



SECTION 9

ABBREVIATIONS, ACRONYMS AND GLOSSARY

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9 ABBREVIATIONS, ACRONYMS AND GLOSSARY

9.1 ABBREVIATIONS AND ACRONYMS

AEMR	Annual Environmental Management Report	BoM	Commonwealth Bureau of Meteorology
AEP	Annual Exceedance Probability	CCC	Community Consultative Committee
AHD	Australian Height Datum	CEEC	Critically Endangered Ecological Community
AHIMS	Aboriginal Heritage Information Management System	CHPP	Coal Handling and Preparation Plant
Ambient Air-NEPM	<i>National Environment Protection (Ambient Air Quality) Measure</i>	cm	centimetres
ANFO	Ammonium nitrate and fuel oil	CO _{2-e}	Carbon dioxide equivalent
ANZEC	Australian and New Zealand Environment Council	Credit Calculator	Credit Calculator for Major Projects and BioBanking
ANZECC	Australian and New Zealand Environment and Conservation Council	CSIRO	Commonwealth Scientific and Industrial Research Organisation
Approved Methods	<i>Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales</i>	CSR Report	Corporate and Social Responsibility Report
ARI	Average Recurrence Interval	dB	decibel
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand	dBA	A-weighted decibels
ARRB	ARRB Group	dB L	linear decibels
ARTC	Australian Rail Track Corporation	DEC	NSW Department of Environment and Conservation (now OEH)
AS	Australian Standard	DECC	NSW Department of Environment and Climate Change (now OEH)
As	Arsenic	DECCW	NSW Department of Environment, Climate Change and Water (now OEH and DPI Water)
AWS	Automatic weather station	Department of Industry	NSW Department of Industry, Skills and Regional Development
Best Practice Report	<i>NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining</i>	DITR	Commonwealth Department of Industry, Tourism and Resources
Binjang WWHS	Binjang Wellington Wiradjuri Heritage Survey	DoP	NSW Department of Planning (now DP&E)
		DotE	Commonwealth Department of the Environment
		DP&E	NSW Department of Planning and Environment

DP&I	NSW Department of Planning and Infrastructure (now DP&E)	ha	hectares
DPI	NSW Department of Primary Industries	HVAS	High Volume Air Sampler
DRE	NSW Division of Resources and Energy	ICOMOS	International Council on Monuments and Sites
EC	Electrical Conductivity	<i>i.e.</i>	that is
ECA	Enhancement and Conservation Area	Infrastructure SEPP	<i>State Environmental Planning Policy (Infrastructure), 2007</i>
EEC	Endangered Ecological Community	INP	<i>NSW Industrial Noise Policy</i>
e.g.	for example	KEPCO	KEPCO Bylong Australia Pty Ltd
EIS	Environmental Impact Statement	kg	kilograms
EL	Exploration Licence	km	kilometre
EP&A Act	<i>NSW Environmental Planning and Assessment Act, 1979</i>	km ²	square kilometre
EP&A Regulation	<i>NSW Environmental Planning and Assessment Regulation, 2000</i>	kV	kilovolt
EPA	NSW Environment Protection Authority	L _{Aeq}	equivalent continuous noise level
EPBC Act	<i>Commonwealth Environment Protection and Biodiversity Conservation Act, 1999</i>	L _{AN}	noise exceedance level
EPL	Environment Protection Licence	LEP	Local Environmental Plan
ESD	Ecologically Sustainable Development	LFA	Landform Function Analysis
ETL	Electricity Transmission Line	LGA	Local Government Area
<i>et. al.</i>	and others	m	metre
FM Act	<i>NSW Fisheries Management Act, 1994</i>	m/s	metres per second
g/m2/month	grams per square metre per month	Mbcm	million bank cubic metres
GDE	Groundwater Dependent Ecosystem	MGATSIC	Murong Gialinga Aboriginal & Torres Strait Islander Corporation
GHG Protocol	Greenhouse Gas Protocol	MIC	Maximum Instantaneous Charge
		Mining SEPP	<i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries), 2007</i>
		ML	Mining Lease
		ML/day	megalitres per day
		ML/year	megalitres per year

MLA	Mining Lease Application	NPWS	National Parks and Wildlife Service
mm	millimetre	NSESD	National Strategy for Ecologically Sustainable Development
mm/s	millimetres per second	NSW	New South Wales
Mo	Molybdenum	NSW Offset Policy	NSW <i>Biodiversity Offsets Policy for Major Projects</i>
Moolarben Coal	Moolarben Coal Operations Pty Ltd and Moolarben Coal Mines Pty Ltd	NTSCORP	Native Title Services Corporation Limited
MOP	Mining Operations Plan	NTU	Nephelometric turbidity unit
Mt	Million tonnes	OEH	NSW Office of Environment and Heritage
Mt CO ₂ -e	Million tonnes of carbon dioxide equivalent	PAD	potential archaeological deposits
Mtpa	Million tonnes per annum	PAF	potentially acid forming
Mudgee LALC	Mudgee Local Aboriginal Land Council	PAF-LC	potentially acid forming – low capacity
MWRC	Mid-Western Regional Council	Peabody Energy	Peabody Energy Australia Pty Limited
NAF	non-acid forming	PEL	Petroleum Exploration Licence
NARClIM	the NSW and ACT Regional Climate Modelling Project	PM ₁₀	particulate matter with an equivalent aerodynamic diameter of 10 µm or less
Navin Officer	Navin Officer Heritage Consultants	PM _{2.5}	particulate matter with an equivalent aerodynamic diameter of 2.5 µm or less
NEWCO	North East Wiradjuri Company Ltd	PoEO Act	NSW <i>Protection of the Environment Operations Act, 1997</i>
NGA Factors	National Greenhouse Accounts Factors, July 2011	ppm	parts per million
NGER Act	Commonwealth <i>National Greenhouse and Energy Reporting Act, 2007</i>	PVS	Peak Vector Sum
NHMRC	National Health and Medical Research Council	RAP	Registered Aboriginal Party
Niche	Niche Environment and Heritage	RCP4.5	Emission scenario assuming a slow reduction in emissions that stabilises CO ₂ concentration at about 540 ppm by 2100
NOW	NSW Office of Water (now DPI Water)	RCP8.5	Emission scenario assuming a slow reduction in emissions that stabilises CO ₂ concentration at about 940 ppm by 2100
NO _x	oxides of nitrogen		
NPI	National Pollutant Inventory		
NPW Act	NSW <i>National Parks and Wildlife Act, 1974</i>		

RFS	Rural Fire Service	TEOM	Tapered Element Oscillating Microbalance Analyser
RMS	NSW Roads and Maritime Services	the Project	the Wilpinjong Extension Project
ROM	Run-of-mine	TSC Act	NSW <i>Threatened Species Conservation Act, 1995</i>
RTA	NSW Roads and Traffic Authority	TSP	Total Suspended Particulates
SDS	Safety Data Sheet	UCML	Ulan Coal Mines Limited
Se	Selenium	Voluntary Land Acquisition and Mitigation Policy	NSW Government <i>Voluntary Land Acquisition and Mitigation Policy For State Significant Mining, Petroleum and Extractive Industry Developments</i>
SEARs	Secretary's Environmental Assessment Requirements	WAL	Water Access Licence
SEPP	State Environmental Planning Policy	Wanaruah LALC	Wanaruah Local Aboriginal Land Council
SEPP 33	<i>State Environmental Planning Policy No. 33 – Hazardous and Offensive Development</i>	Water Sharing Plan	Water Sharing Plan for the Hunter Unregulated and Alluvial Sources, 2009
SEPP 44	<i>State Environmental Planning Policy No. 44 – Koala Habitat Protection</i>	WBCSD	World Business Council for Sustainable Development
SEPP 55	<i>State Environmental Planning Policy No. 55 – Remediation of Land</i>	WCPL	Wilpinjong Coal Pty Limited
SEWPaC	Commonwealth Department of Sustainability, Environment, Water, Population and Communities (now DotE)	WNTCAC	Warrabinga Native Title Claimants Aboriginal Corporation
Significant Impact Guidelines for Water Resources	Significant Impact Guidelines 1.3: Coal seam gas and large coal mining developments – impacts on water resources	WRI	World Resources Institute
State and Regional Development SEPP	<i>State Environmental Planning Policy – State and Regional Development), 2011</i>	WVWAC	Wellington Valley Wiradjuri Aboriginal Corporation
t CO _{2-e} /t	tonnes of carbon dioxide equivalent per tonne	%	percent
		°C	degrees Celsius
		µm	micrometre
		µg/m ³	micrograms per cubic metre
		µS/cm	microSiemens per centimetre
TAPM	The Air Pollution Model		
TDS	Total Dissolved Solids		
TEM	Transient Electromagnetic		

9.2 GLOSSARY

Alluvial

A general term for clay, silt, sand and gravel transported by water and deposited on the bed of a flood plain, river or stream.

Alluvium

Sediment (gravel, sand, silt, clay) transported by water (i.e. deposits in a stream channel or floodplain).

Ambient air quality

The all-encompassing air quality associated with a given environment. It is the cumulative result of emissions (e.g. dust, particulates) from many sources, both near and far.

Ambient noise

The all-encompassing noise associated with a given environment. It is the cumulative result of sounds from many sources, both near and far.

Amenity

Useful and enjoyable quality.

Aquatic

Living in or on water, or concerning water.

Aquifer

A sub-surface rock formation containing water in recoverable quantities.

Average recurrence interval (ARI)

The expected value or average value of the periods between exceedances of a given event magnitude. A term used in water engineering. Also known as "return period".

Backfilling

The refilling of cavities created during mining with waste rock or rejects.

Background

The condition (e.g. noise levels) already present in an area before the commencement of a specific activity.

Baseflow

The discharge of sub-surface water into a stream (i.e. groundwater seepages).

Baseline monitoring

Monitoring conducted over time to collect a body of information to define specific characteristics of an area (e.g. species occurrence or noise levels) prior to commencement of a specific activity.

Assessment Bilateral Agreement

The agreement signed by the NSW and Commonwealth Governments to co-assess Development Applications.

Biological diversity

The diversity of different species of plants, animals and micro-organisms, including the genes they contain, in the ecosystem of which they are part.

Box cut

An excavation developed to provide access to a lower level of the open cut.

Bund

An earth, rock or concrete wall or mound constructed to restrict the inflow or outflow of liquids or noise.

Catchment

The entire land area from which water (e.g. rainfall) drains to a specific watercourse or water body.

Conductivity	The measurement of the ability of a substance (either a measure of solid, liquid or gas) to transmit electricity; used to determine the amount of salt in a soil sample.	Depreciation	The loss in value of capital goods as a result of wear and tear, obsolescence, etc.
Confluence	The junction of two streams.	Drawdown	The localised lowering of groundwater level.
Conveyor	Fixed mechanical apparatus consisting of a continuous moving belt used to transport coal from one place to another.	Ecologically Sustainable Development (ESD)	Development that improves the quality of life, in a way that maintains the ecological processes on which life depends.
Cross-section	A two-dimensional diagram of an object presented as if the object had been cut along its length.	Ecosystem	An interacting system of animals, plants, other organisms and non-living parts of the environment.
Crusher	That part of a processing plant where the material is mechanically crushed into smaller pieces.	Electrical Conductivity (EC)	The ability of a substance (either solid, liquid or gas) to transmit electricity.
Cyclone	A conical vessel that uses centrifugal action to separate particulate matter from air to water.	Embankment	An embankment is constructed by the placement of a series of progressively higher and narrower earth or rock layers.
dB	Decibel; unit used to express sound intensity.	Emission	The discharge of a substance (e.g. dust) into the environment.
dBA	Decibels (A-weighted scale); unit used for most measurements of environmental noise; the scale is based upon typical responses of the human ear to sounds of different frequencies.	Fault	Major fracture of the earth's crust caused by the relative movement of the rock masses on either side.
dB(L)	Linear decibels; measurable effect of event (e.g. blast) on air pressure including measurement of generated energy which is below the limit of human hearing.	Floristics	The study of the geography of plants, particularly their distribution at different taxonomic levels (i.e. family, genus and species). Patterns of distribution are interpreted in terms of climatic and anthropogenic influence, but above all in terms of earlier continental configurations and migration routes.
Decommissioning	Removal or reuse of infrastructure.		

Greenhouse gases

Gases with potential to cause climate change (e.g. methane, carbon dioxide and non-methane volatile organic compounds). Usually expressed in terms of carbon dioxide equivalent.

Groundwater

All waters occurring below the land surface; the upper surface of the soils saturated by groundwater in any particular area is called the watertable.

Habitat

The particular local environment occupied by an organism.

Hardstand areas

Flat or gently sloping surface that has been engineered such that it is suitable for trafficking by vehicles and/or location of infrastructure.

Hopper

A container/bin used for holding broken ore.

Hydraulic conductivity

A measure of the rate at which water moves through a soil/rock mass. It is the volume of water that moves within a unit of time under a unit hydraulic gradient through a unit cross-sectional area that is perpendicular to the direction of flow.

Hydraulic gradient

The change in static head (i.e. elevation and pressure) per unit of distance in a given direction. (Units: dimensionless).

Hydraulic properties

Parameters which measure the rate at which water moves through a soil/rock mass.

Igneous

A rock which originated as molten magma from beneath the earth's surface and subsequently came to the surface as an extrusion, or remained below ground as an intrusion.

Income

The amount of money or its equivalent received during a period of time in exchange for labour or services, from the sale of goods or property, or as profit from financial investments.

Infrastructure

The supporting installations and services that supply the needs of the Project.

in-situ

A term used to distinguish material (e.g. soils, minerals, fossils, etc.) found in its original position of formation, deposition, or growth, as opposed to transported material.

Interburden

Rock material that separates two economically viable coal seams.

Inter-generational equity

That the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

Intra-generational equity

The concept that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of their own generation.

L_{Aeq}

The equivalent continuous noise level – the level of noise equivalent to the energy-average of noise levels occurring over a measurement period.

Land capability

A method of land use assessment used to estimate the ability of the land to support a particular land use. Classification is based on an assessment of the land's biophysical characteristics.

Lithology

Characteristics of rock including mineral composition, structure, grain-size and arrangement.

Lithosols

A shallow single layer soil showing minimal profile development and dominated by the presence of weathering rock and rock fragments.

Macroinvertebrate

Larger invertebrates (animals without backbones) which can be studied without a microscope.

Mine waste

By-products of mining operations with no economic value.

Mine water

All water used in mining and processing (for dust suppression, in CHPP, etc.).

Mitigation

Measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards.

Overburden

Waste rock material overlying insitu coal that must be removed prior to mining of coal.

Permeability

The ability of a rock or soil to allow fluid to pass through it.

Permian age

The youngest geological period of the Palaeozoic era, covering a span between approximately 290-250 million years.

pH

A measure of the degree of acidity or alkalinity of a solution; expressed numerically (logarithmically) on a scale of 1 to 14, on which 1 is most acid, 7 is neutral, and 14 is most basic (alkaline).

Population

A group of individuals of one species in an area.

Potable water

Water of quality suitable for human consumption.

Rating Background Level (RBL)

The overall single-figure sound background level representing each assessment period (day/evening/night) over the whole monitoring period, and is the level used for assessment purposes.

Recharge

The addition of water to an aquifer, directly from the surface, indirectly from the unsaturated zone, or by discharge from overlying or underlying aquifer systems.

Rehabilitation

The restoration of a landscape and especially the vegetation following its disturbance.

Relative humidity

The ratio of actual moisture in the air to the amount the air could hold if saturated, at a given temperature.

Remnant vegetation

Native vegetation remaining after widespread clearing has taken place.

Riparian

Pertaining to, or situated on, the bank of a body of water, especially a watercourse such as a river.

Run-of-mine (ROM)	Raw coal, stockpiled and used to feed the crusher in a coal handling and preparation plant.	Subsidies	Monetary assistance granted by a government to a person or group in support of an enterprise regarded as being in the public interest.
Runoff	A portion of precipitation (rain, hail and snow) that flows across the ground surface as water.	Subsoil	Soils that underlie the top layer of soil, typically having lower levels of organic matter and associated micro-organisms than in topsoil.
Salinity	The total content of dissolved solids in groundwater or surface water, commonly expressed as parts of dissolved solids per million parts of solution, or milligrams of dissolved solids per litre of solution (mg/L).	Substrate	An underlying layer (e.g. of sediment under water).
Seepage	Liquid or fluid such as water, seeping or flowing from beneath the ground to the surface.	Tailings	Finely ground residue from processing and extraction of product (e.g. coal) from ore.
Spontaneous combustion	Self heating and ignition of a combustible material such as coal.	Taxa	Classification system for biological groups (i.e. genus).
Stakeholder	Any individual, group or organisation that can affect, be affected by, or perceive itself to be affected by the behaviour of a company or an organisation.	Temperature inversion	An atmosphere phenomenon in which air temperature increases with height over a particular interval.
Storativity	The volume of water an aquifer releases from or takes into storage per unit surface area of the aquifer, per unit change in head.	Terrestrial	Living or growing on the land.
Stratigraphic	Stratigraphy – the branch of geology concerned with the origin, composition, sequence, and correlation of rock strata.	Topsoil	The upper or top layer of soil, that typical has higher levels of organic matter and associated micro-organisms.
Strip ratio	Ratio of overburden waste rock material to coal produced from the open cut. The higher the ratio, the more expensive the coal is to extract.	Total suspended particulates (TSP)	Particulate matter suspended in solution of air.
		Transmissivity	A measure of the rate at which water moves through an aquifer of unit width under a unit hydraulic gradient.
		Tributary	A smaller watercourse, which discharges into a larger watercourse.

Waste rock

Uneconomic rock extracted from the ground during mining operation to gain access to the coal.

Weir

A low dam built across a river to raise the water level, divert the water or control its flow.