

# ENV-NOI-PLN-001 Noise Management Plan

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## 1.0 INTRODUCTION

### 1.1 Overview

This Noise Management Plan (NMP) has been developed for Boggabri Coal Operations Pty Ltd (BCOPL), a wholly owned subsidiary of Boggabri Coal Pty Ltd (80%), Chugoku Electric Power Australia Resources Pty. Ltd (10%) and NS Boggabri Pty Limited (10%).

Boggabri Coal Mine (BCM) is located 15 km north-east of the township of Boggabri in north-western New South Wales. BCM is an open cut coal mine that has been operating since 2006. Truck and excavator operations are used to mine a run-of-mine (ROM) coal, which is crushed and screened to produce a thermal coal product or washed in a Coal Handling Preparation Plant (CHPP) to produce a coking or Pulverised Coal Injected (PCI) product. Product coal is loaded onto trains via a train loading facility at the mine site and transported by rail for overseas consumption via the Port of Newcastle. -

BCM and the CHPP is managed and operated by BCOPL.

Project Approval number 09\_0182 for the Boggabri Coal Project, granted by the NSW Planning Assessment Commission (PAC) under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 18 July 2011, as modified from time to time, (Project Approval) allows BCOPL to extend its mining operations until 2036, and increase its production rate to 8.6 Mtpa of ROM coal from a total resource of 145 Mt.

Schedule 3, Condition 13 of the Project Approval requires the preparation of an NMP. This NMP has been prepared in fulfilment of these requirements. The specific requirements of the NMP are listed in Table 2-1. Consultation with the Boggabri Coal Community Consultative Committee (CCC) and the Environment Protection Authority of NSW (EPA) was undertaken during preparation of the NMP (refer to Section 2.0 and Appendix D).

All BCOPL staff and contractors working at BCM are required to operate in accordance with this NMP.

### 1.2 Purpose of this NMP

The purpose of this NMP is to comply with Schedule 3, Condition 13 of the Project Approval and, in doing so, facilitate compliance with noise impact and management conditions in the Project Approval.

### 1.3 Application of this NMP

This NMP applies to BCOPL employees and contractors at the BCM and covers all areas within the 'Project Boundary' as defined in the Project Approval. A figure showing the extent of these areas is provided in Appendix A.

This NMP covers all operational activities that have the potential to generate noise at the BCM. This NMP does not apply to construction noise, all construction of mine related infrastructure has been completed.

Cumulative noise management for BCM and the neighbouring Tarrawonga and Maules Creek Coal Mines is detailed in the Boggabri-Tarrawonga-Maules Creek (BTM Complex) Noise Management Strategy (NMS) attached in Appendix E. Key elements of the BTM Complex (formerly known as Leard Forest Mining Precinct) NMS are discussed in Sections 5.5 and 6.3 of this NMP.

## 2.0 STATUTORY REQUIREMENTS

**Table 2-1: Project approval NMP conditions**

Applicable condition	Requirement of project approval	NMP reference
Schedule 3 Condition 13	The Proponent must prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary.	Whole NMP Document
Schedule 3 Condition 13(a)	The NMP must be prepared in consultation with the EPA and the CCC, and submitted to the Secretary for approval within 6 months of the date of this approval	Appendix D
Schedule 3 Condition 13(b)	The NMP must describe the measures that would be implemented to ensure: <ul style="list-style-type: none"> <li>• best management practice is being employed;</li> <li>• the noise impacts of the project are minimised during meteorological conditions when the noise limits in this approval do not apply; and</li> <li>• compliance with the relevant conditions of this approval</li> </ul>	Section 5.0
Schedule 3 Condition 13(c)	The NMP must describe the proposed noise management system in detail	Whole NMP Document
Schedule 3 Condition 13(d)	The NMP must include a risk/response matrix to codify mine operational responses to varying levels of risk resulting from weather conditions and specific mining activities	Section 5.3
Schedule 3 Condition 13(e)	The NMP must include commitments to provide summary reports and specific briefings at CCC meetings on issues arising from noise monitoring	Section 7.5
Schedule 3 Condition 13(f)	The NMP must include a monitoring program that: <ul style="list-style-type: none"> <li>• uses a combination of real time and supplementary attended monitoring to evaluate the performance of the project;</li> <li>• adequately supports the proactive and reactive noise management system on site;</li> <li>• uses predictive meteorological forecasting to incorporate proactive mitigation measures to manage noise impacts;</li> <li>• includes monitoring of inversion strength at an appropriate sampling rate to determine compliance with noise limits;</li> <li>• evaluates and reports on the effectiveness of the noise management system on site;</li> <li>• provides for the annual validation of the noise model for the project</li> </ul>	Sections 6.0 and 7.0

Applicable condition	Requirement of project approval	NMP reference
Schedule 3 Condition 13(g)	<p>The NMP must include a Leard Forest Mining Precinct Noise Management Strategy that has been prepared in consultation with other coal mines in the Precinct to minimise the cumulative noise impacts of all mines within the Precinct, that includes:</p> <ul style="list-style-type: none"> <li>• systems and processes to ensure that all mines are managed to achieve their noise criteria;</li> <li>• a shared environmental monitoring network and data sharing protocol; and</li> <li>• procedures for identifying and apportioning the source/s and contribution/s to cumulative noise impacts for operating mines and other sources, using the noise and meteorological monitoring network and appropriate investigative tools.</li> </ul>	See sections 5.5 and 6.3 and refer to BTM Complex Noise Management Strategy (refer to Appendix E)
Schedule 3 Condition 13A	The Proponent must implement the Noise Management Plan as approved by the Secretary.	Sections 6.0, 7.0 and 8.0
Schedule 5 Condition 13	<p>The Proponent shall ensure that the noise and air quality risk/response matrices required to be developed in the Noise and Air Quality Management Plans and validated real time monitoring data are available online and includes:</p> <ul style="list-style-type: none"> <li>• timely publication of validated monitoring data in a clearly understandable form;</li> <li>• identification of mine operational responses to monitoring data and weather forecasts; and</li> <li>• provision for on-line input/response by members of the community and real time engagement with regionally-based regulatory compliance staff, to the satisfaction of the Secretary.</li> </ul>	Sections 5.3, 6.3 and 6.4

## **3.0 EXISTING ENVIRONMENT**

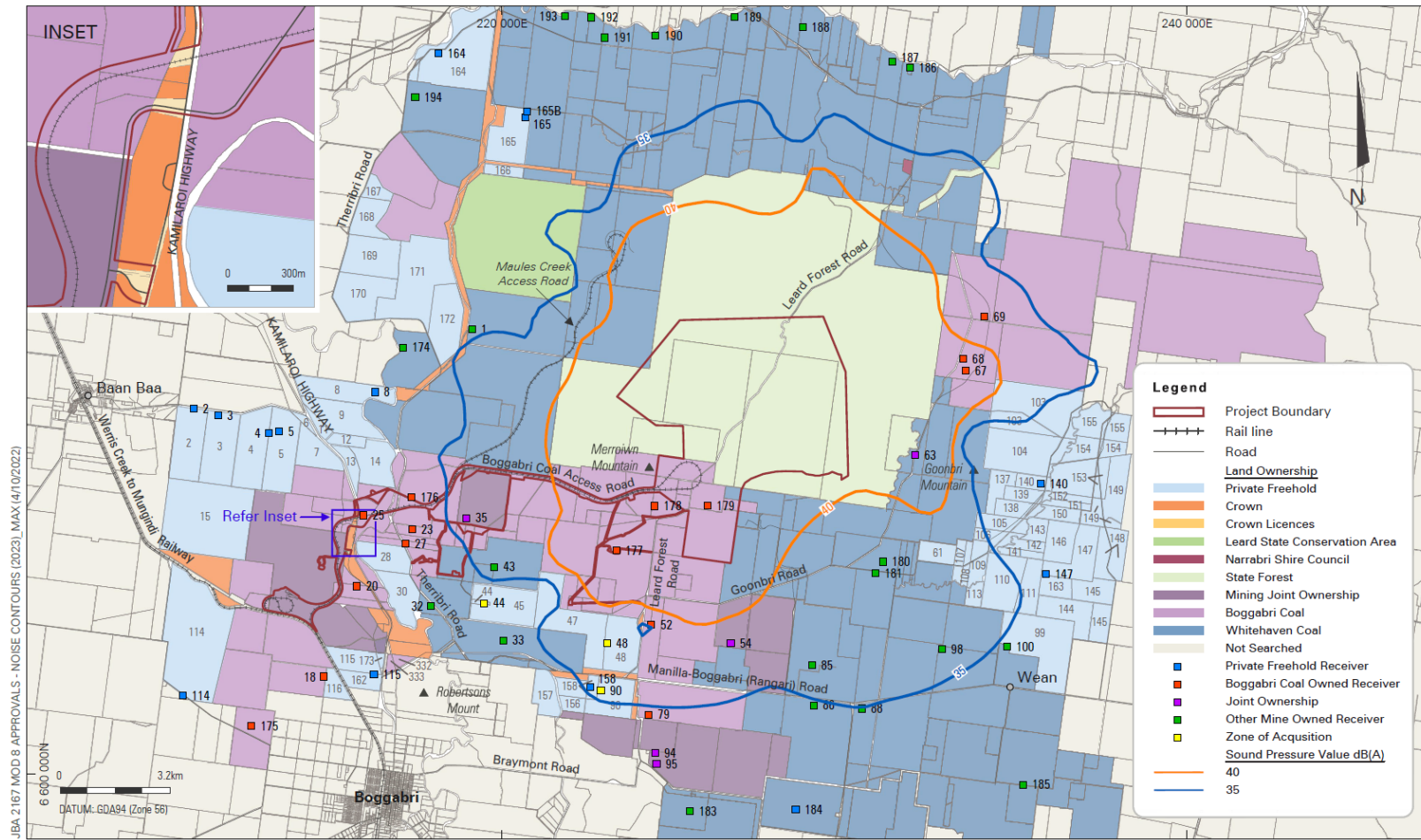
### **3.1 Background noise**

BCM and the neighbouring Tarrawonga and Maules Creek Coal Mines are located in a rural area, away from major roads and other major industry.

Monitoring has demonstrated that background levels regularly fall to 30 dB(A) or below. A background noise level of 30 dB(A) was adopted during the EA (Hansen Bailey, 2010) completed for the Project Approval. This level was adopted for all receivers and time periods, in accordance with the NSW Industrial Noise Policy.

### **3.2 Sensitive receptors**

Receptors sensitive to noise impacts from operational activities associated with the BCM were identified in the Modification 8 EA (EMM, 2022). Noise impacts on sensitive receptors were modelled for year 2023 and 2027 of operations. The  $L_{Aeq,15minute}$  35 and 40 dB noise contours for each of these years of operations was mapped to show the extent of the areas likely to be impacted. Modelled noise impacts, as detailed in the Modification 8 EA, are shown in Figure 3-1 and Figure 3-2. The noise mitigation and management measures outlined in Section 5.0 will be implemented for sensitive receptors within the areas bounded by the modelled noise impact contours.

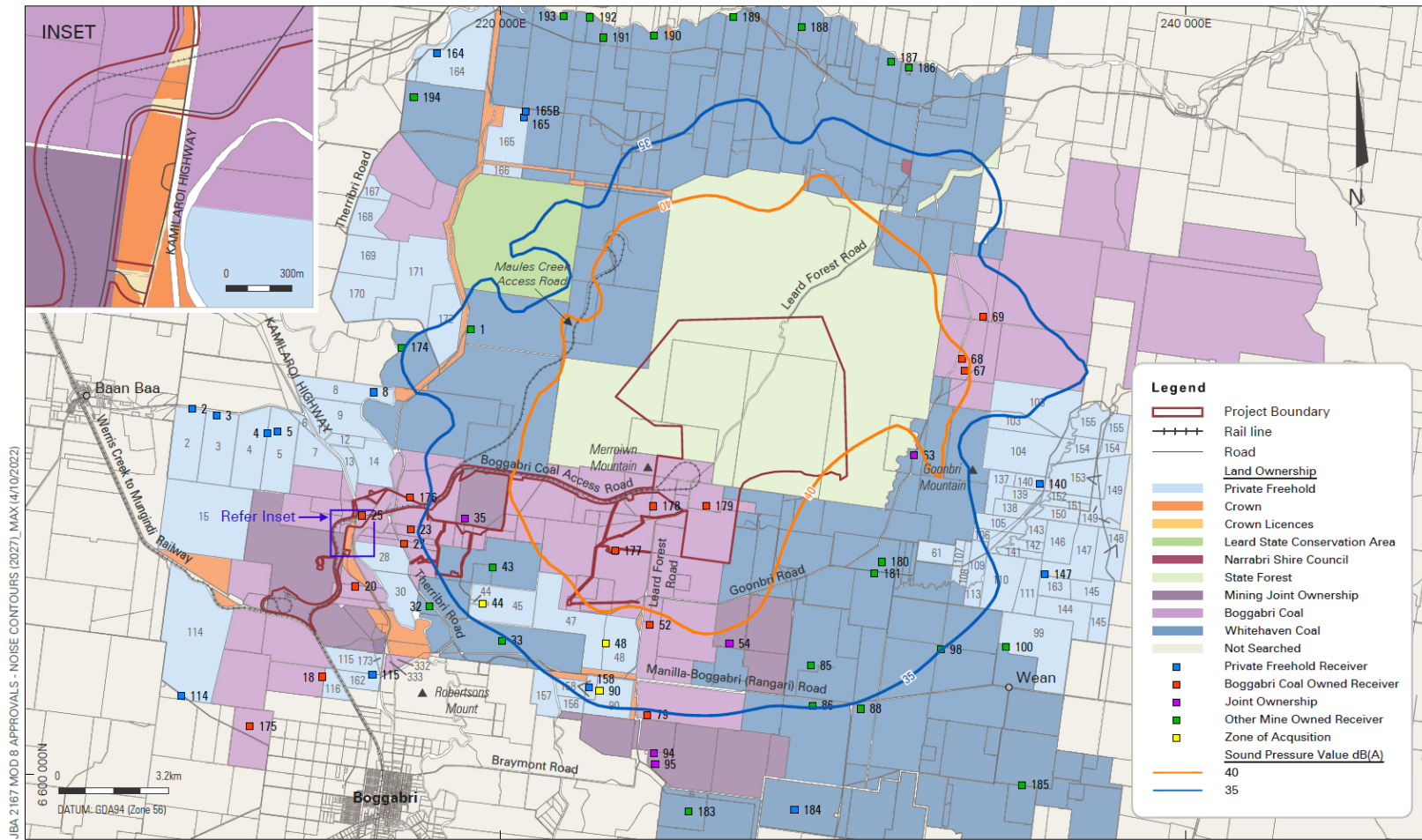


JBA 2 167 MOD 8 APPROVALS - NOISE CONTOURS (2023)\_MAX (4/10/2022)

BOGGABRI COAL MINE

Indicative Noise Contours 2023  
- Maximum all Periods (LAeq,15minute dB)

**Figure 3-1: Indicative 2023 noise contours**



BOGGABRI COAL MINE

Indicative Noise Contours 2027  
- Maximum all Periods (LAeq, 15minute dB)

Figure 3-2: Indicative 2027 noise contours

## 4.0 NOISE CRITERIA

Noise criteria and conditions applicable to the BCM are specified in the Project Approval and summarised in the following subsections.

### 4.1 Noise affected land

Project Approval Schedule 3, Conditions 3 to 5 and 8 describe the actions the Proponent is required to follow with regard to receivers on noise affected land. These actions are set out in detail in Appendix B. In summary, they provide that:

- except if the Proponent has an agreement with the owners of privately-owned residences (defined in Condition 3 as residences not owned by a mining company), and the Proponent has advised the Department in writing of this agreement,
  - those owners may make a written request to BCOPL for mitigation measures or acquisition of the residence; and
  - BCOPL must undertake whichever option requested by the owner(s);
- following implementation of mitigation measures, if the owners have reason to believe that noise impacts are more than 3 dB(A) above the predicted noise levels for that residence (see Table 4-1), the owners can request an independent noise impact assessment for the residence; and
- if the Secretary considers that a noise impact assessment is warranted, then the Proponent shall commission an assessment;
- if the assessment shows that noise generated by the Project causes sustained exceedances, or is likely to cause sustained exceedances, of the predicted noise levels by more than 3 dB(A) the owners may require Proponent to acquire the residence and land in accordance with the procedures in conditions 8-9 of Schedule 4 of the Project Approval.

**Table 4-1: Maximum predicted noise levels**

Location Property/ID	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)
44	35	35	36	45
48	35	38	39	48
90	35	35	36	45

Notes:

1. To interpret the locations referred to in Table 4-1, see the applicable figure in Appendix 4.
2. The noise assessment must be undertaken by a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary and include either:
  - a. sufficient monitoring at the affected residence to allow for assessment of the impacts under a range of meteorological conditions (including adverse conditions) likely to be experienced at the residence; or
  - b. Sufficient monitoring to allow reliable prediction of the likely impacts under the range of meteorological conditions (including adverse conditions) likely to be experienced at the residence.
3. Monitoring should be conducted in accordance with the requirements of the NSW Noise Policy for Industry (EPA, 2017).

4. Where predictions of likely impacts is to be used, either in substitution for, or in conjunction with, direct measurement of noise impacts at the residence, it must be based on sufficient monitoring data to provide a reliable estimate of the impacts (including under adverse meteorological conditions) and be derived using standard noise modelling techniques accepted by the EPA.
  5. The Proponent must ensure that the requested noise impact assessment is submitted to the Secretary within 3 months of the Secretary's decision that the assessment was warranted. The Proponent must also provide a copy of the assessment to the owner(s) of the residence at the same time it is submitted to the Secretary.
  6. Note: 2 to condition 3 of this Schedule applies to acquisition under this condition.
- At any stage of the Project, except for Receivers 44, 48 and 90, the Proponent must ensure that operational noise generated by the Project does not exceed the criteria in Table 4-2 at any residence on privately-owned land.

**Table 4-2: Noise impact assessment criteria dB(A) – maximum any stage of project life**

Location/Property ID	Noise impact assessment criteria			
	Day L <sub>Aeq</sub> (15 min)	Evening L <sub>Aeq</sub> (15 min)	Night L <sub>Aeq</sub> (15 min)	Night LA1 (1 min)
158	35	36	36	45
All other privately owned residences	35	35	35	45

*Notes:*

Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Noise Policy for Industry (EPA, 2017).

- If the owner(s) of a privately-owned residence, have reason to believe that operational noise from the Project is causing the criteria in Table 4-2 to be exceeded at the residence, the owner(s) can request an independent noise impact assessment for the residence. The request must be made in writing to the Secretary. If the Secretary considers that a noise impact assessment is warranted, then the Proponent must commission the assessment.
- Except for the noise affected land identified in condition 3 as being within the Project's 35 dB(A) contour, the Proponent must ensure that the operational noise generated by the project combined with the noise generated by other mines does not exceed the criteria in Table 4-3 at any residence on privately-owned land.

**Table 4-3: Cumulative noise impact criteria dB(A) LAeq (period)**

Location	Noise impact assessment criteria		
	Day LAeq (period)	Evening LAeq (period)	Night LAeq (period)
All privately owned residences	40	40	40

**Notes:**

1. Cumulative noise is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Noise Policy for Industry (EPA 2017)

- If the owner(s) of a privately-owned residence reasonably believes that the noise limits in Table 4-3 are being exceeded at the residence and that the exceedance is caused by operational noise from the project and one or more other mines (including use of private haul roads or rail spurs), the owner(s) can request an independent noise impact assessment for the residence. The request must be made in writing to the Secretary. If the Secretary considers that a noise impact assessment is warranted, then the Proponent must commission the assessment.

**4.2 Operational noise criteria**

As specified in Schedule 3, Condition 5 of the Project Approval, the operational noise criteria applicable to all privately-owned residences on land not identified in Schedule 3, Conditions 3 and 4 of the Project Approval, are set out in Table 4-4. The criteria apply to all operational noise generated by the BCM, including on-site noise sources such as mining and coal processing equipment, train loading equipment and train movements on the private rail spur excluding the rail spur.

BCOPL will implement various management measures with the aim of controlling noise generated by BCM to not exceed the criteria in Table 4-4 at any privately-owned residences. Management measures are outlined in Section 5.0.

**Table 4-4: Operational noise impact assessment criteria dB(A) - maximum at any stage of project life**

Location Property/ ID	Day	Evening	Night	
	LAeq(15 min)	LAeq(15 min)	LAeq(15 min)	LA1(1 min)
158	35	36	36	45
All other privately owned land	35	35	35	45

Condition 6 of Schedule 3 (produced in full in Appendix B, Table B-1 of this NMP) allows for noise mitigation or property acquisition if an independent noise assessment determines that the noise generated by the Project causes sustained exceedances, or is likely to cause sustained exceedances, of the noise criteria in Table 4-5. The various scenarios under which BCOPL will be required to mitigate or acquire landholder properties are described in detail in Section 5.3.

### 4.3 Cumulative noise criteria

BCOPL will implement all reasonable and feasible measures so that the noise generated by the BCM combined with the noise generated by other mines in the area does not exceed the criterion, as outlined in Schedule 3, Condition 7 of the Project Approval and detailed in Table 4-5, at any privately-owned residence.

**Table 4-5: Cumulative noise criteria dB(A) LAeq(Period)**

Location	Day	Evening	Night
All privately owned land	40	40	40

Condition 8 of Schedule 3 (produced in full in Appendix B, Table B-1 of this NMP) allows for noise mitigation or property acquisition if an independent noise survey shows that the cumulative noise generated by the Project and others mine(s) causes sustained exceedances, or is likely to cause sustained exceedances, of the cumulative noise criterion in Table 4-5. Mitigation is described further in Table 5-2 and Section 5.4. Landholder property acquisition scenarios for BCM are described in Appendix C. Cumulative noise mitigation and acquisition is discussed further in the BTM Complex NMS (refer to Appendix E).

### 4.4 Standards and guidelines

The Project Approval references the *Noise Policy for Industry* (NPfI) (EPA, 2017) as the applicable policy for managing noise at BCM. Also applicable are:

- Approved methods for the measurement and analysis of environmental noise in NSW (Approved Methods) (EPA, 2022); and
- Australian Standard AS1055 Acoustics, Description and Measurement of Environmental Noise (AS1055) (Standards Australia, 2018).

## 5.0 NOISE MANAGEMENT MEASURES

The following noise control measures will be considered, and where necessary implemented, by BCOPL to minimise the potential for noise to exceed Project Approval noise specific criteria.

### 5.1 Approved hours of work

Project operational activities will be undertaken in accordance with the hours specified under Project Approval Schedule 2, Condition 6 which states that the Proponent may undertake mining operations 24 hours a day, 7 days a week.

### 5.2 Noise mitigation measures

BCOPL will apply the noise mitigation measures during operational activities at BCM as outlined in Table 5-2. The noise mitigation measures in Table 5-2 consider the operating conditions in Schedule 3, Condition 12 of the Project Approval including measures to minimise operational, low frequency and rail noise. BCOPL will endeavour to achieve the long-term intrusive noise goals (refer to Project Approval-Table 5) through the implementation of these noise mitigations where they are considered reasonable and feasible.

**Table 5-1: Cumulative noise criteria dB(A) LAeq(Period)**

Activity/ Risk	Noise mitigation measures								
Procurement	<ul style="list-style-type: none"> <li>All new trucks, dozers, drills and excavators purchased for use on site will be commissioned as noise suppressed (or attenuated) units</li> </ul>								
	<ul style="list-style-type: none"> <li>Select vehicle reverse alarms, horns, start alarms and other audible warning devices that produce the lowest best available technology economically achievable noise levels consistent with relevant safety standards</li> </ul>								
Haulage	<ul style="list-style-type: none"> <li>Where speed limits are not sign posted the speed limits in the below table will be used to minimise noise</li> </ul> <table border="1" data-bbox="429 1352 1366 1646"> <thead> <tr> <th>Area</th> <th>Speed limit</th> </tr> </thead> <tbody> <tr> <td>Mining area and haul roads</td> <td>60 km/hr</td> </tr> <tr> <td>Mine infrastructure area unsealed roads</td> <td>40 km/hr</td> </tr> <tr> <td>Around workshop, product stockpiles and park-up areas</td> <td>20 km/hr</td> </tr> </tbody> </table>	Area	Speed limit	Mining area and haul roads	60 km/hr	Mine infrastructure area unsealed roads	40 km/hr	Around workshop, product stockpiles and park-up areas	20 km/hr
	Area	Speed limit							
	Mining area and haul roads	60 km/hr							
	Mine infrastructure area unsealed roads	40 km/hr							
Around workshop, product stockpiles and park-up areas	20 km/hr								
<i>Note: speed limits may be varied in response to adverse weather conditions, air quality monitoring results or other factors.</i>									
Coal handling	<ul style="list-style-type: none"> <li>Using low noise motors</li> <li>Using vibration absorbing pads on supporting springs for vibrating screens</li> </ul>								
	<ul style="list-style-type: none"> <li>Limit operation of mobile coal handling equipment considering speed of movement and location of operation</li> </ul>								

Activity/ Risk	Noise mitigation measures
	<ul style="list-style-type: none"> <li>Belt surfaces are to have no ripples or imperfections</li> </ul>
Loading trains and private spur line	<ul style="list-style-type: none"> <li>Rail lines are to be thermite welded</li> <li>Boggabri Rail Spur Line is to be accessed by locomotives that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL (No. 3142)</li> <li>Any new rail rolling stock manufactured specifically for BCM is to be designed and constructed to minimise noise</li> <li>Where required rolling stock is designed and constructed to minimise noise</li> <li>Following commissioning of the Boggabri Rail Spur Line conduct train speed noise testing to optimise train speed for minimum noise and undertake targeted noise monitoring to determine the accuracy of predicted acoustic impacts and effectiveness of any noise reduction measures (including monitoring during adverse inversion conditions)</li> </ul>
Open cut mining	<ul style="list-style-type: none"> <li>Where required in response to real-time monitoring, direct the overburden haul trucks to lower, more shielded emplacement areas during noise enhancing weather conditions (generally at evening and night during Class G inversions) and deploy attenuated plant in locations relevant to sensitive receivers</li> <li>Where required in response to real-time monitoring, placing overburden in strategic locations to provide additional screening between noise sources on the site and nearby noise sensitive areas</li> <li>Consider constructing noise bunds along the edge of any exposed ramps at exposed elevations on the overburden emplacement area, where mine noise levels exceed Project Approval criteria</li> <li>Limit operation of track dozers and haulage trucks considering speed of movement and location of operation</li> <li>Use predictive met forecasting and real time noise monitoring to guide the day to day planning of mining operations</li> <li>Equipment found to have defects that lead to elevated noise emissions will not be returned to operations until repaired</li> </ul>
Maintenance	<ul style="list-style-type: none"> <li>Maintain plant and equipment regularly and in accordance with manufacturer's requirements</li> <li>Where reasonable and feasible, improve existing noise suppression equipment as best available technology economically achievable become available</li> </ul>

### 5.3 Risk response procedure and matrix

This section describes how the risk of noise level exceedances with the Project Approval noise criteria (refer to Table 4-4) is to be managed.

Following installation of the cumulative real time noise monitoring system (as outlined in the BTM Complex NMS), a series of trigger levels have been set and investigation and high-level criteria have been confirmed with the integrated software. Table 5-2 provides an example of the risk response matrix implemented at BCM to manage the risk of noise exceedance levels from mining activities. The trigger action response matrix will be further refined as the cumulative network continues to be implemented, tested and improved. The timing of the above is outlined in the BTM Complex NMS.

Noise monitoring levels from real time monitor(s) (refer to Appendix A) will be communicated to environmental personnel and the Open Cut Examiner (OCE) via SMS, email and/or other systems integrated into operating processes (depending on needs).

The level of the 'noise alert' will be determined in accordance with Trigger Levels in Table 5-3. The table outlines the action required once the alert is issued.

Once either an 'investigation' or 'action' noise alert is triggered, the procedures outlined in the risk response matrix provided in Table 5-2 will be considered. For noise related complaints or exceedance of a Project Approval criterion identified during attended noise monitoring, the risk response matrix in Table 5-3 will be considered.

The risk response matrix will be refined as the cumulative network is progressively implemented, tested and improved.

BCOPL will review the trigger levels, and update and refine them as necessary following a review of the data and calibration of the system. This review will be undertaken annually as part of development of the Annual Review. If the trigger levels are not appropriate to BCM's operations, they will be revised. Different trigger levels may be set for each monitoring location within the noise monitoring network, depending on the noise criterion for the nearest receiver to the monitor. Where required, trigger levels will be assessed as part of any review of the NMP.

**Table 5-2: Real time or predictive risk response matrix**

		<b>Noise risk level</b>	
		<b>Level 1 – Investigate &amp; prepare</b>	<b>Level 2 – Action required</b>
<b>Trigger</b>	<ul style="list-style-type: none"> <li>4 consecutive measurement intervals with an estimated Mining <math>L_{Aeq}</math> greater than 35 dB at any real time monitor.</li> <li>3 consecutive measurements with stability class G atmospheric condition</li> </ul>	<ul style="list-style-type: none"> <li>4 consecutive measurement intervals with an estimated Mining <math>L_{Aeq}</math> greater than 37 dB at any real time monitor.</li> </ul>	
<b>Noise alert level</b>	<ul style="list-style-type: none"> <li>'Investigation' noise alert received via SMS or email to supervisors.</li> </ul>	<ul style="list-style-type: none"> <li>'Action' noise alert level received via SMS or email to supervisors.</li> </ul>	
		<b>Investigation responses</b>	<b>Action responses, implement until 'Noise Risk Level' reduced</b>
<b>Actions</b>	<ul style="list-style-type: none"> <li>Review Boggabri Noise Monitor Dashboard page.</li> <li>Listen to audio recording and determine likely noise source.</li> <li>Review meteorological data to determine whether increasing noise levels may be due to wind (&gt;3 m/s) or extreme temperature inversions (stability class G).</li> <li>If noise attributed to BCM, the relevant operations are to be notified.</li> <li>If the noise is determined to be from sources other than BCM, the BCOPL Environment Superintendent will be informed.</li> <li>Mine planners review predictive models and consider optimal plan for adverse conditions.</li> </ul>	<ul style="list-style-type: none"> <li>Review Boggabri Noise Monitor Dashboard page.</li> <li>Listen to audio recording and determine likely noise source.</li> <li>Review meteorological data to determine whether increasing noise levels may be due to wind (&gt;3 m/s) or temperature inversions (stability class G).</li> <li>Investigate the source of the increased noise levels and inform the BCOPL Environmental Superintendent.</li> <li>If noise is attributed to BCM, exercise discretion based on operational requirements and where appropriate modify relevant mine operations, including potentially modifying or ceasing the identified activity if noise is non-compliant (e.g. adjust shift plans, reduce haul truck speeds during evening and night periods, shutting down equipment).</li> <li>Record the investigation by following the BCOPL incident management procedure. Any actions implemented will be recorded.</li> </ul>	

**Table 5-3: Risk response matrix attend monitoring**

<b>Risk Response Matrix Attend Monitoring</b>	
Noise complaint received	<ul style="list-style-type: none"> <li>• Document complaint as per the BCOPL incident management procedure and inform the BCOPL Environment Superintendent.</li> <li>• If complainant is not near a noise monitor, liaise with complainant to deploy a real time noise monitor or arrange attended monitoring at a mutually agreeable time.</li> <li>• Listen to real time audio recording or review attended monitoring results to determine likely noise source.</li> <li>• Investigation into the increased noise levels will happen if the noise levels exceed the Project Approval criterion (refer to Table 4-4).</li> <li>• If the noise is attributed to BCM and exceeds a Project Approval criterion, exercise discretion based on operational requirements and where appropriate modify mine operations.</li> <li>• If required, individual mine noise mitigation actions will be instigated upon exceedance of any Project Approval criterion.</li> <li>• If the noise is determined to be from a source other than BCM, record the investigation by following the BCOPL incident management procedure and inform the BCOPL Environment Superintendent of the investigation outcomes.</li> </ul>
Exceedance of Project Approval criterion during attended noise monitoring (refer to section 6.1)	<ul style="list-style-type: none"> <li>• If noise is attributed to BCM develop noise mitigation actions to reduce noise levels.</li> <li>• As soon as practical after obtaining monitoring results showing an exceedance of a Project Approval noise criterion, the Proponent shall notify the affected landowner(s) in writing of the exceedance and provide monitoring results to each of these parties until site noise level complies with the relevant criterion.</li> <li>• Document incident, investigation, and outcomes in accordance with BCOPL incident management procedure.</li> <li>• If noise is confirmed to be from another BTM Complex Mine, consult with that mine operator as outlined in the BTM Complex NMS.</li> </ul>

#### **5.4 Property mitigation and acquisition**

The Project Approval stipulates that private landholders can request an independent noise impact assessment be undertaken at their property if they suspect mining noise is (a) exceeding approved criteria in Table 2 of the Project Approval by more than 3 dB, for receivers inside the 35 dB(A) contour, or (b) exceeding approved criteria in Table 3 of the Project Approval, for receivers outside the 35 dB(A) contour. If an assessment is required, it will be undertaken to determine whether noise levels are above or below approved limits and identify the source of noise impacts. The allowable noise levels will be dependent on the location of the landholder's property and whether the impact is solely caused by BCOPL or whether it is cumulative. The outcomes of the assessment will then be used as a basis for subsequent landholder negotiations for noise mitigation or property acquisition.

As described in the Project Approval, mitigation options may include the installation of double glazing, insulation and air conditioning at the landholder's residence. Any mitigation will be undertaken in consultation with the landholder and be reasonable, feasible and directed towards reducing the noise impacts of the BCM or the BTM Complex upon the residence.

If mitigation is not agreed upon within three months of the landholder's written request, then BCOPL may refer the matter to the Secretary for resolution.

If property acquisition is required, BCOPL will undertake negotiations with the landholder in accordance with Conditions 8 and 9 of Schedule 4 of the Project Approval (reproduced in Appendix B).

Process flow diagrams outlining the key steps that will be undertaken for noise assessment and potential acquisition under the various landholder impact scenarios are provided in Appendix C. It is expected that the scenarios outlined in Appendix C would only be implemented following investigation of practical and feasible mitigation measures, as discussed in this section and Table 5-2.

#### **5.5 Cumulative noise management for the BTM Complex**

The strategy and actions for the management of cumulative noise impacts associated with the BTM Complex are described in the BTM Complex NMS. The BTM Complex NMS outlines the basic system architecture for cumulative noise impact management, which includes predictive noise modelling and predictive meteorology. The system within the BTM Complex NMS assists short-term mine planning by allowing various mining scenarios to be run and evaluated for predicted meteorological conditions.

## 6.0 MONITORING

Attended noise monitoring has been conducted since project inception of BCM at or near the locations listed in Table 6-1. Attended noise monitoring will be undertaken as outlined in Section 6.1 at privately owned residences to assess BCM's noise levels against the noise impact criterion. Real-time noise monitoring will be undertaken as described in Section 6.2.

**Table 6-1: BCM historical noise monitoring locations**

Receiver no.	Landowner/Property name	Type
67/68 <sup>1</sup>	Goonbri	Attended
N/A <sup>1</sup>	Greenhills	Attended
N/A <sup>1</sup>	Bolloi Creek/Tempemore	Attended
54 <sup>1</sup>	Tarrowonga	Attended
23/27 <sup>1</sup>	Cooboobindi	Attended
N/A <sup>2</sup>	Hazeldene	Attended
N/A <sup>2</sup>	Roma	Attended

<sup>1</sup> Property owned by another mining company and not allocated receiver number in Boggabri Mine EA.

<sup>2</sup> No assigned receiver number in the EA.

### 6.1 Attended monitoring

Attended noise monitoring was conducted on a quarterly basis from inception of the BCM to the end of 2015. Continued attended monitoring to assess ongoing compliance with individual and cumulative noise criteria at privately owned properties is now conducted at monthly intervals during night periods.

The attended monitoring locations outside the 35 dB(A) contour are listed in Table 6-2 and illustrated in Appendix A. Additional one-off or occasional monitoring may also be undertaken at other surrounding locations as required utilising either a mobile real-time monitor or by commissioning an independent acoustic consultant to undertake attended monitoring.

**Table 6-2: BCM historical noise monitoring locations**

Location no.	Landowner/Property name	Type
N2	Sylvania	Attended
N3	Picton	Attended
N4	Barbers Lagoon	Attended

Attended noise monitoring will be conducted as follows:

- All noise investigations will be done in accordance with the NPfl, the Approved Methods, and AS1055.
- Noise levels will be measured in one-third octave bands using an instrument with IEC Type 1 characteristics as defined in AS 1259-1990 “Sound Level Meters”. The instrument will have current calibration as per manufacturer’s instructions and field calibration will be confirmed before and after measurements with a sound level calibrator.
- The instrument will be set to A-weighting, “fast” response and measurements of  $L_{Aeq(15 \text{ minute})}$  will be taken at each location in Table 6-2.
- Attended surveys will occur at each location in Table 6-2 at a frequency specified in condition M8.1 of EPL 12407 as follows:
  - monthly,
  - During the night period as defined in the NPfl for a minimum of 15 minutes.
  - Field notes will be taken during each measurement recording the time and duration of noise events, noise sources, instantaneous noise levels and frequency range of identified site noise sources.
  - Extraneous noise sources will be filtered from the measured signal using appropriate methods such as, employing an appropriate low pass cut-off, pausing unwanted noise or similar methods and the  $L_{Aeq(15 \text{ minute})}$  and  $L_{Amax}$  (as an estimate of the  $LA1(1\text{-minute})$  sleep disturbance descriptor) levels attributable to BCM activities will be identified and compared with the relevant criterion.
  - Details regarding plant configuration, survey interval, weather conditions, extraneous noise sources, monitoring locations and times of measurement will be recorded for inclusion in the noise monitoring report.

The selection of monitoring locations has been undertaken in consultation with relevant agencies. Compliance against the noise criteria within the Project Approval will be assessed using the monitoring locations identified in Table 6-2 irrespective of land ownership or distance from dwellings.

## 6.2 Real-time monitoring

A cumulative real-time noise monitoring system has been developed by the BTM Complex mines to assist in the management of noise emissions. This system is described in detail in the BTM Complex NMS.

The real-time network provides data as required for the noise alerts detailed in Table 5-2.

Boggabri Coal has installed four real-time noise monitors which are used as management tools to assist operations. The locations are as follows:

- one real-time monitor at the Wilberoi East property\*;
- one real-time monitor at the Glenhope property\*;
- one real-time noise monitor at the ‘Goonbri’ property\*\*; and
- one real-time noise monitor at the ‘Greenhills’ property\*\*.
  - \*Note: Wilberoi East and Glenhope are properties inside the 35 dB(A) life of mine contour.
  - \*\*Note: ‘Goonbri’ and ‘Greenhills’ are mine-owned properties.

Due to the need for cooperation between the different mines of the BTM Complex with respect to monitoring, the implementation of monitoring programs will be undertaken in stages, as the needs for all parties are fully determined. Schedule 2, Condition 21 of the Project Approval, allows for the staged submission of strategies, plans and programs required under the Project Approval. Noise models developed as part of the cumulative system will be reviewed where required, as detailed in the BTM Complex NMS.

### **6.3 Cumulative noise monitoring**

The real-time network discussed in Section 6.2 forms part of the cumulative noise monitoring network, which is detailed in the BTM Complex NMS. Noise monitoring sufficient to cover all affected receivers will be conducted by the individual mines under their respective NMP's, with each mine reporting on their individual noise levels and cumulative mining noise levels.

### **6.4 Meteorological monitoring**

Condition 14 of the Project Approval states the following:

*Where conditions in this approval refer to measurement of noise within the context of the NSW Industrial Noise Policy the inversion class to be applied to the project is Class G.*

*However, the Proponent may undertake an investigation to determine whether a proposal for change in this classification could be considered for approval by the Secretary. Any such investigation must be conducted in consultation with the EPA and be conducted by a suitably qualified person whose appointment has been endorsed by the EPA and approved by the Secretary. The report and recommendation must be submitted to the EPA for endorsement prior to submission to the Secretary. If the Secretary is satisfied that the recommendation is reasonable, then the Secretary may amend the inversion class applying to the project under this approval.*

BCOPL operates a real time meteorological station and has installed a 60 m tower that measures temperature at (at least) two altitudes with minimum 50 m vertical separation, as recommended in Appendix D of the NSW Industrial Noise Policy, 2000 (INP). The tower provides accurate measured real-time temperature inversion data without the need to resort to unreliable methods such as extrapolation from sensors at 2 m and 10 m above the ground or analysis of sigma-theta data.

Class G inversions are defined in the INP as having a temperature gradient of 8°C/100 m, which will be adopted as the upper level of applicability of noise criteria, unless the data suggest a more appropriate value. In that case, the EPA will be consulted as directed in Condition 14.

Real-time access to meteorological data via the meteorological station will allow the implementation of a noise management system that applies mitigation measures.

A predictive forecast meteorology system has been implemented based on the *Weather Research & Forecasting* (WRF) model, specifically for the BTM Complex, and a website was developed to make data available for each of the mine sites, with half hourly forecasts up to 48 hours in advance. This system downloads global meteorological data and forecasts on a daily basis then processes and runs the WRF model to produce the information required for input into a real-time 3D dispersion model.

As with any predictive forecast, confidence reduces with longer predictions, however the half hourly 48-hour forecasts will provide useful planning information for operations. The forecasts for the next 24-hour and 12-hour periods will provide more confidence in predictions for the day ahead and how weather may affect operations.

### **6.5 Mobile plant monitoring**

In accordance with Conditions 9 and 10 of Schedule 3, equipment and noise control measures used at BCM will have their sound power levels quantified once every three years. BCOPL will test a third of the equipment each year to achieve a representative sample.

This annual monitoring program of attenuated plant will aim to assess the effectiveness of the attenuation. Equipment and noise control measures will be maintained to minimise site noise emissions.

The results of the monitoring and attenuation program will be included in the BCOPL Annual Review, which will be made publicly available on the BCM website ([Idemitsu Approvals, Plans & Reports - Idemitsu](#)).

### **6.6 Noise model validation**

In accordance with Schedule 3, Condition 13 (f) of the Project Approval, BCOPL will complete an annual validation of the noise model for the Project. This will involve reviewing the attended noise monitoring data collected over the preceding 12-months and comparing it with the noise level predictions made in the 2010 EA for the equivalent year of operations. Findings of the noise model validation exercise will be reported in the Annual Review.

## 7.0 REPORTING

Various monitoring reports will be prepared at regular intervals for the management of issues associated with noise management at BCOPL. These reports and reporting periods are discussed in detail in the following sections.

### 7.1 Real-time monitoring reports

In accordance with Schedule 5, Condition 13 of the Project Approval, BCOPL is required to publish validated real-time noise monitoring data on the BCOPL website (<https://idemitsu.com.au/operations/boggabri-coal/approvals-plans-and-reports/operational-information/>). The published monitoring data will:

- be presented in a clearly understandable form;
- include identification of mine operational responses to monitoring data and weather forecasts; and
- include provision for on-line input/response by members of the community and real-time engagement with regionally based regulatory compliance staff.

Validated/ratified data will be provided quarterly and preliminary (i.e not validated) data can be provided daily.

### 7.2 Attended monitoring reporting

A suitably qualified acoustic consultant will provide reports of attended monitoring following each monitoring survey and this reporting will include:

- monitoring aims;
- monitoring methodology;
- a quantitative assessment of the acoustic environment; and
- results showing the performance of the development in relation to all relevant criteria.

Monthly monitoring reports will be made publicly available on the BCM website (Idemitsu Approvals, Plans & Reports - Idemitsu) and submitted to the EPA in accordance with EPL condition R4.

### 7.3 Annual Review

The Annual Review summarises the environmental performance of the mine for the previous calendar year. In accordance with BCOPL's mining lease (CL368) and Schedule 5, condition 4 of the Project Approval, the Annual Review will use the relevant monitoring described in Section 6.0 of this plan to report on the result of noise monitoring.

As outlined in Project Approval, Schedule 3, Condition 13, f) v), the attended monitoring will be used to evaluate and report on the effectiveness of the noise management system at BCM in the Annual Review for the previous year. The Annual Review will be made publicly available on the Boggabri Coal Mine website ([Idemitsu Approvals, Plans & Reports - Idemitsu](#)).

#### **7.4 Independent environmental audit**

In accordance with Schedule 5, condition 10 of the Project Approval an independent audit will be conducted every 3 years, unless the Secretary directs otherwise, that will:

- assess whether the Proponent is implementing best noise, blasting and air quality management practice;
- investigate and report on the measures taken to minimise the noise impacts of the project during meteorological conditions when the noise limits in this approval do not apply, including:
  - the effectiveness of these measures in maintaining noise impacts within the relevant noise criteria in this approval and/or the limits in the relevant EPL; and
  - any additional measures available to mitigate noise impacts under such meteorological conditions

#### **7.5 Community consultation committee reporting**

- During meetings with CCC, members will be briefed on relevant issues arising from noise monitoring and where required be provided with a summary of any noise reports.
- Minutes of all CCC meetings will be made publicly available on the BCM website ([Idemitsu Community Consultative Committee - Idemitsu](#)).

## 8.0 INCIDENT AND COMPLAINT MANAGEMENT

All environmental incidents, complaints, non-conformance or exceedance of noise specific criteria identified by monitoring or reporting will be managed as per the requirements of the BCM incident management process. All environment incidents will be reported to the BCOPL Environmental Manager using the BCOPL Incident Report Form. Following an incident, the BCOPL Environmental Manager is responsible for assigning any corrective or preventative actions, including reporting these to the EPA as required by EPL condition R4.1 b).

In accordance with Schedule 5, Conditions 2 and 5 of the Project Approval, and the relevant conditions of the EPL, BCOPL will provide verbal and written notification to relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment to the relevant regulatory authorities. The process for notification and reporting in accordance with these requirements is outlined in the BCOPL Pollution Incident Response Management Plan (PIRMP).

## 9.0 NMP REVIEW

Review of the NMP will be undertaken by BCOPL in accordance schedule 5 condition 5 of the Project Approval within 3 months of the submitting the following:

- Annual Review under condition 4 of the Project Approval;
- incident report under condition 8 of the Project Approval;
- audit under condition 10 of the Project Approval; and
- a modification to the Project Approval.

Where this review results in revisions to the NMP, then within 4 weeks of the completion of the revision, unless the Secretary agrees otherwise, the revised document will be submitted to the Secretary for approval.

## 10.0 ROLES AND RESPONSIBILITIES

Compliance with this NMP is the responsibility of all BCOPL employees and contractors. The key roles and responsibilities for noise management at the BCM are outlined in Table 10-1.

**Table 10-1: Roles and responsibilities for implementation of this plan**

Role	Responsibility
BCOPL General Manager Operations	<ul style="list-style-type: none"> <li>• Providing sufficient resources for the effective implementation of this NMP.</li> <li>• If required negotiate with affected parties to resolve ongoing complaints.</li> </ul>
BCOPL Operations Manager	<ul style="list-style-type: none"> <li>• Mining and noise mitigation measures are to be undertaken in accordance with this NMP.</li> <li>• Providing sufficient resources for the effective implementation of this NMP.</li> </ul>
BCOPL CHPP Manager	<ul style="list-style-type: none"> <li>• Mining and noise mitigation measures are to be undertaken in accordance with this NMP.</li> <li>• Providing sufficient resources for the effective implementation of this NMP.</li> </ul>
BCOPL Health, Safety, Environment and Community (HSEC) Manager	<ul style="list-style-type: none"> <li>• Mining and noise mitigation measures are to be undertaken in accordance with this NMP.</li> <li>• Providing sufficient resources for the effective implementation of this NMP.</li> </ul>
BCOPL Environment Superintendent	<ul style="list-style-type: none"> <li>• Noise monitoring is undertaken according to the requirements of this management plan.</li> <li>• Responding to community complaints.</li> <li>• Liaising with regulatory authorities regarding noise management.</li> <li>• Schedule additional noise monitoring at the site of a sensitive receptor if required.</li> <li>• Exceedances are reported to the relevant regulatory authority in accordance with this NMP.</li> <li>• Maintaining the site's noise monitoring system.</li> <li>• Coordinate any required noise mitigation measures outlined in this NMP.</li> <li>• Review and revise this management plan where required.</li> <li>• Make employees and contractors aware of their obligations under this NMP.</li> <li>• Implementing noise management measures in accordance with this NMP.</li> <li>• Developing and implementing specific procedures for the employees and subcontractors under their responsibility to facilitate compliance with this NMP.</li> </ul>
All BCOPL employees and contractors	<ul style="list-style-type: none"> <li>• Undertaking activities, as required, in accordance with this NMP under instruction from their supervisor.</li> <li>• Informing the either Supervisor or the BCOPL Environment Superintendent of any noise related issues as they arise.</li> </ul>

## 11.0 REFERENCES

### 11.1 Internal

- BCOP. *Environmental Incident Response Management Plan.*

### 11.2 External

- Australian and New Zealand Environment Council (ANZEC) (1990). *Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration.*
- DEC (2006). *Assessing Vibration – A Technical Guideline.*
- EPA (2000). *NSW Industrial Noise Policy (INP).*
- EPA (2017). *Noise Policy for Industry (NPfI).*
- EPA (2022). *Approved methods for the measurement and analysis of environmental noise in NSWNSW (Approved Methods).*
- Global Acoustics (2016). *Sound Power Specification for Boggabri Coal Mine.*
- Hansen Bailey (2010). *Continuation of Boggabri Coal Mine Environmental Assessment. Singleton, NSW.*
- Hansen Bailey (2011). *Continuation of Boggabri Coal Mine Environmental Assessment – Residual Matters Report. Singleton, NSW.*

## 12.0 ABBREVIATIONS

Abbreviation	Definition
ARTC	Australian Rail Track Corporation
BCM	Boggabri Coal Mine
BCOPL	Boggabri Coal Operations Pty Limited
BCT	Boggabri Coal Terminal
BTM Complex	Boggabri-Tarrawonga-Maules Creek Complex
CCC	Community Consultative Committee
CHPP	Coal Handling and Preparation Plant
dB(A)	Noise level measurement units are decibels (dB). The “A” weighting scale is used to approximate how humans hear noise.
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DPE	NSW Department of Planning and Environment
DPHI	NSW Department of Planning, Housing and Infrastructure
EA	Environmental Assessment
EPA	NSW Environment Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979 (NSW)
EPL	Environment Protection Licence under the POEO Act
INP	NSW Industrial Noise Policy 2000
Km	Kilometer
LA <sub>1,1minute</sub>	The A weighted noise level which is exceeded for 1% of the specified time period of 1 minute
LA <sub>eq</sub>	The energy average A weighted noise level
MCC	Maules Creek Coal Mine
MOP	Mining Operations Plan
Mt	Million Tonnes
Mtpa	Million Tonnes Per Annum
NMP	Noise Management Plan

Abbreviation	Definition
NMS	Noise Management Strategy
NPfi	NSW Noise Policy for Industry 2017
OCE	Open Cut Examiner
OEH	NSW Office of Environment and Heritage
PAC	NSW Planning Assessment Commission
Part 3A	Part 3A of the EP&A Act
POEO Act	Protection of the Environment Operations Act 1997 (NSW)
L <sub>w</sub> L <sub>w</sub>	Sound Power Level
ROM	Run of Mine

# Appendix A

## Noise Monitoring Location Plan



# Appendix B

## Statutory Noise Requirements

## B.1 Statutory requirements for noise management

Enter text/appendix

Requirements of approvals, licences and leases associated with the management of noise impacts from the BCM under the following statutory instruments have been considered during the development of this NMP:

- *Environmental Planning and Assessment Act 1979*;
- *Mining Act 1992*;
- *Protection of the Environment Operations Act 1997*; and
- additional standards and guidelines.

### B.1.1 *Environmental Planning and Assessment Act 1979*

In addition to the requirement for a NMP in Schedule 3, Condition 13, the Project Approval conditions listed in Table B-1 relate to the management of ongoing operational noise at the BCM.

**Table B-1: Project Approval conditions**

Applicable condition	Requirement	NMP Reference
<p>Schedule 3 Condition 3: Operational Noise - Noise Affected Land</p>	<p>The owners of Receivers 44, 48 and 90 (see locations in the figure in Appendix 4) can make a written request to the Proponent for one of the following:</p> <ol style="list-style-type: none"> <li>mitigation (such as double glazing, insulation and air conditioning) at the residence in consultation with the owner(s). These measures must be reasonable and feasible and directed towards reducing the noise impacts of the project upon the residence. If within 3 months of receiving this request from the owner(s), the Proponent and owner(s) cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures then either party may refer the matter to the Secretary for resolution; or</li> <li>acquisition of the residence and the land in accordance with the procedures in conditions 8-9 of Schedule 4.</li> </ol> <p>Upon receiving a written request from the owner(s), the proponent must undertake whichever option has been requested by the owner(s).</p> <p>However, this condition does not apply if the Applicant has a written agreement with the owner(s) of the relevant residence to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.</p> <p><i>Notes:</i></p> <p><i>For the purposes of this condition a privately-owned residence is defined as a residence not owned by a mining company that: is regularly occupied; or is a proposed residence for which a development application has been lodged with the relevant authority prior to the date of this approval.</i></p> <p><i>For the purposes of acquisition under this condition, parcels of land that are in close proximity and operated as a single agricultural enterprise should be considered as part of the land to be acquired. Where the</i></p>	<p>Sections 4.1 and Appendix C</p>

Applicable condition	Requirement	NMP Reference
	<p><i>Proponent and the owner(s) cannot agree on whether non-contiguous parcels of land should be included, either party may refer the matter to the Secretary for resolution. The Secretary's decision as to the lands to be included for acquisition under procedures in conditions 8 and 9 and schedule 4 must be final.</i></p>	
<p>Schedule 3 Condition 4: Operational Noise - Noise Affected Land</p>	<p>Where the owner(s) of a residence included in condition 3 of this schedule have opted for an agreement to either generate higher noise levels or mitigation under condition 3(a), and the owner(s) have reason to believe that the noise impacts at the residence are more than 3 dB(A) above the predicted noise levels for that residence (see Table 2), the owner(s) can request an independent noise impact assessment for the residence. The request must be made in writing to the Secretary. If the Secretary considers that a noise impact assessment is warranted, then the proponent must commission the assessment.</p> <p>If the noise impact assessment determines that the noise generated by the project causes sustained exceedances, or is likely to cause sustained exceedances, of the predicted noise levels by more than 3 dB(A) the owner(s) may require the proponent to acquire the residence and the land in accordance with the procedures in conditions 8-9 of Schedule 4.[Table omitted – see Table 4-1]</p>	<p>Sections 4.1 and Appendix C</p>
<p>Schedule 3 Condition 5: Operational Noise - Noise Affected Land</p>	<p>At any stage of the project, except for Receivers 44, 48 and 90, the Proponent must ensure that operational noise generated by the project does not exceed the criteria in Table 3 at any residence on privately-owned land.</p> <p>[Table omitted - see Table 4-4]</p> <p><i>Notes:</i></p> <p><i>Noise generated by the project is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Noise Policy for Industry (EPA, 2017).</i></p> <p><i>However, these noise criteria do not apply if the Applicant has a written agreement with the owner(s) of the relevant residence to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.</i></p>	<p>Sections 4.2 and Appendix C</p>
<p>Schedule 3 Condition 6: Operational Noise - Noise Affected Land</p>	<p>If the owner(s) of a privately owned residence, have reason to believe that operational noise from the project is causing the criteria in Table 3 to be exceeded at the residence, the owner(s) can request an independent noise impact assessment for the residence. The request must be made in writing to the Secretary. If the Secretary considers that a noise impact assessment is warranted, then the proponent must commission the assessment.</p> <p>If the noise impact assessment determines that the noise generated by the project causes sustained exceedances, or is likely to cause sustained exceedances, of the criteria in Table 3 the owner(s) can make a written request to the Proponent for one of the following:</p>	<p>Sections 4.2 and Appendix C</p>

Applicable condition	Requirement	NMP Reference
	<p>a. mitigation (such as double glazing, insulation and air conditioning) at the residence in consultation with the owner(s). These measures must be reasonable and feasible and directed towards reducing the noise impacts of the project upon the residence. If within 3 months of receiving this request from the owner(s), the Proponent and owner(s) cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures then either party may refer the matter to the Secretary for resolution; or</p> <p>b. acquisition of the residence and the land in accordance with the procedures in conditions 8-9 of Schedule 4.</p> <p>Upon receiving a written request from the owner(s), the proponent must undertake whichever option has been requested by the owner(s).</p> <p>However, this condition does not apply if the Applicant has a written agreement with the owner(s) of the relevant residence to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.</p> <p><i>Notes:</i></p> <p><i>For the purposes of this condition a privately-owned residence is defines as a residence not owned by a mining company that: is regularly occupied; or is a proposed residence for which a development application has been lodged with the relevant authority prior to the date of this approval;</i></p> <p><i>For the purposes of acquisition under this condition, parcels of land that are in close proximity and operated as a single agricultural enterprise should be considered as part of the land to be acquired. Where the Proponent and the owner(s) cannot agree on whether non-contiguous parcels of land should be included, either party may refer the matter to the Secretary for resolution. The Secretary's decision as to the lands to be included for acquisition under procedures in conditions 8 and 9 and schedule 4 must be final.</i></p> <p><i>Notes 2, 3, 4 and 5 of condition 4 apply to this condition.</i></p>	
<p>Schedule 3 Condition 7: Cumulative Noise Criteria</p>	<p>Except for the noise-affected land identified in Condition 3 as being within the project's 35 dB(A) contour, the Proponent must ensure that the operational noise generated by the project combined with the noise generated by other mines does not exceed the criteria in Table 4 at any residence on privately-owned land.</p> <p>[Table omitted - see Table 4-3 above]</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li>• <i>Cumulative noise is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Noise Policy for Industry (EPA, 2017).</i></li> <li>• <i>Deleted</i></li> </ul>	<p>Sections 4.3, 5.5 and 6.3, Appendix C</p>

Applicable condition	Requirement	NMP Reference
<p>Schedule 3 Condition 8: Cumulative Noise Acquisition Criteria</p>	<p>If the owner(s) of a privately owned residence reasonably believes that the noise limits in Table 4 are being exceeded at the residence and that the exceedance is caused by operational noise from the project and one or more other mines (including use of private haul roads and rail spurs), the owner(s) can request an independent noise impact assessment for the residence. The request must be made in writing to the Secretary. If the Secretary considers that a noise impact assessment is warranted, then the proponent shall commission the assessment.</p> <p>Where the noise impact assessment determines that the cumulative noise generated by the project combined with the noise from the other mine(s) causes sustained exceedances, or is likely to cause sustained exceedances, of the criteria in Table 4 the owner(s) can make a written request to the Proponent for one of the following:</p> <ul style="list-style-type: none"> <li>a. mitigation (such as double glazing, insulation and air conditioning) at the residence in consultation with the owner(s). These measures must be reasonable and feasible and directed towards reducing the noise impacts of the project upon the residence. If within 3 months of receiving this request from the owner(s), the Proponent and owner(s) cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures then either party may refer the matter to the Secretary for resolution; or</li> <li>b. acquisition of the residence and the land in accordance with the procedures in conditions 8-9 of Schedule 4.</li> </ul> <p>Upon receiving a written request from the owner(s), the proponent must undertake whichever option has been requested by the owner(s).</p> <p>However, this condition does not apply if the Proponent has a written agreement with the owner(s) of the relevant residence to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</p> <p>The Proponent may seek to recover an equitable share of the costs incurred from the other mines contributing to the cumulative impact. Unless otherwise agreed between the mines, the proportional contributions should be based on expert analysis of the monitoring results to assess relative contribution to the impact. If a dispute between the mines the Proponent, or one of the contributing mines, may submit the matter to the Secretary for resolution. The Secretary's decision must be final.</p> <p><i>Notes:</i></p> <ol style="list-style-type: none"> <li>1. <i>For the purposes of this condition a privately-owned residence is defined as a residence not owned by a mining company that: is regularly occupied; or is a proposed residence for which a development application has been lodged with the relevant authority prior to the date of this approval;</i></li> <li>2. <i>For the purposes of acquisition under this condition, parcels of land that are in close proximity and operated as a single agricultural enterprise should be considered as part of the land to be acquired.</i></li> </ol>	<p>Sections 4.3 and 5.5, Appendix C</p>

Applicable condition	Requirement	NMP Reference
	<p><i>Where the Proponent and the owner(s) cannot agree on whether non-contiguous parcels of land should be included, either party may refer the matter to the Director-General for resolution. The Director-General's decision as to the lands to be included for acquisition under procedures in conditions 8 and 9 and schedule 4 must be final.</i></p> <p>3. <i>Notes 2, 3, 4 and 5 of condition 4 apply to this condition.</i></p> <p>4. <i>The noise impact assessment must include assessment of the relative contribution of the mines to the impact at the residence.</i></p>	
<p>Schedule 3 Condition 9: Attenuation of Plant</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>a. Ensure that: <ul style="list-style-type: none"> <li>– all new trucks, dozers, drills and excavators purchased for use on the site after the date of this approval are commissioned as noise-suppressed (or attenuated) units;</li> <li>– Deleted</li> <li>– Where reasonable and feasible, improvements are made to existing noise suppression equipment as technologies become available; and</li> </ul> </li> <li>b. monitor and report on the implementation of these requirements annually on its website.</li> </ul>	<p>Sections 5.2 and 6.5</p>
<p>Schedule 3 Condition 10: Attenuation of Plant</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>a. conduct an annual testing program of the attenuated plant on site to ensure that the attenuation remains effective;</li> <li>b. restore the effectiveness of any attenuation if it is found to be defective; and</li> <li>c. report on the results of any testing and/or restoration work within the Annual Review.</li> </ul>	<p>Section 5.2 and Section 6.5</p>
<p>Schedule 3 Condition 11: Boggabri Rail Spur Line and Bridge Design - Noise Impacts</p>	<p>The Proponent must:</p> <ul style="list-style-type: none"> <li>a. undertake commissioning trials of the operation of the Rail Spur to optimise train speed to minimise noise impacts; and</li> <li>b. following completion and commissioning of the Spur Line, undertake targeted noise monitoring to determine the accuracy of predicted acoustic impacts and effectiveness of any noise reduction measures, including monitoring during adverse inversion conditions,</li> </ul> <p>to the satisfaction of the Secretary.</p>	<p>Section 5.2</p>

Applicable condition	Requirement	NMP Reference
<p>Schedule 3 Condition 12: Operating Conditions</p>	<p>The Proponent must:</p> <ol style="list-style-type: none"> <li>a. implement best noise management practice to minimise the operational, low frequency and road and rail traffic noise of the project;</li> <li>b. operate a comprehensive noise management system on site that uses a combination of predictive meteorological forecasting and real time noise monitoring data to guide the day to day planning of mining operations and implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this approval.</li> <li>c. Maintain the effectiveness of noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired;</li> <li>d. Ensure that noise attenuated plant is deployed preferentially in locations relevant to sensitive receivers;</li> <li>e. minimise the noise impacts of the project during meteorological conditions when the noise limits in this approval do not apply;</li> <li>f. Ensure that the Boggabri Rail Spur Line is only accessed by locomotives that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL (No 3142);</li> <li>g. Use its best endeavours to ensure that rolling stock supplied by service providers on the Boggabri Rail Spur Line is designed and constructed to minimise noise;</li> <li>h. Ensure any new rail rolling stock manufactured specifically for the project is designed and constructed to minimise noise;</li> <li>i. Use its best endeavours to achieve the long term intrusive noise goals for the project in Table 5, where this is reasonable and feasible, and report on the progress of achieving these goals in the annual review; and</li> <li>j. Coordinate the noise management on site with the noise management at other mines within the Leard Forest Mining Precinct to minimise the cumulative noise impacts of these mines,</li> </ol> <p>to the satisfaction of the Secretary.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li>• <i>The comprehensive review can be undertaken as part of independent environment audits required under condition 10 of schedule 5.</i></li> <li>• <i>[Table 5 omitted]</i></li> <li>• <i>To interpret the locations referred to in Table 5, see the applicable figures in Appendix 4; and</i></li> <li>• <i>Deleted</i></li> </ul>	<p>Whole NMP Document</p>

Applicable condition	Requirement	NMP Reference
<p>Schedule 3 Condition 13 - Noise Management Plan</p>	<p>The Proponent must prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <ol style="list-style-type: none"> <li>a. be prepared in consultation with the EPA and the CCC, and submitted to the Secretary for approval within 6 months of the date of this approval;</li> <li>b. describe the measures that would be implemented to ensure: <ul style="list-style-type: none"> <li>– best management practice is being employed;</li> <li>– the noise impacts of the project are minimised during meteorological conditions when the noise limits in this approval do not apply; and</li> <li>– compliance with the relevant conditions of this approval;</li> </ul> </li> <li>c. (c) describe the proposed noise management system in detail;</li> <li>d. include a risk/response matrix to codify mine operational responses to varying levels of risk resulting from weather conditions and specific mining activities;</li> <li>e. include commitments to provide summary reports and specific briefings at CCC meetings on issues arising from noise monitoring;</li> <li>f. include a monitoring program that: <ul style="list-style-type: none"> <li>– uses a combination of real time and supplementary attended monitoring to evaluate the performance of the project;</li> <li>– adequately supports the proactive and reactive noise management system on site;</li> <li>– uses predictive meteorological forecasting to incorporate proactive mitigation measures to manage noise impacts;</li> <li>– includes monitoring of inversion strength at an appropriate sampling rate to determine compliance with noise limits;</li> <li>– evaluates and reports on the effectiveness of the noise management system on site;</li> <li>– provides for the annual validation of the noise model for the project; and</li> </ul> </li> <li>g. includes a Leard Forest Mining Precinct Noise Management Strategy that has been prepared in consultation with other coal mines in the Precinct to minimise the cumulative noise impacts of all mines within the Precinct, that includes: <ul style="list-style-type: none"> <li>– systems and processes to ensure that all mines are managed to achieve their noise criteria;</li> <li>– a shared environment monitoring network and data sharing protocol; and</li> <li>– procedures for identifying and apportioning the source/s and contribution/s to cumulative noise impacts for operating mines</li> </ul> </li> </ol>	<p>Whole NMP Document</p>

Applicable condition	Requirement	NMP Reference
	<p>and other sources, using the noise and meteorological monitoring network and appropriate investigative tools.</p> <p><i>Note: The Leard Forest Mining Precinct Noise Management Strategy can be developed in stages and will need to be subject to ongoing review dependent upon the determination and commencement of other mining projects in the area.</i></p>	
Schedule 3 Condition 13A	The Proponent must implement the Noise Management Plan as approved by the Secretary.	Whole NMP Document
Schedule 3 Condition 14 – Noise Measurement	Deleted	N/A
Schedule 3 Condition 32 - Meteorological Monitoring	<p>32. For the life of the project, the Proponent must ensure that there is a meteorological station in the vicinity of the site that:</p> <p>.....(b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Noise Policy for Industry (EPA, 2017), unless a suitable alternative is approved by the Secretary following consultation with the EPA.</p>	Section 6.4
Schedule 5, Condition 10: Independent Environmental Audit	<p>By the end of June 2014 and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:</p> <p>...</p> <p>(d) assess whether the Proponent is implementing best noise, blasting and air quality management practice;</p> <p>(e) investigate and report on the measures taken to minimise the noise impacts of the project during meteorological conditions when the noise limits in this approval do not apply, including:</p> <ul style="list-style-type: none"> <li>• the effectiveness of these measures in maintaining noise impacts within the relevant noise criteria in this approval and/or the limits in the relevant EPL; and</li> <li>• any additional measures available to mitigate noise impacts under such meteorological conditions</li> </ul>	Section 7.5
Schedule 5 Condition 13: Online Communication	<p>The Proponent must ensure that the noise and air quality risk/response matrices required to be developed in the Noise and Air Quality Management Plans and validated real time monitoring data are available on line and includes:</p> <p>(a) timely publication of validated monitoring data in a clearly understandable form;</p> <p>(b) identification of mine operational responses to monitoring data and weather forecasts; and</p>	Section 7.1 Sections 5.3, 6.3 and 6.4

Applicable condition	Requirement	NMP Reference
	(c) provision for on-line input/response by members of the community and real time engagement with regionally-based regulatory compliance staff,  to the satisfaction of the Secretary.	

**B.1.2 Protection of the Environment Operations Act 1997**

BCOPL holds EPL No. 12407 under the Protection of the Environment Operations Act 1997 (NSW). A summary of the EPL noise conditions is provided in Table B-2 below. For detailed conditions refer to the EPL.

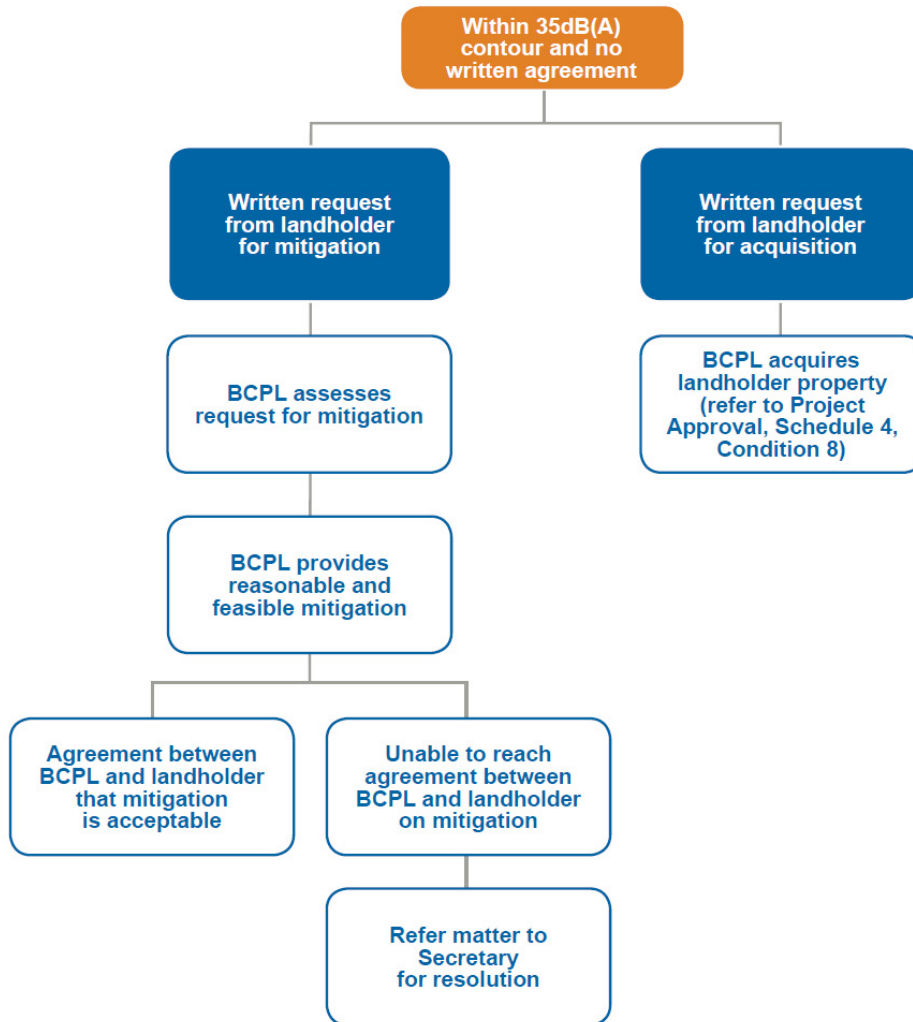
**Table B-2: EPL 12407 conditions**

Applicable Condition	Requirement	NMP Reference										
L4.1	<p>Noise generated at the premises must not exceed the noise limits in the table below.</p> <table border="1"> <thead> <tr> <th>Locality and Location</th> <th>Day- LAeq(15 minute)</th> <th>Evening- LAeq(15 minute)</th> <th>Night- LAeq(15 minute)</th> <th>Night- LA1(1 minute)</th> </tr> </thead> <tbody> <tr> <td>All privately owned residences</td> <td>35 dB(A)</td> <td>35 dB(A)</td> <td>35 dB(A)</td> <td>45 dB(A)</td> </tr> </tbody> </table> <p>(Note: subsequent conditions L4.2 to L4.7 give more detail on requirements for monitoring and acquisition. For full conditions refer to EPL).</p>	Locality and Location	Day- LAeq(15 minute)	Evening- LAeq(15 minute)	Night- LAeq(15 minute)	Night- LA1(1 minute)	All privately owned residences	35 dB(A)	35 dB(A)	35 dB(A)	45 dB(A)	Section 4.0
Locality and Location	Day- LAeq(15 minute)	Evening- LAeq(15 minute)	Night- LAeq(15 minute)	Night- LA1(1 minute)								
All privately owned residences	35 dB(A)	35 dB(A)	35 dB(A)	45 dB(A)								
M8.1	<p>To assess compliance with the noise limits presented in the Noise Limits table, attended noise monitoring must be undertaken in accordance with the condition titled Determining Compliance, outlined above, and:</p> <ol style="list-style-type: none"> <li>at noise monitoring locations N2, N3 and N4 as shown on the map titled "Noise Management Strategy Boggabri Coal Pty Ltd, Appendix A" in the most recently approved Boggabri Coal Operations Pty Ltd Noise Management Plan as approved by the DPIE.</li> <li>occur monthly in a reporting period; and</li> <li>occur during each night period as defined in the NSW Industrial Noise Policy for a minimum of 15 minutes</li> </ol>	Section 6.1										
R4.1	<p>A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the monthly monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:</p> <ol style="list-style-type: none"> <li>an assessment of compliance with noise limits presented in this licence; and</li> <li>an outline of any management actions taken within the monitoring period to address any exceedances of the limits contained in this licence.</li> </ol>	Sections 7.2 and 8.0.										

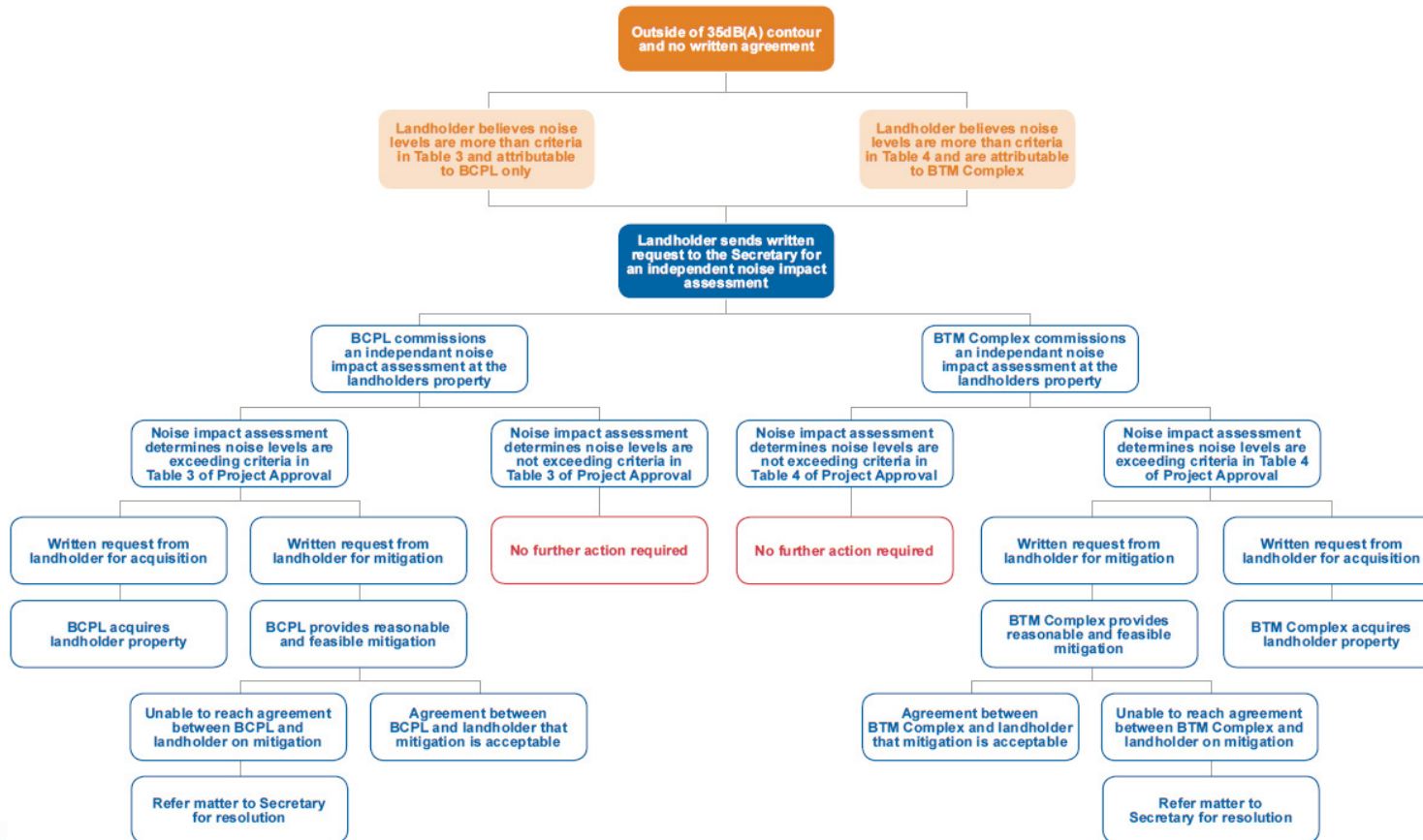
Applicable Condition	Requirement	NMP Reference
E1.1	<p>Noise impacts where wind speed exceeds 3 metres per second at 10 metres above the ground must be addressed by:</p> <ul style="list-style-type: none"> <li>a. documenting noise complaints received to identify any higher level of impacts or wind patterns;</li> <li>b. where levels of noise complaints indicate a higher level of impact then actions to quantify and ameliorate any enhanced impacts where wind speed exceeds 3 metres per second at 10 metres above the ground should be developed and implemented.</li> </ul>	Sections 5.0 and 8.0

# Appendix C

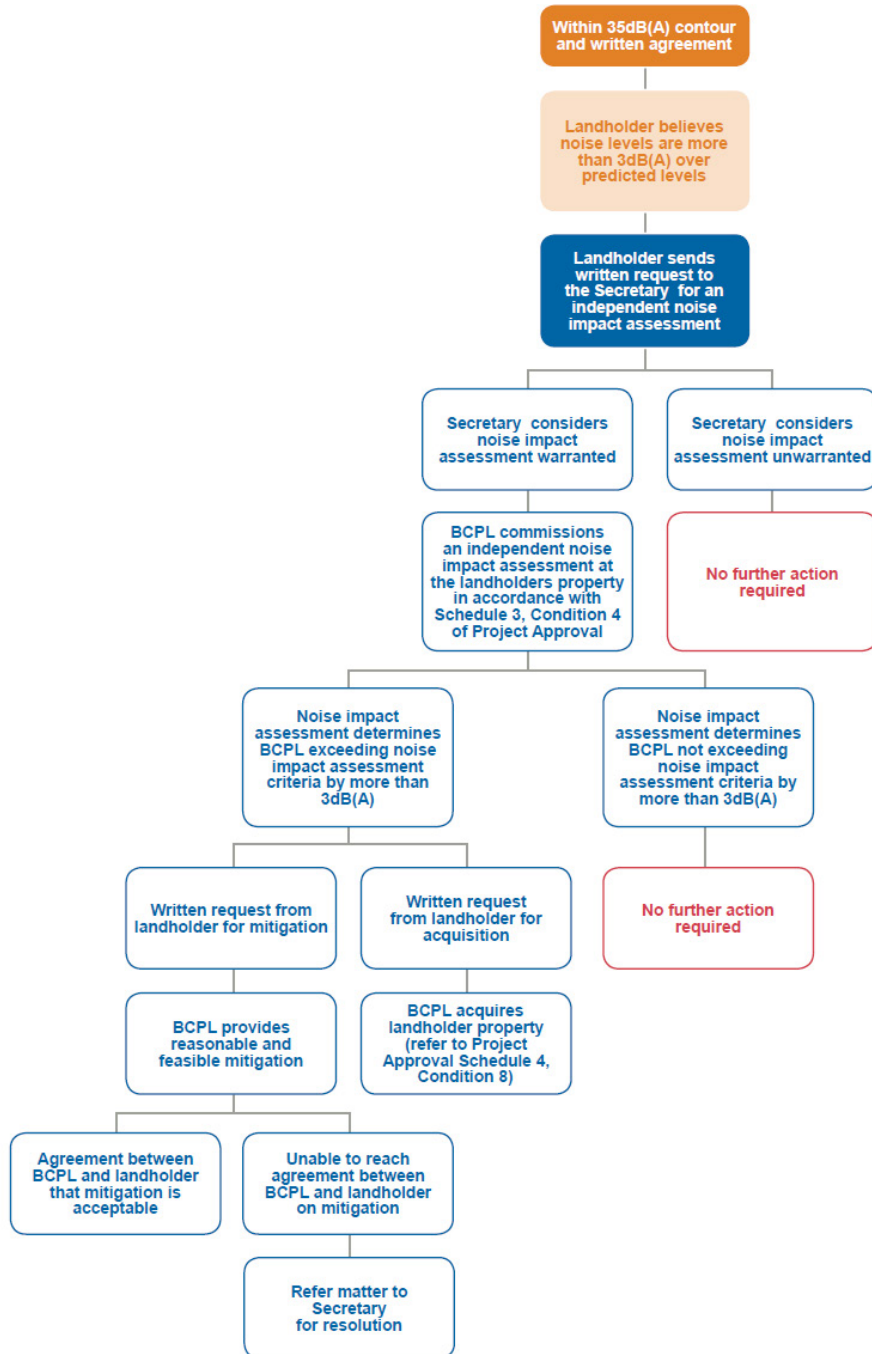
## Process flow diagrams for property mitigation, assessment, and acquisition



**Figure C-1: Process for noise assessment, mitigation and acquisition for landholders within 35 dB(A) contour area and no written agreement with BCPL**



**Figure C-2: Process for noise assessment, mitigation and acquisition for landholders outside of 35 dB(A) contour area**



**Figure C-3: Process for noise assessment, mitigation and acquisition for landholders within 35 dB(A) contour area and that have a written agreement with BCPL**

# Appendix D

## Consultation Record

**Table D-3: Record of agency consultation**

Consultation	Date	Details	Response
Noise Management Plan	January 2013	NMP sent to DP&E for review/approval.	Plan lodged January 2013. DPIE comments received March 2013. Plan subsequently revised to address comments, the revised MOP and the BTM Complex NMS.
Boggabri Coal CCC Meeting April 2013	30.04.2013	NMS was presented to the CCC for comment.	The NMS presentation was received by the CCC. General comments regarding noise were considered in the revision of the NMS. No further comment was received.
Noise Management Plan for Boggabri Coal Mine sent to EPA for comment	28.01.2014	The management plan contains details of the proposed BTM Complex NMS	The EPA received the management plan and responded on 12.02.2014 that “the Environment Protection Authority (EPA) encourages the development of such plans to ensure that proponents have determined how they will meet their statutory obligations and designated environmental objectives. However, we do not approve or endorse these documents as our role is to set environmental objectives for environmental/ conservation management, not to be directly involved in the development of strategies to achieve those objectives”
Boggabri Coal CCC meeting August 2016	August 2016	NMP was presented to CCC for comment	The NMP presentation was received by the CCC. General comments regarding noise were considered in the revision of the NMP. No further comment was received.
Noise Management Plan for Boggabri Coal Mine sent to EPA for comment	August 2016	Revised NMP sent to EPA for comment	No response received to date.
Noise Management Plan for Boggabri Coal Mine sent to DPIE for review and approval	October 2017	Revised NMP sent to DPE for review and approval.	DPIE provided review comments in February 2018. Boggabri Coal updated the NMP to address the review comments and resubmitted the revised plan in June, and then again in July 2018. DPE approval letter sent 6.09.2018.
Noise Management Plan for Boggabri Coal Mine sent to DPIE for review and approval	May 2019	Revised NMP sent to DPIE for review and approval.	DPIE approval letter sent 27.06.2019

Consultation	Date	Details	Response
Boggabri Coal CCC meeting August 2024	February 2024	NMP was presented to CCC for comment	The NMP presentation was received by the CCC. General comments regarding noise were considered in the revision of the NMP. No further comment was received.
Noise Management Plan for Boggabri Coal Mine sent to EPA for comment	March 2024	Revised NMP sent to EPA for comment	

# Appendix E

## BTM Complex Noise Management Strategy (NMS)

# NOISE MANAGEMENT STRATEGY

*For Boggabri – Tarrawonga – Maules Creek Complex*

**APRIL 2024**

**Idemitsu Australia Pty Ltd**  
Boggabri Coal Operations Pty Ltd

**Whitehaven Coal Limited**  
Tarrawonga Coal Pty Ltd, Maules Creek Coal Pty Ltd



<b>DOCUMENT CONTROL</b>				
<b>Version</b>	<b>Date</b>	<b>Prepared by</b>	<b>Reviewed by</b>	<b>Approved by</b>
01	4 Nov 11	N Pennington	D Young	
02	14 Nov 11	N Pennington	W Jones	
03	21 Nov 11	N Pennington	W Jones	
04	21 Sep 12	N Pennington	B Bird	J Green / D Martin / D Young
05	20 Mar 14	N Pennington / B Bird	J Green / D Martin / D Young	J Green / D Martin / D Young
06	17 July 14	N Pennington	B Bird / J Green / D Martin / L Johnson	J Green / D Martin / L Johnson
07	16 December 14	S Crick	J Green / D Martin / L Johnson	J Green / D Martin / L Johnson
08	4 March 2016	S.Crick/ J Watson	C Simmons/L Johnson / T Dwyer	H. Russell / J Johnson
09	17 May 2017	T Dwyer	S Mitchell / D Martin / L Johnson	D Martin / J Johnson & DPE (6/6/2017)
10	8 April 2024	E. Bulkeley	T. McDermott/M. Wright	BTM

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## Glossary

Glossary	
<b>AQMS</b>	Air Quality Management Strategy
<b>BCOPL</b>	Boggabri Coal Operations Pty Ltd
<b>BTM Complex</b>	Boggabri-Tarrawonga-Maules Creek Complex (previously Leard Forest Mining Precinct)
<b>CCC</b>	Community Consultative Committee
<b>CL</b>	Coal Lease
<b>DA</b>	Development Application
<b>dB(A)</b>	A-weighted Decibel
<b>DCCEEW</b>	Commonwealth Department of Climate Change, Energy, the Environment and Water
<b>DoEE</b>	Commonwealth Department of the Environment and Energy (Now DCCEEW)
<b>DP&amp;E</b>	NSW Department of Planning and Environment (Now DPPI)
<b>DPHI</b>	NSW Department of Planning, Housing and Infrastructure
<b>EA</b>	Environmental Assessment
<b>EPA</b>	NSW Environmental Protection Agency
<b>EP&amp;A Act</b>	<i>Environmental Planning and Assessment Act, 1979</i>
<b>IA</b>	Idemitsu Australia Pty Limited
<b>MCCM</b>	Maules Creek Coal Mine
<b>Mtpa</b>	Million Tonnes Per Annum
<b>NMP</b>	Noise Management Plan
<b>NMS</b>	Noise Management Strategy
<b>OEA</b>	Overburden Emplacement Area
<b>OEH</b>	NSW Office of Environment and Heritage
<b>PAC</b>	NSW Planning Assessment Commission
<b>ROM</b>	Run of Mine
<b>SCADA</b>	Supervisory Control and Data Acquisition
<b>TCM</b>	Tarrawonga Coal Mine
<b>TCPL</b>	Tarrawonga Coal Pty Ltd - Tarrawonga Joint Venture
<b>the Strategy</b>	BTM Complex Noise Management Strategy
<b>WRF</b>	Weather Research and Forecasting

# 1. Introduction

## 1.1 Background and purpose

The purpose of this cumulative noise management strategy (NMS) is to document the approach that will be taken by mines within the Boggabri-Tarrawonga-Maules Creek Complex (BTM Complex)<sup>1</sup> to monitor and collectively manage the cumulative noise impacts of their operations. The NMS outlines the cumulative noise management protocols that will be implemented within the BTM Complex.

The BTM Complex is an existing mining precinct located within and around the Leard State Forest, approximately 15 kilometres (km) northeast of Boggabri in the Narrabri Local Government Area (LGA). The BTM Complex includes the Tarrawonga Coal Mine (TCM) in the south, the Boggabri Coal Mine (BCM) to the north and the Maules Creek Coal Mine (MCCM) to the northwest. The extent of the relevant tenements for each of the mines that comprise the BTM Complex are presented in Figure 2.1. BCM is managed by Boggabri Coal Operations Pty Limited (BCOPL), a wholly owned subsidiary of Idemitsu Australia Pty Limited (IA). TCM is managed by Tarrawonga Coal Pty Ltd, a wholly owned subsidiary of Whitehaven. MCCM is managed by Maules Creek Coal Pty Ltd, a wholly owned subsidiary of Whitehaven Coal Mining Limited (Whitehaven). A Summary of the ownership details for the mines within the BTM Complex is provided below in Table 1.1 Management and Ownership of BTM Complex Mines.

**Table 1.1 Management and Ownership of BTM Complex Mines**

Mine	Management	Ownership	Share
Boggabri Coal Mine	Boggabri Coal Operations Pty Ltd	Idemitsu Australia	80%
		Chugoku Electric Power	10%
		NS Boggabri Pty Limited	10%
Tarrawonga Coal Mine	Tarrawonga Coal Pty Limited	Whitehaven Coal Mining Limited	100%
Maules Creek Coal Mine	Maules Creek Coal Pty Limited	Aston Coal 2 Pty Limited (owned 100% by Whitehaven Coal Limited)	75%
		Itochu Coal Resources Australia Maules Creek Pty Ltd (ICRA MC)	15%
		J-Power Australia (J-Power)	10%

Project applications for the continued operation of BCM (application number 09\_0182) and the development of the MCCM (application number 10\_0138) were determined by the NSW Planning Assessment Commission (PAC) in July and October 2012 respectively, under delegation by the NSW Minister for Planning and Infrastructure. Subsequent to this, the (then) Commonwealth Department of Sustainability, Environment, Water, Population and Communities (SEWPAC), now the Commonwealth Department of Climate Change, Energy, the Environment and Water DCCEEW ) granted conditional approval for both the BCM Extension (EPBC 2009/5256) and the MCCM Project (EPBC 2010/5566) on

<sup>1</sup> In previous environmental assessments and approval documents this group of mines has been referred to as the Leard Forest Mining Precinct. For the purposes of this strategy and all other relevant cumulative impact management documents, all references to the 'Leard Forest Mining Precinct' have been replaced with the term 'BTM Complex'.

11 February 2013. These projects were granted approval subject to stringent conditions related to the management of cumulative impacts.

The TCM application for continuation of mining was approved on 22 January 2013, with similar cumulative impact management conditions to those detailed in the BCM and MCCM. The (now) DDCCEEW granted EPBC approval (EPBC 2011/5923) to the Tarrawonga project on 11 March 2013.

Approval conditions require the preparation of a suite of regional strategies, developed in partnership by all three mines of the BTM Complex. This NMS has been developed to satisfy each mine's project approval conditions, and should be considered in conjunction with other BTM Complex Strategies, in particular the Air Quality Management Strategy (AQMS) that describes the predictive meteorological forecasting system for the Complex.

Approval conditions relevant to the management of cumulative noise impacts within the BTM Complex are detailed in Table 1.2.

**Table 1.2 Approval requirements for cumulative noise impact management**

Boggabri Coal Mine Project Approval 09_0182 Condition	Maules Creek Coal Mine Project Approval 10_0138 Condition	Tarrawonga Coal Mine Project Approval 11_0047 Condition	Details	Section reference in NMS
Schedule 3 Condition 12 (b)	Schedule 3 Condition 15 (b)	11 (b)	Operate a comprehensive noise management system on site that uses a combination of predictive meteorological forecasting and real time noise monitoring data to guide the day-to-day planning of mining operations and implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this approval	Whole of NMS along with respective site NMP's and the AQMS
Schedule 3 Condition 12 (j)	Schedule 3 Condition 15 (i)	11 (h)	Co-ordinate the noise management on site with the noise management at other mines within the Leard Forest Mining Precinct to minimize the cumulative noise impacts of these mines	Whole of NMS, including Section 4
	Schedule 3 Condition 16 (g)	12 (g)	Prepare and implement a Noise Management Plan that...  includes a Leard Forest Mining Precinct Noise Management Strategy that has been prepared in consultation with other coal mines in the Precinct to minimise the cumulative noise impacts of all mines within the Complex Precinct, and includes: <ul style="list-style-type: none"> <li>▪ A description of the measures that would be implemented to ensure that the noise management of the mines is properly coordinated to ensure compliance with the relevant noise criteria;</li> <li>▪ a suitable monitoring network for the Precinct;</li> <li>▪ protocols for data sharing; and</li> <li>▪ procedures for identifying and apportioning the source/s and contribution/s to cumulative noise impacts for the operating mines and other sources, using the noise and</li> </ul>	Whole of NMS.

Boggabri Coal Mine Project Approval 09_0182 Condition	Maules Creek Coal Mine Project Approval 10_0138 Condition	Tarrawonga Coal Mine Project Approval 11_0047 Condition	Details	Section reference in NMS
			<p>meteorological monitoring network and appropriate investigative tools.</p> <p>Note: The Leard Forest Mining Precinct Noise Management Strategy can be developed in stages and will need to be subject to ongoing review dependent upon the determination and commencement of other mining projects in the area.</p>	
Schedule 3 Condition 13 (g)			<p>Prepare and implement a Noise Management Plan that...</p> <p>includes a Leard Forest Mining Precinct Noise Management Strategy that has been prepared in consultation with other coal mines in the Precinct to minimise the cumulative noise impacts of all mines within the Precinct, that includes:</p> <ul style="list-style-type: none"> <li>▪ Systems and processes to ensure that all mines are managed to achieve their noise criteria;</li> <li>▪ a shared environmental monitoring network and data sharing protocol; and</li> <li>▪ procedures for identifying and apportioning the source/s and contribution/s to cumulative noise impacts for operating mines and other sources, using the noise and meteorological monitoring network and appropriate investigative tools.</li> </ul> <p>Note: The Leard Forest Mining Precinct Noise Management Strategy can be developed in stages and will need to be subject to ongoing review dependent upon the determination and commencement of other mining projects in the area.</p>	Whole of NMS, specifically Sections 4 and 5

## 1.2 Document structure

The structure of this strategy is as follows:

- **Section 1** provides an introduction to the NMS, including the background to the NMS, and the scope of the NMS.
- **Section 2** provides an overview of the BTM Complex mines (BCM, TCM, MCCM).
- **Section 3** describes the cumulative noise criteria applicable to each of the mines in the BTM Complex
- **Section 4** describes existing monitoring networks, sets objectives for cumulative noise monitoring, responsibilities of each mine, data interpretation, noise triggers for each individual mine and mitigation measures and processes to mitigate outcomes for the BTM Complex.
- **Section 5** describes data management
- **Section 6** describes the review and revision of the NMS

- **Section 7** provides a list of references used in this document.

### **1.3 Scope**

This document is the overarching strategy for management of cumulative noise for the BTM Complex.

Individual mines will manage their ongoing operations and associated noise emissions in accordance with their site-specific Noise Management Plans (NMPs) that will, by default, ensure that the cumulative noise criteria of the BTM Complex will be met. Statutory requirements relating to noise will be provided in each individual mine's NMP.

## 2. BTM Complex

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The BTM Complex is centred within and around the Leard State Forest, approximately 15 km northeast of Boggabri in the Narrabri Shire local government area. The current mines within the Complex include TCM in the south, the BCM to the north and the MCCM to the northwest. The extents of the EA boundaries and noise monitoring locations for each of the mines that comprise the BTM Complex are presented in Figure 2.1.

### 2.1 Boggabri Coal Mine

BCM is an existing open cut mine that consists of an open cut pit, overburden dump, infrastructure area including coal processing facilities, water management structures, and a rail spur. BCM obtained NSW State Government approval on the 18 July 2012, and Commonwealth Government approval on 11 February 2013. These approvals (as modified) allow operations at BCM to extend until 2036 at a rate of 8.6 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal. The project approval for BCM provides for operation of existing ancillary equipment; construction and operation of a new coal handling and preparation plant (CHPP); 17 km rail spur line; bridges over the Namoi River and Kamilaroi Highway; a rail load-out facility located at the mine; upgrade of the overburden and coal extraction haulage fleet (with an option for a drag-line); upgrade of electricity transmission lines; and establishment of a water supply bore field and other ancillary infrastructure.

BCM have modified PA09\_0182 on multiple occasions since approval with the most recent being in January 2024, relating to an increase in the depth of mining.

### 2.2 Tarrawonga Coal Mine

The TCM is an existing coal mining operation that was granted approval by the (now) DPPI to extract 2 Mtpa of ROM coal in 2005 (DA88-4-2005). TCPL, a subsidiary of Whitehaven Coal, submitted a project application in July 2011 for an extension of open cut mining operations with an increased production rate to 3 Mtpa of ROM coal for a further 17 years from 2013 to 2030. This project application was determined by the PAC on 22 January 2013 and included, under Condition 12 (g), the requirement that the proponent shall prepare and implement a NMP that must include a NMS for the BTM Complex.

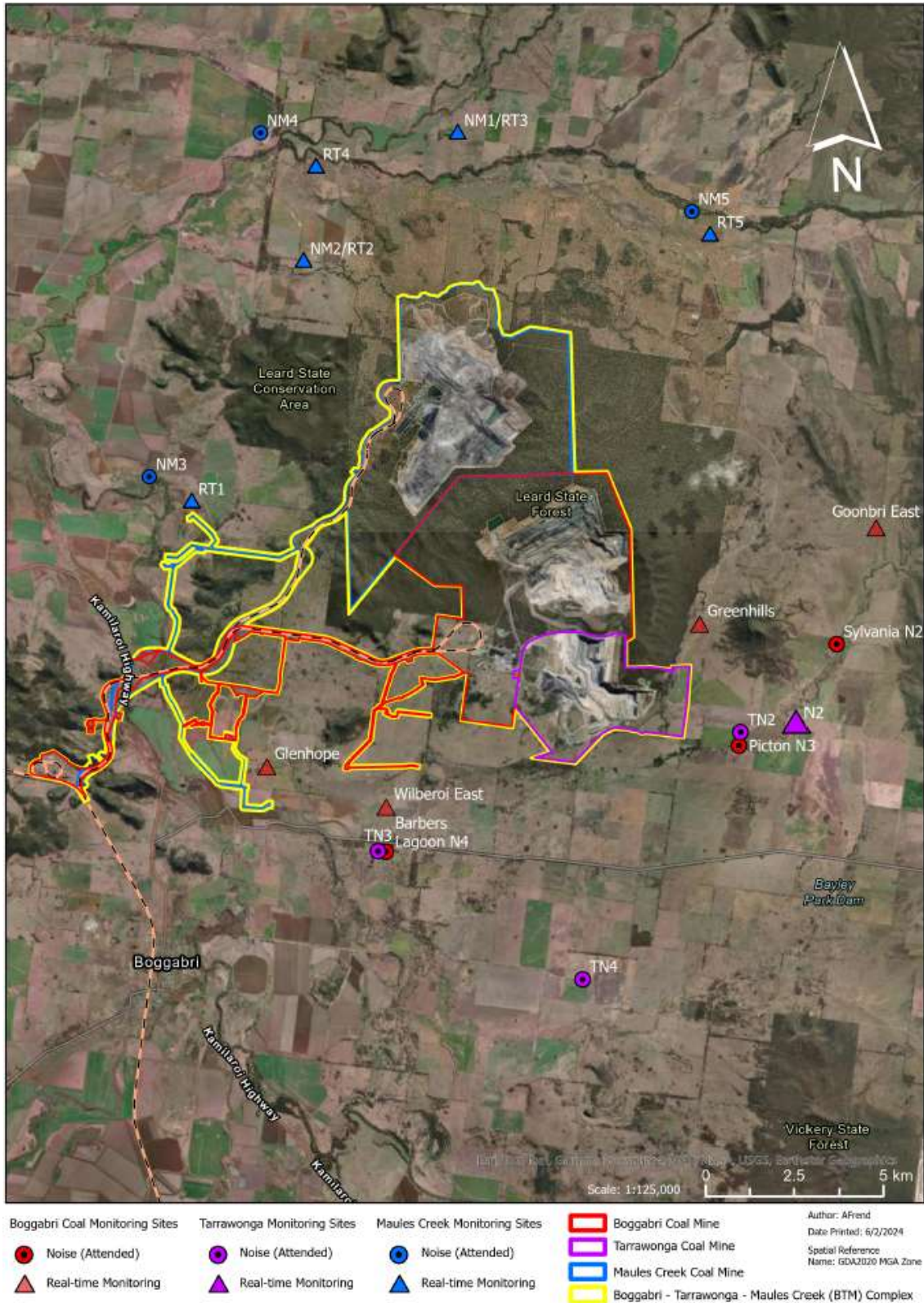
TCM have modified Project Approval 11\_0047 on a number of occasions since then, increasing coal extraction to a maximum of 3.5 million tonnes in 2020. The most recent modification was determined in December 2023 to increase the road haulage hours of operation.

### 2.3 Maules Creek Coal Mine

The MCCM Project Approval (PA 10-0138) was granted by the PAC as delegate of the Minister of DP&E on 23 October 2012. The approval includes extraction of up to 13 Mtpa of ROM coal for 21 years, construction and operation of site infrastructure including a CHPP and associated facilities; train loading facility; rail spur and loop; a mine access road; communications and power reticulation; explosives storage; and a water pipeline from the Namoi River.

MCCM have modified Project Approval 10\_0138 on a number of occasions since then, with the most recent being in March 2024. This latest modification authorised changes to the existing biodiversity strategy and construction and use of an electricity transmission line.





**Figure 2.1 Project boundaries and noise monitoring locations for the BTM Complex Mines**

## 3.Noise criteria

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### 3.1 Cumulative noise assessment criteria

Cumulative noise assessment criteria are contained in the Boggabri Coal Project Approval (09\_0182), the Maules Creek Coal Project Approval (10\_0138) and the Tarrawonga Coal Project Approval (11\_0047). Except for the noise affected land identified in Condition 3 of Project Approval 09\_0182, Table 1 of Project Approval 10\_0138, and Table 1 of Project Approval 11\_0047, each mine is required to ensure that the operational noise generated by their respective project, combined with the noise generated by other mines in the BTM Complex, does not exceed the criteria in Table 3.1 at any residence on privately-owned land.

**Table 3.1 Cumulative noise assessment criteria**

Location	Day (LAeq (period))	Evening (LAeq (period))	Night (LAeq (period))
All privately-owned land	40	40	40

*Note: Cumulative noise is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Noise Policy for Industry (EPA, 2017).*

*Operational noise includes noise from the mining operations and use of private haul roads and rail spurs.*

## 4. Monitoring Network

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The mines of the BTM Complex implement comprehensive noise management systems. These noise management systems utilise a combination of attended monitoring for compliance with project approval's and EPL's for the individual mines, and unattended real time monitoring for use as management tools as part of the day-to-day operations.

This existing noise monitoring network will be used to monitor and manage cumulative impacts associated with the operation of mines in the BTM Complex. The existing network may be reviewed and modified in accordance with each of BTM Complex mine project approvals (refer to Section 6).

A noise monitoring network has been established to quantify cumulative noise levels from the BTM Complex and noise from individual mines by monitoring in real-time (unattended) and attended noise levels at sensitive receivers. Attended and unattended noise monitoring will be conducted at the locations outlined in the individual mines' approved Noise Management Plans, refer Figure 2.1. Real-time noise monitors are used to manage operating noise from the mines' and attended noise monitoring is conducted to confirm individual and cumulative noise affectation criteria are achieved. The objective of the cumulative noise monitoring is to determine whether received noise meets relevant noise affectation criteria, both cumulative (40 dBA) and the lower mine specific (35 dBA).

Where attended monitoring results indicate noise levels are above 35dB(A) the noise specialist conducting the monitoring will assess whether the noise impact is a result of cumulative impacts from other mines in the BTM Complex, and in doing so attempt to identify the source and apportion the noise contribution accordingly.

Where cumulative impacts are suspected, the noise specialist will undertake attended monitoring at additional locations, with consideration of real-time meteorological conditions and direction to operations, to assist determination of respective noise contributions.

Should it be determined that the elevated noise is due to cumulative impacts, notification to the neighbouring mining operations will occur as per section 5. Monitoring data from relevant mines' noise management systems will be used to assist in apportioning this contribution.

Mitigation measures and processes as described in each sites respective NMP's (e.g relocation/stand down of equipment as necessary), will be followed should exceedance of noise criteria be determined.

## 5. Data Sharing

Each mine is responsible for the maintenance, calibration, repair, operating costs, site access agreements and data storage of the noise monitoring network of their operations.

To ensure that there is a coordinated approach to noise management of the mines in the BTM Complex, a level of data sharing is required. Data that will be shared includes:

- Attended noise monitoring reports
- Meteorological data
- Historic data files from real time noise monitors
- Calibration certificates

This data will be provided on request to assist investigation of potential noise sources and/or contributions from other mines following exceedance of noise criteria, during attended noise monitoring.

Data may also be requested in the event that a mine’s (proactive and reactive noise management system) noise trigger levels are activated, to assist in determining contributing noise sources.

Data will not be validated prior to sharing with other mines.

Regular meetings are held between BTM Complex environmental personnel to discuss various cumulative impacts, a minimum of 10 meetings will be held each year. The implementation of the BTM Noise strategy and the management of cumulative noise impacts of the member mines is discussed as a standing agenda item.

When cumulative noise criteria are identified as exceeded, discussions will be held as soon as practicable between BTM Complex mines to review causal factors and response actions, and the appropriate agencies notified in accordance with the requirements of each mines’ project approval.

## 6. Non compliance notifications

Notification criteria are contained in the Boggabri Coal Project Approval (09\_0182), the Maules Creek Coal Project Approval (10\_0138) and the Tarrawonga Coal Project Approval (11\_0047). Each mine is required to ensure that notification of non-compliance is undertaken in accordance with their reporting obligations. Reporting obligations for each of the mines in the BTM complex are outlined in Table 6.1.

**Table 6.1 Boggabri Coal Reporting Obligations for Non-Compliances**

Boggabri Coal Mine Project Approval 09_0182 Condition	Details
Schedule 5 Condition 8	The Proponent must notify, at the earliest opportunity, the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the project, the Proponent must notify the Secretary and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent must

Boggabri Coal Mine Project Approval 09_0182 Condition	Details
	provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

**Table 6.2 Tarrawonga Coal Mine Reporting Obligations for Non-Compliances**

Tarrawonga Coal Mine Project Approval 11_0047 Condition	Details
Schedule 5 Condition 8	The Secretary must be notified in writing via the Major Projects website immediately after the Proponent becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 9.
Schedule 5 Condition 8 A	The Secretary must be notified in writing via the Major Projects website within seven days after the Proponent becomes aware of any non-compliance.
Schedule 5 Condition 8 B	A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.
Schedule 5 Condition 8 C	A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

**Table 6.3 Maules Creek Coal Mine Reporting Obligations for Non-Compliances**

Tarrawonga Coal Mine Project Approval 11_0047 Condition	Details
Schedule 5 Condition 8	The Planning Secretary must be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 9.
Schedule 5 Condition 8 A	The Planning Secretary must be notified in writing via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance.
Schedule 5 Condition 8 B	A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.
Schedule 5 Condition 8 C	A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

## 7. Review and revision

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The NMS has been developed with the input of representatives of BCPL, TCM and MCC.

In accordance with the project approvals, the NMS and respective sites NMPs will be reviewed, and if necessary revised, within three months of:

- an annual review
- incident threatening material harm, requiring notification of the Secretary of relevant agencies
- statutory audit
- modification of project approval.

## 8. References

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Project Approval (PA 09\_0182) for Boggabri Coal Mine.

Project Approval (PA 10\_0138) for Maules Creek Coal Mine.

Project Approval (PA 11\_0047) for Tarrawonga Coal Mine.