



Wallerawang Power Station Project Demolition

Air Quality Management Plan

Prepared by

Liberty Industrial Pty Ltd

For



Revision No.	Revision Date	Authority	Changes
A	02.02.2021	JS	Draft for Consultation
B	24.02.2021	JS	Addressing Greenspot Review comments
0	07.04.2021	JS	Addressing Additional Greenspot comments

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Specialist Deconstruction Services

- Industrial demolition contractors ■ Mine closure consulting ■ 3D Modelling
- Remediation ■ Demolition consultants ■ Asbestos abatement



TABLE OF CONTENTS

LIST OF TABLES.....	4
LIST OF FIGURES	4
GLOSSARY AND ABBREVIATIONS.....	5
1 REQUIREMENT MATRIX.....	6
2 INTRODUCTION	7
2.1 PURPOSE	7
2.2 REVISION CHANGES OF THIS AQMP	7
2.3 DISTRIBUTION LIST	7
2.4 LEGAL AND OTHER REQUIREMENTS	8
2.4.1 Legislation.....	8
2.5 GUIDELINES AND STANDARDS	8
3 PROJECT BACKGROUND	9
3.1 PROJECT OBJECTIVES	9
3.2 GENERAL DESCRIPTION OF THE SITE AND WORK DOMAINS	10
4 EXISTING ENVIRONMENT	10
4.1 LOCATION AND SITE CONTEXT	10
4.2 AIR QUALITY	11
4.3 METROLOGICAL CONDITIONS	12
4.3.1 Wind	12
4.3.2 Rainfall.....	13
4.4 SENSITIVE RECEIVERS.....	13
5 POTENTIAL IMPACTS.....	15
6 ENVIRONMENTAL MITIGATION MEASURES	17
7 AIR QUALITY RISK ASSESSMENT ASPECTS AND IMPACTS	22
7.1.1 Risk Assessment Matrix.....	22
7.1.2 Risk Matrix Explanation.....	23
8 COMPLIANCE MANAGEMENT	25
8.1 ROLES AND RESPONSIBILITIES.....	25
8.2 TRAINING.....	25

9 MONITORING..... 26

9.1 WEATHER..... 27

9.2 DUST 27

9.3 PLANT 27

9.4 COMPLAINANTS..... 27

9.5 CORRECTIVE ACTION 27

LIST OF TABLES

Table 1 – Key Air Quality Development Approval Conditions	6
Table 2 - Sensitive Receiver Summary	14
Table 3 – Potential Air Impacts	15
Table 4 - Air Quality Mitigation Measures	18
Table 5 - Risk Assessment Matrix	22
Table 6 - Risk Matrix Explanation	23
Table 7 - Air Quality (Dust) Risk Assessment	24
Table 8 - Air Monitoring Details Summary	26
Table 9 - Air Quality KPI	26
Table 10 - KPI Corrective Action Table	28

LIST OF FIGURES

Figure 1 WWPS Location	11
Figure 2 – Annual Wind Rose (Mount Boyce)	12
Figure 3 - Wind Speed Long Term Monthly Average (Mount Boyce)	13
Figure 4 - Sensitive Receiver Locations	15

GLOSSARY AND ABBREVIATIONS

ACM	Asbestos Containing Material
ALARP	Mitigate risk to “As Low As Reasonably Practical”;
ARCP	Asbestos Removal Control Plan
AWS	Automatic Weather Station
Code of Practice	A practical guide to achieve the standards of health and safety required under the model Work Health and Safety (WHS) Act and model WHS Regulations
DA	Development Approval (DA015/19) issued by Lithgow City Council on the 26th of September 2019
Environmental Aspect	means the interaction, relationship or impact of an operation or activity with the Environment
Environmental Law	relating to the storage, handling or transportation of waste, dangerous goods or hazardous material relating to Workplace health and safety; or which has as one of its purposes or effects the protection of the Environment
Environmental Notice	means any direction, order, demand, license or other requirement from a Government Agency to take action or refrain from taking any action in respect of the Site or the Works in connection with any Environmental Law
EPA	Environment Protection Authority
HESQ	Health Environment Safety Quality
Liberty	Liberty Industrial
SEE	Wallerawang Power Station Demolition Statement of Environmental Effects (SSE) (Aurecon 2018)
Site	means a project site or work area where the company is undertaking activities on behalf of a client
Standards	<i>Standards</i> are published documents setting out specifications and procedure
WWPS	Wallerawang Power Station
DEMP	Demolition Environmental Management Plan
DDR	Decommission, Demolition and Rehabilitation
The Project	The Wallerawang Power Station Decommission, Demolition and Rehabilitation Project
NRAR	Natural Resource Access Regulator
EPA	Environment Protection Authority
EPL 766	Environment Protection Licence number 766

1 REQUIREMENT MATRIX

Development Approval Conditions

Table 1 – Key Air Quality Development Approval Conditions

DCC No	Condition Requirement	Document Reference
Schedule A 1(c)	The applicant is required to prepare and submit to Council for approval the following plans relating to the demolition of the Wallerawang Power Station Site: c) An Air Quality Management Plan	This Plan
Schedule B (7)	Dust suppression is to be used during demolition works to minimise the impacts on the surrounding area	Section 6, Table 4
Schedule B (8)	Measures shall be implemented to minimise wind erosion and dust nuisance in accordance with requirements of the manual "Soils and Construction" 2004 (Bluebook)	Section 6, Table 4
Schedule B (9)	To control dust, all trucks are to be covered when leaving the property. Water is to be available to be sprayed onto the buildings during demolition and onto trucks when they are being loaded.	Section 6, Table 4
Schedule B (10)	No (*blasting and high dust generating activities as per council communications) are to be undertaken on windy days	Section 6, Table 4
Schedule B (10)	<p>The techniques adopted for stripping out and for demolition are to minimise dust into the atmosphere</p> <p>Before commencing work, any existing accumulation of dusts are to be collected placed in suitable containers and removed. Selection of appropriate collection techniques, such as vacuuming or hosing down, shall take account of the nature of the dust and type of hazard it presents (e.g, explosive, respiratory etc)</p> <p>Dust generated during stripping or during the breaking down of the building fabric to removable sized pieces shall be kept damp until it is removed from site or can be otherwise contained. The use of excess water for this purpose is to be avoided</p> <p>It should be borne in mind, that in certain environments and under certain stimuli, deposits of combustible dust on beams, machinery and other surfaces may be subject to flash fires and suspension of combustible dusts in the air can cause them to explode violently</p>	Section 6, Table 4

2 INTRODUCTION

2.1 PURPOSE

This Air Quality Management Plan (AQMP) has been prepared by Liberty Industrial (Liberty) for the Wallerawang Power Station Demolition

It is the policy of Liberty to ensure a high standard of care to minimise the impact on the environment, immediate work sites, and the local community.

This AQMP addresses the applicable requirements of:

- Development Approval (DA) (DA015/19) issued by Lithgow City Council on the 26th of September 2019.
- Wallerawang Power Station Demolition Statement of Environmental Effects (SSE) (Aurecon 2018)
- Applicable New South Wales and Australian Environmental Legislation;

2.2 REVISION CHANGES OF THIS AQMP

Changes to the AQMP shall only be implemented with the approval of the Project Manager.

This AQMP will be revised to address learnings identified through continual improvement and as necessary.

2.3 DISTRIBUTION LIST

A controlled copy of this AQMP is to be distributed to the following parties for comment and review

- Liberty Industrial Directors, Senior Management, Project Manager, Project Engineer, HSEQ Manager and Site Supervisors;
- Greenspot Project Managers
- Lithgow City Council .

Following review, it will be submitted to the council as required to meet the DA.

Once the AQMP has been approved, a hardcopy will be kept onsite and updated as required by the Project Environmental Advisor, as well as a controlled PDF version being uploaded into the project management database. All Contractors and Subcontractors will be provided a copy to ensure their works are consistent with this AQMP.

2.4 LEGAL AND OTHER REQUIREMENTS

2.4.1 Legislation

Legislation relevant to air quality management include:

- Environmental Planning and Assessment Act 1979 (EP&A Act);
- Protection of the Environment Operations Act 1997 (POEO Act);
- Protection of the Environment Operations (Clean Air) Regulation 2010; and
- National Greenhouse and Energy Reporting Act 2007;
- *Protection of the Environment Operations (Waste) Regulation 2014*;
- National Environment Protection (Ambient Air Quality) Measure 2003 (NSW);
- National Environment Protection (Diesel Vehicle Emissions) Measure 2009 (NSW).

2.5 GUIDELINES AND STANDARDS

The main guidelines, specifications and policy documents relevant to this AQMP include:

- National Environment Protection Council's (NEPC) – National Environment Protection Measure (NEPM) for Ambient Air Quality;
- AS 3580.1.1:2007 Methods for sampling and analysis of ambient air: Part 1.1: Guide to siting air monitoring equipment;
- AS 3580.10.1:2003 Methods for sampling and analysis of ambient air: Method 10.1: Determination of particulate matter – Deposited matter – Gravimetric method;
- AS/NZS 3580.12.1:2001 Methods for sampling and analysis of ambient air - Determination of light scattering - Integrating Nephelometer method;
- Action for Air (NSW EPA, 1998);
- Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (Department of Environment and Conservation NSW (DEC), 2005);
- Code of Practice: How to Safely Remove Asbestos;
- NSW Coal Mining Benchmarking Study: Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining (OEH 2011).

3 PROJECT BACKGROUND

Wallerawang Power Station (WWPS) is a coal-fired power station owned by EnergyAustralia NSW Pty Ltd (EnergyAustralia) that is currently undergoing decommissioning. WWPS is located adjacent to the township of Wallerawang, approximately 14 kilometres (km) from Lithgow and 160 km west of Sydney, in the Central Tablelands of NSW. WWPS began operation in 1957, initially consisting of four 30 megawatt (MW) units, with two 60 MW units being added in 1961 and 500 MW units being added in 1976 and 1980. The 30 MW and 60 MW units were decommissioned in the 1990's and their above ground infrastructure was salvaged or demolished at that time.

In November 2014, EnergyAustralia announced it would permanently close WWPS due to ongoing reduced energy demand, lack of access to competitively priced coal and the power station's high operating costs. The WWPS has since been deregistered as an electricity generation facility with EnergyAustralia commencing some decommissioning, demolition and rehabilitation (DDR) activities. The remainder of the DDR Project (the Project) is to be being carried out by, Greenspot Wallerawang Pty Ltd (Greenspot) as Greenspot completing the acquisition of the old Wallerawang Power Station in September 2020 with Liberty as the principal contractor.

The DDR program will take approximately two years to complete, commencing on site in the first half of 2021.

Under current plans, key infrastructure on site will be retained including the turbine hall structure, cooling tower, coal dome and administration building.

In parallel with completing the DDR program, Greenspot will develop an industrial park concept plan for the Power Station site and buffer lands, seeking approvals for a variety of uses.

Greenspot's primary objective is to revitalise what would otherwise be a stranded asset, and in doing so, to generate opportunities for economic activity and employment. The desired outcome is a hub of activity of which the local community and the broader region is justifiably proud.

3.1 PROJECT OBJECTIVES

The objectives of the Project are to:

- maximises the recovery of valuable resources in a safe, environmentally-compliant, cost effective and timely manner
- protect the workforce from exposure to hazards and risks
- protect the surrounding environment and community from avoidable impacts in compliance with the planning approvals.

Liberty as a licensed demolition contractor will prepare and implement a variety of management plans and a demolition work plan consistent with AS2601-2001.

3.2 GENERAL DESCRIPTION OF THE SITE AND WORK DOMAINS

The descriptions of the site and work domains is provided in Section 2.1 of the DEMP

4 EXISTING ENVIRONMENT

4.1 LOCATION AND SITE CONTEXT

WWPS is in the Central West Region of NSW, immediately north-east of the township of Wallerawang. The site covers an area of approximately 80 hectares (ha) and is bound by the Main Western Railway Line, Main Street and Castlereagh Highway. Cocks River bisects the site and flows southward into Lake Wallace, a man-made reservoir that was used to provide cooling water to WWPS (Figure 2).

The site has been progressively developed since the first stages of the WWPS were constructed in 1957 and is a highly modified industrial area with few environmental features. The areas surrounding the WWPS include a mix of residential, industrial, buffer areas and rural land uses. Several abandoned open cut mines and operating underground coal mines are near the site.

Most of the land surrounding the site is buffer land owned by EnergyAustralia. There are also two new switchyards a deconstructed switchyard owned by TransGrid next to the site. There are a few transmission lines and easements, and right of access corridors to TransGrid properties surrounding the site. Mount Piper Power Station, also owned and operated by EnergyAustralia, is approximately five km north-west of the site.

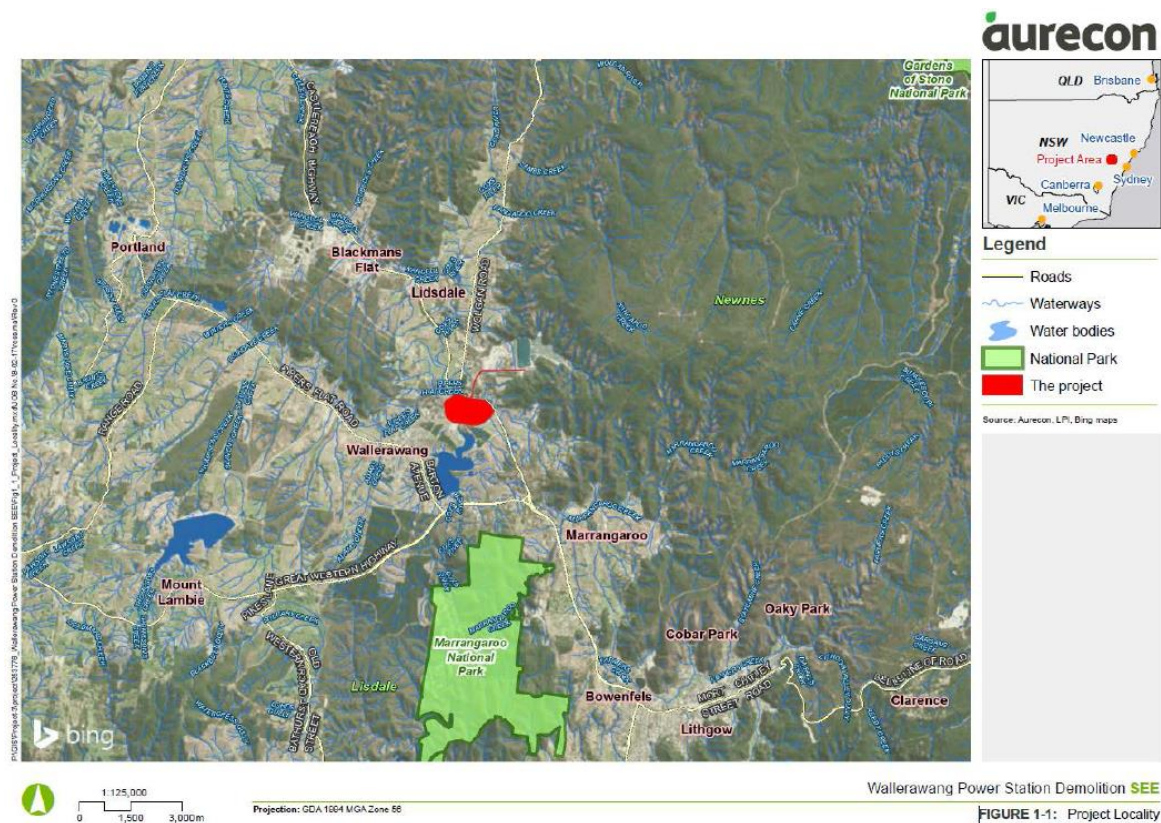


Figure 1 WWPS Location

4.2 AIR QUALITY

The National Pollutant Inventory is maintained by the Department of the Environment and Energy and contains emission estimates for 93 toxic substances around Australia that are important due to their possible effect on human health and the environment. The inventory includes the source and location of these emissions.

A search of the National Pollutant Inventory was undertaken in September 2018 for the suburb of Wallerawang (postcode 2845) in Wallerawang Power Station Demolition Statement of Environmental Effects (Aurecon 2018). The search indicates that the existing air quality in Wallerawang is primarily influenced by emissions from coal mining, with a total of 70 diffuse and three industry-specific emitted substances identified. Diffuse emission sources in the locality include service stations, motor vehicles, barbecues, railways, lawn mowing, recreational boating, domestic/commercial solvents and aerosols, windblown dust and bushfires. The most commonly reported substances included manganese, mercury and zinc emissions from industry and total volatile organic compounds, toluene, benzene, xylenes and cadmium from diffuse sources.

The Project area is in a semi-rural area with a small number of nearby residential and commercial land uses. The closest residential properties are located around 400 metres to the north of the site, on Duncan Street, Lidsdale. A mixture of open grassed space, roads and trees are located between the site and these residential properties.

The daily air quality is likely to be influenced by the prevailing weather and climatic conditions, bushfires and other natural factors such as pollen.

4.3 METROLOGICAL CONDITIONS

4.3.1 Wind

The closest BOM wind meteorological station is Mount Boyce approximately 40 km away with a height above sea level of 1080 m, which comparatively is similar to WWPS which has an approximate elevation of 900 m above sea level. The Mount Boyce annual rose is shown in Figure 3 which shows predominantly westerly and easterly winds strongest from May to October.

Wind Rose

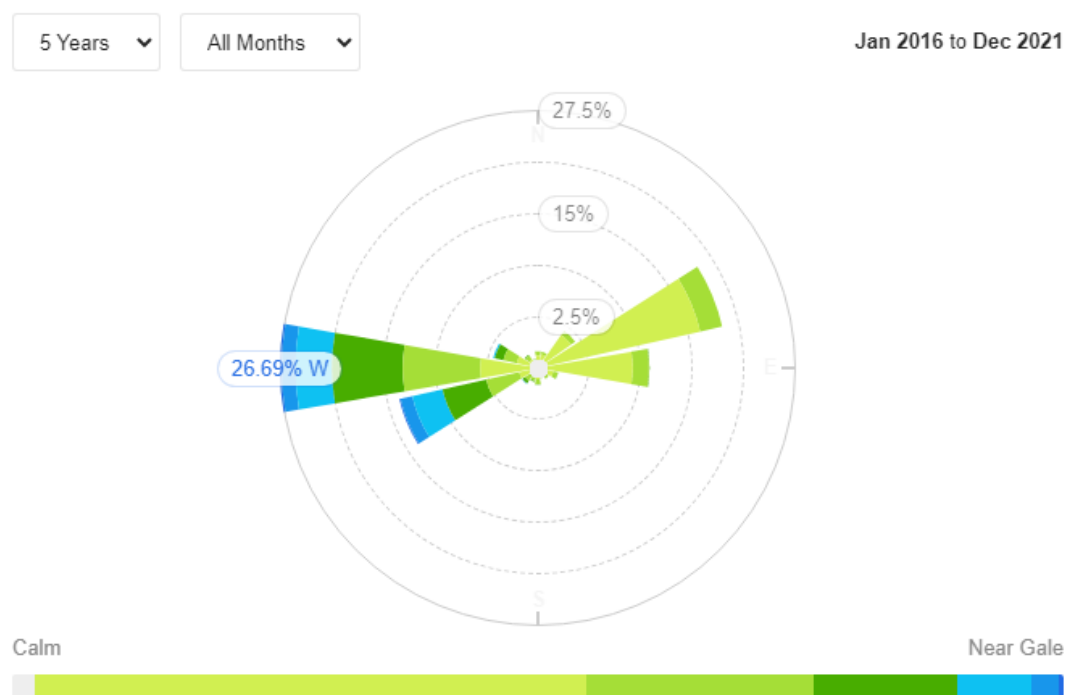


Figure 2 – Annual Wind Rose (Mount Boyce)

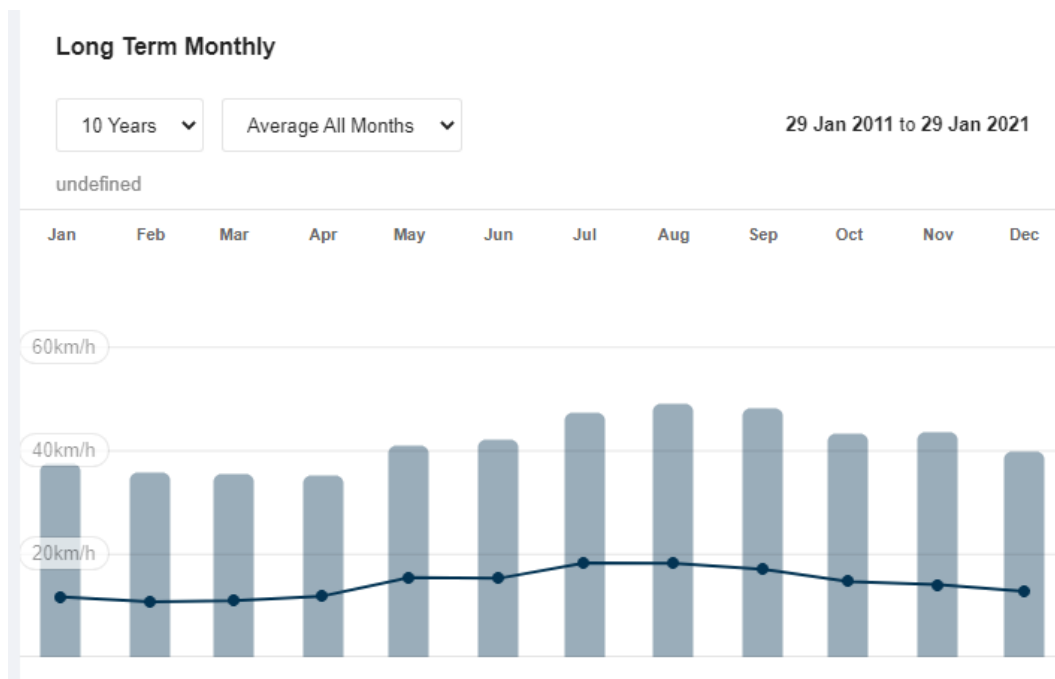


Figure 3 - Wind Speed Long Term Monthly Average (Mount Boyce)

4.3.2 Rainfall

Rainfall reduces dust generation potential and helps to remove airborne pollutants. Based on the Observatory at the Wallerawang power station (BOM data), the wettest months generally occur during January and February with rainfall in these months approx. 85 mm with rainfall in the driest months being approx. 40 mm in Winter.

The monthly average temperatures at Wallerawang are 26.8 °C in summer and 13.7 °C in winter.

4.4 SENSITIVE RECEIVERS

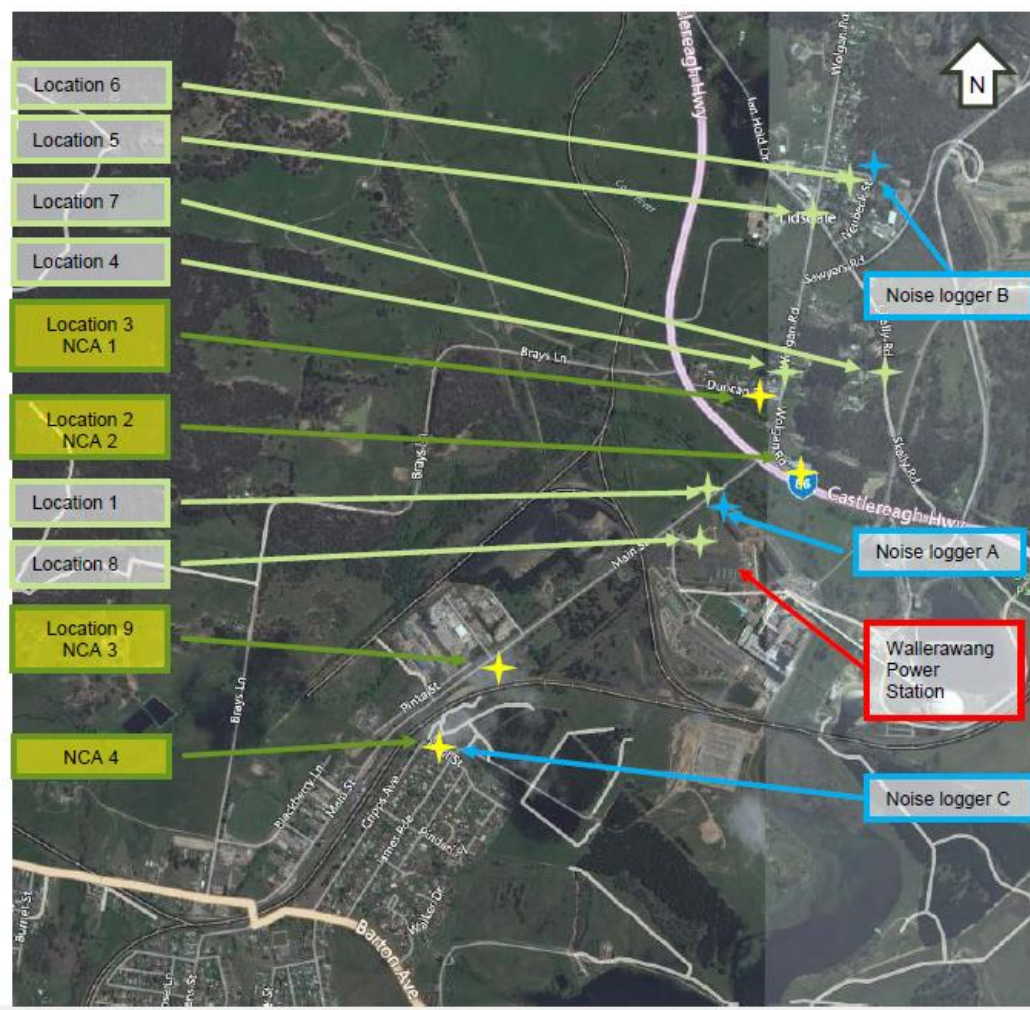
Areas adjacent to the site generally consist of bushland, vacant cleared lands and residential, semirural and rural residential environments with dominant noise sources being road traffic, industrial and agricultural activities.

Key existing noise sources in the areas surrounding WWPS generally include major roads, such as Castlereagh Highway (B55), Great Western Highway (A32), local roads such as Main Street, Pipers Flat Road and Barton Avenue, and industrial activities associated with nearby power stations and coal mines.

There are only a few sensitive receivers near the proposed demolition work sites. Table 4-3 identifies noise catchment areas (NCAs) and representative receivers within these NCAs. The nearest residential receiver is approximately 400 metres to the north of the site, on Duncan Street, Lidsdale.

Table 2 - Sensitive Receiver Summary

Receiver ID	Representative Location	Distance from WPPS (m)	Comments
NCA 1	1 Duncan Street, Lidsdale NSW	417	Representative location for residences along Duncan Street, Lidsdale NSW.
NCA 2	United Petrol Pump	248	Commercial property.
NCA 3	121 Main Street, Wallerawang NSW	880	Representative location for the Black Gold Country Cabins Motel.
NCA 4	55 Cripps Avenue, Wallerawang NSW	1280	Representative location for residences on southern side of Heel Street and Blaxland Street, Wallerawang NSW.



5 POTENTIAL IMPACTS

The described in the SEE the project is not expected to cause a noticeable increase to any of the regional air pollutants described in sections 4.1.

Despite this the proposed demolition works have the potential to cause airborne dust, depending on the methodologies utilised and the prevailing weather conditions at the time. Dust emissions have the potential to impact nearby sensitive receivers.

Table 3 – Potential Air Impacts

Activity	Air Emission Cause	Potential Impact
Utility services and stormwater	Excavation of Utilities	Dust Generation
	Operation of Plant, Machinery and Vehicles	Vehicle Emissions

Activity	Air Emission Cause	Potential Impact
identification, protection, relocation and/or termination	Operation of Plant, Machinery and Vehicles	Vehicle Emissions
Demolition of existing infrastructure and buildings	Demolition using large excavators, trough induced collapse and deconstruction techniques	Dust Generation
	Sorting of demolition waste using excavators	
	Loading of Demolition Waste for transport using excavators and loading equipment	
	Removal of Concrete Building Slabs and roads with excavators and breaking equipment	
	Operation of Plant, Machinery and Vehicles	Vehicle Emissions
	Removal of Asbestos from buildings to be demolished	Potential Asbestos Fibre Release (from the removal of asbestos building materials)
	Blasting activities	Dust Generation

6 ENVIRONMENTAL MITIGATION MEASURES

Methods for management of emissions would be incorporated into Project inductions, training toolboxes and pre-start talks. Mitigation measures for the project are discussed below in Table 3 and Table 4.

These mitigation measures are designed to be absolute measures, that is produce no dust or odours and therefore additional implementation measures will not be required for the project

Table 4 - Air Quality Mitigation Measures

Reference NO	Action	Responsibility	Timing
General			
AQ-1	<p>Air Quality Management Plan shall be prepared as part of the demolition EMP prior to the start of demolition works. The measures contained in the Air Quality Management Plan to prevent dust emissions shall be reviewed prior to commencement of the Project to ensure they adequately address the risks associated with the proposed demolition works and include the safeguards identified in this SEE. The Air Quality Management Plan shall:</p> <ul style="list-style-type: none"> ▪ identify potential sources of dust ▪ identify dust sensitive receivers ▪ include an environmental risk assessment that identifies the demolition activities with the highest risk of causing dust emissions that could impact sensitive receivers ▪ identify mitigation measures to be implemented to avoid and minimise dust emissions, including measures that respond to the greater risk of dust emissions being generated during dry and/or windy weather conditions ▪ record and identify corrective measures for incidents where excessive dust is generated ▪ include a progressive stabilisation/ rehabilitation strategy for disturbed surfaces with the aim of minimising exposed surfaces. 	Project Manager	Prior to works commencing
AQ-2	Pre-wetting and use of water sprays to control dust emissions where appropriate during major demolition activities.	Site Supervisor	Project Duration

AQ-3	Scheduling the controlled demolition works to occur when weather conditions are favourable to avoid strong winds where possible	Site Supervisor	Project Duration
AQ-4	Carry out regular inspections to monitor compliance with the air quality management strategy	Site Supervisor	Project Duration
AQ-5	Progressively stabilise completed areas using polymer or ground cover	Site Supervisor	Project Duration
AQ-6	Design and implement area specific Erosion and Sediment Control Plans (ESCP) progressively as the works develop and measures shall be implemented to minimise wind erosion and dust nuisance in accordance with requirements of the manual "Soils and Construction" 2004 (Bluebook)	Site Supervisor	Project Duration
AQ-7	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.	Site Supervisor	Project Duration
AQ-8	Display the head or regional office contact information.	Site Supervisor	Project Duration
AQ-9	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.	Site Supervisor	Project Duration
AQ-10	Make the complaints log available to the local authority when asked.	Site Supervisor	Project Duration
AQ-11	Record any incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation.	Site Supervisor	Project Duration
AQ-12	Perform daily on-site and off-site inspections where receptors (including roads) are nearby, to monitor dust, record inspection results	Site Supervisor	Project Duration
AQ-13	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.	Site Supervisor	Project Duration
AQ-14	Cover, or stabilise stockpiles prevent wind erosion where they are inactive for periods greater than 2 weeks.	Site Supervisor	Project Duration

AQ-15	Ensure all on-road vehicles comply with relevant vehicle emission standards, where applicable	Site Supervisor	Project Duration
AQ-16	Ensure all vehicles switch off engines when stationary and safe to do so - no idling vehicles	Site Supervisor	Project Duration
AQ-17	Vehicles will only travel on designated roads onsite to the maximum extent possible. The speed will be limited onsite to 20km/hr.	Site Supervisor	Project Duration
AQ-18	Vehicle movements would be limited to designated entries and exits, haulage routes and parking areas. The location of these will be detailed in the site induction. Project site exits would be fitted with hardstand material, rumble grids or other appropriate measures to limit the amount of material transported offsite (where required);	Site Supervisor	Project Duration
AQ-19	Applying water (or alternative measures) to exposed surfaces that are causing dust generation. Apply an adequate amount of water to internal access roadways to mitigate wheel generated dust and to work areas so they do not generate dust.	Site Supervisor	Project Duration
AQ-20	Use water-assisted dust sweeper(s) on the access and local roads to remove, as necessary, any material tracked out of the site	Site Supervisor	Project Duration
AQ-21	Application rates would also be related to atmospheric conditions (e.g. prolonged dry periods) and the intensity of construction operations. Paved roads will be regularly swept and watered when necessary;	Site Supervisor	Project Duration
AQ-22	Ensure effective water suppression is used during demolition operations.	Site Supervisor	Project Duration
AQ-23	Loads will be appropriately covered on trucks transporting material to and from the construction site. Tailgates will be fixed on road transport trucks before loading and immediately after unloading;	Site Supervisor	Project Duration
AQ-24	Minimise drop heights from loading shovels and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate	Site Supervisor	Project Duration
AQ-25	Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	Site Supervisor	When Required

AQ-26	No burning of wastes or other materials is permitted on site.	Site Supervisor	Project Duration
AQ-27	Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).	Site Supervisor	Project Duration
AQ-28	The techniques adopted for stripping out and for demolition are to minimise dust into the atmosphere	Site Supervisor	Project Duration
AQ-29	Before commencing work, any existing accumulation of dusts are to be collected placed in suitable containers and removed. Selection of appropriate collection techniques, such as vacuuming or hosing down, shall take account of the nature of the dust and type of hazard it presents (e.g, explosive, respiratory etc)	Site Supervisor	Project Duration
AQ-30	Dust generated during stripping or during the breaking down of the building fabric to removable sized pieces shall be kept damp until it is removed from site or can be otherwise contained. The use of excess water for this purpose is to be avoided	Site Supervisor	Project Duration
AQ-31	To control dust, all trucks are to be covered when leaving the property. Water is to be available to be sprayed onto the buildings during demolition and onto trucks when they are being loaded.	Site Supervisor	Project Duration
Explosive Demolition Events			
AQ-32	Conduct engineering modelling for explosive events, to ensure fall in location away from boundaries	Site Supervisor	Project Duration
AQ-33	Pre wet areas during demolition events	Site Supervisor	Project Duration
AQ-34	Remove dust (Wash down) unit precipitators and boilers prior to explosive demolition	Site Supervisor	Project Duration
AQ-35	Conduct dust suppression (misting) during explosive events	Site Supervisor	Project Duration

7 AIR QUALITY RISK ASSESSMENT ASPECTS AND IMPACTS

7.1.1 Risk Assessment Matrix

The following risk assessment matrix has been used to determine the risk to air quality relevant to the Demolition relevant to the WWPS demolition and decommissioning works. The level of risk determined from the matrix identifies the level of control measures required for that air quality aspect in relation to highest risk of causing dust emissions that could impact sensitive receivers

Table 5 - Risk Assessment Matrix

Likelihood	Consequence				
	1 - Low	2 - Minor	3 - Moderate	4 - Major	5 - Critical
A - Almost certain	High (11)	High (16)	Extreme (20)	Extreme (23)	Extreme (25)
B - Likely	Moderate (7)	High (12)	High (17)	Extreme (21)	Extreme (24)
C - Possible	Low (4)	Moderate (8)	High (13)	Extreme (18)	Extreme (22)
D - Unlikely	Low (2)	Low (5)	Moderate (9)	High (14)	Extreme (19)
E - Rare	Low (1)	Low (3)	Moderate (6)	High (10)	High (15)

Tolerable	ALARP	ALARP	INTOLERABLE
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7.1.2 Risk Matrix Explanation

Table 6 - Risk Matrix Explanation

Probability			Consequences		
A	Almost Certain	Expected to occur, quite common.	25	Critical	Major environmental harm. e.g. critical pollution incident causing significant damage or potential to health or the environment. Fines and prosecution likely.
B	Likely	Will probably occur, has happened.	21	Major	Long term or serious environmental damage. Numerous complaints received. Potential for prosecution. Loss of reputation
C	Possible	Might occur at some time.	13	Moderate	Moderate environmental impact. Will cause complaints. Possible fine.
D	Unlikely	Could occur at some time although unlikely.	5	Minor	Minimal environmental harm. Potential for complaints. Fine unlikely.
E	Rare	Might occur at some time in exceptional circumstances.	1	Low	Little or no environmental harm. Little potential for fines or complaints.

An air quality project risk has been conducted for the project and is detailed in Table 7.

Table 7 - Air Quality (Dust) Risk Assessment

#	Work Activity	Potential Hazards	Initial Risk	Safeguards/controls How can the risk be minimised?	Residual Risk	Responsibility
1	<ul style="list-style-type: none"> Demolition using large excavators, through induced collapse and deconstruction techniques Sorting of demolition waste using excavators Loading of demolition waste for transport using excavators and loading equipment Removal of concrete building slabs and roads with excavators and breaking equipment 	Generation of dust impacting nearest receivers	17	Section 6, Table 4 - Air Quality Mitigation Measures	5	Site Supervisor Project Manager
2	Explosive demolition events	Generation of dust impacting nearest receivers	17	Section 6 Table 4 - Air Quality Mitigation Measures, specifically; AQ-32 to AQ-35,	5	Site Supervisor Project Manager

8 COMPLIANCE MANAGEMENT

8.1 ROLES AND RESPONSIBILITIES

Specific responsibilities for the implementation of the environmental controls are detailed in Table 4 and Table 7 of this document of this document.

8.2 TRAINING

All workers and visitors shall undergo the following inductions/trainings prior to commencing work:

- Liberty Industrial Project Specific Induction
- Air Emission Awareness training. This will outline the mitigation measures as described in Table 5 of this plan to ensure that site staff are aware of the requirements and their individual responsibilities for air quality management

All personnel, including employees, contractors and sub-contractors, are required to complete a project induction containing relevant environmental information before they are authorised to work on the project. Air quality specific information to be covered in toolbox talks and in pre-work meetings will include:

- Obligations under the project conditions of the project development approval including the identification of potential sources of air pollutants of concern and the mitigation measures to be implemented, including measures;
- Responsibilities pertaining to the management of air quality under the Protection of the Environment Operations Act 1997 and Protection of the Environment Operations (Clean Air) Regulation 2010;
- Typical activities that may impact air quality and associated environmental safeguards; and
- Incident response procedures

Records of all training activities, including inductions, will be maintained. Records will include the name and role of the attendee, the name of the course and, where applicable, reference to the document-controlled version of the material presented, and a copy of the assessment completed.

9 MONITORING

Monitoring shall be conducted as per section 5 of the EPL.

Liberty while onsite and conducting works will adopt the summary table (Table 8) for the air monitoring details. KPI's for the project in regards to air quality has been developed and are located in Table 9 Air Quality KPIs. All results from daily inspections will be kept by the Site Supervisor onsite.

Table 8 - Air Monitoring Details Summary

Monitoring Details	Area	Responsibility	Frequency
Weather – Meteorological Data Including daily rainfall, temperature, relative humidity, wind (direction and speed)	All	Environment Advisor	Daily from BOM data
Dust – Visible Visual observation during daily site inspections, and by supervisors as works progress	All	Site Supervisors (During Works)	Daily and during works
Dust – Explosion Events Attended real time dust monitors will be used at sensitive receivers upwind from the infrastructure being demolished t	Closest upwind sensitive receivers' location	Project engineers/consultants	During
Plant Daily Plant Inspection	All	Plant Operators	Daily

Table 9 - Air Quality KPI

Air Quality Indicator	KPI	Recording
Dust	No Visible dust leaving the boundaries	Work Permit Weekly Environmental Audit

	No Complaints received over the duration of the project	Complaints Database
Asbestos	All monitoring results for the project below a fibre count of 0.01 f/ml	Asbestos Air Monitoring Register
Plant	No Excessive Smoke	Daily Plant Inspections
	All Plant Maintained as Per Manufactures Specification	Plant Maintenance Records

9.1 WEATHER

Weather can have a large impact on Air Quality. As wind speeds increase and with higher temperatures, there exists a greater potential that dust and volatiles will be generated.

Condition L5.3 of the EPL requires that demolition works ceases if wind speeds are in excess of 39 km per hour as measures at licence point 24

Forecasted weather conditions will be based on Bureau of Meteorology (BoM) information and reported in pre-start meeting or as conditions change broadcast over site radio. A weather station will be installed at a representative location on site to monitor real time weather conditions throughout the project.

9.2 DUST

The performance indicator for dust will be no visible dust leaving the site boundaries and/or no visible dust being generated that has the potential to affect the workers onsite.

Any exceedance of this would trigger a response as outlined in Section 6.

Monitoring data will be used to assess compliance with requirements.

9.3 PLANT

Pre-start Construction plant inspections will be conducted to ensure equipment is well maintained and serviced so that vehicular emissions remain within relevant air quality guidelines and standards. Equipment observed to be creating excessive emissions will be replaced or serviced.

9.4 COMPLAINANTS

All complaints will be responded to and addressed in a suitable time frame which reflects the nature of the complaint with acknowledgement within 24 hours of receiving the complaint.

9.5 CORRECTIVE ACTION

In the event that KPI's are favourable corrective action measures will be implemented as detailed in Table 10.

Plant and materials used in vapour and dust suppression techniques will be kept on standby to be used as required.

Table 10 - KPI Corrective Action Table

Air Quality Indicator	KPI	Corrective Action	Corrective Action Timeframe
Dust	No visible dust leaving the site boundaries	Apply dust suppression techniques (i.e. water; use of covers; stabilisation of stockpiles)	As soon as non-conformance is received
	No complaints received over the duration of the project	Once complaint is received, conduct investigation	As outlined in section 8.4
Asbestos	All monitoring results for the project are below a fibre count of 0.01 f/ml	Cease works and review asbestos control measures	As soon as monitoring result is received
Plant	No excessive smoke	Cease using plant and consult mechanic. Remove from service until issue is resolved	As soon as non-conformance is received
	All plant maintained as per Manufacturers specification	Remove plant from service until issue is resolved	As soon as non-conformance is received