WHITEHAVEN CHPP

ENVIRONMENTAL MANAGEMENT PLAN

Edition	Rev.	Comments	Author	Authorised By	Date
1	0	Initial document	J Johnson	D Young	June 2012
	1	Modification 3 review	T Dwyer	J Johnson	July 2016
	2	Update to address Department comments	M Whitten	I Taylor	May 2018

Contents

Tables

Figures

Appendices

ACRONYMS USED THROUGHOUT THIS DOCUMENT

AS	-	Australian Standard
CHPP	-	Coal Handling and Preparation Plant
DP&E	-	Department of Planning and Environment
DPI Water	-	Department of Primary Industries - Water
EA	-	Environmental Assessment
EMP	-	Environmental Management Plan
EPA	-	Environment Protection Authority
EPL	-	Environment Protection Licence
GSC	-	Gunnedah Shire Council
ISO	-	International Organisation for Standardisation
NZS	-	New Zealand Standards
PIRMP	-	Pollution Incident Response Management Plan
PA	-	Project Approval

1 INTRODUCTION

The Whitehaven CHPP and Rail Load-Out Facility is owned and operated by Whitehaven Coal Limited (Whitehaven) and was originally approved by Gunnedah Shire Council on 7th September 2002 under Project Approval 0079.2002. The location of the Whitehaven CHPP and Rail Load-Out Facility and its regional setting is shown on Figure 1.

A modification was approved on the 17th April 2008, for an upgrade to the CHPP and the construction of 2 additional reject ponds.

On 23rd December 2011, a proposal to construct additional reject ponds at the CHPP was approved by DP&E (formerly the Department of Planning and Infrastructure), which provided for the construction of 3 additional reject ponds and 2 settlement ponds to the immediate east of the existing pond footprint.

Modification 3 was approved on the 24th August 2015, to rectify an administrative issue.

This Environmental Management Plan (EMP) describes the overall framework for environmental management at the CHPP.

2 STATUTORY REQUIREMENTS

2.1 Project Approval DA 0079.2002

Schedule 3, Condition 13 of DA 0079.2002 states:

The Applicant shall prepare and implement an Environmental Management Plan for the development to the satisfaction of the Secretary. This plan must:

(a) be submitted to the Secretary for approval by the end of June 2012;

(b) described the roles and responsibilities of key personnel involved in environmental management;

(c) describe the relevant statutory requirements, limits or performance measures/criteria and the measures that would be implemented to comply with these requirements;

(d) detail the best practice management measures to be implemented, including all reasonable and feasible measures to:

- *a. minimise the operational, low frequency, and rail noise generated by the development;*
- *b. minimise offsite odour, fume and dust emissions;*
- *c. minimise visual and off-site lighting impacts; and*
- *d. avoid, minimise, reuse and recycle all waste streams generated by the development.*

(e) include a program to monitor and report on the environmental performance of the development and the effectiveness of any management measures;

(f) include a protocol for managing, reporting and responding to any complaints, incidents or non-compliances; and

(g) include a protocol for periodic review of the plan.

Conditions in DA 0079.2002 relating to specific environmental requirements are referenced throughout this Plan where relevant.

2.2 Other Approvals

The CHPP also operates under other approvals including:

- The Environment Protection Licence (EPL) 3637 issued under the *Protection of the Environment Operations Act 1997 (POEO Act)*.
- Water licences issued by DPI Water under the *Water Act 1912* and the *Water Management Act 2000*.
- Construction and Occupation Certificates for building works issued by Gunnedah Shire Council under Part 4A of the *Environmental Planning and Assessment Act 1979*.

Specific conditions of these approvals are referenced where relevant in this Plan.

Key reference documents include the following Acts and their respective regulations:

- *Environmental Planning and Assessment Act 1979.*
- *Protection of the Environment Operations Act 1997.*
- *National Parks and Wildlife Act 1974.*
- *Water Act 1912.*
- *Water Management Act 2000.*
- *Fisheries Management Act 1994.*
- *Local Government Act 1993.*
- *Contaminated Land Management Act 1997.*
- *Soil Conservation Act 1938.*
- *Waste Avoidance and Resource Recovery Act 2001.*
- *Protection of the Environment Operations (Waste) Regulation 2005.*

Relevant standards and guidelines are noted throughout the document.

2.3 Miscellaneous Standards and Guidelines

2.3.1 Standards

The following standards are, or are potentially, of relevance to the integrated management system for the CHPP.

- AS / NZS 3580:2007 – Methods for Sampling and Analysis of Ambient Air: Guide to Siting Air Monitoring Equipment.
- AS 3580.14-2011 – Methods for Sampling and Analysis of Ambient Air – Meteorological Monitoring for Ambient Air Quality Monitoring Applications.
- AS 2601:2001 – Demolition of Structures.
- AS 3580.10.1:2003 – Methods for Sampling and Analysis of Ambient Air: Determination of Particulate Matter – Deposited Matter – Gravimetric Method.
- AS 2187.2:2006 – Explosives: Storage and Use – Use of Explosives.
- AS 4282:1997 – Control of the Obtrusive Effects of Outdoor Lighting.
- AS 1940:2004 (incl. Amdt 1:2004; Amdt 2:2006) – The Storage and Handling of Flammable and Combustible Liquids.
- AS / NZS 3580.9.6:2003 – Methods for Sampling and Analysis of Ambient Air: Determination of Suspended Particulate Matter, PM_{10} High Volume Sampler with Size – Selective Inlet – Gravimetric Method.
- AS / NZS 3580.9.3:2003 – Methods for Sampling and Analysis of Ambient Air: Determination of Suspended Particulate Matter, Total Suspended Particulate Matter (TSP) High Volume Sampler – Gravimetric Method.
- AS / NZS / ISO 19011:2014 - Guidelines for Auditing Management Systems.

2.3.2 Guidelines

The following guidelines are, or are potentially, of relevance to the Integrated Management System for the CHPP:

- NSW DEC (2006) – Approved Methods for the Sampling and Analysis of Air Pollutants in NSW.
- NSW Minerals Council (1999) – Guidelines for Best Practice Community Consultation in the NSW Mining and Extractive Industries.
- DECC (2008) – Managing Urban Stormwater: Soils and Construction.
- NSW EPA (2000) – Environmental Noise Management – NSW Industrial Noise Policy.
- EPA (2013) Noise Guideline for Local Government
- NSW EPA (2011) – NSW Road Noise Policy
- National Transport Commission (2014) – Australian Dangerous Goods Code 7.3 Edition.
- Australian and New Zealand Environment Control Council and Agricultural and Resource Management Council of Australia and New Zealand (ANZECC & ARMCANZ) (2000) – Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

- DECC (2004) – Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation.
- DECCW (2010) – Aboriginal Cultural Heritage Consultation Requirements for Proponents.
- DECCW (2009) – Waste Classification Guidelines.
- EPA (2012) – EPA Guidelines: Bunding and Spill Management.

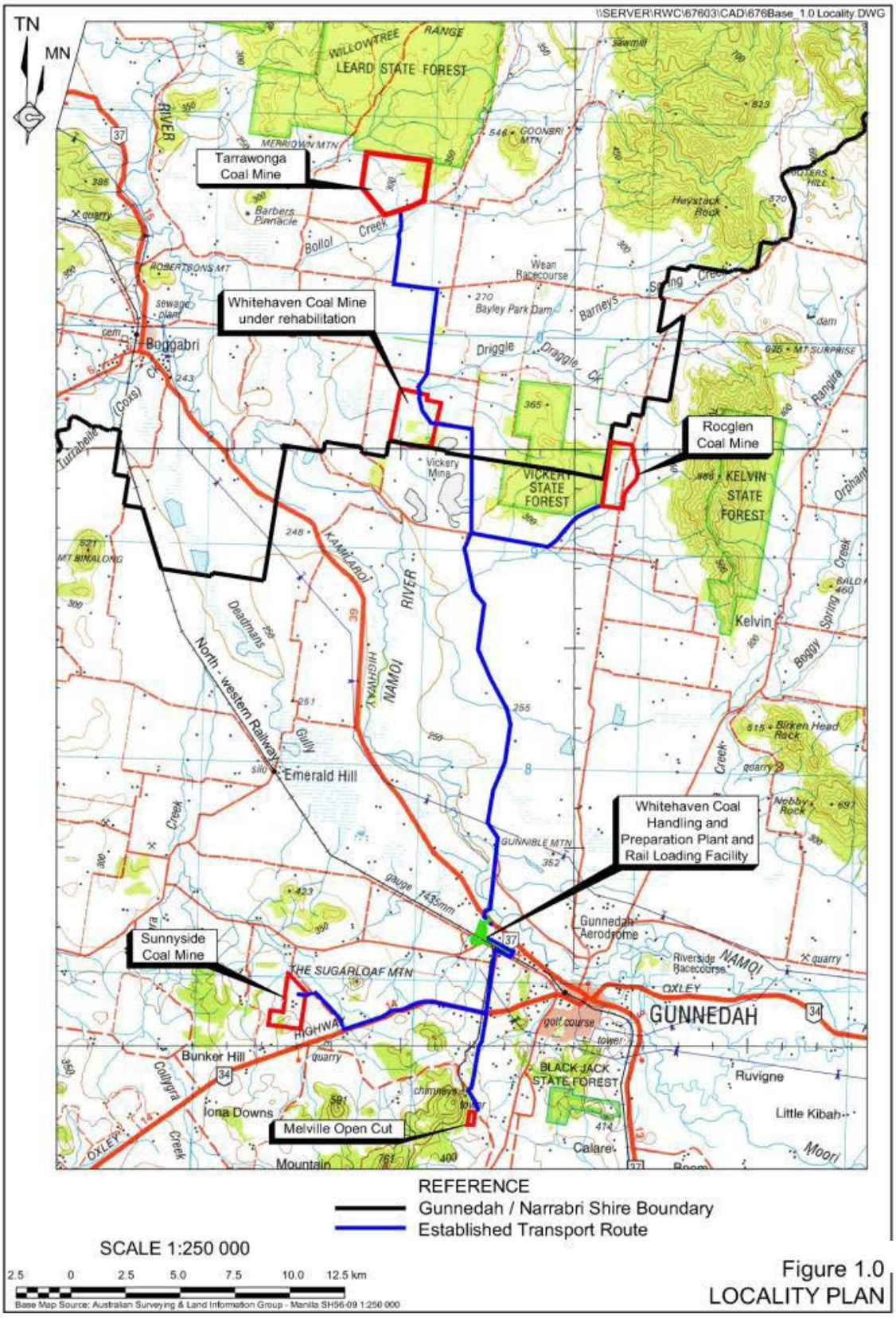

Figure 1 - Locality Plan

3 ROLES AND RESPONSIBILITIES

Overall site-based responsibility for all activities and all personnel on the site, including their compliance with all applicable laws, regulations, licences, approvals, the conditions of DA 0079.2002 and achievement of the desired environmental outcomes will be the responsibility of the CHPP Manager.

Table 1 outlines the roles responsibilities for all site personnel.

Table 1 - Roles and Responsibilities

Role	Responsibilities
CHPP Manager	• Ensure all contractors, sub-contractors and service-personnel are appropriately qualified and/or licenced to undertake the required work; • Ensure all operations are undertaken in accordance with relevant environmental legislation; • Providing the final sign-off and/or authorising distribution of, all environmental reports / management plans etc; • Workforce induction / training; • Communication with statutory authorities and the community; and • Ensure routine inspections are undertaken by a responsible person; and • Ensure all operations are undertaken in accordance with relevant environmental legislation and approvals;
Environmental Officer	• Assist in ensuring all operations are undertaken in accordance with relevant environmental legislation and approvals; • Coordination and assisting with implementation of management plans; • Receipt of and response to complaints; • Considering and advising on matters identified in the development consent and compliance with those conditions, and other environmental matters; • Co-ordination / management of monitoring programs and reporting; • Site rehabilitation; • Post-induction education and contact with site-based and contracted employees on environmental matters, where required; and • Maintenance of the Whitehaven website.
Supervisors	• Ensure activities under their control are undertaken in accordance with this EMP; • Bring to the attention of the Environmental Officer all complaints at the first available opportunity; and

Role	Responsibilities
	• Maintain an awareness of environmental issues and report any possible non-conformances to the Environmental Officer.
Employees and Contractors	• Conduct all activities in accordance with this EMP; • Bring to the attention of their supervisor/manager all complaints at first available opportunity; and • Maintain an awareness of environmental issues and report any possible non-conformances to their supervisor/manager.

Though retaining the responsibilities identified above, the CHPP Manager and Environmental Officer may, at their discretion, delegate specific tasks to suitably qualified and/or experienced operational personnel and/or consultants.

4 ENVIRONMENTAL MANAGEMENT AND MONITORING

The general CHPP site layout, land ownership and environmental monitoring locations are shown on Figure 3.

4.1 Noise

DA 0079.2002 contains the following condition in relation to noise:

Schedule 3, Condition 1

The Applicant shall:

(a) comply with the noise limits specified in any EPL for the development;

(b) minimise the operations, low frequency, and rail noise generated by the development;

(c) ensure that its rail spur 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)

to the satisfaction of the Secretary.

EPL 3637 specifies the following in relation to noise thresholds:

L3.1 Noise generated at the premises must not exceed the noise limits in the table below:

Location	*Day*	*Evening*	*Night*	
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{A1(1\ minute)}$
Non project related residences adjacent to Kamilaroi Highway.	*38*	*37*	*35*	*45*
Non project related residences adjacent to Quia and Torrens Rd.	*39*	*35*	*35*	*45*

Non project related residences to north west of premises along Wirringulla Road	*35*	*35*	*35*	*45*

4.1.1 Management Measures

Specific management measures currently in place at the CHPP include the following:

- Application of a first gear reverse policy on dozers operating on the coal stockpile. The application of this practice reduces the potential for noise impacts as a consequence of track clatter. Further to this, the site operates sound attenuated dozers.
- Whitehaven has also acquired several properties in immediate proximity to the site as buffer lands from the impact of operations (refer Figure 3).
- All heavy vehicle (haulage) access to the CHPP is restricted to the hours of 7:00am - 10:00pm Monday - Friday and 7:00am - 6:00pm on Saturdays.
- All trains that access the CHPP rail loop are operated by Pacific National or Aurizon, and are required to operate on the NSW rail network under the terms of the ARTC's EPL and noise limits. The rail providers have been made aware of potential noise generation from their activity (e.g. bunching of wagons and wheel squeal).
- An assessment of the plant was undertaken to determine options to reduce vibration impacts. The assessment recommended adjusting the balance of the screens, which has been completed.

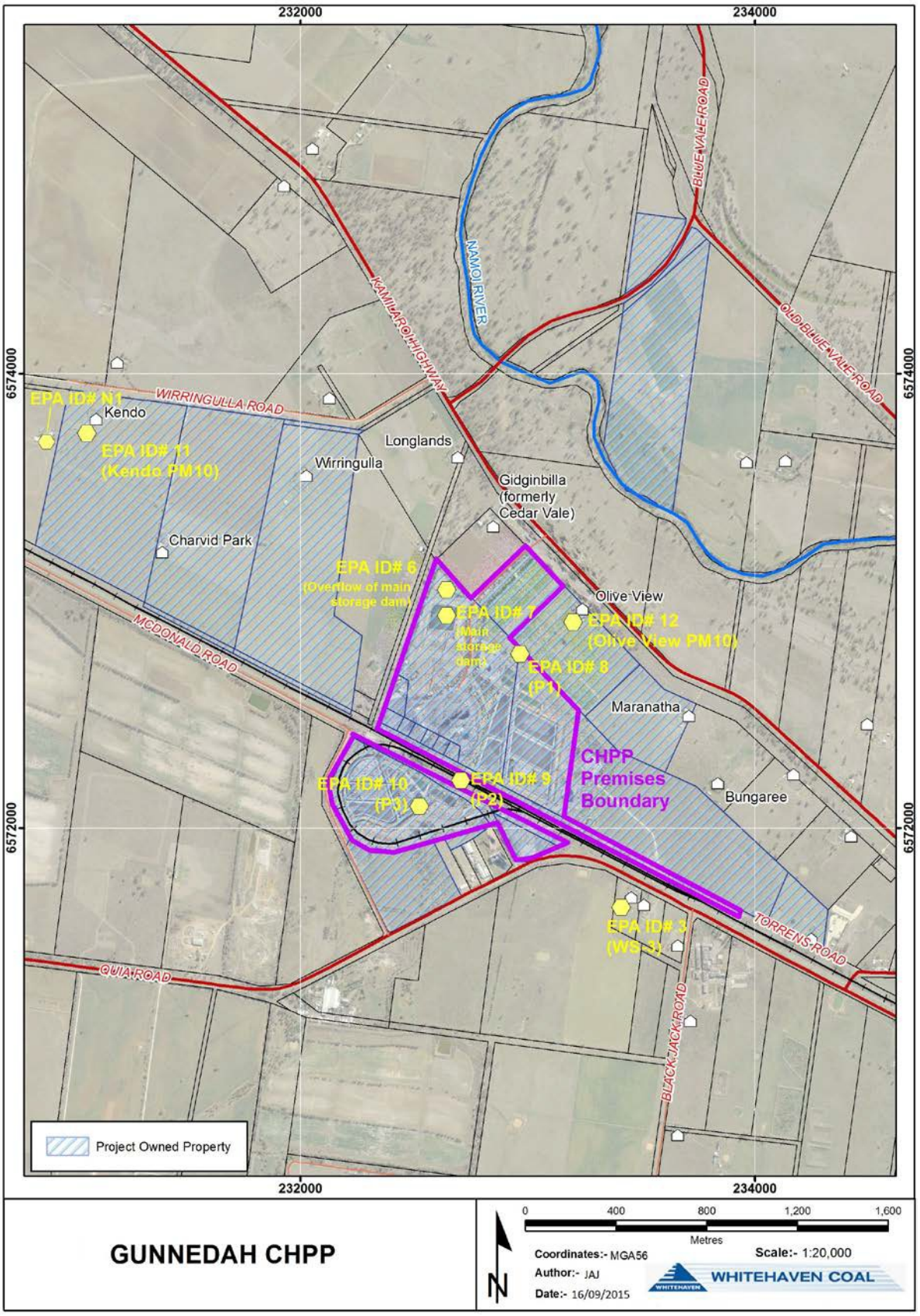

Figure 2 - Site Layout, Land Ownership and Environmental Monitoring Locations

4.1.2 Monitoring

Conditions L3.2 to L3.4 of EPL 3637 note specific requirements in relation to noise monitoring practices including distances from residences, meteorological conditions and private agreements.

Monitoring to determine compliance will be undertaken on a quarterly basis in accordance with the following EPL requirements:

M6.1 For each monitoring point specified below, the licensee must monitor the noise parameter specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the columns.

Points: N1

Parameter	***Units of Measure***	***Frequency***	***Sampling Method***
Ambient Noise	$L_{Aeq(15\ minutes)}$ L_{Amax} L_{A1} L_{A10} L_{A90} L_{Amin} $L_{A1(1\ min)}$	*Quarterly.* *Monitoring to be undertaken at a minimum of a 15 minute period during the day, evening and night time periods.*	*Type 1 Noise Meter – attended monitoring* *Monitoring must be undertaken of representative operations at the premises including train loading operations to assess noise impacts from conveyors and loading operations.*

For the purpose of this condition, the noise monitoring locations are described as:

EPA Identification No.	***Description of Location***
N1	*Within 30m of the residence on the Wicks property at the point labelled as EPA ID# N1 on the map titled 'EPL 3637 Licence Variation Sept 2015' dated 14/9/2015 and received by the EPA 15/9/2015 (attached to DOC15/221987-06).*

Noise monitoring is undertaken in accordance with the following guidelines:-

- NSW EPA (2000) – Environmental Noise Management – NSW Industrial Noise Policy.
- EPA (2013) Noise Guideline for Local Government
- NSW EPA (2011) – NSW Road Noise Policy

4.2 Air Quality

General requirements in relation to air quality at the CHPP are outlined below.

DA 0079.2002 MOD 1

Schedule 3, Condition 2

The Applicant shall:

(a) minimise offsite odour, fume and dust emissions of the development;

(b) minimise the surface disturbance on site and revegetate disturbed areas as soon as practicable;

to the satisfaction of the Secretary.

EPL 3637

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O3.2 Trucks entering and leaving the premises that are carrying loads must be covered at all times except during loading and unloading.

4.2.1 Management Measures and Monitoring

Air quality management and monitoring is undertaken in accordance with the Air Quality Control Protocol (Appendix 1).

The following key air quality management measures from the protocol are implemented at site:-

Pro-active:

- Automated fixed water sprays,
- Orientation of coal stockpiles to minimise exposure to dominant winds,
- Limitation on height of stockpiles to 12m,
- Use of designated water carts, and
- Stockpile dozers limited to first gear in reverse

Re-active:

- Automatic wind speed alerts to the CHPP control room which trigger air quality inspections,
- Visual observations to confirm any presence of dust lift-off,
- Investigation upon receipt of non-compliant dust results.

Air quality monitoring is undertaken in accordance with the following standards and guidelines:-

- AS / NZS 3580:2007 – Methods for Sampling and Analysis of Ambient Air: Guide to Siting Air Monitoring Equipment.
- AS 3580.14-2011 – Methods for Sampling and Analysis of Ambient Air – Meteorological Monitoring for Ambient Air Quality Monitoring Applications.
- AS 3580.10.1:2003 – Methods for Sampling and Analysis of Ambient Air: Determination of Particulate Matter – Deposited Matter – Gravimetric Method.
- AS / NZS 3580.9.6:2003 – Methods for Sampling and Analysis of Ambient Air: Determination of Suspended Particulate Matter, PM_{10} High Volume Sampler with Size – Selective Inlet – Gravimetric Method.
- AS / NZS 3580.9.3:2003 – Methods for Sampling and Analysis of Ambient Air: Determination of Suspended Particulate Matter, Total Suspended Particulate Matter (TSP) High Volume Sampler – Gravimetric Method.
- NSW DEC (2006) – Approved Methods for the Sampling and Analysis of Air Pollutants in NSW.

4.3 Visual and Lighting

Schedule 3 of DA 0079.2002 includes the following conditions in relation to visual amenity and lighting:

4. The Applicant shall undertake tree planting on the eastern and northern boundary of the additional reject ponds (9, 10 and 11) and settlement ponds (8 and 9), within 6 months of commencement of construction works, to the satisfaction of the Secretary.

5. The Applicant shall:

(a) minimise the visual and off-site lighting impacts of the development;

(b) ensure no outdoor lights shine above the horizontal; and

(c) ensure that all external lighting associated with the development complies with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting or its latest version;

to the satisfaction of the Secretary.

Tree plantings have occurred, and are maintained, in accordance with the requirements of the consent.

All lighting is directed below the horizontal. Any complaints in relation to night lighting are taken seriously, and, in the event that lighting is causing an unacceptable impact at an adjoining residence, and can be resolved by redirection, this will be undertaken should it be reasonable and feasible to do so.

The site has not received complaints regarding light impacts from dozers working at elevation. As a result, no changes or additional management measures specific to dozer lighting are proposed.

All external lighting associated with the development has been assessed against Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting or its latest

version, and any suggested improvements completed. All new lighting, and onsite replacements or upgrades, will be compliant with AS4282.

4.4 Waste

Schedule 3, Condition 6 of DA 0079.2002 requires Whitehaven to ensure that the waste generated by the CHPP is appropriately stored, handled and disposed of in a lawful manner.

Waste requirements in EPL 3637 are as follows:

L2.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.

L2.2 This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.

General waste is disposed of in skip bins which are collected by a licenced waste contractor for disposal at the Gunnedah Shire Council Landfill.

Waste oil, oil filters and scrap metal are collected by licenced contractors for recycling.

Packaging (e.g. 1000L pods) is reused where possible or disposed of when damaged beyond repair.

Recyclable wastes from administration facilities are disposed of in provided bins which are collected and delivered to the Gunnedah Recycling Centre.

Coal reject is transported to former and/or currently operating open cut mines for emplacement in voids, in accordance with the relevant approvals of those sites.

4.5 Cultural Heritage

All development at the CHPP site has been undertaken in accordance with appropriate cultural heritage investigations required at the time. Additional disturbance at the CHPP is unusual and generally associated only with the relevant approvals being received, as was the case with the development of the additional reject ponds.

New disturbance activities are generally undertaken following appropriate cultural heritage assessment, with surface disturbance works subject to pre-clearance survey by representative Aboriginal Stakeholders. Whitehaven Coal will make appropriate contact with the Red Chief Aboriginal Land Council in advance of any surface disturbance activity to arrange for appropriate survey work in advance.

4.6 Hazardous Substances Management

Hazardous substances management is in accordance with WHS requirements. This includes appropriate training for employees and contractors, provision of Safety Data Sheets (SDSs)

for all products, emergency procedures and emergency response equipment (eyewashes, first aid kits, spill kits, firefighting equipment etc.).

4.7 Traffic Management

Under their applicable Project Approval's, the mines' coal dispatch hours are approved as follows:

Tarrawonga:	6am to 9:15pm Monday to Friday; and
	7am to 5:15pm on Saturdays.
Rocglen:	7am to 9:15pm Monday to Friday; and
	7am to 5:15pm on Saturdays.
Sunnyside:	7am to 6:00pm (8:00pm during eastern summer time) Monday to Friday; and
	7am to 4:00pm on Saturdays.

The above arrangements ensure coal haulage trucks are off the public road network by 10pm Monday to Friday and 6pm on Saturdays. In addition to these controls, each transport route has been constructed specifically to project approval requirements with intersections and roads constructed with the roads authority approval.

With respect to coal processing the CHPP shall not process more than 3.0 million tonnes of ROM coal on the site in a calendar year, and shall not dispatch more than 4.1 million tonnes of coal from the site in a calendar year. Compliance with these limits is managed by the WHC logistics team and monitored on a monthly basis.

4.8 Water

Schedule 3, Conditions 3 and 14 of DA 0079.2002 refers to water management requirements for the CHPP. These requirements are addressed in the Water Management Plan that includes both surface and groundwater management.

The Water Management Plan also includes details of the monitoring and reporting requirements of EPL 3637.

4.9 Biodiversity and Rehabilitation

Biodiversity management during current operations (i.e. prior to final rehabilitation) will comprise planting and maintenance of vegetation screens and restricting unnecessary disturbance.

As required by Schedule 3, Condition 15 of DA 0079.2002, a Rehabilitation Management Plan will be prepared and submitted for approval 12 months prior to completion and closure of the CHPP. The plan will be developed in consultation with the Department of Planning and Environment, DPI Water and Gunnedah Shire Council.

4.10 Bushfire

Schedule 3, Condition 10 of DA 0079.2002 states that the applicant shall ensure the development is suitably equipped to respond to any fires on site and assist the Rural Fire Service and emergency services as much as possible if there is a fire in the vicinity of the site.

As required by NSW coal mining legislation, the CHPP has an approved Emergency Management Plan which addresses all forms of emergencies including fire. The CHPP maintains water carts on site with water cannons that are suitably equipped to respond to fires on site. Any assistance provided to the Rural Fire Service (RFS) would necessarily be at the request of the RFS.

5 COMPLAINTS, INCIDENTS AND NON-COMPLIANCES

5.1 Complaints Management

Conditions M4 and M5 of EPL 3637 and Clause 13(f) of Schedule 3 of Project Approval 0079.2002 specify requirements in relations to complaints management, and are addressed below.

A complaints management protocol has been developed to ensure an appropriate and consistent level of reporting, response and follow-up is adopted by the CHPP. At a minimum, the following complaints management protocol will be followed on all complaints received:

- A publicly advertised telephone complaints line will be in place to receive complaints during operating hours and record complaints at other times.
- Each complaint received will be recorded on a Complaints Register, which will include the following details:
    - The date and time of complaint.
    - Any personal details the complainant wishes to provide, or if no such details are provided a note to that effect.
    - The nature of the complaint.
    - The action taken by Whitehaven in relation to the complaint, including any follow-up contact with the complainant.
    - If no action was taken by Whitehaven, the reason why no action was taken.
- The Environmental Department will be responsible for ensuring that an initial response is provided within 24 hours of receipt of a complaint (except in the event of complaints recorded when the site is not operational).
- The cause of the complaint and any required remedial actions identified.
- Additional measures will be undertaken as required to address the complaint. This may include visiting the complainant, or inviting the complainant to the mine site.
- If necessary, the Group Manager - Environment will follow-up to confirm the source of the complaint is adequately mitigated.
- A copy of the Complaints Register will be kept by Whitehaven and uploaded to the Whitehaven website on a monthly basis.

Based on the nature of individual complaints, specific contingency measures may be implemented to the (reasonable) satisfaction of the complainant.

5.1.1 Dispute Resolution

In the event that any complainant does not consider Whitehaven's response or reactions adequately address their concerns, the following procedure will be adopted:

1. A meeting will be convened with the Group Manager - Environment, Group Manager - Community Relations and Property and/or CHPP Manager to seek resolution of the matter. The complainant will be provided with a written response from Whitehaven detailing the results of investigations to date and the agreed actions to be taken in respect of the measures to be implemented.
2. Upon implementation of the nominated measures, a further meeting will be convened to seek advice of satisfaction or otherwise as to the outcomes.

5.2 Incident Management

In addition to the protocol for complaints management, environmental incidents at the CHPP will be managed in accordance with the site's Emergency Management System and categories of environmental incidents will be determined using Whitehaven's Risk Matrix. Environmental incidents will be reported using Whitehaven's Incident Reporting Platform and forwarded to the Environmental Department. Any corrective/preventative actions identified as a result of the incident will be assessed and implemented where appropriate

Emergency response is discussed in Section 5.4.

If required the CHPP Pollution Incident Response Management Plan (PIRMP) will also be activated to manage incidents.

5.3 Response to Non-Compliances

Compliance with all approvals, plans and procedures will be the responsibility of all personnel (staff and contractors) employed on, or in association with, the CHPP, and will be developed through promotion of site ownership under the direction of the CHPP Manager and Environmental Department.

The Environmental Department and/or CHPP Manager will undertake regular inspections, internal audits and initiate directions identifying any remediation/rectification work required, and areas of actual or potential non-compliance, with all directions provided to the relevant party in writing and/or diarised.

Any non-compliance with regulations, licences or approvals will be reported to the relevant authority, together with details of the corrective actions taken to avoid future occurrences.

Non-compliances with the requirements of the CHPP's EPL will also be reported in each EPL Annual Return.

5.4 Response to Emergencies

As part of routine operations, Whitehaven will undertake risk assessments to identify the risk probability and consequences of the proposed activities and aspects of the operation, the adequacy of existing controls to contain the hazards and, where identified as deficient, propose additional controls to further manage or eliminate hazards.

The existing Emergency Management System developed for the CHPP which, though primarily prepared in accordance with WHS requirements, extends to environmental emergencies.

Although there are specific procedures for individual situations, all incorporate three basic steps:

1. Notification of the emergency (internal and/or external);
2. Protection of personnel as a first priority; and
3. Protection of the environment, plant and equipment.

Initially each of steps (2) and (3) would use internal resources, with assistance from external resources called upon as and when necessary.

Any emergency situations or incidents, which do or could potentially have caused environmental harm, will be reported to the EPA and other relevant authorities in accordance with the requirements for notification under the Protection of the Environment Operations Act, 1997 (i.e. PIRMP).

6 RECORD KEEPING, REPORTING AND DOCUMENT REVIEW

6.1 Record Keeping

Condition 5 of the EPL outlines the requirements for monitoring and recording as follows:

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

(a) in a legible form, or in a form that can readily be reduced to a legible form;

(b) kept for at least 4 years after the monitoring or event to which they relate took place; and

(c) produced in a legible form to any authorised office of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

(a) the date(s) on which the sample was taken;

(b) the time(s) at which the sample was collected;

(c) the point at which the sample was taken; and

(d) the name of the person who collected the sample.

DA 0079.2002 specifies limits for coal processing (no more than 3 million tonnes per annum) and coal transport (no more than 4.1 million tonnes of coal dispatched per year). Coal processing and dispatch records are kept on a daily basis.

6.2 Reporting

As required by Condition 16 Schedule 3 of DA 0079.2002, Whitehaven will report annually on the environmental performance of the development, in accordance with the requirements of the EPL. Reporting for the EPL is addressed via the Annual Return. Additional EPL monitoring data reporting will occur on a monthly basis via the Whitehaven website.

Further reporting, in accordance with the consent, will comprise:

- Keeping records of the amount of coal transported from the site (on a monthly basis) and the date and time of each train movement generated by the development. The records will be made available on the Whitehaven website following the end of each calendar year.
- Making the following information publically available on the Whitehaven website:
    - the EIS;
    - all current statutory approvals for the development;
    - approved plans required under the conditions of this consent;
    - a comprehensive summary of the monitoring results of the development, which have been reported in accordance with the various plans approved under the conditions of this consent and the EPL;
    - a complaints register, which is to be updated on a monthly basis;
    - any other matter required by the Secretary; and

    keeping this information up to date, to the satisfaction of the Secretary.

6.3 Document Review

This document will be reviewed, and if necessary revised, to incorporate any recommended measures to improve the environmental performance of the site, in accordance with the requirements of Condition 3(19) of DA 0079.2002. The review will be undertaken by the Environmental Department with input from roles noted in Table 1 as required.

Appendix 1 Air Quality Control Protocol

AIR QUALITY CONTROL PROTOCOL

Edition	Rev.	Comments	Author	Authorised By	Date
1	0	Initial document	J Johnson	D Young	Nov 2013
	1	Periodic review	T Dwyer	J Johnson	July 2016
	2	Periodic review	M. Whitten	I. Taylor	June 2018

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Tables

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EPL	-	Environment Protection Licence
HVAS	-	High Volume Air Sampler
NATA	-	National Association of Testing Authorities
PM_{10}	-	Particulate Matter with aerodynamic diameter less than 10µg

1 INTRODUCTION

The Whitehaven Coal Handling and Preparation Plant (CHPP) and Rail Load-Out Facility is owned and operated by Whitehaven Coal Limited (Whitehaven) and was originally approved by Gunnedah Shire Council on 7th September 2002 under Project Approval 0079.2002. The location of the Whitehaven CHPP and Rail Load-Out Facility and its regional setting is shown on Figure 1.

A modification was approved on the 17th April 2008, for an upgrade to the CHPP and the construction of 2 additional reject ponds.

On 23rd December 2011, a proposal to construct additional reject ponds at the CHPP was approved by the Department of Planning and Infrastructure, which provided for the construction of 3 additional reject ponds and 2 settlement ponds to the immediate east of the existing pond footprint.

Modification 3 was approved on the 24th August 2015, to rectify an administrative issues.

It is recognised that the operation of the CHPP has the potential to impact on the air quality within and beyond the boundaries of the site. In order to manage the potential impacts on local air quality and in compliance with former Condition U2 of Environment Protection Licence (EPL) 3637, this Air Quality Control Protocol (AQCP) has been developed.

The AQCP has been prepared with reference to relevant approvals and guidelines, including the best management practice measures documented in the Katestone (June 2011) report.

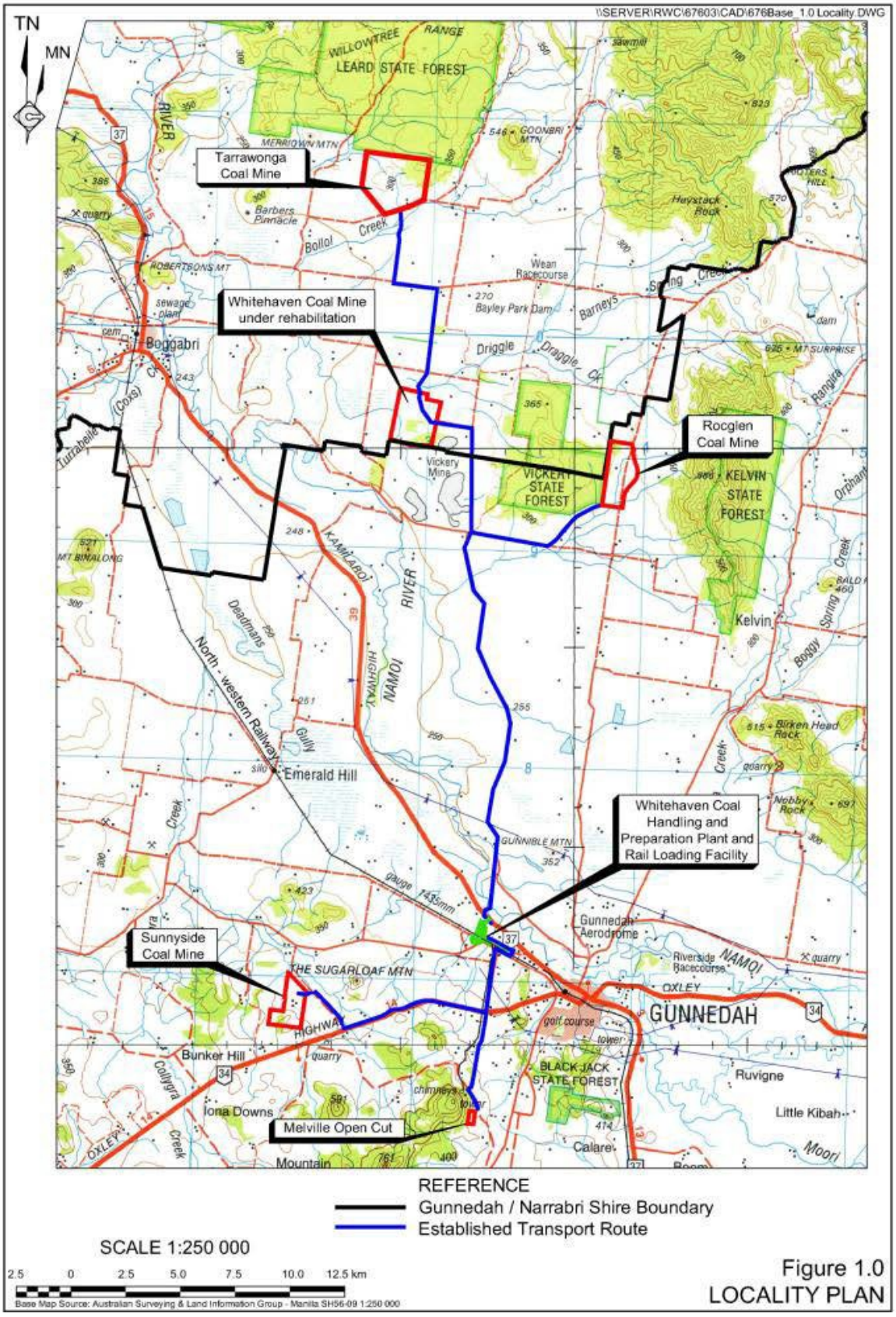

Figure 1 Locality Plan

2 MONITORING PARAMETERS

2.1 Air Quality

The Development Consent and EPL do not specify air quality criteria, however Whitehaven maintains target levels at the CHPP as consistent with the generic criteria applied at its mining operations, namely:

- An annual deposited dust maximum level of 4g/m^2/month;
- A 24 hour Particulate Matter <10µg (PM_{10}) level of 50µg/m^3; and
- An annual average PM_{10} level of 30µg/m^3.

2.2 Meteorological

Meteorological information recorded at the CHPP meteorological station includes:

- Wind speed and direction;
- Solar radiation;
- Temperature;
- Rainfall; and
- Sigma Theta.

The CHPP meteorological station is linked to the Whitehaven Group's real time monitoring platform (Sentinex), and is accessible to CHPP personnel located in the administration buildings, CHPP control room or wherever there is internet access. This enables monitoring of weather conditions in real time, and appropriate management responses during adverse conditions.

2.3 Coal Handling

Monitoring parameters for coal handling comprise:

- Coal moisture levels;
- Visible dust levels;
- Stockpile shape; and
- Wind speed.

3 MONITORING METHODS

3.1 Air Quality

Deposited dust is monitored using deposited dust gauges sited on various properties surrounding the CHPP.

PM_{10} levels are monitored using High Volume Air Samplers (HVAS).

Monitoring is undertaken according to the DEC (2006) document *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales 2006*. Specifically, monitoring is conducted in accordance with the following Australian Standards:

- AS/NZS 3580.1.1:2007 *"Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment".*
- AS/NZS 3580.9.6:2003 "*Methods for sampling and analysis of ambient air – Determination of suspended particulate matter PM_{10} high volume sampler with size–selective inlet – Gravimetric Method*".
- AS 3580.10.1:2003 (R2014) "*Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method*" (NSW DEC Method AM-19).

For each deposited dust monitoring location, once each month the glass container used to capture the deposited dust is removed, replaced and sent to a NATA accredited laboratory for analysis. For the HVAS, the pre-weighed filter is removed, replaced and sent to a NATA accredited laboratory for analysis generally in monthly batches to coincide with the despatch of the deposited dust samples.

Condition M1.3 of EPL 12365 requires the following records to be kept:

- The date(s) on which the sample was taken;
- The time(s) at which the sample was collected;
- The point at which the sample was taken; and
- The name of the person who collected the sample.

In addition to these requirements, any notable activities or conditions at or around the monitoring location should be noted at the time of sample collection. Site activities that could impact on air quality results as well as any relevant regional conditions (eg. bushfires, dust storms) should be noted when they occur.

3.2 Meteorological

A real time meteorological station is located at the CHPP which allows the Control Room Operator to assess real time weather conditions and to identify appropriate management responses should conditions be conducive to excessive dust generation. The meteorological station complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline.

3.3 Coal Handling

Methods for monitoring the parameters identified in Section 2.3 are as follows:

- Coal moisture levels:
  - Belt samples (taken during each train loading event)
- Visible dust levels:
  - Visual observations (at all times, and documented in the Zone Inspection twice per day)
- Stockpile shape:
  - Height indicators (observed during stockpile shaping)
  - Visual observations (at all times during stockpile shaping)
- Wind speed:
  - Meteorological station (continuous)

4 MONITORING LOCATIONS AND FREQUENCY

4.1 Monitoring Locations

4.1.1 Air Quality

Figure 2 presents the locations of the dust deposition gauges and HVAS. The locations have been selected taking into account local meteorological conditions, the proximity of surrounding residences and the locations of likely dust emission sources from the site. Table 1 presents a summary of the air quality monitoring sites.

Table 1 Air Quality Monitoring Locations

Reference*	EPL ID #	Easting*	Northing*	Residence/Property	Deposited Dust	PM_{10}
WS-3	3	232480	6572648	*"Caroucel"*	✓	
Kendo	11	231073	6573799	*"Kendo"*		✓
Olive View	12	233245	6573101	*"Olive View"*		✓
* Estimated from Google Earth						

4.1.2 Meteorological

The meteorological station for the CHPP is located adjacent to the administration offices, as shown in Figure 2.

4.1.3 Coal Handling

Belt samples for coal moisture levels are collected at the train loadout.

Visual observations for dust and stockpile shape are undertaken by all personal from any area of the CHPP. Stockpile height indicators are located at the pad 4 bypass.

Figure 2 Monitoring Locations

4.2 Monitoring Frequency

4.2.1 Air Quality

The monitoring frequency, as specified in Condition M2.1 of EPL 3637, for deposited dust and PM_{10} is as follows:

- Deposited dust – continuous
- PM_{10} – every 6 days (in accordance with the EPA schedule for PM_{10} monitoring)

4.2.2 Meteorological

Meteorological data is recorded on a continuous basis with results provided in 15 minute intervals.

4.2.3 Coal Handling

Belt samples for coal moisture levels are collected during the loading of every train.

General visual observations occur on a continuous basis. Zone inspections of the stockpiles and adjacent areas are undertaken once per shift (ie. twice per day).

5 JUSTIFICATION AND KEY PERFORMANCE INDICATORS

Whitehaven has reviewed the Katestone (2011) report for best practice management measures for dust control. A number of the measures identified are already implemented at the CHPP, as detailed below. The remaining measures have not/will not be implemented on the basis of operational or economical restrictions.

5.1 Coal Stockpiles

The CHPP currently accepts ROM coal from Whitehaven's Tarrawonga and Rocglen operations. ROM coal is delivered by truck and unloaded to either bypass stockpiles or to stockpiles that provide feed to the washery. A plan of stockpile locations and the washery and rail load out bin is shown on Figure 3.

The coal processing undertaken at the CHPP is dependent on the quality of the coal delivered to site and the contract specification that each shipment is required to meet. On this basis, coal product types can be broadly split into two classifications, being bypass product (not washed) and washed product (processed through the washery).

Washed product comprises the lower ash specification coal, which also retains a higher inherent moisture level as a consequence of being processed through the washery. The total moisture of product coal held in washed product stockpiles is generally in the order of 10.3%. It also has the 100 micron component of the product removed via the tailings stream. The total moisture of the bypass product stockpile is generally in the order of 8.9%.

Belt sprays are located on the bypass conveyor, feeder and transfer point delivering coal to the coal loadout bin. They are fixed and automatic with operation triggered by weight sensors. This reduces wastage of water when the belts are empty.

Dust generation from product stockpiles is generally low, with the bypass stockpile more prone to dust lift off as compared to the washed product stockpile. For this reason, water sprays are located on the bypass product stockpile wall and can be activated if required to minimise potential for dust lift off. Control of dust by this method can however create operational and safety issues in relation to compromised energy of the coal and hang-up in rail wagons.

Orientation of the coal stockpiles assists in minimising exposure to the predominant winds in the area. Winds are predominantly from the north-west or south-east. The bypass stockpile comprises a concrete wall on its south-eastern edge which can act as a barrier to dust generation during north-westerly winds. Similarly, it acts as a buffer to winds from the south east. The washed product stockpiles, whilst more exposed to wind impacts, have greater moisture content and are less prone to dust lift off.

Stockpile height for the bypass stockpile is limited to 12m (assessed using height indicators) and all stockpiles are generally maintained as a dome-like shape. Immediately prior to train loading the stockpile can be pushed up into a more conical-type shape but this is only for a short period of time (ie. two hours).

One water cart generally commences operation at the CHPP at approximately 4am and continues to operate as long as dust suppression is required. An additional water cart

generally operates between 7am and 6pm. Water carts generally only cease operation when it has rained and the area becomes too wet to operate.

5.2 Dozers

All dozers at the CHPP are restricted to first gear reverse and only travel the distances required to perform their task. Travel routes between stockpiles are kept moist by water carts.

5.3 Key Performance Indicators

Key Performance Indicators (KPIs) for the CHPP are:

1. Compliance with dust and PM_{10} target levels as outlined below:
    a. An annual deposited dust maximum level of $4g/m^2$/month;
    b. A 24 hour Particulate Matter <10µg (PM_{10}) level of $50µg/m^3$; and
    c. An annual average PM_{10} level of $30µg/m^3$.
2. Compliance with monitoring schedule.
3. No community complaints related to dust generation from coal handling activities.
4. Completion of dust assessment in Zone Inspections for each shift.

Figure 3 CHPP Layout

6 RESPONSE MECHANISMS

Response mechanisms to be implemented when existing management measures are not sufficient to control dust include:

- Automatic alerts to the CHPP control room when wind speeds reach 10m/s (36km/hr), which triggers an inspection of the area to determine if dust levels are acceptable. Triggering an inspection, rather than immediate modification of operations, is proposed as high wind speeds may not necessarily relate to unacceptable dust levels (ie. immediately following wet weather).
- If visual observations confirm dust lift-off from the bypass stockpile, the control room will activate the water sprays positioned at the bypass stockpile and assess their effectiveness. Water sprays will be maintained if conditions allows.
- Initiate investigation following receipt of non-compliant dust results to determine whether dust from coal stockpiles is a significant contributing source. If it is identified as a significant contributing source, stockpile management procedures to be reviewed.

7 RECORD KEEPING AND REPORTING

7.1 Air Quality

Deposited dust and PM_{10} monitoring reports are provided by a NATA accredited laboratory on a monthly basis. Results are collated for analysis and reporting.

Reporting in relation to the EPL comprises:

- Provision of a monthly monitoring summary on the Whitehaven website (www.whitehavencoal.com.au); and
- Completion of the Annual Return.

7.2 Meteorological

Meteorological data can be assessed in real time whilst a 24 hour summary of meteorological data is emailed to key Whitehaven personnel (Environmental and CHPP personnel) each morning.

A monthly summary of daily averages is also provided via email and detailed 15 minute readings can be accessed on request.

7.3 Coal Handling

Zone Inspection books are kept at the CHPP whilst in use and then archived for long term records.

8 DOCUMENT REVIEW

This document will be reviewed in conjunction with the review requirements of the Environmental Management Plan.