy, Industry and Compliance  
Contact: Melissa Anderson  
Phone: 8275 1392  
Email: [melissa.anderson@planning.nsw.gov.au](mailto:melissa.anderson@planning.nsw.gov.au)

Lachlan McWha  
Environmental Compliance Coordinator  
Great Southern Energy Pty Ltd (t/as Delta Coal)  
Off Ruttleys Road  
Manning Park New South Wales 2259  
By Email: [LMcWha@deltacoal.com.au](mailto:LMcWha@deltacoal.com.au)

19/04/2022

Dear Mr McWha

**Chain Valley Extension Project (SSD-5465) and  
Manning Colliery (MP06\_0311)  
Combined Noise Management Plan**

I refer to the Noise Management Plan (Combined NMP), submitted in accordance with condition 9 of Schedule 3 of SSD-5465 and condition 3C of Schedule 3 of MP06\_0311.

The Department has carefully reviewed the document and is satisfied that it has been appropriately updated in accordance with the conditions of consent.

The Department notes Delta Coal will complete a noise mitigations options assessment by 31 June 2022. Upon completion of that assessment, please submit an updated NMP for approval, detailing any additional measures proposed to mitigate noise impacts from these projects.

Accordingly, the Secretary has approved the Combined NMP (Revision 1, dated 1<sup>st</sup> September 2021). Please ensure that the approved plan is placed on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Tanvir Islam on (02) 9995 6389.

Yours sincerely

Jessie Evans  
Director, Resource Assessments  
Resource Assessments

As nominee of the Planning Secretary

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Mr Chris Armit  
Approvals Coordinator  
Great Southern Energy Pty Ltd (t/as Delta Coal)  
By Email: [Carmit@DeltaCoal.com.au](mailto:Carmit@DeltaCoal.com.au)

09/10/2020

Dear Mr Armit

**Chain Valley Colliery (SSD-5465) and Manning Colliery (MP06\_0311)  
Request to Combine Management Plans and Approval of Experts**

I refer to your letter of 2 October 2020 requesting the Planning Secretary's approval to combine specific management plans required under both the Chain Valley Colliery (SSD-5465) and Manning Colliery (MP06\_0311) development consents, in accordance with conditions 23(d) of Schedule 2 of SSD-5465 and 16(d) of Schedule 2 of MP06\_0311 respectively.

The Department acknowledges the common ownership and management of both collieries by Great Southern Energy (trading as Delta Coal) and understands that they are managed in an integrated manner. Accordingly, the Department supports Delta Coal's request to combine specific management plans required under both consents to improve the on-site environmental management of the collieries.

Therefore, the Planning Secretary grants approval for Delta Coal to produce the following combined management plans:

- Heritage Management Plan – as required by condition 21A of Schedule 3 of SSD-5465 and condition 18A of Schedule 3 of MP06\_0311;
- Land Management Plan – as required by condition 14 of Schedule 3 of MP06\_0311;
- Noise Management Plan – as required by condition 9 of Schedule 3 of SSD-5465 and condition 3C of Schedule 3 of MP06\_0311; and
- Air Quality and Greenhouse Gas Management Plan – as required by condition 13 of Schedule 3 of SSD-5465 and condition 17 of Schedule 3 of MP06\_0311.

I also refer to your letter and supporting curriculum vitae requesting the Planning Secretary's approval of suitably qualified and experienced persons to prepare and review a number of management plans for the SSD-5465 and MP06\_0311, in accordance conditions 21A(a) of Schedule 3 of SSD-5465 and 18A(a), 3C(a), 14(b), 17(a) of Schedule 3 of MP06\_0311.

The Department has reviewed the nominations and information provided and is satisfied that the experts listed below are suitably qualified and experienced to assist in preparing the specified management plans. Consequently, the Planning Secretary approves the appointment of the following persons to prepare the listed management plans in accordance with the relevant conditions of SSD-5465 and MP06\_0311.

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Name	Organisation	Management Plan
Morgan Wilcox	EMM Consulting	Heritage Management Plan
Katie Teyhan	EMM Consulting	Noise Management Plan
Katie Weekes	EMM Consulting	Land Management Plan
Judith Cox	SLR Consulting	Air Quality and Greenhouse Gas Management Plan

For clarity, I would like to confirm that this approval is limited to the combining of the nominated management plans and does not extend to other requirements with respect to the preparation of, or required consultation for, other management plans for either of the development consents.

If you wish to discuss the matter further, please contact Melissa Anderson on 8275 1392.

Yours sincerely



Matthew Spratt  
Director  
Resource Assessments (Coal & Quarries)

As nominee of the Planning Secretary

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## APPENDIX B – RECORDS OF CONSULTATION

**From:** Steve Clair <Steve.Clair@epa.nsw.gov.au>  
**Sent:** Friday, 9 July 2021 8:20 AM  
**To:** Lachlan McWha  
**Subject:** RE: Delta Coal Noise Management Plan

Hi Lachlan,

I write in reference to your correspondence to the Environment Protection Authority (EPA) on 6 July 2021 regarding the preparation of the Delta Coal Noise Management Plan for Manning and Chain Valley Collieries 2020.

Environmental Management Plans provide a useful tool for a licensee to use to help ensure that it meets the statutory requirements specified in its Environment Protection Licence. However, the EPA does not approve or endorse these documents as our role as a regulatory authority is to set environmental objectives, not to be directly involved in the development of strategies to achieve those objectives.

If you require any further information regarding this matter please contact Steve Clair on (02) 4908 6850.

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**From:** Lachlan McWha <LMcWha@deltacoal.com.au>  
**Sent:** Tuesday, 6 July 2021 9:50 AM  
**To:** EPA Regulatory Operations Metro Regulation Mailbox <RegOps.MetroRegulation@epa.nsw.gov.au>  
**Cc:** Peter Jamieson <Peter.Jamieson@epa.nsw.gov.au>; Steve Clair <Steve.Clair@epa.nsw.gov.au>  
**Subject:** Delta Coal Noise Management Plan

Hi Peter & Steve,

As part of modifications to the development consent for Chain Valley and Manning Collieries in June 2020, the revision (and combination) of a number of management plans was undertaken. I submitted the attached Delta Coal Noise Management Plan (NMP) to receive Consultation from the NSW EPA, trying out the new consultation tool within the 'Major Projects Planning Portal', however no consultation was received via this pathway after 4 or so months and I had to push it through the portal without EPA's consultation for the DPIE's review.

I am now at a hold point requiring to show evidence of consultation with the EPA, which is typically along the lines of 'The EPA encourages development of such plans but does not approve or endorse these documents' to show evidence of consultation to the DPIE, if this could be facilitated this at your nearest convenience that would be greatly appreciated.

Kind Regards,



**Lachlan McWha**  
**Environmental Compliance Coordinator**  
 Phone: 02 4358 0875  
 Mobile: 0420 525 270

Chain Valley Colliery  
 Off Construction Rd (Off Ruttleys Rd)  
 Manning Park NSW 2259

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## APPENDIX C – CHAIN VALLEY COLLIERY DEVELOPMENT CONSENT SSD-5465 (MOD 4) SUMMARY

Relevant sections of the CVC Development Consent detailing the requirements of the NMP and are reproduced in **Table C1** below along with identification of where the requirements are addressed in this document.

Table C1: Noise Management Plan Requirements Detailed within Development Consent SSD-5465 (MOD 4)

Condition No.	Requirement	Relevant section of this document
<b>Schedule 2 – Administrative Conditions</b>		
22	<p><b>Evidence of Consultation</b></p> <p>Where conditions of this consent require consultation with an identified party, the Applicant must:</p> <ul style="list-style-type: none"> <li>a) consult with the relevant party prior to submitting the subject document</li> <li>b) provide details of the consultation undertaken including: <ul style="list-style-type: none"> <li>i. the outcome of that consultation, matters resolved and unresolved</li> </ul> </li> </ul> <p>details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.</p>	<b>Section 1.5 Appendix B</b>
23	<p>Staging, Combining and Updating Strategies, Plans or Programs.</p> <p>With the approval of the Planning Secretary, the Applicant may:</p> <ul style="list-style-type: none"> <li>a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);</li> <li>b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined);</li> <li>c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs</li> </ul>	<b>Section 7.1</b>

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	<p>required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development); and NSW Government Department of Planning, Industry and Environment</p> <p>d) combine any strategy, plan or program required by this consent with any similar strategy, plan or program required by an adjoining mining consent or approval, in common ownership or management.</p>																																																		
24	<p><b>Staging, Combining and Updating Strategies, Plans or Programs.</b></p> <p>If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.</p>	Section 7.1																																																	
28	<p><b>Compliance</b></p> <p>The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.</p>	Section 9																																																	
<b>Schedule 3 – Environmental Conditions - General</b>																																																			
7	<p><b>Noise Impact Assessment Criteria</b></p> <p>The Applicant must ensure that the noise generated by the development at any residence on privately owned land does not exceed the criteria for the location in Table 1 nearest to that residence.</p> <p><i>Table 1: Noise Criteria dB(A)</i></p> <table border="1"> <thead> <tr> <th rowspan="2">Location</th> <th>Day</th> <th>Evening</th> <th colspan="2">Night</th> </tr> <tr> <th>L<sub>Aeq</sub>(15 min)</th> <th>L<sub>Aeq</sub>(15 min)</th> <th>L<sub>Aeq</sub>(15 min)</th> <th>L<sub>A1</sub>(1 min)</th> </tr> </thead> <tbody> <tr> <td>R8</td> <td>38</td> <td>38</td> <td>38</td> <td>45</td> </tr> <tr> <td>R11</td> <td>49</td> <td>49</td> <td>49</td> <td>54</td> </tr> <tr> <td>R12</td> <td>49</td> <td>49</td> <td>49</td> <td>53</td> </tr> <tr> <td>R13</td> <td>43</td> <td>43</td> <td>43</td> <td>49</td> </tr> <tr> <td>R15</td> <td>36</td> <td>36</td> <td>36</td> <td>45</td> </tr> <tr> <td>R19</td> <td>37</td> <td>37</td> <td>37</td> <td>45</td> </tr> <tr> <td>R22</td> <td>46</td> <td>46</td> <td>46</td> <td>46</td> </tr> <tr> <td>all other privately-owned land</td> <td>35</td> <td>35</td> <td>35</td> <td>45</td> </tr> </tbody> </table> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li>To interpret the locations referred to in Table 1, see Appendix 6 and the EIS; and</li> <li>Noise generated by the development is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy. Appendix 8 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.</li> </ul>	Location	Day	Evening	Night		L <sub>Aeq</sub> (15 min)	L <sub>Aeq</sub> (15 min)	L <sub>Aeq</sub> (15 min)	L <sub>A1</sub> (1 min)	R8	38	38	38	45	R11	49	49	49	54	R12	49	49	49	53	R13	43	43	43	49	R15	36	36	36	45	R19	37	37	37	45	R22	46	46	46	46	all other privately-owned land	35	35	35	45	Section 2.6
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8	<p><b>Operating Conditions</b></p> <p>The Applicant must:</p> <ul style="list-style-type: none"> <li>a) implement best management practice, including all reasonable and feasible noise mitigation measures, to minimise the construction, operational and transport noise generated by the development;</li> <li>b) regularly assess the noise monitoring and meteorological data and relocate, modify, and/or stop operations on site to ensure compliance with the relevant conditions of this consent;</li> <li>c) minimise the noise impacts of the development during meteorological conditions under which the noise limits in this consent do not apply (see Appendix 8);</li> <li>d) use its best endeavours to achieve the long-term noise goals in Table 2, where reasonable and feasible, and report on progress towards achieving these goals in each Annual Review;</li> <li>e) carry out a comprehensive noise audit of the development in conjunction with each independent environmental audit; and</li> <li>f) prepare an action plan to implement any additional reasonable and feasible onsite noise mitigation measures identified by each audit;</li> </ul> <p><i>Table 2: Long-term Noise Goals dB(A)</i></p> <table border="1"> <thead> <tr> <th rowspan="2">Location</th> <th>Day</th> <th>Evening</th> <th>Night</th> </tr> <tr> <th><i>L<sub>Aeq</sub>(15 min)</i></th> <th><i>L<sub>Aeq</sub>(15 min)</i></th> <th><i>L<sub>Aeq</sub>(15 min)</i></th> </tr> </thead> <tbody> <tr> <td>R11 – R13</td> <td>41</td> <td>41</td> <td>41</td> </tr> <tr> <td>R22</td> <td>40</td> <td>40</td> <td>40</td> </tr> </tbody> </table>	Location	Day	Evening	Night	<i>L<sub>Aeq</sub>(15 min)</i>	<i>L<sub>Aeq</sub>(15 min)</i>	<i>L<sub>Aeq</sub>(15 min)</i>	R11 – R13	41	41	41	R22	40	40	40	<p><b>Section 3.1.1</b></p> <p><b>Section 4</b></p> <p><b>Section 2.7</b></p> <p><b>Section 2.6</b> <b>Section 5.2</b></p> <p><b>Section 7.2</b></p> <p><b>Section 7.2</b></p> <p><b>Section 4.7</b> <b>TARP</b></p>
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R11 – R13	41	41	41														
R22	40	40	40														

<p>9</p>	<p><b>Noise Management Plan</b></p> <p>The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:</p> <ul style="list-style-type: none"> <li>a) be prepared in consultation with the EPA and submitted to the Planning Secretary for approval within 4 months of the date of this consent, unless otherwise agreed by the Planning Secretary</li> <li>b) describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this consent;</li> <li>c) describe the proposed noise management system in detail including the mitigation measures that would be implemented to minimise noise during construction and operations, including on and off-site road noise generated by vehicles associated with the development; and</li> <li>d) include a monitoring program that: <ul style="list-style-type: none"> <li>• uses attended monitoring to evaluate the compliance of the development against the noise criteria in this consent;</li> <li>• evaluates and reports on: <ul style="list-style-type: none"> <li>- the effectiveness of the on-site noise management system; and</li> <li>- compliance against the noise operating conditions; and</li> </ul> </li> <li>• defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.</li> </ul> </li> </ul> <p>The applicant must implement the Noise Management Plan as approved by the Planning Secretary</p>	<p><b>Section 1.5</b></p> <p><b>Section 3</b></p> <p><b>Section 3</b></p> <p><b>Section 4.2</b></p> <p><b>Section 3.2</b></p> <p><b>Section 4.7</b></p> <p><b>Section 5.3</b></p>
<p>14</p>	<p><b>Meteorological Monitoring</b></p> <p>During the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the site that:</p> <ul style="list-style-type: none"> <li>a) complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and</li> <li>b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy, unless a suitable alternative is approved by the Planning Secretary following consultation with the EPA.</li> </ul>	<p><b>Section 4.6</b></p> <p><b>Section 4.6</b></p>

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Schedule 5 – Additional Procedures		
1	<p><b>Notification of Land Owners</b></p> <p>As soon as practicable after obtaining monitoring results showing:</p> <p>a) an exceedance of any relevant criteria in Schedule 3, the Applicant must notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria; and</p>	<p><b>Section 5.3 and Section 4.7 TARP</b></p>
2	<p><b>Independent Review</b></p> <p>If an owner of privately-owned land considers the development to be exceeding the relevant criteria in Schedule 3, then he/she may ask the Planning Secretary in writing for an independent review of the impacts of the development on his/her land.</p> <p>If the Planning Secretary is satisfied that an independent review is warranted, then within 2 months of the Planning Secretary’s decision the Applicant must:</p> <p>a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to:</p> <ul style="list-style-type: none"> <li>• consult with the landowner to determine his/her concerns;</li> <li>• conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3; and</li> <li>• if the development is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and</li> </ul> <p>b) give the Planning Secretary and landowner a copy of the independent review</p>	<p><b>Section 6.2</b></p>

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Schedule 6 – Environmental Management, Reporting and Auditing		
3	<p><b>Management Plan Requirements</b></p> <p>Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:</p> <ul style="list-style-type: none"> <li>a) a summary of relevant background or baseline data;</li> <li>b) details of: <ul style="list-style-type: none"> <li>• the relevant statutory requirements (including any relevant approval, licence or lease conditions);</li> <li>• any relevant limits or performance measures and criteria; and</li> <li>• the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;</li> </ul> </li> <li>c) any relevant commitments or recommendations identified in the document/s listed in condition 2(e) of Schedule 2;</li> <li>d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;</li> <li>e) a program to monitor and report on the: <ul style="list-style-type: none"> <li>• impacts and environmental performance of the development; and</li> <li>• effectiveness of the management measures set out pursuant to condition 2(e) of Schedule 2;</li> </ul> </li> <li>f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;</li> <li>g) a program to investigate and implement ways to improve the environmental performance of the development over time;</li> <li>h) a protocol for managing and reporting any: <ul style="list-style-type: none"> <li>• incident, non-compliance or exceedance of any impact assessment criterion or performance criterion;</li> <li>• complaint; or</li> <li>• failure to comply with other statutory requirements;</li> </ul> </li> <li>i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and</li> </ul>	<p><b>Section 1.2</b></p> <p><b>Section 2</b></p> <p><b>Section 2.6</b></p> <p><b>Section 4.7</b> <b>Table 9 and</b> <b>Section 3</b></p> <p><b>Section 1.2</b></p> <p><b>Section 3</b></p> <p><b>Section 4</b></p> <p><b>Section 4</b></p> <p><b>Section 4.7</b> <b>TARP</b></p> <p><b>Section 2.6</b></p> <p><b>Section 5.3</b></p> <p><b>Section 6.1</b> <b>Section 6.2</b></p> <p><b>Section 5.1</b></p>

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	<p>j) a protocol for periodic review of the plan.</p> <p><b>Note:</b> The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans</p>	<b>Section 7.</b>
<b>4</b>	<p><b>Management Plan Requirements</b></p> <p>The Applicant must ensure that management plans prepared for the development are consistent with the conditions of this consent and any EPL issued for the site.</p>	<b>Section 2 Appendix C and E</b>
<b>5</b>	<p><b>Revision of Strategies, Plans and Programs</b></p> <p>Within three months of:</p> <ul style="list-style-type: none"> <li>a) the submission of an incident report under condition 6;</li> <li>b) the submission of an Annual Review under condition 8;</li> <li>c) the submission of an Independent Environmental Audit under condition 9; or</li> <li>d) the approval of any modification of the conditions of this consent (unless the conditions require otherwise),</li> </ul> <p>the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.</p> <p>If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.</p> <p><b>Note:</b> This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.</p>	<b>Section 7.1</b>
<b>6</b>	<p><b>Incident Notification</b></p> <p>The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing to <a href="mailto:compliance@planning.nsw.gov.au">compliance@planning.nsw.gov.au</a> and identify the development (including the development application number and name) and set out the location and nature of the incident.</p>	<b>Section 5.3</b>

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7	<p><b>Non-Compliance Notification</b></p> <p>Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing to <a href="mailto:compliance@planning.nsw.gov.au">compliance@planning.nsw.gov.au</a> and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the noncompliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.</p> <p>Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.</p>	<b>Section 5.3</b>
	<p><b>Annual Review</b></p> <p>By the end of March in each year after the commencement of the development, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary. This review must:</p> <ol style="list-style-type: none"> <li>a) describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current financial/calendar year;</li> <li>b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, including a comparison of these results against the: <ul style="list-style-type: none"> <li>• relevant statutory requirements, limits or performance measures/criteria;</li> <li>• requirements of any plan or program required under this consent;</li> <li>• monitoring results of previous years; and</li> <li>• relevant predictions in the document/s listed in condition 2(e) of Schedule 2;</li> </ul> </li> <li>c) identify any non-compliance or incident which occurred in the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;</li> <li>d) evaluate and report on: <ul style="list-style-type: none"> <li>• the effectiveness of the noise and air quality management systems; and</li> <li>• compliance with the performance measures, criteria and operating conditions of this consent;</li> </ul> </li> </ol>	<b>Section 5.2</b>

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	<ul style="list-style-type: none"> <li>e) identify any trends in the monitoring data over the life of the development;</li> <li>f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and</li> <li>g) describe what measures will be implemented over the next calendar year to improve the environmental performance of the development</li> </ul> <p>Copies of the Annual Review must be submitted to the affected Councils and made available to the CCC and any interested person upon request.</p>	
9	<p><b>Independent Environmental Audit</b></p> <p>By the end of February 2022, and every three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. The audit must:</p> <ul style="list-style-type: none"> <li>a) led by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Planning Secretary;</li> <li>b) be led and conducted by a suitably qualified, experienced and independent team of experts (including any be expert in field/s specified by the Planning Secretary) whose appointment has been endorsed by the Planning Secretary;</li> <li>c) be carried out in consultation with the relevant agencies and the CCC;</li> <li>d) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent, water licences and mining leases for the development (including any assessment, strategy, plan or program required under these approvals);</li> <li>e) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals and this consent;</li> <li>f) recommend appropriate measures or actions to improve the environmental performance of the development and any assessment, strategy, plan or program required under the abovementioned approvals and this consent; and</li> </ul> <p>be conducted and reported to the satisfaction of the Planning Secretary</p>	<b>Section 7.2.1</b>

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12	Noise and/or air quality monitoring under this consent may be undertaken at suitable representative monitoring locations instead of at privately-owned residences or other locations listed in Schedule 3, providing that these representative monitoring locations are set out in the respective management plan/s.	<b>Section 4.2</b>
13	<p><b>Access to Information</b></p> <p>Until the completion of all rehabilitation required under this consent, the Applicant must:</p> <p>a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website:</p> <ul style="list-style-type: none"> <li>• the documents referred to in condition 2(e) of Schedule 2 of this consent;</li> <li>• all current statutory approvals for the development;</li> <li>• all approved strategies, plans and programs required under the conditions of this consent;</li> <li>• the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged;</li> <li>• minutes of CCC meetings;</li> <li>• regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;</li> <li>• a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;</li> <li>• a summary of the current progress of the development;</li> <li>• contact details to enquire about the development or to make a complaint;</li> <li>• a complaints register, updated monthly;</li> <li>• the Annual Reviews of the development;</li> <li>• audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; and</li> <li>• any other matter required by the Planning Secretary; and</li> </ul> <p>keep such information up to date, to the satisfaction of the Planning Secretary</p>	<b>Section 5.1</b>

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<p>Appendix 6</p>	<p style="text-align: center;"><b>APPENDIX 6 NOISE RECEIVER LOCATIONS</b></p> <p>KEY</p> <ul style="list-style-type: none"> <li>● Assessment location</li> <li>▭ Chain Valley Colliery development consent boundary</li> <li>— Main road</li> <li>— Watercourse/crainage line</li> <li>■ NPWS reserve</li> </ul> <p style="text-align: right;">Assessment locations</p> <p style="text-align: right;">Chain Valley Colliery Modification 3</p> <p style="text-align: right;"><b>EMM</b> creating opportunities</p>	<p>Section 4.2</p>
<p>Appendix 8</p>	<p><b>Applicable Meteorological Conditions</b></p> <ol style="list-style-type: none"> <li>1. The noise criteria in Table 1 of the conditions are to apply under all meteorological conditions except the following:             <ol style="list-style-type: none"> <li>a) during periods of rain or hail;</li> <li>b) average wind speed at microphone height exceeds 5 m/s;</li> <li>c) wind speeds greater than 3 m/s measured at 10 m above ground level; or</li> </ol> </li> </ol>	<p>Section 4.6</p>

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<p><b>Appendix 8</b></p>	<p>d) temperature inversion conditions greater than 3°C/100 m.</p> <p>2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station described in condition 14 of schedule 3.</p> <p>3. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this consent.</p> <p>4. This monitoring must be carried out at least 4 times in each calendar year (ie at least once every 3 months), unless the Planning Secretary directs otherwise.</p> <p>5. Unless otherwise agreed with the Planning Secretary, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:</p> <p>a) monitoring locations for the collection of representative noise data;</p> <p>b) meteorological conditions during which collection of noise data is not appropriate;</p> <p>c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and</p> <p>d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.</p>	<p><b>Section 4.6</b></p> <p><b>Section 4.6</b></p> <p><b>Section 4.2, 4.3, 4.4</b></p> <p><b>Section 4.5</b></p> <p><b>Section 4.2</b></p> <p><b>Section 4.6</b></p> <p><b>Section 4.2 and 4.6</b></p> <p><b>Section 2.8</b></p>
<p><b>Appendix 9</b></p>	<p><b>Noise</b></p> <p>Management and monitoring of noise will continue to be undertaken in accordance with the Colliery’s NMP, which will be reviewed and updated as required to include the commitments made below. Great Southern Energy Pty Limited will:</p> <ul style="list-style-type: none"> <li>• continue attended compliance monitoring on site which will be used to identify potential hot spots and primary noise sources;</li> <li>• continue real-time noise monitoring alerts to site personnel to enable implementation of any required rapid noise management initiatives;</li> </ul>	<p><b>Section 4</b></p> <p><b>Section 4.5 and 4.7</b></p>

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<b>Appendix 9</b>	<ul style="list-style-type: none"> <li>• manage potential non-compliance through a noise complaint handling and response system, including the identification of responsible sources to enable targeted remedial action;</li> </ul>	<b>Section 6.1</b>
	<ul style="list-style-type: none"> <li>• assess if further noise mitigation options for the ventilation fans are reasonable and feasible following the receipt of attenuation proposals; and</li> <li>• discuss potential management measures or agreement options with the landowner at 275 Cams Boulevard, following receipt of proposals from acoustics specialists.</li> </ul>	<b>Section 2.6</b>
	<p>In addition to the above, Great Southern Energy Pty Limited is committed to the progressive implementation of feasible measures to target long-term noise goals which are designed to reduce noise emissions from the Colliery. Long-term options for investigation include:</p> <ul style="list-style-type: none"> <li>• modification to belt/movement alarms;</li> <li>• investigation of surface conveyer and coal preparation equipment, to determine if noise reductions are possible;</li> <li>• identifying sound attenuation options for the surface bulldozer and front-end loader;</li> <li>• strategic placement of acoustic barriers;</li> <li>• attenuation for the surface screener/shaker;</li> <li>• installation of quiet rollers for surface conveyor belts;</li> <li>• acoustic treatments around compressors; and</li> <li>• the use of a conveyor stacker for product coal stockpiling.</li> </ul>	<b>Section 3.3</b>

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## APPENDIX D – MANNERING COLLIERY PROJECT APPROVAL 06\_0311 (MOD 5) SUMMARY

### Manning Colliery Project Approval 06\_0311 Noise Summary

Relevant sections of the MC Project Approval detailing the requirements of the NMP and are reproduced in **Table D1** below along with identification of where the requirements are addressed in this document.

Table D1: Noise Management Plan Requirements Detailed within Project Approval 06\_0311 (MOD 5)

Condition No.	Requirement	Relevant section of this document
<b>Schedule 2 – Administrative Conditions</b>		
<b>15</b>	<p><b>Evidence of Consultation</b></p> <p>Where conditions of this consent require consultation with an identified party, the Applicant must:</p> <ul style="list-style-type: none"> <li>h) consult with the relevant party prior to submitting the subject document</li> <li>i) provide details of the consultation undertaken including: <ul style="list-style-type: none"> <li>ii. the outcome of that consultation, matters resolved and unresolved</li> <li>iii. details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.</li> </ul> </li> </ul>	<b>Section 1.5 Appendix B</b>
<b>16</b>	<p><b>Staging, Combining and Updating Strategies, Plans or Programs.</b></p> <p>With the approval of the Planning Secretary, the Applicant may:</p> <ul style="list-style-type: none"> <li>e) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);</li> <li>f) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined);</li> </ul>	<b>Section 7.1</b>

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	<p>g) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development); and NSW Government Department of Planning, Industry and Environment</p> <p>h) combine any strategy, plan or program required by this consent with any similar strategy, plan or program required by an adjoining mining consent or approval, in common ownership or management.</p>	
<b>17</b>	<p><b>Staging, Combining and Updating Strategies, Plans or Programs.</b></p> <p>If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.</p>	<b>Section 7.1</b>
<b>21</b>	<p><b>Compliance</b></p> <p>The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.</p>	<b>Section 9</b>
<b>Schedule 3 – Specific Environmental Conditions</b>		
<b>1</b>	<p><b>Construction Noise</b></p> <p>The Applicant must ensure that the noise generated by any construction work is managed in accordance with the requirements outlined in the Interim Construction Noise Guideline (DECC, 2009).</p>	<b>Section 2.9</b>

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<b>2</b>	<p><b>Operational Noise Criteria</b></p> <p>Except for the carrying out of construction works, the Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 1 at any residence on privately owned land (private residences outlined below).</p> <p><i>Table 1: Operational noise criteria dB(A)</i></p> <table border="1"> <thead> <tr> <th rowspan="2">Noise Assessment Location</th> <th>Day</th> <th>Evening</th> <th>Night</th> <th>Night</th> </tr> <tr> <th>L<sub>Aeq</sub> (15 min)</th> <th>L<sub>Aeq</sub> (15 min)</th> <th>L<sub>Aeq</sub> (15 min)</th> <th>L<sub>A1</sub> (1 min)</th> </tr> </thead> <tbody> <tr> <td>4 – di Rocco</td> <td>40</td> <td>36</td> <td>36</td> <td>46</td> </tr> <tr> <td>5 - Keighran</td> <td>40</td> <td>39</td> <td>39</td> <td>49</td> </tr> <tr> <td>6 – Swan</td> <td>40</td> <td>37</td> <td>37</td> <td>47</td> </tr> <tr> <td>7 – Druitt</td> <td>40</td> <td>35</td> <td>35</td> <td>45</td> </tr> <tr> <td>8 – Macquarie Shores Home Village</td> <td>42</td> <td>42</td> <td>42</td> <td>47</td> </tr> <tr> <td>9 - Jeans</td> <td>40</td> <td>37</td> <td>37</td> <td>47</td> </tr> <tr> <td>11 - Jeans</td> <td>40</td> <td>36</td> <td>36</td> <td>46</td> </tr> <tr> <td>18 - Jeans</td> <td>40</td> <td>36</td> <td>36</td> <td>46</td> </tr> <tr> <td>20 – Knight and all other privately-owned residences</td> <td>40</td> <td>36</td> <td>36</td> <td>46</td> </tr> </tbody> </table> <p>Noise generated by the development must be monitored and measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Noise Policy for Industry (EPA, 2017).</p>	Noise Assessment Location	Day	Evening	Night	Night	L <sub>Aeq</sub> (15 min)	L <sub>Aeq</sub> (15 min)	L <sub>Aeq</sub> (15 min)	L <sub>A1</sub> (1 min)	4 – di Rocco	40	36	36	46	5 - Keighran	40	39	39	49	6 – Swan	40	37	37	47	7 – Druitt	40	35	35	45	8 – Macquarie Shores Home Village	42	42	42	47	9 - Jeans	40	37	37	47	11 - Jeans	40	36	36	46	18 - Jeans	40	36	36	46	20 – Knight and all other privately-owned residences	40	36	36	46	<b>Section 2.6 Section 2.7</b>
Noise Assessment Location	Day		Evening	Night	Night																																																			
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8 – Macquarie Shores Home Village	42	42	42	47																																																				
9 - Jeans	40	37	37	47																																																				
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<b>3</b>	<p><b>Operational Noise Criteria</b></p> <p>The noise criteria in Table 1 do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to exceed the noise criteria, and the Applicant has advised the Department in writing of the terms of this agreement.</p>	<b>Section 2.6</b>																																																						

<p style="text-align: center;"><b>3A</b></p>	<p><b>Noise Monitoring Conditions</b></p> <p>The Applicant must:</p> <ul style="list-style-type: none"> <li>a) take all reasonable steps to minimise noise from construction and operational activities, including low frequency noise and other audible characteristics, associated with the development;</li> <li>b) implement reasonable and feasible noise attenuation measures on all plant and equipment that will operate in noise sensitive areas;</li> <li>c) operate a comprehensive noise management system commensurate with the risk of impact;</li> <li>d) take all reasonable steps to minimise the noise impacts of the development during noise-enhancing meteorological conditions when the noise criteria in this consent do not apply (see NPfl);</li> <li>e) carry out regular attended noise monitoring (at least once a month, unless otherwise agreed by the Planning Secretary) to determine whether the development is complying with the relevant conditions of this consent;</li> <li>f) regularly assess the noise monitoring data and modify or stop operations on the site to ensure compliance with the relevant conditions of this consent;</li> <li>g) implement reasonable and feasible measures to further enclose the structure housing the coal crusher in order to further mitigate noise from operational activities.</li> </ul>	<p><b>Section 2.8</b> <b>Section 2.9</b></p> <p><b>Section 3.3</b></p> <p><b>Section 3.2</b></p> <p><b>Section 4.6,</b> <b>2.7 and</b> <b>Section 4.7</b> <b>TARP</b></p> <p><b>Section 4.3</b></p> <p><b>Section 4.7</b> <b>and 4.5</b></p> <p><b>Section</b> <b>1.4.2</b></p>
<p style="text-align: center;"><b>3B</b></p>	<p><b>Noise Operating Conditions</b></p> <p>The Applicant must decommission the surface rotary breaker identified in the Statement of Commitments at Appendix 3 (of the MC Project Approval), within 3 months of approval of Modification 5.</p>	<p><b>Section</b> <b>1.4.2</b></p>

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3C	<p><b>Noise Management Plan</b></p> <p>The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:</p> <ul style="list-style-type: none"> <li>b) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;</li> <li>c) describe the measures to be implemented to ensure: <ul style="list-style-type: none"> <li>i. compliance with the noise criteria and operating conditions in this consent</li> <li>ii. best practice management is being employed</li> <li>iii. noise impacts of the development are minimised during noise-enhancing meteorological conditions when the noise criteria in this consent do not apply (see NPfI).</li> </ul> </li> <li>d) describe the noise management system in detail</li> <li>e) include a monitoring program that: <ul style="list-style-type: none"> <li>i. uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the development;</li> <li>ii. monitors noise at the nearest and/or most affected residences;</li> <li>iii. includes a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results over time;</li> <li>iv. adequately supports the noise management system;</li> <li>v. includes a protocol for distinguishing noise emissions of the development from any neighbouring developments; and</li> <li>vi. includes a protocol for identifying any noise-related exceedance, incident or non-compliance and for notifying the Department and relevant stakeholders of any such event. The Applicant must implement the Noise Management Plan as approved by the Planning Secretary.</li> </ul> </li> </ul> <p>The Applicant must implement the Noise Management Plan as approved by the Planning Secretary.</p>	<p><b>Appendix A</b></p> <p><b>Section 3.1 and 3.2, Section 2.8.1</b></p> <p><b>Section 3.1</b></p> <p><b>Section 2.71 and Section 2.72</b></p> <p><b>Section 4</b></p> <p><b>Section 4</b></p> <p><b>Section 4.2, 4.3, 4.5,</b></p> <p><b>Section 4.5</b></p> <p><b>Section 4.7 and Section 5.3</b></p>
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<b>17B</b>	<p><b>Meteorological Monitoring</b></p> <p>For the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the site that:</p> <ul style="list-style-type: none"> <li>a) complies with the requirements in the <i>Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales</i> (DEC, 2007)</li> <li>b) is capable of measuring meteorological conditions in accordance with the <i>NSW Noise Policy for Industry</i> (EPA, 2017), unless a suitable alternative is approved by the Planning Secretary following consultation with the EPA.</li> </ul>	<b>Section 4.6</b>
<b>Schedule 4 – Additional Procedures</b>		
<b>1</b>	<p><b>Independent Review</b></p> <p>If a landowner considers the development to be exceeding the impact assessment criteria in schedule 3, then he/she may ask the Planning Secretary in writing for an independent review of the impacts of the development on his/her land. If the Planning Secretary is satisfied that an independent review is warranted, the Applicant must within 2 months of the Planning Secretary’s decision:</p> <ul style="list-style-type: none"> <li>a) consult with the landowner to determine his/her concerns;</li> <li>b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to conduct monitoring on the land, to: <ul style="list-style-type: none"> <li>• determine whether the development is complying with the relevant impact assessment criteria in schedule 3; and</li> <li>• identify the source(s) and scale of any impact on the land, and the development’s contribution to this impact; and</li> <li>• give the Planning Secretary and landowner a copy of the independent review.</li> </ul> </li> </ul>	<b>Section 6</b>
<b>2</b>	<p><b>Independent Review</b></p> <p>If the independent review determines that the development is complying with the relevant impact assessment criteria in schedule 3, then the Applicant may discontinue the independent review with the approval of the Planning Secretary.</p>	<b>Section 6</b>

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<b>3</b>	<p><b>Independent Review</b></p> <p>If the independent review determines that the development is not complying with the relevant impact assessment criteria in schedule 3, and that the development is primarily responsible for this noncompliance, then the Applicant must:</p> <ul style="list-style-type: none"> <li>a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the development complies with the relevant criteria; and</li> <li>b) conduct further monitoring to determine whether these measures ensure compliance.</li> </ul> <p>If the additional monitoring referred to above subsequently determines that the development is complying with the relevant criteria in schedule 3, or the Applicant and landowner enter into a negotiated agreement to allow these exceedances, then the Applicant may discontinue the independent review with the approval of the Planning Secretary.</p>	<b>Section 6</b>
<b>4</b>	<p><b>Independent Review</b></p> <p>If the independent review determines that the relevant criteria in schedule 3 are being exceeded, but that more than one development is responsible for this non-compliance, then the Applicant must, together with the relevant development/s:</p> <ul style="list-style-type: none"> <li>a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the relevant criteria are complied with; and</li> <li>b) conduct further monitoring to determine whether these measures ensure compliance; or (c) secure a written agreement with the landowner and other relevant developments to allow exceedances of the criteria in schedule 3, to the satisfaction of the Planning Secretary. If the additional monitoring referred to above subsequently determines that the developments are complying with the relevant criteria in schedule 3, then the Applicant may discontinue the independent review with the approval of the Planning Secretary.</li> </ul>	<b>Section 6</b>
<b>5</b>	<p><b>Independent Review</b></p> <p>If the landowner disputes the results of the independent review, either the Applicant or the landowner may refer the matter to the Planning Secretary for resolution. If the matter cannot be resolved within 21 days, the Planning Secretary shall refer the matter to an Independent Dispute Resolution Process.</p>	<b>Section 6</b>

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Schedule 5 – Environmental Management, Monitoring, Auditing and Reporting		
<b>3</b>	<p><b>Management Plan Requirements</b></p> <p>Management plans required under this consent must be prepared in accordance with relevant guidelines and include:</p> <ul style="list-style-type: none"> <li>a) a summary of relevant background or baseline data;</li> <li>b) details of: <ul style="list-style-type: none"> <li>• the relevant statutory requirements (including any relevant approval, licence or lease conditions);</li> <li>• any relevant limits or performance measures and criteria; and</li> <li>• the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;</li> </ul> </li> <li>c) any relevant commitments or recommendations identified in the document/s listed in Condition 2(e) of Schedule 2;</li> <li>d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;</li> <li>e) a program to monitor and report on the: <ul style="list-style-type: none"> <li>• impacts and environmental performance of the development;</li> <li>• effectiveness of the management measures set out pursuant to condition 2(e) of Schedule 2;</li> </ul> </li> <li>f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;</li> <li>g) a program to investigate and implement ways to improve the environmental performance of the development over time;</li> <li>h) a protocol for managing and reporting any: <ul style="list-style-type: none"> <li>• incident, non-compliance or exceedance of any impact assessment criterion or performance criterion;</li> <li>• complaint; or</li> <li>• failure to comply with other statutory requirements;</li> </ul> </li> <li>i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and</li> </ul>	<p><b>Section 1.2</b></p> <p><b>Section 2</b></p> <p><b>Section 2.6</b></p> <p><b>Section 4.7 Table 9 and Section 3</b></p> <p><b>Section 1.2</b></p> <p><b>Section 3</b></p> <p><b>Section 4</b></p> <p><b>Section 4</b></p> <p><b>Section 4.7 TARP</b></p> <p><b>Section 2.6</b></p> <p><b>Section 5.3</b></p> <p><b>Section 6.1 Section 6.2</b></p> <p><b>Section 5.1</b></p>

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	<p>a) a protocol for periodic review of the plan</p> <p><b>Note:</b> The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.</p>	<b>Section 7.1</b>
<b>4</b>	<p><b>Management Plan requirements</b></p> <p>The Applicant must ensure that management plans prepared for the development are consistent with the conditions of this consent and any EPL issued for the site.</p>	<b>Section 2</b>
<b>5</b>	<p><b>Revision of Strategies, Plans and Programs</b></p> <p>Within three months of:</p> <ul style="list-style-type: none"> <li>a) the submission of an incident report under condition 6;</li> <li>b) the submission of an Annual Review under condition 8;</li> <li>c) the submission of an Independent Environmental Audit under condition 9; or</li> <li>d) the approval of any modification of the conditions of this consent (unless the conditions require otherwise),</li> </ul> <p>the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.</p> <p>If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.</p> <p><b>Note:</b> This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.:</p>	<b>Section 7.1</b>
<b>6</b>	<p><b>Incident Notification</b></p> <p>The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing to <a href="mailto:compliance@planning.nsw.gov.au">compliance@planning.nsw.gov.au</a> and identify the development (including the development application number and name) and set out the location and nature of the incident.</p>	<b>Section 5.3</b>

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7	<p><b>Non-Compliance Notification</b></p> <p>Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing to <a href="mailto:compliance@planning.nsw.gov.au">compliance@planning.nsw.gov.au</a> and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the noncompliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.</p> <p><b>Note:</b> A non-compliance which has been notified as an incident does not need to also be notified as a noncompliance.</p>	Section 5.3
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8	<p><b>Annual Review</b></p> <p>By the end of March in each year after the commencement of the development, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary. This review must:</p> <ol style="list-style-type: none"> <li>a) describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current financial/calendar year;</li> <li>b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, including a comparison of these results against the: <ul style="list-style-type: none"> <li>• relevant statutory requirements, limits or performance measures/criteria;</li> <li>• requirements of any plan or program required under this consent;</li> <li>• monitoring results of previous years; and</li> <li>• relevant predictions in the document/s listed in condition 2(e) of Schedule 2;</li> </ul> </li> <li>c) identify any non-compliance or incident which occurred in the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;</li> <li>d) evaluate and report on: <ul style="list-style-type: none"> <li>• the effectiveness of the noise and air quality management systems; and</li> <li>• compliance with the performance measures, criteria and operating conditions of this consent;</li> </ul> </li> <li>e) identify any trends in the monitoring data over the life of the development;</li> <li>f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and</li> <li>g) describe what measures will be implemented over the next calendar year to improve the environmental performance of the development</li> </ol> <p>Copies of the Annual Review must be submitted to the affected Councils and made available to the CCC and any interested person upon request.</p>	Section 5.2
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9	<p><b>Independent Environmental Audit</b></p> <p>By the end of February 2022, and every three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. The audit must:</p> <ul style="list-style-type: none"> <li>g) led by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Planning Secretary;</li> <li>h) be led and conducted by a suitably qualified, experienced and independent team of experts (including any be expert in field/s specified by the Planning Secretary) whose appointment has been endorsed by the Planning Secretary;</li> <li>i) be carried out in consultation with the relevant agencies and the CCC;</li> <li>j) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent, water licences and mining leases for the development (including any assessment, strategy, plan or program required under these approvals);</li> <li>k) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals and this consent;</li> <li>l) recommend appropriate measures or actions to improve the environmental performance of the development and any assessment, strategy, plan or program required under the abovementioned approvals and this consent; and</li> <li>m) be conducted and reported to the satisfaction of the Planning Secretary</li> </ul>	Section 7.2.1
12	<p><b>Monitoring and Environmental Audits</b></p> <p>Noise and/or air quality monitoring under this consent may be undertaken at suitable representative monitoring locations instead of at privately-owned residences or other locations listed in Schedule 3, providing that these representative monitoring locations are set out in the respective management plan/s.</p>	Section 4.2

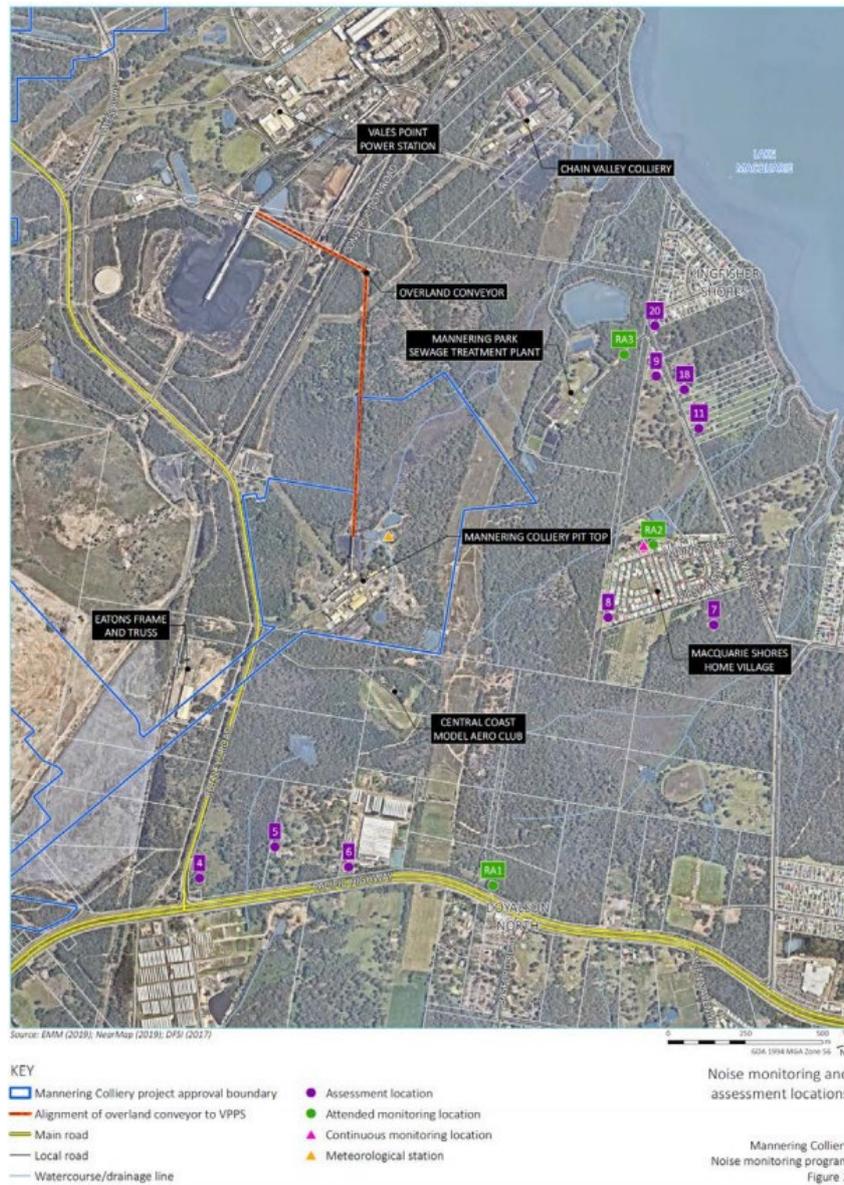
<p style="text-align: center;"><b>13</b></p>	<p><b>Access to Information</b></p> <p>Until the completion of all rehabilitation required under this consent, the Applicant must:</p> <p>b) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website:</p> <ul style="list-style-type: none"> <li>• the documents referred to in condition 2(e) of Schedule 2 of this consent;</li> <li>• all current statutory approvals for the development;</li> <li>• all approved strategies, plans and programs required under the conditions of this consent;</li> <li>• the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged;</li> <li>• minutes of CCC meetings;</li> <li>• regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;</li> <li>• a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;</li> <li>• a summary of the current progress of the development;</li> <li>• contact details to enquire about the development or to make a complaint;</li> <li>• a complaints register, updated monthly;</li> <li>• the Annual Reviews of the development;</li> <li>• audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant’s response to the recommendations in any audit report; and</li> <li>• any other matter required by the Planning Secretary; and</li> </ul> <p>c) keep such information up to date, to the satisfaction of the Planning Secretary</p>	<p style="text-align: center;"><b>Section 5.1</b></p>
<p style="text-align: center;"><b>Appendix 3</b></p>	<p><b>Statement of Commitments – Commitments for Modification 5</b></p> <p>Great Southern Energy Pty Limited will decommission the surface rotary breaker to reduce noise emissions.</p>	<p style="text-align: center;"><b>Section 1.4.2</b></p>

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<b>Appendix 4</b>	<b>Noise Assessment Locations</b>						<b>Section 4.2</b>
	<b>ID</b>	<b>Owner</b>	<b>ID</b>	<b>Owner</b>	<b>ID</b>	<b>Owner</b>	
	1	Energy Australia	27	H Gleeson	53	H & J Beukers	
	2	Alcevski Investments	28	C Stead & M Garner	54	A Taylor-Stewart	
	3	Eaton & Sons Pty Ltd	29	A O'Keefe	55	G Kettles	
	4	O & J di Rocco	30	P Groen	56	R & E Brokenshire	
	5	A & M Keighran	31	M Parkin	57	B & S Fowler	
	6	Swan HydroPonics Pty Ltd	32	I Maclaren	58	B Sneddon	
	7	R Druitt	33	P Kranz	59	J & P Hanson	
	8	Macquarie Shores Home Village	34	T & V Wilding	60	L Crook & L Kelly	
	9	L F Jeans	35	G Williams	61	P & G Becker	
	10	L & J Jeans	36	P & C Byrnes	62	B Clover & R Alaban	
	11	L & J Jeans	37	G Holmes	63	T & O Becker	
	12	L & J Jeans	38	R & B Croucher	64	R Harris & D Kingsford	
	13	L & J Jeans	39	R & C Calvert	65	N Singleton	
	14	L & J Jeans	40	T & D Stolz	66	M Smith	
	15	L & J Jeans	41	A & S Whitbread	67	D & B Johnston	
	16	L & J Jeans	42	B Kelly	68	R & B Amos	
	17	L & J Jeans	43	L Preston	69	H & C Strand	
	18	L & J Jeans	44	G Bain	70	PhystonPty Ltd	
	19	L & J Jeans	45	C Clarke	71	R Howland	
	20	E & K Knight	46	W Carpenter	72	R & D Shannon	
	21	Jonita Homes Pty Ltd	47	S Mackay	73	P & B Williams	
	22	W & D Buchmasser	48	R Allen	74	P Batten	
	23	P McKee	49	S Jopp	75	G & A Dyer	
	24	J Farrell	50	P & M Davie	76	S Harrison & N Robertson	
	25	P Kretchmer & E Castle	51	D Olsen			
	26	A Mearns	52	D Poulson & K Toope			

**Appendix**  
**4**



**Section 4.2**

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## APPENDIX E – CHAIN VALLEY COLLIERY

### EPL 1770 SUMMARY

Condition No.	Requirement	Relevant section of this document			
L5.1	<p><b>L5 Noise Limits</b></p> <p>Noise generated at the premises that is measured at each noise monitoring point established under this licence must not exceed the noise levels specified in Column 4 of the table below for that point during the corresponding time periods specified in Column 1 when measured using the corresponding measurement parameters listed in Column 2.</p>	Section 2.6			
	POINT 12				
	Time period		Measurement parameter	Measurement frequency	Noise level dB(A)
	Day		Day-LAeq (15 minute)	-	49
	Evening		Evening-LAeq(15 minute)	-	49
	Night		Night-LAeq(15 minute)	-	49
	Night		Night-LA1 (1minute)	-	54
	POINT 13				
	Time period		Measurement parameter	Measurement frequency	Noise level dB(A)
	Day		Day-LAeq (15 minute)	-	49
	Evening		Evening-LAeq(15 minute)	-	49
	Night		Night-LAeq(15 minute)	-	49
	Night		Night-LA1 (1minute)	-	53

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Condition No.	Requirement	Relevant section of this document																				
	POINT 14																					
	<table border="1"> <thead> <tr> <th>Time period</th> <th>Measurement parameter</th> <th>Measurement frequency</th> <th>Noise level dB(A)</th> </tr> </thead> <tbody> <tr> <td>Day</td> <td>Day-LAeq (15 minute)</td> <td>-</td> <td>43</td> </tr> <tr> <td>Evening</td> <td>Evening-LAeq(15 minute)</td> <td>-</td> <td>43</td> </tr> <tr> <td>Night</td> <td>Night-LAeq(15 minute)</td> <td>-</td> <td>43</td> </tr> <tr> <td>Night</td> <td>Night-LA1 (1minute)</td> <td>-</td> <td>49</td> </tr> </tbody> </table>	Time period	Measurement parameter	Measurement frequency	Noise level dB(A)	Day	Day-LAeq (15 minute)	-	43	Evening	Evening-LAeq(15 minute)	-	43	Night	Night-LAeq(15 minute)	-	43	Night	Night-LA1 (1minute)	-	49	
Time period	Measurement parameter	Measurement frequency	Noise level dB(A)																			
Day	Day-LAeq (15 minute)	-	43																			
Evening	Evening-LAeq(15 minute)	-	43																			
Night	Night-LAeq(15 minute)	-	43																			
Night	Night-LA1 (1minute)	-	49																			
	POINT 16																					
	<table border="1"> <thead> <tr> <th>Time period</th> <th>Measurement parameter</th> <th>Measurement frequency</th> <th>Noise level dB(A)</th> </tr> </thead> <tbody> <tr> <td>Day</td> <td>Day-LAeq (15 minute)</td> <td>-</td> <td>36</td> </tr> <tr> <td>Evening</td> <td>Evening-LAeq(15 minute)</td> <td>-</td> <td>36</td> </tr> <tr> <td>Night</td> <td>Night-LAeq(15 minute)</td> <td>-</td> <td>36</td> </tr> <tr> <td>Night</td> <td>Night-LA1 (1minute)</td> <td>-</td> <td>45</td> </tr> </tbody> </table>	Time period	Measurement parameter	Measurement frequency	Noise level dB(A)	Day	Day-LAeq (15 minute)	-	36	Evening	Evening-LAeq(15 minute)	-	36	Night	Night-LAeq(15 minute)	-	36	Night	Night-LA1 (1minute)	-	45	
Time period	Measurement parameter	Measurement frequency	Noise level dB(A)																			
Day	Day-LAeq (15 minute)	-	36																			
Evening	Evening-LAeq(15 minute)	-	36																			
Night	Night-LAeq(15 minute)	-	36																			
Night	Night-LA1 (1minute)	-	45																			
	POINT 20																					
	<table border="1"> <thead> <tr> <th>Time period</th> <th>Measurement parameter</th> <th>Measurement frequency</th> <th>Noise level dB(A)</th> </tr> </thead> <tbody> <tr> <td>Day</td> <td>Day-LAeq (15 minute)</td> <td>-</td> <td>37</td> </tr> <tr> <td>Evening</td> <td>Evening-LAeq(15 minute)</td> <td>-</td> <td>37</td> </tr> <tr> <td>Night</td> <td>Night-LAeq(15 minute)</td> <td>-</td> <td>37</td> </tr> </tbody> </table>	Time period	Measurement parameter	Measurement frequency	Noise level dB(A)	Day	Day-LAeq (15 minute)	-	37	Evening	Evening-LAeq(15 minute)	-	37	Night	Night-LAeq(15 minute)	-	37					
Time period	Measurement parameter	Measurement frequency	Noise level dB(A)																			
Day	Day-LAeq (15 minute)	-	37																			
Evening	Evening-LAeq(15 minute)	-	37																			
Night	Night-LAeq(15 minute)	-	37																			

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Condition No.	Requirement				Relevant section of this document
	Night	Night-LA1 (1minute)	-	45	
POINT 23					
	Time period	Measurement parameter	Measurement frequency	Noise level dB(A)	
	Day	Day-LAeq (15 minute)	-	46	
	Evening	Evening-LAeq(15 minute)	-	46	
	Night	Night-LAeq(15 minute)	-	36	
	Night	Night-LA1 (1minute)	-	45	
POINT 9					
	Time period	Measurement parameter	Measurement frequency	Noise level dB(A)	
	Day	Day-LAeq (15 minute)	-	38	
	Evening	Evening-LAeq(15 minute)	-	38	
	Night	Night-LAeq(15 minute)	-	38	
	Night	Night-LA1 (1minute)	-	45	

Condition No.	Requirement	Relevant section of this document
L5.2	<p>The licensee must ensure that noise generated on the premises does not exceed:</p> <ul style="list-style-type: none"> <li>a) 35 LAeq(15min) during the day, evening or night at any privately owned land nearest to the residence apart from those receivers identified in Condition 5:1; and</li> <li>b) 45LA(1min) during the night at any privately owned land nearest to the residence apart from those receivers identified in Condition 5.1.</li> </ul> <p><b>Note:</b> The licensee may provide to the EPA written evidence of any agreement with a landholder which is subject to the above noise limits. The written evidence may be submitted with a licence variation to remove the landholder from the above tables.</p>	Section 4
L5.3	<p>For the purposes of condition L5.1 and condition L5.2:</p> <ul style="list-style-type: none"> <li>(a) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and public holidays;</li> <li>(b) Evening is defined as the period 6pm to 10pm; and</li> </ul> <p>Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sunday and public holidays.</p>	Section 2.6
L5.4	<p>The noise limits set out in condition L5.1 and condition L5.2 apply under all meteorological conditions except for any one of the following:</p> <ul style="list-style-type: none"> <li>a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or</li> <li>b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or</li> </ul> <p>Stability category G temperature inversion conditions.</p>	Section 2.7

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Condition No.	Requirement	Relevant section of this document
L5.5	<p>For the purpose of condition L5.4:</p> <ul style="list-style-type: none"> <li>a) The meteorological data to be used for determining meteorological conditions is the data recorded at the meteorological station identified in this licence as EPA Identification Point 26;</li> <li>b) Stability category temperature inversion conditions are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy (EPA 2000)</li> </ul> <p>Note: The weather station must be designed, commissioned and operated in a manner to obtain the necessary parameters required under the above condition.</p>	Section 4.6
L5.6	<p>For the purpose of determining the noise generated at the premises the licensee must use a Class 1 or Class 2 noise monitoring device by AS IEC61672.1 and AS IEC61672.2-2004, or other noise monitoring equipment accepted by the EPA in writing.</p>	Section 4.4
L5.7	<p>To determine compliance:</p> <ol style="list-style-type: none"> <li>1. With the LAeq(15min) noise limits in condition L5.1 and condition L5.2, the licensee must locate noise monitoring equipment; <ul style="list-style-type: none"> <li>a) Within 30 metres of a dwelling facade (but not closer than 3 metres) where any dwelling on the property is situated more than 30 metres from the property boundary that is closest to the premises;</li> <li>b) Approximately on the boundary where any dwelling is situated 30 metres or less from the property boundary that is closest to the premises, or where applicable,</li> <li>c) Within approximately 50 metres if the boundary of a national park or nature reserve.</li> </ul> </li> <li>2. With the LA1(1minute) noise limits in condition L5.1 and L5.2, the noise monitoring equipment must be located within 1 metre of a dwelling façade.</li> <li>3. With the noise limits in condition L5.1 and condition L5.2, the noise monitoring equipment must be located; <ul style="list-style-type: none"> <li>a) at the most affected point at a location where there is no dwelling at the location, or</li> </ul> </li> </ol>	Section 4

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Condition No.	Requirement	Relevant section of this document
	at the most affected point within an area at a location prescribed by conditions L5.7 1(a) or L5.7 1(b).	
<b>L5.8</b>	<p>A non-compliance of condition L5.1 or condition L5.2 will still occur where noise generated from the premises in excess of the appropriate limit is measured;</p> <ul style="list-style-type: none"> <li>a) at a location other than an area prescribed by conditions L5.7 1(a) and L.57 1(b), and/or</li> <li>b) at a point other than the most affected point at a location.</li> </ul>	<b>Section 4</b>
<b>L5.9</b>	For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.	<b>Section 4.4</b>
<b>M4.1</b>	<p>To determine compliance with condition L5.1, attended noise monitoring must be undertaken in accordance with conditions L5.7 and L5.8, and</p> <ul style="list-style-type: none"> <li>a) at each one of the locations listed in condition L5.1;</li> <li>b) occur quarterly within the reporting period of the Environment Protection Licence with at least 2 months between monitoring periods;</li> <li>c) occur during each day, evening and night period as defined in the NSW Industrial Noise Policy (EPA 2000) for a minimum of 15 minutes for three of the quarters;</li> <li>d) the night time 15 minute attended monitoring in accordance with c) must be undertaken between the hours of 1am and 4am;</li> <li>e) the night time LA1 (1 min) attended monitoring in accordance with c) must be undertaken between the hours of 1am and 4am;</li> <li>f) one quarterly monitoring must occur during each day, evening and night period as defined in the NSW Industrial Noise Policy (EPA 2000) for a minimum of 1.5 hours during the day; 30 minutes during the evening; and 1 hours during the night, and</li> <li>g) each quarterly monitoring must be undertaken on a different day(s) of the week not including Saturdays, Sundays and public holidays; and</li> <li>h) these monitoring conditions take effect in the 2015 Reporting period.</li> </ul>	<b>Section 4</b>

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Condition No.	Requirement	Relevant section of this document
	<p><b>Note:</b> The intention of this condition is that quarterly monitoring be undertaken at each sensitive receiver. That at each sensitive receiver monitoring is undertaken over a range of different days excluding weekends and public holidays during the reporting period so as to be representative of operating hours. That night time 15 minute attended monitoring and the LA1 (1min) monitoring for three of the quarters be undertaken at worst case being the most stable atmospheric conditions and when noise would be most intrusive to sleep. All of the sensitive receivers do not have to be monitored on the same day, evening and night for sub condition f.</p>	

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**APPENDIX F – EMM REVIEW OF ATTENDED NOISE  
MONITORING LIMITS (Mannering Colliery Modification 5  
noise limit amendment)**

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11 October 2019

Chris Nicholas  
Environment and Community Coordinator  
Delta Coal  
Manning Colliery  
Ruttleys Road  
Manning Park NSW 2259

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**Re: Manning Colliery - Modification 5 (MP06\_0311) Request for additional information - Noise**

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Dear Chris,

## 1 Introduction

As per the letter received from the Department of Planning, Industry and Environment (DPIE) dated 20 August 2019 and email communication dated 25 September 2019, additional information has been requested in relation to noise.

The specific requests outlined in these communications and our responses are provided in Section 2; requests are provided in italics and EMM response is provided in plain text.

In addition, an informal request was made by Melissa Anderson of the Department of Planning, Industry and Environment (DPIE) in relation to existing ambient noise levels at the nearest residences and the appropriateness of current noise limits. This item has been addressed in Section 3 with reference to the Manning Colliery Noise Compliance Report which is currently being reviewed by the DPIE.

## 2 Request for additional information

The following section lists the DPIE request along with a response.

### 2.1 Sleep disturbance

*Delta Coal states in the RTS (section 4.3 Page 26) and in the SEE (section 5.3.5 Page 39) that: “the highest predicted LAmax noise level (being the operation of the conveyor belt alarms) at any assessment location was LAmax 47 dB at assessment location 8 under prevailing meteorological conditions and all results demonstrated that LAmax noise levels were compliant with the relevant sleep disturbance criteria”.*

*Delta Coal has concluded its compliance with sleep disturbance criteria based on a noise assessment conducted in 2015 for MC Mod 3. However, explanation of the calculation and comparison with criteria has not been well-explained in the MC Mod 5 SEE or RTS. The applicable noise policy to assess noise impacts is the Industrial Noise Policy (INP), however, the RTS in at least one place references the Noise Policy for Industry’s sleep disturbance criteria (section 4.3 Page 26).*

*In the SEE and RTS, Delta Coal has assessed sleep disturbance impacts purely from a technical perspective. Several submissions from residents at Macquarie Shores home village raised the issue of mental health impacts caused by sleep disturbance. The RTS does not satisfactorily address these residents’ concerns.*

**Delta Coal is requested to:**

- a) ***Please explain how sleep disturbance criteria applicable under the INP have been applied to the Mannering Mod 5 noise modelling.***

The noise report prepared to accompany the application for Modification 5 compared existing maximum noise events to current  $L_{A1,1min}$  night-time noise limits. The current  $L_{A1,1min}$  night-time noise limit at the nearest residential locations is 47 dB. This is consistent with the strictest sleep disturbance screening criteria that was determined as part of the noise impact assessment prepared for Modification 3 (refer Mannering Colliery Modification 5 Noise Mitigation Study prepared by EMM dated April 2019) in accordance with the methodology provided in the NSW Industrial Noise Policy (INP).

All noise modelling and compliance monitoring referenced here has utilised the  $L_{Amax}$  noise parameter as a conservative estimate of the  $L_{A1,1minute}$ . The INP application notes state that the EPA accepts sleep disturbance analysis based on either the  $L_{A1,1minute}$  or  $L_{Amax}$  metrics (EPA 2013), with the  $L_{Amax}$  resulting in a more conservative assessment of site noise emissions.

- b) ***Sleep disturbance complaints from Macquarie Shores home village residents identify the 12 pm to 6 am period as being particularly sensitive. Please explain how Delta Coal proposes to mitigate and manage noise within this time period and reduce the frequency of intensive noise events which may disturb sleep.***

Previous modelling and regular noise compliance surveys have demonstrated that maximum noise events from Mannering Colliery during the night-time period generally comply with the noise limit applicable at each neighbouring residential locations. There have been two recent exceptions as follows:

1. **Exceedance of night  $L_{A1,1minute}$  by 7dB at RA3 on 11 June 2019** – this was reported by Delta Coal to the Department of Planning and Environment – Compliance Division and NSW EPA on 18 June 2019. This exceedance was the result of an emergency alarm test that should not have occurred during the night-time period. Delta Coal have consequently counselled the technician that was involved and implemented further controls to avoid this occurrence in the future. In addition, a review of all alarms across the site has been undertaken. This is described in more detail below.
2. **Exceedance of night  $L_{A1,1minute}$  by 4 dB and 1 dB at RA2 on 13 August 2019** – this was reported by Delta Coal to the Department of Planning and Environment – Compliance Division and NSW EPA on 20 August 2019. This exceedance was determined to be as a result of a significant mechanical failure of the bearings within the rotary breaker chain tensioner. The equipment has since been repaired and subsequent noise monitoring has demonstrated compliance with the relevant night-time noise limits.

Additional measures to mitigate and manage noise during the night-time period and reduce the frequency of maximum noise events with the potential to disturb sleep have been implemented or are under further investigation by Delta Coal; these are summarised as follows:

- Work orders for alarm testing have been reviewed to prevent this activity from happening during the night-time period.
- A review of all on-site alarms has been undertaken. As a result of on-site investigations Delta Coal determined that the noise levels associated with the alarms located on the coal bin and the CHPP could be reduced without compromising the safety of on-site personnel. These alarms were adjusted resulting in a reduction of alarm noise level of 23 dB and 24 dB, respectively.
- Delta Coal has committed to decommissioning the rotary breaker on the surface by 30 June 2020. This can be achieved once new coal crushing equipment has been installed underground.

- Additional engineered noise mitigation measures are being installed and/or considered for installation in various locations throughout the Mannering plant; noise absorbent blanket at inlet end of rotary-breaker, alterations to scrap chute from magnet, conveyor belt to acoustically shield the rotary-breaker outlet, conveyor belt installed to line the rotary-breaker reject hopper, removal of the redundant bypass chute and alterations to the screen-house building.

**c) Please include a more detailed and considered discussion on the impacts of sleep disturbance on mental health and how Delta Coal will manage any potential impacts associated with predicted or actual sleep disturbance noise impacts.**

With regard to impacts of sleep disturbance on health, the current night-time noise limits at the assessment locations ( $L_{Aeq,15min}$  and  $L_{A1,1min}$ ) are consistent with screening noise levels outlined in the Noise Policy for Industry (NPI) (EPA, 2017). The NPI screening levels are based on recommendations provided in the World Health Organization (WHO) Night Noise Guidelines for Europe (NNG). The WHO NNG recommended criteria represent health-based limits relating to the lowest observed adverse effect level for sleep disturbance which provides a conservative approach.

Further, the previous answers demonstrate that Delta Coal is committed to ongoing compliance with the INP and site-specific approval conditions and has acknowledged that improvements can be made to reduce noise emissions from site. Mitigation measures have already been implemented and it is expected that decommissioning the rotary breaker by 30 June 2020 will mitigate the potential for future sleep disturbance impacts from the mine. The technical requirements for noise that apply to the site have been outlined and demonstrate compliance with Government policy and site-specific approval conditions. Further data analysis and discussion regarding the potential for sleep disturbance will be provided in the Mannering Colliery Noise Compliance Report which is to be submitted to the DPIE by 30 September 2019.

## 2.2 “Worst case” meteorological conditions

*In the SEE and its Noise Impact Assessment (NIA), reference is made to modelling and noise predictions being undertaken under (eg) “worst-case wind scenario which considered the highest potential noise levels at each assessment location” (Section 5.3.1 Page 35) or that noise emissions are predicted to comply with the relevant long-term noise criteria “at all assessment locations under worst case meteorological conditions” (page 38).*

**Please provide clarification on the matters below:**

- a) Please provide a clear definition for “worst case” meteorological conditions, as described in the SEE and NIA.**
- b) Are the quoted “worst-case” meteorological conditions equivalent to the meteorological conditions set out in the Industrial Noise Policy and reflected in conditions of consent (Appendix 4A) and may therefore be described as “Applicable Meteorological Conditions” under Appendix 4A?**
- c) Are noise emissions predicted to comply with relevant criteria under G class inversions?**

The ‘worst case’ meteorological conditions used for the purpose of noise predictions are those that have the potential to be the most noise-enhancing at nearby assessment locations whilst noise limits are applicable i.e. 3m/s source-to-receiver winds during the day and evening periods and temperature inversion and drainage winds (where applicable) during the night period.

Hence, the quoted ‘worst-case’ meteorological conditions are equivalent to those set out in the Industrial Noise Policy and consistent with those in the conditions of consent (MP 06\_0311 Appendix 4A) and could be described as ‘applicable meteorological conditions’.

The presence of a G-class inversion would represent a situation where noise limits are not applicable in accordance with MP 06\_0311 Appendix 4A. Hence, Delta Coal is not required to predict compliance with noise limits under such conditions.

## 2.3 Reasonable and feasible noise mitigation measures

*The RTS states (Table 3.1 Page 22 and section 4.3 Page 26), that Delta Coal would only implement further reasonable and feasible noise management and mitigation measures to address noise emissions if the Noise Compliance Report (NCR) identifies issues with the operation of coal handling equipment at Mannering Colliery.*

*The NCR is a separate requirement outside the direct scope of the modification assessment. However, Planning & Assessment understands that Delta Coal has recently been informed of non-compliance noise exceedances during attended noise monitoring undertaken for the NCR.*

- a) Please provide more detailed information on what reasonable and feasible noise mitigation measures are under consideration to reduce noise from the Colliery at the closest sensitive receivers, particularly Macquarie Shores home village.***

As described in Section 2.1 the recent exceedance of the sleep disturbance criteria was as a result of an equipment failure which has since been repaired. Compliance with the relevant noise limits has been determined through operator-attended noise compliance monitoring since the equipment repair.

Notwithstanding the preceding, Delta Coal is implementing additional mitigation measures in the future as described in Section 2.1 of this report.

## 2.4 Predicted noise impacts without breaker

***In reference to Delta Coal's commitment to decommission the rotary breaker by June 2020, we request the following further information:***

- 1. Please provide an assessment of the predicted noise impacts of the Mannering pit top operations following the proposed surface infrastructure changes to occur in June 2020.***

Predicted noise emission levels from MC at all assessment locations are provided in Table 2.1 excluding the breaker but including all other acoustically significant plant and equipment. Predicted noise emissions have been compared to those previously presented in the noise report prepared to accompany the application for Modification 5. Noise levels have been predicted based on the worst-case, applicable meteorological conditions consistent with those presented in the Modification 5 noise report. The benefits of relocating the breaker are highlighted in bold and apply to all assessment locations.

**Table 2.1 Predicted operational noise levels -  $L_{Aeq,15 \text{ minute}}$**

Assessment location	Period	Predicted (dB)			Noise Criteria (dB) Table 2, Appendix 4B MP 06_0311
		Mod 3 (pre-mitigation)	Mod 5 (post mitigation)	Mod 5 (post mitigation excluding Breaker)	
4	Day	39	35	35	40
	Evening	39	36	<b>35</b>	40
	Night	40	36	36	40
5	Day	42	38	38	41
	Evening	42	39	<b>38</b>	41
	Night	43	39	39	41
6	Day	41	36	36	41
	Evening	41	37	<b>36</b>	41
	Night	42	37	<b>36</b>	41
7	Day	38	34	<b>32</b>	39
	Evening	38	35	<b>32</b>	39
	Night	39	35	<b>33</b>	39
8	Day	45	41	<b>39</b>	45
	Evening	45	42	<b>39</b>	45
	Night	46	42	<b>39</b>	43
9	Day	40	36	<b>35</b>	41
	Evening	40	37	<b>35</b>	41
	Night	41	37	<b>36</b>	41
11	Day	38	35	<b>34</b>	39
	Evening	38	36	<b>34</b>	39
	Night	39	36	<b>35</b>	39
18	Day	38	35	<b>34</b>	39
	Evening	38	36	<b>34</b>	39
	Night	39	36	<b>35</b>	39
20	Day	39	35	<b>34</b>	40
	Evening	39	36	<b>34</b>	40
	Night	40	36	<b>35</b>	40

Noise emissions from MC excluding the breaker are predicted to reduce by up to 2 dB compared to those including operation of the breaker and remain below the relevant long-term noise criteria outlined in MP 06\_0311.

### 3 Ambient noise levels

As will be reported in detail in the Mannering Colliery Noise Compliance Report, an unattended environmental noise logger was deployed at the Macquarie Shores Village from 24 July to 1 September 2019. Noise data from this unit was analysed to determine ambient noise levels at the Macquarie Shores monitoring location. Based on operational data provided by Delta Coal, periods when Mannering Colliery plant was operational were excluded from the data analysis. A summary of measured ambient noise levels is provided in Table 3.1.

**Table 3.1 Summary of measured, existing background and ambient noise**

Monitoring location	Period <sup>1</sup>	RBL <sup>2</sup> , dB	Measured $L_{Aeq, period}$ noise level <sup>3</sup> , dB
Macquarie Shores Village	Day	36	52
	Evening	38	46
	Night	37	48

Notes: 1. Day: 7 am to 6 pm Monday to Saturday; 8 am to 6 pm Sundays and public holidays; Evening: 6 pm to 10 pm; Night: 10 pm to 7 am.  
2. The RBL is an INP term and is used represent the background noise level.  
3. The energy averaged noise level over the measurement period and representative of general ambient noise.

If the measured existing noise levels, as presented in Table 3.1, were to be used in determining a project noise trigger level in accordance with current NSW noise policy this would result in night-time noise limits of  $L_{Aeq,15min}$  41 dB and  $L_{A1,1 minute}$  (or  $L_{Amax}$ ) 52 dB. The current noise limits outlined in Mannering Colliery's Project Approval (MP06\_0311) for Macquarie Shores are  $L_{Aeq,15min}$  43 dB and  $L_{A1,1 minute}$  47 dB. Based on the recent ambient noise monitoring results the existing night-time  $L_{Aeq,15min}$  noise limit is appropriate and the existing  $L_{A1,1 minute}$  noise limit is conservative.

## 4 Closure

We trust the preceding meets your current requirements. If you have any questions or require anything further please don't hesitate to contact me on (02) 4907 4800 / 0447 715 900 or email.

Yours sincerely



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