

Tarrawonga Coal Project

Environmental Assessment

SECTION 9

ABBREVIATIONS, ACRONYMS AND GLOSSARY

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9 ABBREVIATIONS, ACRONYMS AND GLOSSARY

9.1 ABBREVIATIONS AND ACRONYMS

		Box-Gum Woodland EEC	White Box-Yellow Box-Blakely's Red Gum Woodland Endangered Ecological Community
		CCC	Community Consultative Committee
ADG Code	<i>Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission, 2007)</i>	CHPP	Coal Handling and Preparation Plant
AEMR	Annual Environmental Management Report	CL	Coal Lease
AHD	Australian Height Datum	CLM Act	NSW <i>Contaminated Land Management Act, 1997</i>
AHIMS	Aboriginal Heritage Information Management System	cm	centimetre
ANFO	ammonium nitrate and fuel oil	CMA	Catchment Management Authority
ANZECC	Australian and New Zealand Environmental and Conservation Council	CO ₂ -e	carbon dioxide equivalent
Approved Methods	<i>Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DEC, 2005)</i>	Commonwealth Minister	Commonwealth Minister for Sustainability, Environment, Water, Population and Communities
ARI	average recurrence interval	CPP	Coal Preparation Plant
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand	CSIRO	Commonwealth Scientific and Industrial Research Organisation
ARTC	Australian Rail Track Corporation	dB	decibel
As	arsenic	dba	A-weighted decibel
AS	Australian Standard	dB	linear decibel
AS/NZS	Australian Standard/New Zealand Standard	DCCEE	Commonwealth Department of Climate Change and Energy Efficiency
AWS	automatic weather station	DEC	NSW Department of Environment and Conservation (now OEH)
BCPL	Boggabri Coal Pty Ltd	DECC	NSW Department of Environment and Climate Change (now OEH)
BoM	Commonwealth Bureau of Meteorology	DECCW	NSW Department of Environment, Climate Change and Water (now OEH and NOW)
Box-Gum Woodland CEEC	White Box-Yellow Box-Blakely's Gum Grassy Woodland and Derived Red Native Grasslands Critically Endangered Ecological Community	DLWC	NSW Department of Land and Water Conservation
		DNR	NSW Department of Natural Resources
		DoP	NSW Department of Planning (now DP&I)

DP&I	NSW Department of Planning and Infrastructure	EPA	NSW Environment Protection Authority
DPI	NSW Department of Primary Industries	EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act, 1999</i>
DPI-MR	NSW Department of Primary Industries – Mineral Resources (now DRE)	EPI	Environmental Planning Instrument
Draft Gunnedah LEP	<i>Draft Gunnedah Local Environmental Plan 2011</i>	EPL	Environment Protection Licence
Draft Namoi CAP	<i>Draft Namoi Catchment Action Plan 2010-2020 (Namoi Catchment Management Authority, 2010)</i>	EPRG	Environmental Protection and Regulation Group
Draft Porous Rock Groundwater Water Sharing Plan	<i>Draft Water Sharing Plan for the NSW Murray-Darling Basin Porous Rock Groundwater Sources</i>	ERA	Environmental Risk Assessment
DRE	NSW Division of Resources and Energy (within the DTIRIS)	ESD	ecologically sustainable development
DTIRIS	NSW Department of Trade and Investment, Regional Infrastructure and Services	<i>et al.</i>	and others
DUAP	NSW Department of Urban Affairs and Planning	g/m ² /month	grams per square metre per month
EA	Environmental Assessment	GHG Protocol	Greenhouse Gas Protocol (WBCSD and WRI, 2004)
EARs	Director-General's Environmental Assessment Requirements	GL	gigalitres
EC	Electrical Conductivity	Gunnedah LEP	<i>Gunnedah Local Environmental Plan 1998</i>
ECRTN	NSW <i>Environmental Criteria for Road Traffic Noise</i> (EPA, 1999)	H	horizontal
EEO	Energy Efficiency Opportunities	ha	hectare
EEO Act	Commonwealth <i>Energy Efficiency Opportunities Act, 2006</i>	HB	Handbook
e.g.	example	HVAS	high volume air sampler
EL	Exploration Licence	I&I NSW	Industry and Investment NSW
EP&A Act	NSW <i>Environmental Planning and Assessment Act, 1979</i>	ICOMOS	International Council on Monuments and Sites
EP&A Regulation	NSW <i>Environmental Planning and Assessment Regulation, 2000</i>	i.e.	that is
		Infrastructure SEPP	<i>State Environmental Planning Policy (Infrastructure) 2007</i>
		INP	NSW <i>Industrial Noise Policy</i> (EPA, 2000)
		kg	kilogram
		kL	kilolitre
		km	kilometre

km ²	square kilometre	mm/s	millimetre per second
km/h	kilometre per hour	Mo	molybdenum
kV	kilovolt	MOC	Ministerial Oversight Committee
L	litre	MOP	Mining Operations Plan
L _{Aeq}	equivalent continuous noise level	MREMP	Mining, Rehabilitation and Environmental Management Process
LALC	Local Aboriginal Land Council		
L _{AN}	noise exceedance level	MRRT	Minerals Resource Rent Tax
LEP	Local Environmental Plan	MSDS	Material Safety Data Sheet
LGA	Local Government Area	Mt	million tonnes
Lowland Catchment of the Darling River EEC	Aquatic Ecological Community in the Natural Drainage System of the Lowland Catchment of the Darling River Endangered Ecological Community	Mtpa	million tonnes per annum
		MWSS	mine water surge storage
		NAF	non-acid forming
m	metre	Namoi CAP	Namoi Catchment Action Plan (Namoi Catchment Management Authority, 2007)
M	million		
m ³	cubic metre	Narrabri LEP	<i>Narrabri Local Environmental Plan 1992</i>
m/s	metres per second		
Major Development SEPP	<i>State Environmental Planning Policy (Major Development) 2005</i>	NGA Factors	<i>National Greenhouse Accounts Factors (DCCEE, 2011)</i>
		NGER Act	<i>National Greenhouse and Energy Reporting Act, 2007</i>
Mbcm	million bank cubic metre		
MCCC	Maules Creek Community Council	NGERS	National Greenhouse and Energy Report System
mg/L	milligram per litre	NO ₂	nitrogen dioxide
MIC	Maximum Instantaneous Charge	NO ₃	nitrate
Mining SEPP	<i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007</i>	NOW	NSW Office of Water
		NO _x	nitrogen oxide
ML	Mining Lease	NSESD	National Strategy for Ecologically Sustainable Development (Commonwealth of Australia, 1992)
ML	megalitre		
ML/annum	megalitre per annum	NSW	New South Wales
ML/day	megalitre per day	NTSCORP Limited	Native Title Services Corporation Limited
MLA	Mining Lease Application		
mm	millimetre	NTU	nephelometric turbidity unit

OEH	NSW Office of Environment and Heritage	SLA	Statistical Local Area
PAF-LC	potentially acid forming – low capacity	t	tonne
PHA	Preliminary Hazard Analysis	TCPL	Tarrawonga Coal Pty Ltd
pKLinear	peak linear	TDS	total dissolved solid
PM ₁₀	particulate matter less than 10 micrometres in size	TEM	transient electromagnetic
PM _{2.5}	particulate matter less than 2.5 micrometres in size	the Minister	NSW Minister for Planning and Infrastructure
PO ₄	phosphate	the Project	Tarrawonga Coal Project
PoEO Act	NSW <i>Protection of the Environment Operations Act, 1997</i>	the Upper and Lower Namoi Groundwater Water Sharing Plan	<i>Water Sharing Plan for the Upper and Lower Namoi Groundwater Sources 2003</i>
ppm	part per million	TSC Act	NSW <i>Threatened Species Conservation Act, 1995</i>
PVS	Peak Vector Sum	TSP	total suspended particulate
REMP	Rehabilitation and Environmental Management Plan	TSS	total suspended solid
ROM	run-of-mine	UWD	up-catchment water dam
RTA	NSW Roads and Traffic Authority	V	vertical
R.W. Corkery	R.W. Corkery and Co Pty Ltd	WBCSD	World Business Council for Sustainable Development
Se	selenium	Whitehaven	Whitehaven Coal Mining Pty Ltd
SEPP	State Environmental Planning Policy	WRI	World Resources Institute
SEPP 33	<i>State Environmental Planning Policy No. 33 (Hazardous and Offensive Development)</i>	µm	micrometre
SEPP 44	<i>State Environmental Planning Policy No. 44 (Koala Habitat Protection)</i>	µg/m ³	microgram per cubic metre
SEPP 55	<i>State Environmental Planning Policy No. 55 (Remediation of Land)</i>	µS/cm	microSiemen per centimetre
		%	percent
		°C	degrees Celsius
		°	degree
SEWPaC	Commonwealth Department of Sustainability, Environment, Water, Population and Communities		

9.2 GLOSSARY

Alluvial

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

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.

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”.

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).

Batter

An engineered slope of soil or rock fill on either side upslope or downslope of a road, embankment or waste rock storage; the sloping banks of cut earth separating different levels in an open pit.

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.

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.

Confluence

A body of water formed by the flowing together of two or more watercourses.

Cross-section

A two-dimensional diagram of an object presented as if the object had been cut across its length.

dB

Decibel; unit used to express sound intensity.

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.

dB(L)

Linear decibels; measurable effect of an event (e.g. blast) on air pressure including measurement of generated energy which is below the limit of human hearing.

Decommissioning

Removal or reuse of infrastructure.

Drawdown	The localised lowering of groundwater level.	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.
Ecologically Sustainable Development (ESD)	Development that improves the quality of life, in a way that maintains the ecological processes on which life depends.	Hydraulic gradient	The change in static head (i.e. elevation and pressure) per unit of distance in a given direction. (Units: dimensionless).
Ecosystem	An interacting system of animals, plants, other organisms and non-living parts of the environment.	<i>in-situ</i>	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.
Electrical Conductivity (EC)	The ability of a substance (either solid, liquid or gas) to transmit electricity.	Interburden	Rock material that separates two economically viable coal seams
Emission	The discharge of a substance (e.g. dust) into the environment.	Inter-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 future generations.
Final void	A completed (mined-out) open pit.	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.
Friable overburden	Soil and weathered rock that overlies economically viable coal seams and using earthmoving machinery.	L_{A10}	The noise exceeded by 10% of the measurement period. Commonly referred to as the average maximum.
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.	L_{Aeq}	The equivalent continuous noise level – the level of noise equivalent to the energy-average of noise levels occurring over a measurement period.
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.		

Mitigation	Measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards.	Riparian	Pertaining to, or situated on, the bank of a body of water, especially a watercourse such as a river.
Permeability	The ability of a rock or soil to allow fluid to pass through it.	Run-of-mine (ROM)	Raw coal produced at the Tarrawonga Coal Mine.
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).	Runoff	A portion of precipitation (rain, hail and snow) that flows across the ground surface as water.
Population	A group of individuals of one species in an area.	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).
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.	Seepage	Liquid or fluid such as water, seeping or flowing from beneath the ground to the surface.
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.	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.
Rehabilitation	The restoration of a landscape and especially the vegetation following its disturbance.	Subsoil	Soils that underlie the top layer of soil, typically having lower levels of organic matter and associated micro-organisms than in topsoil.
Remnant Vegetation	Native vegetation remaining after widespread clearing has taken place.	Terrestrial	Living or growing on the land.
		Topsoil	The upper or top layer of soil, that typical has higher levels of organic matter and associated micro-organisms.

Total suspended particulate matter (TSP)

The mass of all particulate matter suspended in a solution (e.g. the air).

Total suspended solids (TSS)

A common measure used to determine suspended solids concentrations in a waterbody and expressed in terms of mass per unit of volume (e.g. milligrams per litre).

Tributary

A smaller watercourse, which discharges into a larger watercourse.

Value-added

The difference between the value of a firm's output and the cost of the inputs of raw materials, components or services brought in to produce that output.

Waste rock

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