

PEABODY

WILPINJONG COAL WATER MANAGEMENT PLAN

(WI-ENV-MNP-006)

AUGUST 2017



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General Descripti	on of Chang	ges from Previous	Version				
Document No.	Version	Date	Prepare	ed/Reviewed By	Distribution	Description of Change	
WMP-R01	F	February 2006	WCPL, Resource Strategies, Mr Lindsay Gilbert (Gilbert and Associates), Mr Ian Callow (AGE)		DNR, DP&E	Original plan - developed for initial development phase of the project	
WMP-R01	I	6 March 2006	WCPL, Resource Strategies, Mr Lindsay Gilbert (Gilbert and Associates), Mr Ian Callow (AGE)		DP&E	Amended to address DP&E comments. This version was approved by DP&E.	
WMP-R02	А	July 2006	WCPL, Resource Strategies, Mr Lindsay Gilbert (Gilbert and Associates), Mr Ian Callow (AGE)		DECC	Revision following completion of SGWRP to satisfy relevant EPL condition. Revised for initial mining phase of the project	
WMP-R03	А	March 2009	WCPL, Resource Strategies		Internal only	Periodic review	
WMP-R04	А	October 2011	WCPL, Ms Sarah Gosling & Mr Brian Rusk (SKM), Mr Andrew Durick (AGE), Dr Steve Perrens (Evans and Peck)		OEH, NOW and DP&E	Revision following the August 2010 Modification	
WI-ENV-MNP- 0006	1	20 June 2014	WCPL, Palaris, Mr Antony Marszalek (Gilbert & Associates), Dr Noel Merrick Hydrosimulations – Groundwater components), Resource Strategies		OEH and NOW	Revised following approval of Mod 5 (PA 05-0021). New format – incorporates Site Water Balance (Appendix 3), Erosion and Sediment Control Plan (Appendix 4), Surface Water Management and Monitoring Plan (Appendix 5), Groundwater Monitoring Program (Appendix 6) and Surface and Ground Water Response Plan (Appendix 7).	
WI-ENV-MNP- 0006	1.1	30 June 2014	WCPL, Palaris		DP&E, OEH and NOW	Minor amendments to address comments by Resource Strategies prior to submission to DP&E.	
WI-ENV-MNP- 0006	2	November 2014	WCPL, Palaris		DP&E, OEH and NOW	Minor amendments to WMP (including appendices) to address comments by DP&E and NOW. Consultation section also updated.	
WI-ENV-MNP- 0006	3	October 2016	WCPL		DP&E	MOD 7	
WI-ENV-MNP- 0006	4	August 2017	WCPL, Ha HydroSimi		DP&E, DPI Water and EPA	Updated to reflect Development Consent (SSD-6764)	



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1 Introduction

The Wilpinjong Coal Mine is owned and operated by Wilpinjong Coal Pty Ltd (WCPL), a wholly owned subsidiary of Peabody Energy Australia Pty Ltd (Peabody).

The Wilpinjong Coal Mine is an existing open cut coal mining operation situated approximately 40 kilometres (km) north-east of Mudgee, near the Village of Wollar, within the Mid-Western Regional Local Government Area, in central New South Wales (NSW). The Wilpinjong Coal Mine produces thermal coal products which are transported by rail to domestic customers for use in electricity generation and to port for export. Open cut mining operations are undertaken 24 hours per day, seven days per week.

The Wilpinjong Coal Mine originally operated under Project Approval 05-0021 that was granted by the NSW Minister for Planning under Part 3A of the NSW *Environmental Planning and Assessment Act* 1979 (EP&A Act) on 1 February 2006. Modification of the Project Approval subsequently occurred six times¹ with the most recent modification (Modification 7) approved in August 2016. The existing Site Water Management Plan (including an Erosion and Sediment Control Plan, Surface Water Management and Monitoring Plan, Groundwater Monitoring Plan and Surface and Ground Water Response Plan) was developed in accordance with NSW Project Approval 05-0021 and the last revision was approved on 20 March 2017.

On 24 April 2017, WCPL was granted Development Consent (SSD-6764) for the Wilpinjong Extension Project that provides for the continued operation of the Wilpinjong Coal Mine at rates of up to 16 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal out to 2033, and access to approximately 800 hectares (ha) of open cut extensions. Development Consent (SSD-6764) has superseded the Project Approval (Project Approval 05-0021). This Water Management Plan (WMP) has been prepared to satisfy the relevant conditions in Development Consent (SSD-6764). Where relevant, this WMP builds on the relevant components of the existing/approved Site Water Management Plan, including previous feedback from consultees and where relevant trigger levels that have already been previously agreed.

The Secretary of the NSW Department of Planning and Environment (DP&E) approved the following specialists as suitably qualified and experienced persons for preparation/review of the WMP on 24 May 2017:

- Jim Heaslop as a suitably qualified and experienced person for the preparation/review of the Surface Water Management Plan (SWMP) and Site Water Balance (SWB).
- Dr Noel Merrick as a suitably qualified and experienced person for the preparation/review of the Groundwater Management Plan (GWMP).

1.1 Structure of the WMP

The WMP has been prepared to address the conditions relating to water management contained within WCPL's relevant approvals. Consistent with Condition 30, Schedule 3 of Development Consent (SSD-6764), the WMP includes the following sub-plans:

- SWB (Appendix 1).
- SWMP (Appendix 2).
- GWMP (Appendix 3).

1

Mod 2 was withdrawn



As provided for in Condition 31, Schedule 5, WCPL has requested a deferral of preparation of the Cumbo Creek Relocation Plan until closer to the time of the intended relocation.

1.2 Consultation

The approved Site Water Management Plan (including the relevant sub-plans) was prepared in consultation with EPA and DPI Water, as required by Condition 28, Schedule 3 of the Wilpinjong Coal Mine Project Approval 05-0021.

WCPL has historically consulted with the relevant regulators as part of the day-to-day operation of the Wilpinjong Coal Mine.

Consultation was also undertaken with a variety of regulators throughout the assessment and approval of the Wilpinjong Extension Project. A number of additional, specific requirements and commitments for this WMP that arose from this consultation programme were subsequently reflected in Condition 30, Schedule 3 of Development Consent (SSD-6764). These specific requirements are addressed in the relevant sub-plans.



2 Planning and Policy

Table 1 summarises WCPL's main statutory approvals.

Table 1 WCPL's Statutory Approvals

Approval Licence No.	Description*	Date of Approval	Agency
SSD-6764*	Development Consent	24 April 2017	DP&E
05-0021*	Project Approval	1 February 2006	DP&E
	MOD 1	30 November 2007	DP&E
	MOD2	Withdrawn	-
	MOD 3	8 September 2010	DP&E
	MOD 4	24 August 2012	DP&E
	MOD 5	7 February 2014	DP&E
	MOD 6	21 November 2014	DP&E
	MOD 7	11 August 2016	DP&E
EPL 12425	Environment Protection Licence	8 February 2006^	EPA
ML1573	Mining Lease	8 February 2006	DP&E (Division of Resources and Mining)

^{*} Project Approval (PA 05-0021) applied to previous versions of the Water Management Plan but is now superseded by Development Consent (SSD-6764).

2.1 Specific Development Consent Requirements

This WMP has been prepared in accordance with Condition 30, Schedule 3 of Development Consent (SSD-6764). Table 2 presents these requirements and indicates where they are addressed within this WMP.

[^] Most recently varied in early 2017.



Table 2 Specific Development Consent Requirements

Development Consent (SSD-6764) Condition	WMP Section
Water Management Plan	
30. Prior to carrying out any development under this consent, unless the Secretary	
agrees otherwise, the Applicant must prepare a Water Management Plan for the	
development to the satisfaction of the Secretary. This plan must:	
(a) be prepared in consultation with DPI Water and EPA, by suitably qualified and	Section 1
experienced persons whose appointment has been approved by the Secretary;	
(b) include detailed performance criteria and describe measures to ensure that the	Section 3
Applicant complies with the water management performance measures (see	
Table 6);	Section 1.2
(c) consider the recommendations of the IESC advice (IESC 2016-078), dated 2	Section 1.2
September 2016 and the recommendations for management of potentially acid forming (PAF) and sodic materials as identified in the Geochemistry Assessment	
(Appendix K) completed for the EIS; and	
(d) in addition to the standard requirements for management plans (see condition 3	
of schedule 5), this plan must include a:	
(i) Cumbo Creek Relocation Plan that includes:	Deferred
	(refer Section 1.1)
(ii) Site Water Balance that:	Appendix 1
(iii) Surface Water Management Plan that includes:	Appendix 2
(iv) Ground Water Management Plan that includes:	Appendix 3

2.2 General Management Plan Requirements

Condition 3, Schedule 5 of Development Consent (SSD-6764) outlines general management plan requirements that are applicable to the preparation of the WMP. Table 3 presents these requirements and indicates where they are addressed within this WMP.

2.3 Other Relevant Legislation and Policy

2.3.1 Protection of the Environment Operations Act, 1997

The Protection of the Environment Operations Act, 1997 (POEO Act) enables the government to set policies that provide environmental standards, goals, protocols and guidelines. The POEO Act also establishes a licensing regime for pollution generating activities in NSW. Under section 48 of the POEO Act, an environment protection licence (EPL) is required for "scheduled activities", which includes coal mining.

The EPA issued EPL 12425 on 8 February 2006 under the POEO Act.

EPL 12425 currently regulates the discharge of water from the Wilpinjong Coal Mine via a water treatment facility. EPL 12425 was most recently varied in early 2017 to increase the volume of water permitted to be discharged.

As requested by the EPA, WCPL will apply as required to vary EPL 12425 to also incorporate any sediment dams that will discharge off-site (under specific water quality and/or rainfall conditions).

The conditions of EPL 12425 are considered, where relevant, in the SWMP.



Table 3 General Management Plan Requirements

Development Consent (SSD-6764) Condition	WMP Section
Management Plan Requirements	
3. The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:	
(a) detailed baseline data; (b) a description of:	Appendices 1, 2 and 3
 the relevant statutory requirements (including any relevant approval, licence or lease conditions); 	Section 2
 any relevant limits or performance measures/criteria; 	Section 3
 the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; 	Appendices 1, 2 and 3
(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	Appendices 1, 2 and 3
(d) a program to monitor and report on the:	Appendices 1, 2 and 3
 impacts and environmental performance of the development; 	
 effectiveness of any management measures (see c above); 	
(e) a contingency plan to manage any unpredicted impacts and their consequences;	Appendices 1, 2 and 3
(f) a program to investigate and implement ways to improve the environmental	Appendices 1, 2 and 3
performance of the development over time;	
(g) a protocol for managing and reporting any:	Section 6.1
incidents	
 complaints 	
 non-compliances with statutory requirements; and 	
 exceedances of the criteria and/or performance criteria; and 	
(h) a protocol for periodic review of the plan.	Section 7

2.3.2 Water Management Act, 2000

The Water Management Act, 2000 incorporates the provisions of various prior Acts relating to the management of surface and groundwater in NSW and provides a single statute for regulation of water access, use and works (e.g. pumps or bores) that affect the licensing of surface water and groundwater in the vicinity of the Wilpinjong Coal Mine.

Surface water and alluvial groundwater in the vicinity of the Wilpinjong Coal Mine is regulated under the Water Sharing Plan for the Hunter Unregulated and Alluvial Sources 2009.

Hard rock groundwater in the vicinity of the Wilpinjong Coal Mine is regulated under the *Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016.* This water sharing plan supersedes the provision of the *Water Act, 1912* which previously regulated hard rock groundwater licensing in the vicinity of the Wilpinjong Coal Mine.

2.3.3 NSW Aquifer Interference Policy

The NSW Aquifer Interference Policy (AIP) (NSW Government, 2012) has been developed by the NSW Government as a component of the NSW Government's Strategic Regional Land Use Policy. The AIP applies state wide and details water licence and impact assessment requirements.

The AIP has been developed to ensure equitable water sharing between various water users and proper licensing of water that is taken by aquifer interference activities to ensure that the take is accounted for in the water budget and water sharing arrangements.



The AIP has been considered where relevant in the GWMP.

2.3.4 National Water Quality Management Strategy

The National Water Quality Management Strategy is a joint national approach to improving water quality in Australian and New Zealand waterways.

The process for water quality management is based on national guidelines that are implemented at State, regional and local levels. The national water quality guidelines are the basis for development of the State and local water management plans and objectives.

The ANZECC water quality guidelines have been considered where applicable in both the SWMP (Appendix 2) and the GWMP (Appendix 3) for the Wilpinjong Coal Mine.



3 Water Management Performance Measures

Condition 29, Schedule 3 of Development Consent (SSD-6764) defines the water management performance measures for the Wilpinjong Coal Mine.

A summary of the water management performance measures, and where they are addressed in this WMP is provided in Table 4.

Table 4
Water Management Performance Measures

Feature	Performance Measure	WMP Section
General	Maintain separation between clean, dirty and mine water management systems.	
	Minimise the use of clean water on site.	Appendices 1 and 2
	Design, install, operation and maintain water management systems in a proper and efficient manager.	
Clean water diversion and storage infrastructure	Maximise as far as reasonable and feasible the diversion of clean water around disturbed areas on site.	Appendix 2
Sediment dams	Design, install and/or maintain sediment dams to ensure no discharges to surface waters, except in accordance with an EPL or in accordance with Section 120 of the POEO Act.	Appendix 2
Mine water storages	Design, install and/or maintain mine water storage infrastructure to ensure no discharge of untreated mine water off-site.	Appendix 2
	Discharge treated mine water in accordance with an EPL or in accordance with Section 120 of the POEO Act.	
Wilpinjong, Cumbo and Wollar Creeks	No greater impact than predicted for the development for water flow and quality.	Appendix 2
Aquatic, riparian and groundwater dependent ecosystems	Negligible environmental consequences beyond those predicted for the development.	Appendices 2 and 3
Flood mitigation measures	Ensure all open cut pits, CHPP, coal stockpiles and main mine facilities areas exclude flows for all flood events up to and including the 1 in 100 year ARI.	Appendix 2
	All final voids designed to exclude all flood events up to include the PMF event.	
Overburden, CHPP Reject and Tailings	Design, install and maintain emplacements to prevent or minimise the migration of pollutants due to seepage.	Appendix 3
Chemical and hydrocarbon storage	Chemical and hydrocarbon products to be stored in bunded areas or structures in accordance with relevant Australian Standards.	Appendix 2



4 Data Management and Review

WCPL's data management procedure includes the following:

- Data Validation All data is validated to ensure that sample handling and transportation, equipment and containers are in accordance with AS/NZS 5667 1998 Water quality Sampling.
- Data Management Validated data from each of the monitoring programs is entered into a digital database ready for analysis.
- Data Review and Interpretation once the data has been entered into the database, it is compared
 with baseline data, concurrent data collected from other monitoring sites and with the relevant
 trigger levels. In the event of an apparently anomalous result, an initial step will be to conduct a
 retest (where possible).

WCPL will co-operate with Moolarben Coal Operations Pty Ltd (MCO) and Ulan Coal Mines Limited to reduce cumulative water impacts on the surrounding area. WCPL have entered into data sharing arrangements and consult with the neighbouring mine operations to assist in identifying and managing cumulative water impacts. Data from MCO has been used to supplement site data for groundwater modelling purposes.



5 Responsibilities

General responsibilities in relation to the Water Management Plan are provided in Table 5.

Specific responsibilities are provided in the SWB, SWMP and GWMP.

Table 5
Water Management Plan Responsibilities

Responsibility	Task	Timing
General/ Mine Manager	Ensure that adequate resources are available to effectively implement requirements of this WMP	Ongoing and during budget planning
Environment and Community Manager	Engage suitably qualified experts to prepare and review this WMP.	As required
ge.	Undertake stakeholder consultation for this WMP	As required
	Notify DP&E and EPA of any water-related incidents	Immediately (for incidents that have caused or threaten to cause material harm to the environment) or as soon as practicable (for any other noncompliance)
	Ensure that all water related complaints are responded to in accordance with the Complaints Response Protocol	Following a complaint
	Ensure that all auditing and regulatory reporting is undertaken in relation to this WMP	As required
	Coordinate relevant reviews of this WMP	As required
	Ensure that all employees and contractors are given adequate training in environmental awareness, legal responsibilities, and water-related control methods	Within 3 months of approval of this WMP, and as required
	Liaise with the environmental management teams at the Moolarben and Ulan Coal mines to minimise cumulative impacts of the Wilpinjong Coal Mine on the surrounding area	On-going
Environmental Representative	Maintain the onsite meteorological monitoring station	As required
rtoprocomative	Prepare all statutory reports relating to this WMP	As required
	Ensure all records relating to this WMP are managed in accordance with the EPL	As required
	Report on Continuous Improvement opportunities in the Annual Review when identified.	Annually (Annual Review)
	Update the WCPL website	As required
Maintenance Manager	Maintain all machinery and plant used on site in a proper and efficient condition	As required
All employees and contractors	Operate all machinery and plant used on site in a proper and efficient manner	As required



6 Reporting

The following external reporting will be undertaken by WCPL in accordance with the conditions of the Development Consent, EPL and Mining Leases:

- Incident and Non-Compliance Report;
- Annual Review;
- Independent Environmental Audit;
- EPL Annual Return;
- Annual Compliance Report;
- Independent Environmental Water audits; and
- Website updates.

A copy of this WMP will be made available to the WCPL Community Consultative Committee (CCC) and Mid-West Regional Council. In addition, a copy will be made available for viewing to members of the public at the Wilpinjong Coal Mine and on the WCPL website.

6.1 Incident and Non Compliance Reporting

WCPL will immediately notify the EPA (on 131 555) and DP&E and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment, in accordance with the Pollution Incident Response Management Plan. All other non-compliances will be reported to DP&E and EPA and any other relevant agencies as soon as practicable.

Within seven days of the date of an incident, WCPL will provide a detailed report to the DP&E and EPA that:

- describes the date, time, and nature of the incident;
- identifies the cause (or likely cause) of the incident;
- describes what action has been taken to date; and
- · describes the proposed measures to address the incident.

6.2 Annual Review

At the end of March each year, WCPL will review the environmental performance of the Wilpinjong Coal Mine over the previous calendar year and submit an Annual Review report to the DP&E. This report will:

- Describe the development (including any rehabilitation) that was carried out in the past year, and the development that is proposed to be carried out over the next year.
- Include a comprehensive review of the monitoring results and complaints records of the Wilpinjong
 Coal Mine over the past year, which includes a comparison of these results against the:
 - Relevant statutory requirements, limits or performance measures/criteria;
 - Monitoring results of previous years; and
 - Relevant predictions in the Environmental Impact Statement.



- Identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance.
- Identify any trends in the monitoring data over the life of the Wilpinjong Coal Mine.
- Identify any discrepancies between the predicted and actual impacts of the Wilpinjong Coal Mine, and analyse the potential cause of any significant discrepancies.
- Describe what measures will be implemented over the next year to improve the environmental performance of the Wilpinjong Coal Mine.

A copy of the Annual Review will be made publicly available on the WCPL website and provided to DP&E, in accordance with the ML conditions.

6.3 Independent Environmental Audit

Within a year of commencing development under Development Consent (SSD-6764), and every three years thereafter, unless the Secretary directs otherwise, WCPL will commission an Independent Environmental Audit of the Wilpinjong Coal Mine. This audit will:

- a) Be conducted by a suitably qualified lead auditor and suitably qualified, experienced and independent team of experts in any field specified by the Secretary, whose appointment has been endorsed by the secretary;
- b) Include consultation with the relevant agencies;
- Assess the environmental performance of the development and assess whether it is complying
 with the requirements in Development Consent (SSD-6764) and any relevant EPL or ML
 (including any assessment, plan or program required under these approvals);
- d) Review the adequacy of strategies, plans or programs required under the abovementioned approvals;
- e) Recommend appropriate measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under the abovementioned approvals; and
- Be conducted and reported the satisfaction of the Secretary.

Within three months of commissioning this audit, or as otherwise agreed by the Secretary, WCPL will submit a copy of the audit report to the Secretary, together with its response to any recommendation contained in the audit report, and a timetable for the implementation of these recommendations as required. WCPL will implement these recommendations, to the satisfaction of the Secretary.

A copy of the audit report (and WCPL's response to any recommendations) will be made publicly available on the WCPL website.

6.4 EPL Reporting

WCPL will prepare and submit an Annual Return comprising a certified Statement of Compliance and a signed Monitoring and Complaints Summary to the EPA at the end of each EPL reporting period.

The Annual Return for the reporting period will be supplied to the EPA by registered post not later than 60 days after the end of each reporting period. WCPL will retain a copy of the Annual Return for a period of at least four years after the Annual Return was due to be supplied to the EPA.



6.5 Website Updates

A comprehensive summary of water monitoring results will be made publicly available at the Wilpinjong Coal Mine and on its website and will be updated every three months.

WCPL will also ensure that any information relevant to water management is uploaded to the website (and kept up to date). This includes:

- current statutory approvals;
- approved strategies, plans or programs required under the Project Approval;
- a complaints register (updated monthly);
- minutes of CCC meetings;
- the last five Annual Reviews;
- a copy of any Independent Environmental Audits and WCPL's response to any recommendations in any audit; and
- any other matter required by the Secretary.



7 Review and Improvement of Environmental Performance

Within three months of the submission of:

- the Annual Review;
- an incident report;
- an Independent Environmental Audit; and
- any modification to Development Consent (SSD-6764) or EPL relating to water,

WCPL will review, and if necessary revise, this WMP (and its appendices).

WCPL will also review, and if necessary revise, this WMP when there are changes to the EPL (relating to water) and in response to a relevant and material change in technology, legislation, or operations.

WCPL will comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:

- any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with Development Consent (SSD-6764); and
- the implementation of any actions or measures contained in these documents.

Where amendments to this WMP are made as a result of the review process, WCPL will submit the revised WMP to the DP&E for approval within four weeks.



8 References

Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand (2000) *National Water Quality Management Strategy: Australian and New Zealand Guidelines for Fresh and Marine Water Quality.*

NSW Government (2012) NSW Aquifer Interference Policy.