Metropolitan Coal Project Independent Environmental Audit

The Independent Environmental Audit was conducted to satisfy the requirement of condition 8 of Schedule 7 in the Project Approval granted to the Helensburg Coal Pty Ltd for the Metropolitan Coal Project on 22 June 2009 by the Minister for Planning .

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METROPOLITAN COAL

Metropolitan Coal Project

Independent Environmental Audit – December 2011

Report Prepared for:

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EXECUTIVE SUMMARY

The Independent Environmental Audit for compliance with Project Approval 08_0149 and other environmental approvals for the Metropolitan Coal Project was carried out during December 2011 and February 2012, by a team of experienced and independent experts endorsed by the Director-General.

The audit review, assessment of the documentation and performance of the Metropolitan Coal operations demonstrated a high degree of compliance with the Project Approval and other environmental approvals granted for the project.

Air Quality

Dust management at the Metropolitan Colliery surface facilities area is managed in a satisfactory manner with monitoring results demonstrating compliance with the Project Approval and EPL criteria.

Blasting

No blasting activities have occurred on the surface operational areas of Metropolitan Coal leases.

Biodiversity

To date no impacts on threatened species, populations or ecological communities have been recorded from the various monitoring programs. The location for majority of monitoring sites is considered adequate but some suggestions are provided to improve the ongoing monitoring.

Monitoring of environmental values that are likely to represent important habitat for threatened species, populations or ecological communities have been undertaken within the study area (including surface water quality and flow, cliffs, steep slopes, upland swamp groundwater etc.). Short term effects observed in some of parameters are attributable to natural variation as the changes have been observed in both control and potential impact sites.

Erosion and Sediment Control

The procedures that have been developed within the management plans provide a sound basis for erosion and sediment control for surface activities conducted by Metropolitan Coal.

Groundwater

The project is compliant with the conditions relating to groundwater management. None of the performance measures or performance limits relating to groundwater were exceeded during the 2010-2011 period.

Subsidence

Based on the review of the Extraction Plan, AEMR documents for 2010 and 2011, and the End of Panel Report for LW20, Metropolitan Coal has complied with the Project Approval conditions for mine subsidence impact management during the audit period.

Surface Water

The surface water quality discharges to Camp Creek were compliant with the EPL criteria during 2010-2011 except for one TSS and one pH excursion (January 2010 and August 2010 respectively).

Rehabilitation

The rehabilitation strategy and rehabilitation monitoring program for proposed works is considered appropriate for long term management of the Metropolitan Coal mining activities.

1. INTRODUCTION

1.1 Background

The Project Approval 08_149 (dated 22 June 2009) granted for the Metropolitan Coal Project, requires an Independent Environmental Audit under Schedule 7 condition 8 to be conducted by the end of December 2011. The Independent Environmental Audit was conducted by Trevor Brown &Associates to satisfy the requirements of Project Approval Schedule 7 condition 8:

> *INDEPENDENT ENVIRONMENTAL AUDIT*
> *By end of December 2011, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:*
>
> *(a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;*
> *(b) include consultation with the relevant agencies;*
> *(c) assess the environmental performance of the project and assess whether it is complying with the relevant requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);*
> *(d) review the adequacy of strategies, plans or programs required under these approvals; and, if appropriate; and*
> *(e) recommend measures or actions to improve the environmental performance and/or any assessment, plan or program required under these approvals.*

The Independent Environmental Audit site inspections and documentation assessment for compliance with Project Approval 08_0149 and other environmental approvals for the Metropolitan Coal Project were carried out during December 2011 and February 2012, by a team of experienced and independent experts endorsed by the Director-General on 17 November 2011. (The site inspections for surface water, subsidence and flora were delayed because of wet weather closing the access into the Sydney Catchment Authority (SCA) areas).

1.2 Scope of Work

The compliance audit was conducted generally in accordance with the Australian/New Zealand Standards ISO 19011:2002 – Guidelines for Quality and/or Environmental Systems Auditing. The scope of work for the independent environmental audit of the Metropolitan Coal Project operations included the following components:

- review of compliance with Project Approval 08_0149 conditions and other approvals;
- conduct of a site inspection and review on-site documentation and monitoring data for the project, relevant to the audit;
- discussion of the development consent and other approval conditions and operation of the project with Mt Arthur Coal project staff;
- assessment of environmental performance of the development with the requirements in this Project Approval, Environment Protection Licence and Mining Lease conditions (including any assessments, plans or programs required under these consents/approvals);
- review the adequacy of strategies, plans or programs prepared under the consents/approval;
- provision of recommendations if considered necessary for implementation of measures or actions to improve environmental performance of the development, and/or any assessment, plan or program required under the project approvals; and
- preparation of the Independent Environmental Audit Report providing assessment of compliance against each approval condition and provision of recommendations or actions where considered appropriate to improve the environmental performance of the development, and/or the environmental management and monitoring systems.

1.3 Structure of Report

The independent environmental audit report provides comment on the assessment and implementation of environmental management of the Metropolitan Coal Project operations and activities, and addresses the status of compliance with conditions of the Project Approval, Environment Protection Licence and Mining Lease in the Attachments to the report:

Section 1 Introduction
Section 2 Metropolitan Colliery Development – historical summary of the development of the Metropolitan Colliery.
Section 3 Other Environmental Approvals – a summary of the approvals, licenses and mining leases currently applicable to the Metropolitan Colliery operation.
Section 4 Review of Environmental Management – assessment of environmental performance, compliance with statutory approvals and review of the adequacy of the strategies, plans and programs implemented for management of the operations.
Section 5 Conclusions
Attachment A Project Approval (DA 08-0149) and Modification
Attachment B Environment Protection Licence No.767
Attachment C Mining Lease 1427

1.4 Compliance Table

This audit assessed the Metropolitan Coal Project activities for compliance with the intent of the conditions with site inspections and verification of relevant documentation related to the conditions as provided by Metropolitan Colliery.

The status of compliance of the conditions attached to the project approvals are expressed as:

	Status	Description
C	Compliant	Adequacy and appropriateness of implementation against the current Project Approval conditions.
NC	Non-compliant	An inadequacy in the design and/or implementation against the current approvals, licence conditions or management plan commitments.
NA	Not applicable	Not active or applicable to the current exploration operations/
Noted		Conditions that are statements of requirement but not auditable.

2. METROPOLITAN COLLIERY DEVELOPMENT

2.1 Historical Outline of Metropolitan Colliery Development

The Metropolitan Coal Project is located in the NSW Southern Coalfield with the operations and Major Surface Facilities Area, located off Parkes Street in Helensburgh, approximately 30km north of Wollongong and Port Kembla NSW. The Metropolitan Colliery is located within CCL 703 and MLA 1 and MLA 2 that adjoin CCL 703 and a portion of CCL 724 which is sub-leased from BHP Billiton Endeavour Coal Pty Ltd.

Metropolitan Colliery was originally developed in the 1880's in Helensburgh (known as 'Camp Creek' a tent town for railway workers constructing the Illawarra Railway line between 1884 and 1888. (Construction of the Illawarra Railway was completed in1888).

Miners camped in the same area, commencing exploration for coal deposits in 1883. Helensburgh grew largely based on the development of the Metropolitan coal mine after commencement of production in 1888. As the newly completed railway line ran adjacent to the Metropolitan Colliery site, once full production began in 1890 a spur line was built into the mine area for transport of coal to Sydney (mainly for use by NSW railways and the Royal Navy).

In 1901 the Metropolitan Coal mine area extended over a 4.8 x 1.2 km area, accessed by two circular shafts for haulage and ventilation (the current Shafts 1 and 2).

Coal was extracted by bord and pillar methods with the pillars subsequently extracted in some areas allowing the roof to subside.

Mechanised bord and pillar methods were introduced in 1951, and a drift replaced downcast shaft No.1 in 1954. A new ventilation shaft (No. 3) was sunk in 1975, and the Koepe winder was upgraded in 1985. Mechanised long-wall mining was introduced in 1995, resulting in an increase in output of approximately 1.5 million tonnes of coal a year for export.

Metropolitan Coal is currently wholly owned by Peabody Energy Australia Pty Ltd (Peabody).

2.2 Metropolitan Colliery Current Operations

Metropolitan Coal currently produces approximately 1.5 million tonnes per annum (Mtpa) of hard and semi-hard coking coal product.

The economic coal seams (Bulli, Balgownie and Wongawilli Seams) in the Southern Coalfield are located within the Illawarra Coal Measures that comprise a sequence of inter-bedded sandstone, siltstone, claystone and coal with minor tuff, conglomerate and intrusions. The Bulli Seam is the only seam presently considered to be of economic significance at the Metropolitan Colliery. Long-walls 20 to 44 of the underground mining operations in the Bulli Seam are to the north of the existing and completed historical underground mining areas. The completed Underground Mining Areas include a large area underlying the township of Helensburgh and surrounds. Long-wall mining of the Bulli Seam commenced in 1995 and mining continues in the long-wall 20 to 22 approved area.

In accordance with Project Approval Schedule 3 condition 5, Metropolitan Coal has carried out first workings in the mining area consistent with the approved mine plan and secondary extraction of long-

wall 20 in accordance with the approved mine plan. Long-wall 20 had advanced 2,782m as at 31 July 2011.

The Metropolitan Underground Mining Operations use conventional long-wall coal mining methods with long-wall panels developed to create a void width of approximately 163 m (including gate roads). Run-of-Mine (ROM) coal is extracted by the long-wall miner and conveyed to the main conveyor that transports the coal to the surface.

The Major Surface Facilities Area and supporting infrastructure includes administration, workshops, bath houses, ablution facilities, fuel and consumables storages, hardstand areas, haul roads, access roads, Coal Handling and Preparation Plant (CHPP), stockpiles (including ROM coal, product coal and coal reject) and associated coal handling infrastructure (e.g. conveyors, transfer points and buffer bins). Other surface facilities located outside of the existing Metropolitan Colliery Major Surface Facilities Area include an electrical switchyard and fan installations located at Ventilation Shaft No. 3 located to the west of the F6 Freeway.

ROM coal is reclaimed, crushed, screened and washed at the Metropolitan coal handling and preparation plant (CHPP). The CHPP comprises crushers, screens, dense medium cyclones, flotation cells, separators, filters and thickeners to process the coal and separate coal reject materials. Once washed, product coal is conveyed to the product coal stockpiles to the east of the CHPP and adjacent to the rail spur.

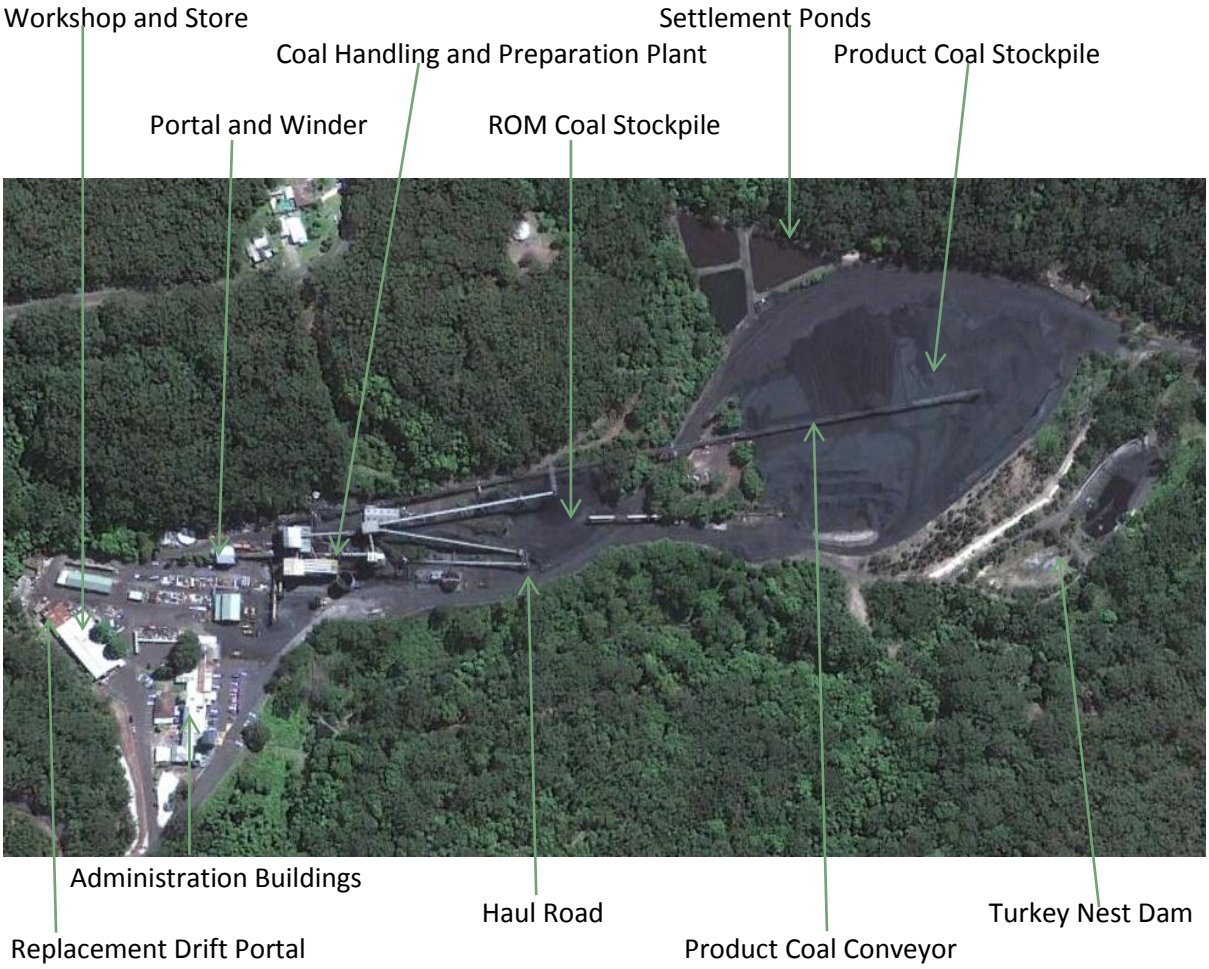
The majority of product coal (approximately 90%) is currently transported by train to the Port Kembla Coal Terminal for distribution to overseas customers (Japan, India, South America and Europe).

Also, up to 120,000 tonnes per annum (tpa) of product coal is currently transported by truck to the Corrimal and Coalcliff Coke Works. Trucking of product coal to the Corrimal and Coalcliff Coke Works is undertaken by an independent transport contractor.

Coal reject produced from the CHPP consists of two streams - coarse and fine rejects. Approximately 15% of the ROM coal processed in the CHPP is separated to the coal reject streams. Coarse and fine coal reject from the CHPP is stockpiled temporarily prior to being transported by road, by an independent transport contractor to the Glenlee Washery for emplacement.

Recent trials have been conducted on coal rejects (coarse reject that is on the stockpile and fines reject that is delivered to the fines bunker) from the CHPP, by pumping the processed reject material through a discharge pipeline into disused adits at the Metropolitan Colliery for underground emplacement.

Figure 1: Metropolitan Coal Project Surface Facilities Area



3. Approvals, Licenses and Leases

Until recently, Metropolitan Colliery and most other coal mines in the Southern Coalfield operated without development consent as the passage of the *Environmental Protection and Assessment Act 1979* (EP&A Act) was accompanied by model transitional provisions, that meant existing coal mines did not need to obtain development consent, provided that those provisions were adopted in the relevant Local Environment Plan (LEP). Provisions adopted in the Wollongong LEP meant that Metropolitan Coal was able to continue to operate without development consent.

In May 2005, the *State Environmental Planning Policy (Major Projects) 2005* was gazetted and established that all development which, in the opinion of the Minister for Planning is "development for the purpose of coal mining" is declared to be a "major project", to which the new Part 3A of the EP&A Act applied. The State Environment Planning Policy (SEPP) established a 5 year transitional period during which all mines in NSW that did not have an existing development consent, were required to obtain a Project Approval under Part 3A of the EP&A Act.

When Part 3A of the EP&A Act was passed in August 2005 it included amendments to the *Mining Act 1992* that removed an exemption under section 74(1) of the *Mining Act*, whereby existing mines operating under a mining lease did not require new or amended development consents for new or expanded mining operations within the area of the lease. Transitional provisions associated with the amendments provided a 5 year timeframe for the implementation of this change that expired on 16 December 2010.

Due to the implementation of the Major Projects SEPP and the amendments to the *Mining Act*, all existing underground coal mines operating in NSW, including Metropolitan Colliery, were required to obtain Project Approval from the Minister for Planning under Part 3A of the EP&A Act by 16 December 2010.

3.1 Project Approval

Project Approval 08_0149 for the Metropolitan Coal Project was granted under by the Minister for Planning on 22 June 2009 under Part 3A of the EP&A Act.

In June 2010, Metropolitan Coal submitted the *Metropolitan Mine Replacement Drift Construction Modification Environmental Assessment* (Metropolitan Coal, 2010a) to the NSW Minister for Planning under Section 75W of the EP&A Act, to modify the Project to allow for the additional construction of a replacement underground drift, including construction of a new drift portal at the mine's Major Surface Facilities Area. The Modification to the Project Approval was granted in September 2010.

On 2 July 2011 a Notice of Modification under 75W of the EP&A Act was granted in relation to road transport of coal to Coalcliff Coke Works.

3.2 Environment Protection Licence 747

Environment Protection Licence No. 767 was issued to Illawarra Coal for the Metropolitan Colliery project on 9 October 2001 under section 55 of the *Protection of the Environment Operations Act 1997*. Recent Variations to the EPL have been granted by the EPA as outlined in Table 1.

Table 1: Recent Variations to EPL 767

Date of Variation	Variation Components
19 December 2011	Notice amends the EPL to include Pollution Reduction Program 13 that requires the licensee to carry out site specific determination of best practice particulate matter control.
1 November 2011	Notice incorporates new licence issued under the new EPA software.
2 October 2009	EPL varied as an outcome of the licence review conducted by the EPA under s.78 of the Act.
5 December 2007	Notice required investigation and identification of noise reduction measures to meet the proposed noise levels at the sensitive receiver locations.
12 December 2006	Licence variation added a water discharge point in condition P1.3 upstream of the current discharge point to Camp Creek and installation of a dust monitor to the south of the colliery (Point 5).

3.3 Consolidated Coal Lease 703

The mining operations at the Metropolitan Colliery are conducted under Consolidated Coal Lease 703, renewed 26 January 2003 until 26 January 2024. The area of the CCL is approximately 51.95km^2. The Metropolitan Coal mining operations are conducted under an approved Mining Operations Plan.

Refer to Attachment C for environmental conditions attached to CCL 703.

4. REVIEW OF ENVIRONMENTAL MANAGEMENT

Environmental management of the Metropolitan Coal operations occurs in accordance with the various approved management plans and programs required under the Project Approval. A summary of the status of the various plans and programs is provided below in relation the requirement of Project Approval Schedule 7 condition 8(c) and (d).

4.1 Environmental Management Strategy

[Project Approval Schedule 7 condition 1]

The Environmental Management Strategy prepared by Metropolitan Coal addresses the requirements of Project Approval Schedule 5 condition 1 and is strengthened by the certified EMS that is implemented for the project. The Metropolitan operations are conducted in accordance with the certified EMS and approved Environmental Management Strategy that address the elements of ISO 14001 with:

- an overall framework for environmental management of the Metropolitan project activities;
- identification of key environmental aspects addressed in the EMS and supporting plans and procedures;
- a framework for review of the EMS and plans for continual improvement; and
- process for reviewing the implementing of the EMS and corrective action If required.

Conclusion: The Environmental Management Strategy provides a sound basis for the management of environmental aspects of the Metropolitan Coal Project activities and operations.

4.2 Air Quality

[Project Approval Schedule 4 Conditions 5 to 13]

4.2.1 Air Quality and Greenhouse Management Plan

[Project Approval Schedule 4 condition 13]

An Air Quality and Greenhouse Gas Management Plan was prepared to satisfy Project Approval Schedule 4 condition 13 and was approved by DP&I on 14 April 2011.

4.2.2 Dust Management and Mitigation Measures

Measures implemented on the Metropolitan Coal surface infrastructure area to minimise dust emissions have included:

- Enclosing conveyor systems;
- Operation of water sprays on conveyors, transfer points and stockpile areas;
- Watering of haulage roads and stockpile areas with a water truck when required;
- Progressive sealing of car parks and yard areas, and concreting works adjacent to the coal washery facility for dust suppression;
- Use of chemical dust suppressant on unsealed haul roads; and
- Establishment of native plants on exposed areas to stabilise soils.

Mitigation measures implemented to minimise dust emissions associated with off-site coal and coal reject haulage include:

- Automatic or manual covers fitted to all coal haulage trucks;
- Checks performed prior to trucks leaving the Metropolitan site to ensure haulage truck covers are being used appropriately;

- All haulage vehicles required to pass through a truck wash before leaving the site;
- Mine entrance road is washed five days per week;
- Mine entrance road - a road sweeper and then washed each Saturday; and
- Sweeper/sucker truck is operated on Parkes Street by Metropolitan Coal four days per week and one day per week by the Wollongong City Council.

4.2.2 Air Quality Monitoring

The Metropolitan Coal air quality monitoring network consists of:

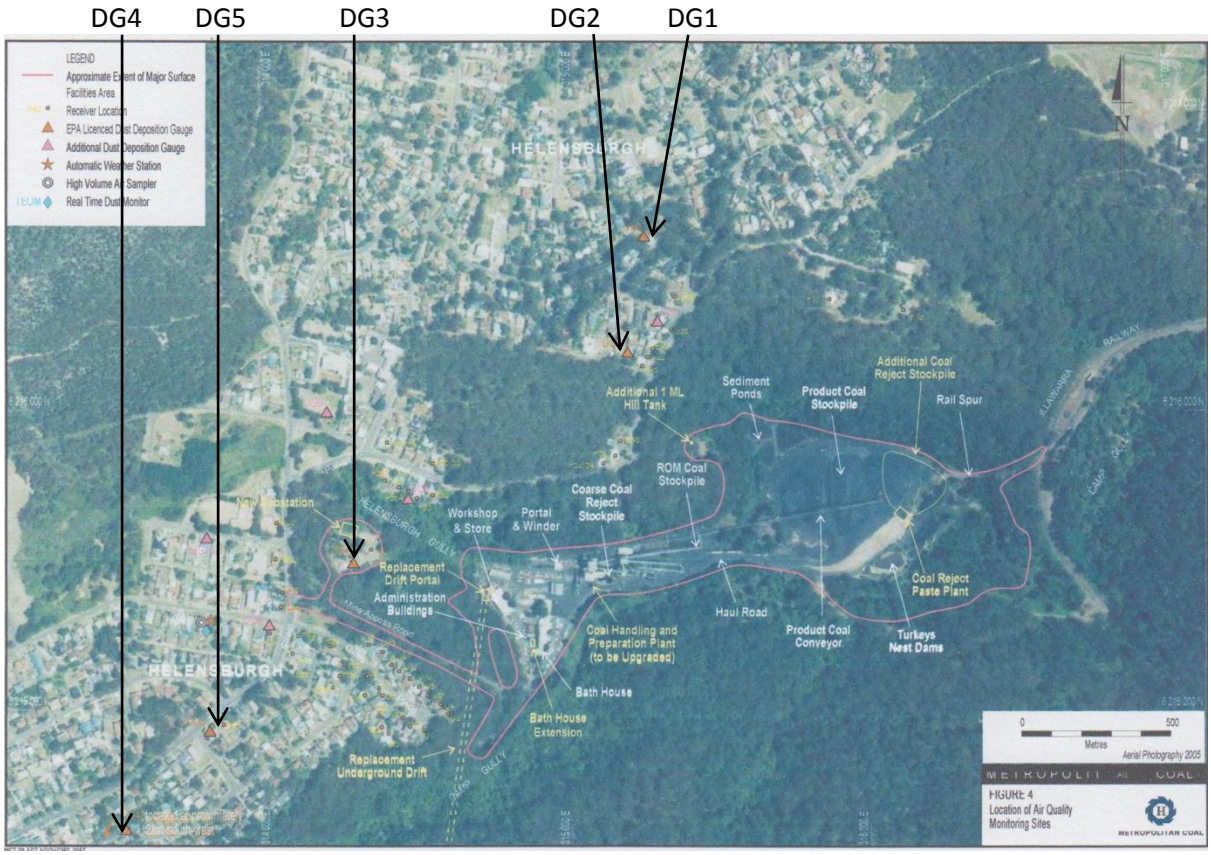
- Ten (10) dust deposition gauges;
- One High Volume Air Sampler (HVAS) for PM_{10} on a 6-day cycle;
- Tapered Element Oscillating Microbalance (TEOM) monitor to measure PM_{10} in real-time
- Automatic Weather Station.

Monthly dust samples are collected and analysed for ash and combustible matter in accordance with EPL 767 condition P1.1, and five additional dust gauges locations are monitored by Metropolitan Colliery plus the HVAS/TEOM unit at the following sites:

Table 2: Dust Monitoring Locations

Site ID	Location	Comments	Dust Deposition g/m^2/mth
EPL 767 condition P1.1			
DG1	136 The Crescent	EPA ID 1/H	1.0
DG2	28 Old Station Road	EPA ID 2	1.0
DG3	Mine Entrance	EPA ID 3	6.8
DG4	Helensburgh Golf Course	EPA ID 4	1.5
DG5	83 Parkes Street	EPA ID 5	1.0
Metropolitan Colliery additional gauges			
DG6	55 Parkes Street		0.8
DG7	32 Old Station Road		1.7
DG8	88 Parkes Street		1.6
DG9	Helensburgh Public School		1.0
DG10	Helensburgh Holy Cross Private School		1.6
	12 Robertson Street	Real-time statistical air quality/ dust monitoring unit (TEOM) and HVAS installed in 2010	

Of the ten dust deposition gauges, five are monitored for compliance with EPL 767 (i.e. DG1 to DG5). The remaining five dust gauges (DG6 to DG10), as well as the EPL dust gauges are used by Metropolitan Coal to guide operations and monitor the performance of on-site dust controls. Dust gauge DG4 is a control site that is located at the Helensburgh Golf Course approximately 2 km from the Major Surface Facilities Area.



EPL Dust Gauge Monitoring Locations DG1 to DG5

4.2.3 Dust Monitoring Results

Dust monitoring results have demonstrated compliance with Project Approval Schedule 4 conditions 11 and 12 during 2010 and 2011. There were only three (3) occasions in 2010-2011 when dust deposition results exceeded the Project Approval maximum total deposited dust level criteria of 4g/m2/month:

Two readings above the Project Approval criteria occurred at the EPA licenced dust gauge at the Mine Entrance (DG3 - EPA ID 3) in August 2010 and January 2011, and one exceedence at additional gauge DG7 at 32 Old Station Road occurred in August 2010:

- Mine Entrance dust gauge (DG3) recorded 5.0 g/m^2/month - DG3 is located on land owned by the Metropolitan Colliery near the main entrance, which is more likely to be exposed to dust from the movement of vehicles in and out of the mine site. (It is also noted that DG3 is not representative of a sensitive receptor).
- 32 Old Station Road (DG7) recorded 6.0 g/m^2/month in August 2010- there is no immediate mining source located in close proximity to DG7 that would result in this level of dust. It was considered most likely that DG7 was exposed to a localised source of dust that resulted in the measurement of 6.0 g/m^2/month. The increased deposition value could have been caused by Council construction activities proximal to the dust gauge during August.

All other gauges exhibited dust deposition levels below 4.0 g/m^2/month during 2010 and 2011.

4.2.4 Particulate Matter

A high volume air sampler (HVAS) located at 12 Robertson Street, Helensburgh measures 24 hour average PM_{10} concentrations proximal to the mine.

PM_{10} monitoring recorded results indicated that the annual average particulate matter concentration in 2010 was 17.7 µg/m^3 and in 2011 was 11.8 µg/m^3, both less than the EPL and Project Approval criterion of 30 µg/m^3. The data set does indicate a small number of exceedances above 30µg/m^3 that occurred in January and March 2010 and one exceedence on 9 March 2011.
The highest 24-hour average PM_{10} concentration during 2010-2011 was 71.9µg/m^3, recorded on 10 March 2011 (above the PM_{10} 24-hour impact assessment criteria of 50µg/m^3). It is considered that this elevated recording was associated with prescribed burning being conducted in the Helensburgh area between 4 and 9 March 2011 (same dates as affected the PM_{10} results).

4.2.5 Real-Time Monitoring System

Metropolitan Coal established a Tapered Element Oscillating Microbalance (TEOM) real-time air quality monitoring system and meteorological station at 12 Robertson Street Helensburgh during 2010. The TEOM results indicated full compliance with the annual and daily limits set by the Project Approval.

4.2.6 Complaints

Two dust related complaints were received in 2010 and one complaint in 2011. Dust complaints received during 2010 and 2011 have been less than the historical average of the previous six years.

Conclusion:
Dust management at the Metropolitan Colliery surface facilities areas is managed in a satisfactory manner with monitoring results demonstrating compliance with the EPL and Project Approval criteria.

4.3 Biodiversity[1]

[Project Approval Schedule condition 4(c) and 6(f); and Schedule 7 condition 2]

4.3.1 Biodiversity Management Plan

[Project Approval Schedule 3 condition 4(c) and 6(f)]

The Biodiversity Management Plan was prepared to satisfy the requirements of Project Approval Schedule 3 condition 4(c) and 6(f) and Schedule 7 condition 2 for Long-walls 20-22 was submitted to the DoP for approval on 14 May 2010.

The Biodiversity Management Plan provides a comprehensive review of the performance of the project in relation to the implemented monitoring program and management protocols for terrestrial ecological values associated with the approved project.

The Biodiversity Management Plan addresses the requirements outlined in Project Approval Schedule 7 condition 2 and adequately addresses each component:

- Detailed baseline data (Section 6 of the management plan).

[1] Matthew Richardson – Niche Environment and Heritage

- Statutory requirements of the project (including necessary licences) (Section 3 of the Management Plan).
- Performance measures and indicators for the monitoring program (Section 5 of the management plan).
- Programs of works to monitor the impacts, environmental performance and the effectiveness of management measures (Section 5 and 12 of the management plan).
- Contingency plan to manage unpredicted impacts and their consequences (Section 9 and 10 of the management plan).
- Protocol for managing and reporting incidents, complaints, non-compliances, exceedences of impact assessment criteria (Sections 13, 14 and 15 of the management plan).
- Protocol for the periodic review of the plan (Section 12 of the management plan).

Through the preparation of the Biodiversity Management Plan, Metropolitan Coal has satisfied Project Approval Schedule 3 condition 4(c) and 6(f) and Schedule 7 condition 2.

4.3.2 Biodiversity Assessment

Project Approval Schedule 3 Condition 1 requires that the proponent demonstrate the environmental performance of the project in relation to several specific values. In particular the condition indicates a performance measure of negligible impact to threatened species (NSW Threatened Species Conservation Act 1995) populations and ecological communities and Upland Swamps numbered 76, 77 and 92.

Related to this primary matter is the performance of the project in relation to a negligible impact to watercourses (Waratah Rivulet and the Eastern Tributary) and to cliffs (a performance measure of no more than 3% of the length of cliffs within the study area may experience rock falls). These secondary matters are relevant to the current audit as the watercourse and cliff values potentially provide important habitat resources for one or more threatened species, population or ecological communities.

The Metropolitan Coal Project Environmental Assessment outlines the results of extensive surveys for threatened species, populations and ecological communities. Specifically, Page ES-19 and ES-20 of the executive summary list the following threatened species as occurring within the project study area.

Table 3: Threatened Species Identified within the Metropolitan Coal Project Area

Threatened Plants	Threatened Fauna
• Acacia bynoeana • Astrotricha crassifolia • Pultenaea aristata • Melaleuca deanei	• Giant Burrowing Frog • Red-Crowned Toadlet • Broad-headed Snake • Black Necked Stalk • Square-tailed Kite • Grey Falcon • Eastern Ground Parrot • Turquoise Parrot • Eastern Pigmy Possum • Squirrel Glider • Grey-headed Flying Fox • Eastern Bentwing Bat • Large-footed Myotis
Endangered Ecological Community (EEC)*	
Southern Sydney Sheltered Forest on Transitional Sandstone Soils in the Sydney Basin Bioregion occurs near to the study area	

*The EEC occurs in excess of 500m from the LW20-22 study area and is therefore not likely to be at any risk from mining impacts. This vegetation community is being monitored and no impacts have been observed to date.

A summary of the Metropolitan Coal biodiversity monitoring program and the reported outcomes to date is provided in Table 4.

Table 4: Summary of the Biodiversity Monitoring Program 2010-2011

Ecological Parameter	Monitoring Methodology	Monitoring Results
Upland Swamps – Visual Inspections	Visual inspections occurs of the Upland Swamp environments (Swamps 16, 17, 18, 20, 23, 24, 25 and 26 overlying Long-walls 20-22 and control Swamps 101, 111a, 125, Woronora River 1, Woronora River South Arm and Dahlia Swamp. The visual monitoring program undertaken monthly throughout the swamps is considered to be appropriate to detect the physical changes to the swamp environment.	Monitoring upland swamp vegetation has reported some random senescence of individual plants (not threatened species) in both control and impact sites. The plant deaths do not appear to be related in any way to mining impacts.
Upland Swamps – Vegetation	Vegetation transects and quadrat monitoring occurs within Upland Swamps (Swamps 18, 20, 24 and 25 above or adjacent to Long-walls 20-22 and control Swamps 101, 111a, 125, Woronora River 1, Woronora River South Arm and Dahlia Swamp).	Transect and quadrat monitoring of upland swamp vegetation has not indicated any difference in the variation both within and between plots in both control and impact sites. Given that there has been no detectable change to swamp vegetation from mining it is unlikely threatened species have been negatively affected
Monitoring Indicator Species within Upland Swamps and Riparian Habitats	An equal number of the same species of plants are monitored in the mined swamps and unmined swamps/riparian zones for mortality.	Monitoring indicator species within upland swamps and in riparian habitats (which include the threatened plant *Pultenaea aristata*) has not indicated that there is any impact to individual plant species as a result of mining to date. Riparian vegetation monitoring has reported that changes in species composition, cover and condition reflect normal population variation and cycles in response to seasonal variation and growth. Further compounding the data collected from riparian vegetation monitoring sites was the flood event in early 2011
Amphibian Monitoring	Amphibian monitoring is undertaken in streams that are being mined beneath and streams that are not in a total of 12 sites (six control and six impact sites). Monitoring occurs between October and February.	Amphibian monitoring has recorded two threatened species (Giant Burrowing Frog and the Red-crowned Toadlet). No statistically significant differences between control and impact sites have been recorded.

Cliffs and Waterways

The 2011 AEMR reports that there are five cliffs and overhangs that have been identified within 600m of LW 20-22 that were subject to monthly monitoring during coal extraction (within 400m of the sites). Similarly steep slopes within 600m of LW 20-22 have been routinely monitored.

No subsidence related impacts have been observed in steep slopes, cliff lines or overhangs.

Surface water monitoring within the study area includes monitoring of stream features, surface water flow, pool water levels, stream water quality and reservoir water quality. Minor gas releases were observed within one pool in Waratah Rivulet over a four month period in early 2011. No other gas releases have been observed.

A minor, temporary, cessation of flow was observed in one pool in the Waratah Rivulet during 2010.

Analysis of the raw data for water quality parameters within streams within the study area has confirmed that water quality has not been affected by mining to date.

Upland Swamps

A summary of the terrestrial ecological parameters being monitored in upland swamps is outlined in Table 4. Other environmental parameters that have the potential to impact biodiversity values in upland swamps includes changes in the near surface groundwater within upland swamps.

Monitoring to date has indicated that while groundwater fluctuations are occurring in upland swamps, these fluctuations occur to similar degrees in both control and swamps in potentially impacted areas, and the results are closely correlated to rainfall recharge and post rainfall discharge.

Swamps 76, 77 and 92

Project Approval Schedule 3 condition 4 states that swamps 76, 77 and 92 shall not be mined beneath without further approval. Long-walls 20-22 do not undermine these swamps and it was reported that there is no intention to mine beneath these swamps at this time.

4.3.3 General Discussion and Conclusions

To date no impacts on threatened species, populations or ecological communities have been recorded from the various Metropolitan Coal monitoring programs designed to detect change in these values.

Monitoring of environmental values that are likely to represent important habitat for threatened species, populations or ecological communities have also been undertaken (including surface water quality and flow, cliffs, steep slopes, upland swamp groundwater etc.). To date negligible, short term impacts have been observed in some of these parameters and in most cases natural variation has been observed in both control and impact sites.

The choice of location for monitoring sites is currently considered to be generally adequate for the assessment of any effects of the project activities.

Figure 10 of the Metropolitan Coal – Biodiversity Management Plan does however indicate a minor issue with the site selection of Riparian Vegetation control sites. That is, the control sites MPIP03, MPIP04 and MPIP10 are located downstream of the current mining area for Long-walls 20-22. It is possible, though unlikely, potential impacts such as changes to water quality arising from the mining of Long-walls 20-22 may affect these downstream control sites.

The location of the control sites MPIP03, MPIP04 and MPIP10 are not independent of the impact source and, therefore, not true control sites. However, given the volume of water within Waratah Rivulet at the location of the control sites any water quality impacts from the upstream mining area are likely to be heavily diluted. Despite this, and for the purpose of providing a rigorous sampling methodology, it is appropriate to suggest that two are made:

Suggestions:
1. Current water quality monitoring data of the area near to the downstream control sites should be compared with the water quality data from existing, truly independent streams to determine if there is any likelihood of minor water quality impacts reaching the controls sites; and
2. Identify and include in the monitoring program several truly independent riparian monitoring sites.

In relation to the amphibian monitoring program, it is stated that the sampling period occurs between October and February. While this is an appropriate monitoring time for most amphibians within the project areas waterways, the threatened Littlejohn's Tree-frog is best surveyed for during winter and, therefore, could occur within the study area yet remain undetected with the current survey program.

Recommendation:
Littlejohn's Tree-frog is primarily a winter calling species and it is recommended that ongoing winter surveys for this species are conducted as it has been recorded recently within the Lake Avon, Lake Cataract and Lake Cordeaux Catchments.

In conclusion, the monitoring programs are adequately designed to determine if mining impacts may affect threatened species, populations or ecological communities, or their habitats. Further, it has been reported that the extraction of coal from the LW 20-22 mining areas has had no detectable impact on these values. The monitoring data presented to date confirms that Metropolitan Colliery has not exceeded the performance measures outlined in Table 1 of the Project Approval in relation to threatened species, populations or ecological communities.

4.4 Blasting

[Project Approval Schedule 4 condition 7]

No blasting activities have been carried out on the surface operational areas of Metropolitan Coal leases. Minor blasting underground has occurred when geological structures are encountered that cannot be excavated by the continuous miner. It has also been required at times on the long-wall where an area of roof falls ahead of the hydraulic supports (usually associated with mudstone roof materials).

Blast and/or vibration monitoring has not been undertaken when blasting is conducted underground as the small blasts and depth of the mining reduces the potential for impact and the underground work areas (long-walls) are not under sensitive receptors.

Conclusion:
No blasting activities have occurred on the surface operational areas of Metropolitan Coal leases.
The audit concludes that Metropolitan Coal is currently meeting its obligations under the Department of Planning Approval conditions for Schedule 4 "Specific Environmental Conditions — General" Condition 7, however for completeness, a section be included in the either the Environmental Management Strategy or Noise Management Plan to document blasting at the surface facility and its restriction and process to conduct blasting in the unlikely occasion it would be required.

4.5 Bush Fire Management

4.5.1 Bushfire Management Plan

A Bushfire Management Plan (BMP) was prepared by Building Code & Bushfire Hazard Solutions Pty Limited in 2010. The BMP includes Bushfire Management Maps. The BMP is based on the requirements of the *NSW Rural Fires Act 1997*, *Rural Fires Regulation 2008*, the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act), the principles of Ecologically Sustainable Development, the *Environment Protection and Biodiversity Conservation Act 1999,* the RFS documents known as *Bushfire Environmental Assessment Code for NSW* and *Planning for Bushfire Protection – 2006* for the purposes of bushfire hazard determination.

The BMP covers the Metropolitan Colliery, its neighbours and fire authorities providing a tool for making informed decisions on mitigation and bushfire response issues. In assessing the impacts to the Metropolitan Colliery site the bushfire risk was assessed and actions and recommendations to treat the identified risks included in the BMP.

The assessment of bushfire risk included the following characteristics of the site:

- Slope and topography;
- Available fuels;
- Site access and fire trails;

- Services and water supplies; and
- Declared bushfire prone lands

Bush fire management controls implemented during 2010-2011 have included:

- Maintenance of water storage dams identified as water sources for fire fighting, with pumping facilities;
- Provision of fire extinguishers in strategic locations; and
- Hazard reduction around the buildings and the Integral power line supply to the site.

Additionally, a Bushfire Preparedness Plan as approved by the SCA applies for works conducted in the Woronora Special Area.

4.6 Catchment Management

[Project Approval Schedule 4 conditions 1 and 2]

4.6.1 Catchment Monitoring Program

[Project Approval Schedule 4 condition 2]

The Catchment Monitoring Program prepared to satisfy Project Approval Schedule 4 condition 2 was submitted to the Director-General for endorsement on 14 April 2010. The Catchment Monitoring Program includes detailed baseline data of existing surface water and groundwater resources, a program for the ongoing development and use of appropriate surface water and groundwater models, a program to monitor and assess impacts on surface water and groundwater resources, and a program to validate and calibrate the surface water and groundwater models.

The Long-wall 20-22 Water Management Plan prepared to manage the potential environmental consequences of the Extraction Plan on watercourses (including the Woronora Reservoir), aquifers and catchment yield was prepared in accordance with Project Approval Schedule 4 condition 6 and this also addresses catchment management in relation to the areas affected by Long-walls 20-22 development.

Catchment Monitoring Program:[2]

Although the baseline groundwater data reported in the Catchment Monitoring Program is considered to satisfy the Project Approval, improvement could be made by inclusion of the following information in the monitoring program:

Groundwater flow contours for the different aquifers;
Data on aquifer properties such as hydraulic transmissivity and storativity;
A more comprehensive review of water quality trends and characteristics;
Rainfall data on hydrographs.

4.7 Construction Management Plan

[Project Approval Schedule 3 condition 11]

A Construction Management Plan for the surface works for the Eastern Tributary and Honeysuckle Creek Gauging Stations construction in the Woronora Special Area was prepared to satisfy Project Approval Schedule 3 condition 11, in consultation with the SCA and submitted to DoP for approval on 26 July 2011. DoP responded with comments on 31 October 2010 and the revised Construction Management Plan was submitted to DP&I on 29 April 2011.

4.8 Erosion and Sediment Control

[Project Approval Schedule 4 condition 15(b)]

[2] Australian Groundwater and Environmental Consultants

As the majority of the Metropolitan Colliery operations and works are underground, the management of erosion and sediment control is mainly associated with surface construction works.

4.8.1 Erosion and Sediment Control Plan

[Project Approval Schedule 4 condition 15(b)]

Erosion and sediment measures are addressed in the Surface Facilities Water Management Plan Project Approval Schedule4 condition 15(b), Water Management Plan for Long-walls 20-22 dated April 2010, and Construction Management Plan prepared under Project Approval Schedule 3 condition 11.

Section 8.3 of the Water Management Plan references the Construction Management Plan and this describes the management measures implemented for surface construction works.

4.8.2 Erosion Reduction and Sediment Control Measures

Erosion and sediment control measures implemented across the Metropolitan Colliery surface disturbance areas, include use of geo-fabric, sediment pits / traps, sediment fencing and hay bales, vegetating of slopes, and use of concrete spillways and concrete causeways, as required.

Temporary erosion and sediment controls in general accordance with applicable erosion and sediment control principles and guidelines (*Managing Urban Stormwater: Soils and Construction, Volume 2E Mines and Quarries* DECC, 2008) are installed prior to the commencement of surface disturbance activities. Erosion and sediment controls will remain in place until such time as ground disturbed by the works has stabilised.

4.8.3 Erosion and Sediment Control Management

Metropolitan Coal has a comprehensive procedure to ensure that all erosion and sediment risks are identified and managed prior to the commencement of any surface disturbance and the surface disturbance register and permitting system facilitates reporting of disturbance and subsequent rehabilitation monitoring.

Prior to any surface works conducted within the Woronora Special Area, the requirements of the Construction Management Plan are implemented and an Environmental Management Plan (EMP) is developed that includes erosion and sediment control measures. The EMP is submitted to the SCA:

- Geofabric / straw bale filters are installed consistent with *Managing urban stormwater: soils and construction – mines and quarries* DECCW, 2008;
- Rubber matting placed for steel-tracked drill rigs;
- Cessation of activities in the Waratah Rivulet in the event of imminent heavy rain and relocation of equipment to pre-determined elevated storage areas;
- Regular inspections of erosion and sediment control structures for structural integrity and effectiveness conducted by Metropolitan Coal environmental personnel; and
- Where drilling occurs on or in the vicinity of the Waratah Rivulet, filtering via a series of pumps is employed to manage the fine clay fraction if required. Water quality is monitored downstream of the works area to ensure controls are effective.

Conclusion:
The procedures that have been developed within the management plans provide a sound basis for implementation of erosion and sediment control for surface activities conducted in the mining lease and SCA areas.

4.9 Groundwater[3]

[Project Approval Schedule 3 condition 2 (Catchment Management Plan), and conditions 6 and 7 (Second Workings); and Schedule 4 condition 15 Surface Facilities Water Management Plan)]

4.9.1 Groundwater Management and Monitoring

Groundwater management is addressed in the Water Management Plan section 6.3 for Long-walls 20-22, prepared to satisfy Project Approval Schedule 4 condition 15 and groundwater monitoring is also addressed in the Catchment Monitoring Program section 3.5, prepared to satisfy Project Approval Schedule 3 condition 2 Catchment Management Plan, dated 14 May 2010.

4.9.2 Performance of the Project

A review of the 2010 and 2011 Metropolitan Mine Annual Reports showed that none of the performance measures or performances indicators relating to groundwater were exceeded for the project.
There is no evidence to indicate a change in swamp groundwater and shallow groundwater levels or water quality that is attributable to mining activities.

Deep groundwater piezometers close to the mined long-walls show substantial depressurisation, but this is consistent with the predicted impacts outlined in the Water Management Plan and the Environmental Assessment.

4.9.3 Director-Generals Assessment Report

The Director-Generals Assessment Report June 2009 section 5.6 recommended the following improvements to the groundwater monitoring regime:

- *Shallow piezometer installations for the monitoring of groundwater levels/pressures within significant upland swamps, drainages and any connected alluvium;*
- *Groundwater quality classification through regular sampling and analyses at installed piezometers;*
- *Deep piezometer installations for the monitoring of pore pressures within the natural rock strata with a high level of confidence;*
- *Strata hydraulic property measurements to facilitate calculation of sub-surface flows. Additional core sampling and testing is recommended to confirm the presence and continuity of aquitards beneath the Woronora Reservoir;*

Implementation of the recommendations in the Director-General's Report is ongoing:

- Four new shallow groundwater bores were installed between August and September 2010;
- Four new groundwater quality sites were established for continued baseline monitoring at existing sites.
- One additional deep groundwater bore has been drilled with further bores proposed to be drilled before commencement of future long-walls.
- Performance of hydraulic property measurements for sub-surface flows and additional work to assess the continuity of aquitards beneath the Woronora Reservoir, have yet to be undertaken.

[3] Australian Groundwater and Environmental Consultants

4.9.4 Suggestions for Improvement

Suggestions for improvement to the groundwater management and monitoring at Metropolitan Coal are:

- The current groundwater model is limited to a steady-state calibration. Mention is made of a transient calibration to be undertaken when sufficient data is available but no timeframe for this is provided. An approximate timeframe for completion of a transient groundwater model should be provided.

- Impacts on perched swamp aquifers, shallow aquifers and groundwater yield to Woronora Reservoir from mining are predicted to be negligible as depressurisation effects from the deep aquifer are not expected to propagate upwards into these aquifers. However, impacts are possible should faults be intersected which induce hydraulic connection between the shallow and deep aquifers. Although this risk is considered low, a description of possible remediation options should be included.

- No reference is made to a recognised water sampling procedure or an internal sampling procedure to be followed during collection of water quality samples for field and laboratory analysis. It is recommended that the Catchment Monitoring Program and Water Management Plan include reference to a suitable sampling procedure.

Conclusion:
Overall, conditions relating to groundwater can be considered to be compliant with the Director-Generals Conditions of Approval. No performance measures or performance limits relating to groundwater were exceeded for the project.

4.10 Heritage

[Project Approval Schedule 3 condition 1 Performance Measures and condition 6(f)]

4.10.1 Heritage Management Plan

[Project Approval Schedule 3 condition 6(f)]

A Heritage Management Plan was prepared as part of the Long-wall 20-22 suite of Plans under Project Approval Schedule 3 condition 6(f) and submitted to the DP&I on 14 November 2011 following minor amendments and formatting changes.

Aboriginal Heritage Management is also addressed in the Construction Management Plan section 6.2, prepared to satisfy Project Approval Schedule 3 condition 11 (dated November 2010) for construction works in the Woronora Special Area.

4.10.2 Aboriginal Heritage Management

Pre-Clearance Surveys
In accordance with the Heritage Management Plan, pre-clearance surveys are undertaken to identify and heritage items and determine the most appropriate location for required infrastructure. Pre-clearance surveys involve:

- Developing an inventory of surface infrastructure and conducting an initial desktop risk assessment based on the location of known heritage sites.
- Conduct a pre-clearance survey of the proposed site(s) for surface infrastructure.

- Assessing potential impacts to nearby Aboriginal heritage site(s) based on the results of the preclearance surveys and determining the most appropriate location for required surface infrastructure.
- Where practicable, surface infrastructure will be located so as to avoid or minimise impacts to Aboriginal heritage sites. If impacts cannot be avoided, appropriate management and/or mitigation measures will be undertaken in accordance with the Heritage Management Plan.

Where Aboriginal heritage sites are located close to required surface disturbance works, the surface disturbance protocol will be implemented.

4.10.3 Surface Disturbance Protocol

The surface disturbance protocol aims to avoid accidental damage to Aboriginal heritage sites located close to surface disturbance works. The pre-clearance survey identifies the most appropriate location for required infrastructure and the surface disturbance protocol is then applied to all work locations (e.g. exploration, installation/operation/maintenance of surface infrastructure, construction/ maintenance of access tracks, monitoring and stream restoration, etc) proposed to be located close to any known Aboriginal heritage site(s).

Surface disturbance works will only be undertaken after consideration of the following:

- Avoidance of impact to Aboriginal heritage sites where practicable ;
- Avoidance of accidental damage to Aboriginal heritage sites located close to surface disturbance works, by implementing appropriate demarcation (e.g. fencing, sign-posting or temporary flagging), prior to commencement of works; or
- Where avoidance is not practicable, a comprehensive baseline record will be prepared and consideration of salvage will occur in consultation with Aboriginal stakeholders prior to disturbance.

(Any previously unrecorded Aboriginal heritage sites identified during fieldwork (e.g. pre-clearance surveys) will be recorded and the information submitted to the OEH for registration on the Aboriginal Heritage Information Management System (AHIMS) database).

4.10.4 Aboriginal Heritage

Aboriginal heritage data and information for known sites recorded in the Project Underground Mining Area and surrounds were presented in the Metropolitan Coal Project Environmental Assessment (HCPL, 2008) Appendix H.

Locations of Aboriginal heritage sites recorded in the underground mining area and surrounds include:

- Sandstone overhangs containing art and/or artefacts;
- Sandstone overhangs containing potential archaeological deposits;
- Grinding groove sites; and
- Rock engravings.

4.10.5 Aboriginal Heritage Site Monitoring

In accordance with the Aboriginal site monitoring program, the following tasks are undertaken during monitoring of Aboriginal heritage sites:

- Inspection of all sites to identify changes to their physical characteristics since previous monitoring and against the baseline record;
- Assessment of rock art motifs and panels for any damage or deterioration since the previous monitoring and against the baseline record;

- Inspections of sandstone platforms/outcrops around the sites for cracking;
- Inspections of each discrete grinding groove/petroglyph to assess deterioration since the previous monitoring and against the baseline record;
- Baseline subsidence monitoring at set locations (using a portable GPS unit to millimetres) around and within each site;
- Detailed description and quantification of any changes noted during the completion of the above tasks; and
- A photographic record of any changes noted during monitoring.

The monitoring results are used to assess the Aboriginal sites against the Aboriginal heritage subsidence impact performance measure (Project Approval Schedule 3 condition 1) – "*Less than 10% of Aboriginal heritage sites within the mining area are affected by subsidence impacts".* Sites are considered to be "affected by subsidence impacts" if they exhibit one or more of the following consequences that cannot be attributed to natural weathering or deterioration:

- Overhang collapse;
- Cracking of sandstone that coincides with Aboriginal art or grinding grooves; and
- Rock fall that damages Aboriginal art.

The Heritage Management Plan (Appendix 2) Subsidence Impact Register is used to progressively monitor the cumulative number and percentage of Aboriginal heritage sites affected by subsidence impacts.

In the 2010 and 2011 period monitoring of Aboriginal heritage sites, two affected sites were identified:

- FRC 12 - weathering to the Darmulan engraving was observed during the 2010 survey. This weathering effect did not appear to have deteriorated in the 2011 monitoring survey.
- FRC 139 showed a significant level of cracking of the rock platform during the 2011 site monitoring survey.

All other Aboriginal heritage sites surveyed/monitored during 2011 (14 sites) did not show any changes/deterioration.

4.10.6 Non-Aboriginal Heritage

Metropolitan Colliery is recognised as Australia's oldest continually operating coal mine, having commenced mining operations in the late 1800's and Metropolitan Colliery is listed as a place on the NSW State Heritage Inventory (SHI), under the category of Mining & Processing.

(Approximately 30 heritage items listed in the State Heritage Inventory are situated in close proximity to Metropolitan Coal, including 26 items situated in the Helensburgh township. The heritage items in Helensburgh primarily relate to historic coal mining and the development of the railway through the area).

Site Heritage Management Progress
A Conservation Management Plan (CMP) was prepared during 2009. The Conservation Management Plan provides an inventory of the listed heritage items on site and management strategies. The more significant individual items located on the mine premises are:

- Abandoned rail tunnels;
- No. 1 shaft head frame;
- Koeppe winder;
- Powerhouse building;
- Old power pylon;
- Bath house;
- Brick railway viaduct; and
- Brick culverts.

Conclusion:
The conservation strategies and monitoring programs for identified heritage items and sites associated with the Metropolitan Coal development area appear to provide adequate management for the protection of the heritage items.

4.11 Noise[4]

[Project Approval Schedule 4 conditions 1 to 6, and 8]

4.11.1 Noise Management Plan

[Project Approval Schedule 4 condition 8]

A Noise Management Plan was prepared to satisfy Project Approval Schedule 4 condition 8 and submitted to the DoP on 26 August 2010. The Plan was approved on 14 April 2011.

4.11.2 Noise Impact Assessment Criteria

[Project Approval Schedule 5 "Additional Procedures for Air Quality and Noise Management" Condition 1 to 3]

The Project Approval Schedule 4 conditions to 1 to 3 require Metropolitan Coal to meet the noise assessment criteria specified in Project Approval Table 2 in relation to property acquisition, by the end of 2014. Notwithstanding the timing for applicability of the noise limits the Noise Management Plan was reviewed to assess the Metropolitan Coal procedures that show a future process to inform any property owners of any exceedances of the noise limit.

As such, it is acknowledged that the noise levels in the local area may currently exceed the levels presented in Project Approval Schedule 4 condition 1 Table 2. Notwithstanding the applicability of the noise limits by the end of 2014, the Metropolitan Coal Noise Management plan presents three performance indicators for the planning for the future noise limits, namely:

- Establishment of quarterly operational attended noise monitoring and a real time monitoring system;
- Design of the major surface facilities fixed plant upgrades is to be undertaken cognisant of the material noise reductions at the site that will be required to meet the noise criteria in the Approval at the end of 2014;
- Undertake noise modelling of the preferred upgrade design prior to construction of major surface fixed plant components to determine if sufficient noise reduction is likely to be achieved from the fixed plant and mobile plant upgrades.

Conclusion:
Metropolitan Coal is currently meeting its obligations under Project Approval Schedule 5 "Additional Procedures for Air Quality and Noise Management" Condition 1.

4.11.2 Noise Monitoring

Metropolitan Coal Mine has one Sentinex self-contained, free standing noise recording/monitoring unit that provides continuous monitoring of environmental noise levels.

This Sentinex real-time noise monitor uses a continuous recording unattended statistical noise logger that provides:

- Records of 15 minute statistical noise data.
- Continuous records of real-time audio (MP3 or wav) files.
- Daily reports, including:
  - 15 minute statistical data (LA_{10}, LA_{90});
  - $LAeq_{(15\ minute)}$ and $LAeq_{(period)}$ noise levels;

[4] John Wasserman – Wilkinson Murray

- $LAeq_{(15\ minute)}$ in 1/3 octave; and
- $LAeq_{(15\ minute)}$ in the 12.5 to 630 Hertz (Hz) (low frequency) range.

The continuous recording audio function allows the determination of whether the noise source(s) are Project related or other potential noise sources such as insects, frogs, local vehicles, domestic activities (lawn mowers, etc.) and wind and rain that may influence noise monitoring results.

The Sentinex unit is installed at Oxley Place and commenced operation in December 2010.

Attended noise measurements and recordings are conducted quarterly by SLR Consulting to quantify the noise emissions from the mine facilities, including processing and transportation operations.

The attended noise monitoring program is conducted at sites representative of the nearest residences to the Metropolitan Colliery surface facilities area that could potentially be most affected by noise emissions. The nearest residences are:

- residences to the south-west at 2 to 18 Oxley Place;
- residences to the west north-west at 53 to 59 Parkes Street;
- residences to the north-west at 48, 50, 52/54 Parkes Street; and
- residences further to the north-west at 42, 44 and 46 Parkes Street.

Conclusion:
Metropolitan Coal is currently meeting its obligations under the Department of Planning Approval conditions in Schedule 4 "Specific Environmental Conditions — General" Conditions 1, 2 and 3.

4.11.3 Rail Noise

[Project Approval Schedule 4 condition 4 to 6]

Condition 4 states: *"The Proponent shall only use locomotives that are approved to operate on the NSW rail network in accordance with noise limits L6.1 to L6.4 in RailCorp's EPL (No. 12208) and ARTC's EPL (No. 3142) or a Pollution Control Approval issued under the former Pollution Control Act 1970."*

Emails between Metropolitan Coal and Pacific National indicate that Metropolitan Coal requested freight locomotives from Pacific National that would meet the Approval requirements. Pacific Nationals response was that 82 Class locomotives be used and they presented letters from Clyde Engineering (who built the locomotives) and NSW EPA to prove the compliance with the Approval condition.

Condition 5 requires – *"The Proponent shall use its best endeavours to minimise night-time movements of rolling stock on the Metropolitan rail spur."*

Pacific National is contracted by Metropolitan Coal to conduct the freight rail services to the mine under an existing contract that was negotiated in 2000, prior to the Project Approval. Metropolitan Coal are not therefore in direct control of the rail operations under the contract and as such can only influence rail operations by Pacific National. Regular commercial meetings are held with Pacific National and on 29 September 2010, the minutes state that Metropolitan Coal presented its "efforts to minimise noise impacts on the community, and reaffirmed Project Approval Schedule 4 condition 5 that states the colliery must use its best endeavours to minimise night time movements of rolling stock on the Metropolitan rail spur. Pacific National and Metropolitan Coal agreed to continue to work together to support compliance with the condition.

Conclusion:
Metropolitan Coal is currently meeting its obligations under the Project Approval conditions for Schedule 4 "Specific Environmental Conditions — General" Condition 4 and 5 in that it is using its best endeavours to minimise night rail movement on its rail spur.

4.12 Rehabilitation[5]

[Project Approval Schedule 6 condition 1 to 4)

4.12.1 Rehabilitation Management Plan – Metropolitan Coal

[Project Approval Schedule 6 condition 4]

A Rehabilitation Management Plan was prepared in consultation with DECCW, SCA, OoW, DI&I (Fisheries), DI&I (Mineral Resources) and DoP. The Rehabilitation Management Plan was approved by DI&I on 22 October 2010.

4.12.2 Rehabilitation Strategy - Surface Facilities Area

[Project Approval Schedule 6 condition 2]

A Rehabilitation Strategy for the Surface Facilities Area was prepared by qualified experts approved by the DP&I on 8 October 2011 (Reece McDougall, Heritage Consultant, Godden Mackay Logan Pty Ltd; Elizabeth Norris, Ecologist/Botanist, Eco Logical Australia; and Allan Watson, Civil Engineering Consultant, Allan Watson Associates Pty Ltd) to satisfy Project Approval Schedule 6 condition 2.

4.12.3 Rehabilitation Management

As the majority of the Metropolitan Colliery operations are underground, rehabilitation activities are limited to the surface facilities area and natural features that may be affected by the subsidence from the underground workings.

Table 5 addresses the rehabilitation objectives described in Project Approval Schedule 6 condition 1 and any summarises rehabilitation activities undertaken to date:

Table 5: Rehabilitation Objectives vs Rehabilitation Measures/Activities

Area	Rehabilitation Objective and Rehabilitation Management Plan	Rehabilitation Measures
Surface Facilities Area and other land affected by the project	Section 4.1 of the Rehabilitation Management Plan addresses the rehabilitation of surface areas disturbed for the purposes of exploration activities, vehicle tracks, environmental monitoring, and other minor project related surface activities. Section 4.12 outlines the rehabilitation objectives and performance indicators for these values. Specifically, the Project Approval requires the following rehabilitation objective to form the basis of the plan: "Restore ecosystem function, including maintaining or establishing self-sustaining native ecosystems comprised of local native plant species with a landform consistent with the surrounding environment" Section 7.1 of the Rehabilitation Management Plan outlines the approach to the rehabilitation of surface disturbance activities. Monitoring performance measures are outlined in Section 8 of the plan.	To date surface disturbance has been minor, limited to small areas for installation of monitoring equipment and exploration activities. Metropolitan Coal minimises surface disturbance through the "dual use" of sites where possible, (e.g. the installation of groundwater monitoring equipment within the exploration boreholes pads). Some disturbed sites will not be rehabilitated to closure status until monitoring is no longer required at those sites. It is appropriate to leave sites in an open state provided monitoring of site condition is ongoing such that any erosion, weed invasion etc. are arrested and remediated. To date little, if any, rehabilitation of surface disturbed sites has been necessary. The Rehabilitation Management Plan identifies in section 4.1 that a "Surface Disturbance Register" is maintained to progressively monitor the surface disturbance areas requiring rehabilitation.
Streams, Pools and Rock-bars	Section 4.2 of the Rehabilitation Management Plan addresses the remediation of streams	Impacts to waterways as a result of subsidence from the underground mining,

[5] Matthew Richardson – Niche Environment and Heritage

Area	Rehabilitation Objective and Rehabilitation Management Plan	Rehabilitation Measures
	pools and rock-bars. Section 5.2 outlines the rehabilitation objectives and performance indicators for these values. Specifically, Table 11 of the plan identifies that the rehabilitation objective for the area of Waratah Rivulet between the downstream edge of Flat Rock Swamp and the full supply level of the Woronora Reservoir must be rehabilitated such that the project will "restore surface water flow and pool holding capacity as soon as reasonably practicable". Section 7.2 of the Rehabilitation Management Plan outlines the approach to the rehabilitation of streams, pools and rock-bars. Monitoring performance measures are outlined in Section 8 of the plan.	has been limited and localised. Remediation measures associated with subsidence have been carried out using polyurethane (PUR) injection at rock bars (WRS3 and WRS4) in the Waratah Rivulet.
Cliffs and Steep Slopes	Section 4.3 of the Rehabilitation Management Plan addresses the remediation of cliffs and steep slopes. Section 5.3 outlines the rehabilitation objectives and performance indicators for these values. Specifically, the Project Approval identify that rehabilitation of cliffs should be undertaken "to ensure that there is no safety hazard beyond that existing prior to mining". Monitoring performance measures are outlined in Section 8 of the plan.	For the purposes of completeness, steep slopes have been included in this assessment of terrestrial ecological values as they provide habitat to a number of flora and fauna of conservation significance. Further, in the unlikely event of larger scale slope or cliff failure, dislodged debris has the potential to impact water quality. There have been no impacts to steep slopes or cliffs to date. No remediation works have been required.

The rehabilitation strategy and program of rehabilitation monitoring and proposed works is appropriate for the likely impacts of the approved mining activity.

However, it is suggested that the wording of the rehabilitation objective in Project Approval Schedule 6 condition 1 that requires the work to restore *"ecosystem function, including maintaining or establishing self-sustaining ecosystems" through the use of native plant species on landforms that have been re-contoured, consistent with the surrounding environment*", be reworded or the process for achieving these outcomes be described in the Rehabilitation Management Plan in a manner that is achievable.

Suggested action:
It is suggested that the condition be reworded or the Rehabilitation Management Plan procedure be modified to include provision for the revegetation of disturbed areas using appropriate local source native seed/plant material and the instigation of a longer term monitoring program that focusses on monitoring self-sustaining biological processes (e.g. flowering, seed set, seed viability, germination and establishment, and generational succession) to determine if they are occurring. If these processes are not seen to be evident in the rehabilitated areas, further investigation into the ecosystem function should be considered.

4.13 Research Program[6]

[Project Approval Schedule 3 condition 9]

The Research Program developed to satisfy Project Approval Schedule 3 condition 9 was submitted to DoP on 4 November 2010. The Research Program was approved by DP&I on 27 May 2011.

[6] Steve Ditton – DgS; Matthew Richardson – Niche Environment and Heritage

4.13.1 Approved Research Program Summary

The Research Program (Project Approval Schedule 3 condition 9) comprises three projects that will investigate technical aspects:

- groundwater,
- subsidence and
- Eastern Ground Parrot populations on the Woronora Plateau.

The first project is to be undertaken by the Office of Environment and Heritage and will result in the implementation of a targeted regional survey for the Ground Parrot across the Woronora Plateau using bio-acoustic monitoring to assess the presence and size of any populations, and establish their relationship to site attributes. The project will establish long term monitoring sites to assess any impact of long-wall mining on the species and concurrently assess the status and distribution of the endangered Eastern Bristlebird. This will enable the establishment of a baseline library of digital recordings from swamps across the Woronora Plateau that could be retrospectively analysed for changes in other bird species in the future.

The second project entitled *"Evaluation of fundamental geotechnical mechanisms contributing to valley closure subsidence effects under irregular topographic conditions"* is being conducted under the supervision of Professor Bruce Hebblewhite, University of New South Wales. Professor Hebblewhite is undertaking research in the evaluation of fundamental geotechnical mechanisms contributing to valley closure subsidence effects under irregular topographic conditions. Australia has provided world leadership in identifying the now widely accepted phenomenon of valley closure and related valley floor up-sidence when mining beneath or in close proximity to valleys and other forms of irregular surface topography. Despite being a widely accepted phenomenon the mechanisms remain unclear. The objective of this project is to carry out a comprehensive program of numerical investigations and calibration studies for a range of different parameters, in order to clearly understand the underlying or driving geotechnical mechanisms which cause this behaviour and hence improve the prediction capabilities.

In the third project Dr Noel Merrick from Heritage Computing will investigate the role played by chain pillars in isolating groundwater pressure reductions above mined long-wall panels, and whether they might limit the outwards propagation of pressure reductions and environmental effects. The outcomes of this project will be an improved understanding of the significance of chain pillars with respect to alteration of the groundwater regime, a quantitative appreciation of critical pillar widths in absolute and relative terms and a methodology for transferring geotechnical model outputs to groundwater model inputs (permeability fields).

4.14 Subsidence[7]

[Project Approval Schedule 3 conditions 3 to 6]

4.14.1 Current Underground Workings

In accordance with Project Approval Schedule 3 condition 5, Metropolitan Coal carried out first workings for long-wall 20 underground mining area, consistent with the approved mine plan. Secondary extraction of Long-wall 20 commenced in May 2010 in accordance with the approved mine plan.

Long-wall 20 had only retreated 315 m at the end of the first audit period (31/07/10) and was almost complete at the end of the second audit period (31/07/11). Long-wall LW21 commenced in September 2011 and was approximately mid-way along the panel at the time of the Triennial audit field inspection conducted on 31January 2012.

[7] Steve Ditton - DgS

4.14.2 Extraction Plan

[Project Approval Schedule 3 condition]

The Extraction Plan to address Long-walls 20-22 was developed to address the requirements of Project Approval Schedule 3 condition 3 and was submitted to the Director-General and approved on 14 May 2010.

The Extraction Plan included the following components as Attachments:

- Attachment 1 Subsidence Monitoring Program (Including a Coal Resource Recovery Plan, Detailed Plan of Second Workings and Revised Subsidence Predictions)
- Attachment 2 Water Management Plan
- Attachment 3 Biodiversity Management Plan
- Attachment 4 Land Management Plan
- Attachment 5 Heritage Management Plan
- Attachment 6 Built Features Management Plan
- Attachment 7 Public Safety Management Plan

Performance Indicators (PIs) have also been developed for the items listed in the Project Approval to assess whether the observed subsidence effects and impacts due to LW20 are within the required performance measures defined in the Project Approval or predicted in the Environmental Assessment.

4.14.3 Mine Subsidence Monitoring

Six monthly subsidence reports (raw data) were provided to DI&I and SCA in March and September 2010-2011 in accordance with the *Metropolitan Colliery Longwalls 14-17 Environmental Monitoring Program* (EMP).

Environmental monitoring stations include:

- deep and shallow piezometers to monitor ground and surface water impacts in the vicinity of valley and upland swamps and calibrate numerical models;
- monitoring of pool levels and river flow gauging stations; and
- water quality sampling and registered laboratory testing.

Several conventional subsidence lines have been established along existing fire trails and across the Waratah Rivulet to measure valley closure/uplift and cliff line subsidence / stability. Environmental monitoring stations included deep and shallow piezometers to monitor:

- ground and surface water impacts in the vicinity of valley and upland swamps and calibrate numerical models;
- pool levels and river flow gauging stations; and
- water quality sampling and registered laboratory testing.

Built environment monitoring included measurement of 3-D subsidence effects on the Princess Highway overpass bridge, Southern Freeway and Transmission Tower monitoring.

4.14.4 End of Panel Report (EOPR)

The LW18 End of Panel Report was prepared in August 2010. The summary section of *Long-wall 18 End of Panel Report* stated:

> *"There is very good correlation between the observed and predicted subsidence movements at Metropolitan Colliery after the extraction of Long-wall 18. The subsidence that has been measured after Long-wall 18 has been consistent with expectation and with the predictions that were provided for the MSEC report (MSEC Report No. MSEC317 Rev D, Nov 2007).*
> *The maximum observed vertical subsidence of 1,460 mm was less than the maximum predicted vertical subsidence along all the monitoring lines. The maximum observed tilt of 14.1 mm/m as measured along the D-line was greater than the predicted maximum tilt of 7.3*

mm/m, however this maximum observed value was in the base of a valley. The observed tilts along the D-Line away from the topographic highs and lows are generally similar to or below the predicted tilts. No anomalous movements have been identified".

The End of Panel Report for LW20 (dated 25 January 2012) included the results of the Subsidence Monitoring Program that forms part of the Extraction Plan for LWs 20 to 22. The extraction of Long-wall 20 commenced on 9 May 2010 and was completed 16 August 2011.

In summary, measured surface subsidence effects and impacts were generally within predicted ranges. The occurrences where measured subsidence was in excess of predicted subsidence effects were either associated with disturbed pegs or movements that were within the accuracy of the survey and prediction methods (i.e. the subsidence magnitudes were very low). The observed subsidence impacts were also consistent with, or less than those predicted.

Aboriginal Heritage sites within 35^{o} angle of draw are not scheduled to be surveyed / inspected until 3 to 6 months after LW20 is completed. The pre-mining condition of the sites was assessed during the Environmental Assessment phase of the project.

A summary of the predicted subsidence effects after the completion of LW20 were:

- Measured subsidence effects above LW20 were less than predicted values or within survey tolerances where several minor exceedences had occurred.
- Valley closure and uplift were minor and less than predicted values.
- No impact (i.e. cracking) or instability (i.e. rock-falls) was observed along Cliff No's OH1 and OH2 and complies with prediction that less than 3% of length of cliff line would be impacted by mining.
- No impact (i.e. cracking) or instability (i.e. rock-falls) was observed on steep slopes and complies with prediction that tension cracks are not expected to exceed 0.1 m width and 25 m length due to mining.
- Some minor cracking along existing joints with fresh widely spaced cracking across Waratah Rivulet and exposed rock bars was consistent with the range of predicted impact have occurred due to valley closure effects south of LW20.
- No surface water flows appear to have been diverted or re-routed through rock bars or below the creek bed, which was indicated to be a potential impact.
- No surface ponds along the Waratah Rivulet have been impacted by the observed mine subsidence to-date, which was indicated to be a potential impact.
- No mining related impact to upland or valley swamp surface and groundwater levels have been detected in Swamps that exist above or within a 35^{o} angle of draw from LW20 (S16-18, 20 and 25). Paired piezometers in the sub-strata and underlying sandstone units supporting the swamps clearly show natural recharge/discharge cycles are continuing to occur. Several new piezometers were installed along Waratah Rivulet and Eastern Tributary during the review period as indicated in the management plans.
- Ecological surveys have not detected any change to flora species populations, riparian vegetation or creek bank instability.
- Stream water quality sampling results were presented along the Waratah Rivulet, Tributary B and D and Eastern Tributary (C) and appear to meet the Performance Measure requirement of "negligible environmental consequence".
- raw water quality data demonstrates that the overall water quality of most Indicator parameters has not been noticeably affected by mining.
- Analyte concentrations were relatively consistent between the sites with all watercourses experiencing spikes or pulses throughout the time series. The Waratah Rivulet appeared to have higher manganese concentrations and the Woronora River higher aluminium concentrations.

4.14.5 Gas Releases

The AEMR's have reported a gas release from Pool H on the Waratah Rivulet identified on 5 January 2011. The gas release is not an exceedance of the Metropolitan Colliery performance measures that

allow for 'minimal' gas release downstream of Pool P. There is no limit to gas release upstream of Pool P. In accordance with the Long-walls 20-22 Water Management Plan, the following actions were undertaken once the gas release was identified:

- monitoring conducted weekly to determine the extent of the gas releases,
- gas concentration monitoring (using OdaLog meter); and
- identification of any observable environmental effects (e.g. impacts to riparian vegetation or fish).

Gas releases were observed periodically until May 2011, however there were no observable environmental effects of these releases. There were no further indications of gas release from this time until the end of the review period.

Another gas release site was noted downstream of Flat Rock Crossing and upstream of LW20 by the mine. The location of the release will be recorded and reported in the next annual report.

4.14.6 Subsidence Assessment

Performance Indicators (PI) have been presented in the Water Management Plan for connective cracking assessment. The first two indictors are indirect measures of subsurface cracking height (i.e. underground visual inspections of strata water make above the goaf from incumbent strata and 20-day average water make determined from estimated mine water use). The third PI compares the measured piezometric head profiles down through the overburden with the predicted low and high-inflow model outcomes after the extraction of LW20. An exceedence would be assessed if the predicted piezometric heads were lower than or plotted to the left of the high-inflow model profile.

The outcomes of the review indicate that no abnormal groundwater inflows have been observed into the goaf and mine water makes are well within the 20-day average or 2ML/day. The multi-piezometer readings in two deep boreholes above LW22 and 600m west of the extraction limits of LW21 indicate that the measured profiles are within the predicted model profiles that assume low and high water flows.

It is noted that depressurization of confined aquifers in the overburden have occurred up to 100 m above the Bulli Seam to the top of the Scarborough Sandstone or base of the Stanwell Park Claystone Units due to connective sub-surface fracturing above the workings.

Discontinuous fracturing appears to have developed in the Bulgo Sandstone with groundwater levels dropping by approximately 75 m. It is noted that some piezometer readings have not yet reached equilibrium due to the low permeability of the rock mass unit in which they are situated

It is noted that a calibrated ground water model and extensive multi-piezometer monitoring program has been developed to improve the mines ability to assess the impact of mining on the groundwater regime within the project area.

Whilst the it is considered that the measured v. prediction model profiles is very good, it is unclear how much the strata has been impacted by subsidence as pre-mining or base line piezometric profiles have not been provided on the plot. Time dependent results are provided (elsewhere in the AEMR) that clearly demonstrate how the caving process has impacted on hydraulic conductivity and piezometric head levels above the extraction panel. The use of multi-wired extensometers above the extracted long-walls would also complement the piezometer readings and provide invaluable data to enable the establishment of the link between ground piezometeric behaviour and strata dilation magnitudes.

There has been no impact to the Woronora Reservoir Storage capacity groundwater levels upstream of the reservoir. There has however, been a temporary exceedence in the PI for the quality of water flowing into the reservoir with a high dissolved iron reading noted. (The quality of the reservoir itself has not changed significantly, although the mine is still trying to obtain further quality data from the SCA (as previously mentioned) to assess base-line variation properly).

The assessment of whether there is leakage occurring from the reservoir will be based on an appropriate PI that is yet to be developed and prior to direct undermining of the reservoir (see below): Metropolitan Coal will investigate the development of a suitable performance indicator to assess potential leakage from the Woronora Reservoir for future long-walls in consultation with the SCA, with a view to trialling the performance indicator during the mining of Long-walls 26 and 27.

No subsidence effect or impact exceedences occurred at any of the built features after completion of LW20.

It is noted that the mine continues to meet with the RTA Technical Committee during the development of subsidence to discuss and respond if necessary to the data for the overpass bridge, Princes Highway and Southern Freeway.

Overall, there were no corrective management responses required by Metropolitan Mine management in regards to LW 20 during the review period.

Project Approval Schedule 6 condition1 requires that the surface flows and pool storage function upstream of Flat Rock Crossing that was impacted by LWs 1 to 18 be restored. The mine has reported in the AEMR for 2011 that Polyurethane Resin (PUR) injection into mine induced fractures within 20 m of the surface across the creek bed and in Pools A and F appears to have successfully restored the stream-flow and pool-storage functions. Additionally, regular visual inspections of the Waratah Rivulet between Pool A to Pool I are also conducted as part of the ongoing measurement and recording of pool levels for Metropolitan Coal's stream pool/rock bar remediation program.

Conclusion:
The above works also satisfies Project Approval Schedule 3 condition 9(d) that encourages research into improving the remediation of subsidence impacts on watercourses.

Other suggested research programs into valley closure and uplift mechanisms, swamp ecology impacts and the environmental management of underground operations in the Southern Coalfield have commenced. Further initiatives for increasing the link between subsidence effect and associated impact is being proposed by the mine along Honeysuckle Creek and Eastern Tributary.

4.14.7 Adequacy of the Subsidence Management Strategies

The information being collected by Metropolitan Colliery is considered adequate for meeting the adaptive management objectives of current Extraction Plan standards and allows for the assessment / mitigation strategies if any environmental damage occurs.

Actual subsidence and impact predictions at surface features within the area of influence of mining have generally been less than or consistent with the Environmental Assessment predictions.

Overall, the current strategies, plans and programs for managing mine subsidence impacts to the environment, built features and public safety are considered to be performing adequately. In particular it is considered that the mine has generally developed clearly defined performance indicators to effectively assess changes or impacts to sensitive environmental features such as the Waratah Rivulet, upland and valley swamps, cliffs and aquatic/terrestrial biota.

The PUR remediation program has also been successful in restoring surface flows and pool storage function above the previously impacted creek section above LWs 1 to 18.

It is also noted that a well calibrated surface flow model has been developed by the mine and together with the stream flow monitoring program in place, will allow the timely detection of significant base-flow leakage changes during mining should they occur.

Suggested Action:
The installation of deep borehole extensometers above the centre of future long-wall panels at Metropolitan to provide strata dilation profiles would complement the piezometric data and increase our understanding of the mechanism's impacting upon the groundwater regime.

4.14.8 Remediation and Mitigation Activities

Remediation measures associated with subsidence have been carried out using polyurethane (PUR) injection at rock bars (WRS3 and WRS4) in the Waratah Rivulet following consultation with the SCA and rigorous laboratory testing and assessment in relation to the suitability of the use of PUR within the catchment.

Key outcomes of an initial trial included:

- PUR was successfully injected into the rock bar with no environmental harm;
- Fracture spaces can be successfully filled from <1mm fine cracks to larger (>100mm voids);
- The permeability of the overall rock mass was decreased to the extent that the rock bar once again acts as a natural weir to retain water; and
- The method is transportable to any other rock bar along the Waratah Rivulet.

4.14.9 Audit Site Inspection Observations

An inspection of some of the significant surface features within the zone of subsidence effect from LW20 was conducted by a Principal Engineer on the 30/1/12. The following sites were visited:

- Southern Freeway Overpass bridge (to the east of LW20) and Princess Highway monitoring sites: No impacts observed.
- Fire Roads 9H and 9C: No impacts observed.
- PUR injection site (WRS4) on the Waratah Rivulet upstream of Flat Rock Crossing: Low-stream flows and pools have apparently been restored at the site.
- The stream and pool gauging and subsidence monitoring stations along Waratah Rivulet and downstream of Flat Rock Crossing: Strong stream flows had dislodged a pool gauging station after recent rains.
- Several open and persistent subsidence cracks (10 - 20 mm wide on east-west strike) were observed upstream and downstream of Flat Rock Crossing along Waratah Rivulet. (Note: The cracks did not appear to be causing any effect on the surface flow route).
- Shearing and minor spalling along a persistent joint (east-west strike) and had apparently been activated by the passing of LW20: No effect on stream flow function.
- A fresh surface crack < 10 mm wide on an east-west strike has developed across Waratah Rivulet and had apparently been activated (and predicted) by the passing of LW20 due to value closure effects: No effect on stream flow function observed.
- Several sections of rock bar that had been cracked by LWs 1-18 have subsequently been dislodged and transported tens of metres downstream after recent rains.
- Two gas emission sites in pools between Flat Rock Crossing and LW20's southern extraction limit. Note: One of the sites was known to exist prior to LW20 with the second site appearing after the passing of LW20.
- Cliff No's OH1 and OH2: no impact observed.
- Swamp No. 16 and 17 and the swamp Ground water Level piezometer: no impact observed.

There were no perceptible differences between conditions observed at the sites visited and the level of impact reported in the Extraction Plan documentation prepared by Metropolitan Mine.

Conclusion:
Based on the review of the of the Extraction Plan, and Annual Review documents for 2010 and 2011 and End of Panel Report for LW20, it is concluded that the Metropolitan Coal has complied with the Project Approval conditions for mine subsidence impact management for the 2010 to 2011 period.

4.15 Waste

[Project Approval Schedule 4 conditions 24 and 25]

4.15.1 Waste Management Plan

[Project Approval Schedule 4 condition 25]

The Waste Management Plan was prepared to satisfy Project Approval Schedule 4 condition 25 and approved by DoP on 26 August 2010. The Waste Management Plan was revised to reflect the Project Approval Modification on 14 April 2011.

4.15.2 Waste Management

This Waste Management Plan details procedures for the management of waste generated during operation of the mine to:

- Identify waste streams and monitor the quantities generated;
- Identify waste management measures to minimise waste generation; and
- Ensure that waste generated by Metropolitan Coal is appropriately stored, handled and disposed of.

Waste tracking procedures have been implemented under the Waste Management Plan that provides for better waste management and waste reporting.

In accordance with DECCW"s Waste Classification Guidelines (2008), waste streams are segregated where practicable to improve waste handling and classification and reduce cost for disposal.

Table 6: Waste Segregation and Management

Waste Type	Storage	Handling/Disposal
Liquid waste		
Oil	Oils are stored in waste oil drums adjacent to the Fuel and Consumables Storage Facility outside the CHPP building. Oil separated from surface water runoff in the oil/water separator is collected in a 1,000 L bulk storage container.	Collected by licensed contractor and provided to a waste recycling facility
Paint	Paint is stored separately to other waste materials in the Waste Storage Area.	Collected by licensed contractor and provided to a licensed recycling facility
Sewage from Major Surface Facilities Area	Sewage from Major Surface Facilities Area - disposal to the Sydney Water sewage system	Disposal via Sydney Water sewer system
Special waste		
Tyres	Tyres stored on-site separate to other waste materials in Waste Storage Area	Periodically collected by the tyre supplier and provided to a licensed tyre recycling facility for recycling.
Hazardous waste		
Lead acid batteries	Batteries stored on-site separate to other waste in Waste Storage Area	Collected and provided to a waste recycling facility when there is a sufficient quantity to warrant collection.
General solid waste (non-putrescible)		
Coal reject material	Stockpiled on-site in the Coal Reject Stockpile(s)	Transported by truck to the Glenlee Washery for emplacement; or Back filled into long-wall mine voids via goaf injection of a processed coal reject paste from the Coal Reject Paste Plant.
Drift waste rock	Temporarily stockpiled on-site in the Temporary Drift Waste Rock Stockpile(s).	Utilised for construction and remediation activities at the approved upgrades of roads where practicable.

Conclusion:
The Waste Management Plan and segregation of waste streams practised at Metropolitan Coal provide for minimisation of wastes going to landfill and reuse of waste material where practicable.

4.16 Water Management[8]

[Project Approval Schedule 4 condition 14 and 15]

4.16.1 Water Management Plan

[Project Approval Schedule 4 condition 15]

The Surface Facilities Water Management Plan prepared for the surface facilities area and two ventilation shaft sites and the Water Management Plan for Long-walls 20 to 22 have been prepared to satisfy Project Approval Schedule 4 conditions 14 and 15. The Surface Facilities Water Management Plan was approved by DoP on 14 April 2011.

4.16.2 Site Water Management

Metropolitan Coal presently draws its water from three main sources:

Water captured on site - Rainfall (as well as any incidental runoff (e.g. from dust suppression activities) is contained by a network of drains, pits, sediment ponds and dams. Water that comes into contact with the mine or mining processes is 'dirty water'. To minimise the collection of dirty water the site water management system includes a network of drains and embankments that prevent and divert clean runoff around the surface facilities operations area.

All dirty water is pumped to a centralised water treatment plant (WTP) for treatment and recycling for operational needs or discharged to Camp Creek (in accordance with EPL 767) if site storages are full.

Water pumped from the underground mine is also considered dirty water and is sent to the WTP for treatment and recycling.

Camp Creek - Camp Creek is an ephemeral, second order stream that runs adjacent to the southern edge of the Metropolitan Colliery surface facilities area. Extraction of water from Camp Creek is regulated by Surface Water Licence 10SL049311, the *Water Act 1912* and the *Water Management Act 2000*. Metropolitan Coal annual entitlement under the Camp Creek extraction licence is 130ML.

As Camp Creek is an ephemeral stream, water supply for Metropolitan Colliery use from this source is dependent on rainfall. When insufficient water is available from Camp Creek, increased water is drawn from the potable water supply.

Treated water discharges to Camp Creek occur under EPL 767. Monthly monitoring and reporting occurs for pH, Total Suspended Solids (TSS), oil and grease, and total discharged volumes.

Sydney Water potable supply: use of potable water (Sydney Water) for mine purposes only occurs when insufficient water is available from Camp Creek and / or the site water storage network.

The on-site water storages for Metropolitan Colliery are:

Water Storage	Approximate Water Storage Capacity
Turkeys Nest Dams 1 & 2	8 ML
Sediment Ponds 1, 2 & 3	4 ML
Taj Mahal	0.5 ML
Camp Creek Weir	0.5 ML
Hill Tank	0.2 ML
Water Supply Tanks	0.4 ML

[8] Steve Perrens – Evans and Peck

The Metropolitan Coal Water Savings Action Plan (WSAP) has resulted in significant reductions in potable water consumption sourced from the Sydney Water supply. Commitments to continually building on the WSAP initiatives involve increasing the efficiency of overall water use for the Metropolitan Coal operations and minimisation of the potable water consumption and off-site water releases.

4.16.3 Discharges to Camp Creek

The site water management system continuously monitors turbidity and prevents discharges of water to Camp Creek that exceed the EPL 767 criteria. Water that exceeds the criteria is further treated to ensure that water discharged complies with the EPL criteria.

Monitoring results during the 2010-2011 were compliant with the regulatory requirements, with the exception of the TSS measurement for January and pH level for August 2010.

Table 7: Summary of Discharge Water Quality 2010 and 2011

	pH	TSS mg/l	Oil and Grease mg/l
1 August 2009 to 31 July 2010	8.2 to 8.5	<2 to 80	<2 to 7
1 August 2010 to 31 July 2011	7.6 to 8.6	<2 to 19	<2 to 4
EPL criteria	6.5 to 8.5	30	10

The 2010 and 2011 Annual Reviews and EPL Annual Returns indicated that water quality results from monitoring at Point 9 (discharge point from the clean water tank at the Water Treatment Plant) were generally compliant:

- A pH level of 8.6 in August 2010 exceeded the licence limit by 0.1 pH units. In response to this an acid dosing unit was installed to minimise the potential for further exceedences. All other pH results from the water treatment plant have demonstrated compliance with the relevant licence limits.
- A single TSS measurement of 80mg/L in January 2010 exceeded the licence limit of 30mg/L and investigation of this incident indicated the anomaly was a result of the collection of the sample from a monitoring point located prior to the final WTP effluent discharge point. No water was discharged to Camp Creek. An alternative sampling location on the discharge line to Camp Creek has been developed and a variation to the EPL condition P1.3 to alter the monitoring location is proposed. No exceedance of TSS at point 9 (<2 mg/L to 19 mg/L) was noted in 2011 results.
- No exceedance of oil & grease were reported at point 9.

Water Management Plan Suggestion:[9]
The Water Management Plan mentions additional deep groundwater sites are to be constructed for future Extraction Plans. A timeframe from which sufficient baseline data can be collected from these bores prior to mining of additional long-walls should be developed as it is noted that instruments in existing deep sites have taken considerable time to stabilise.

Conclusion:
The surface water quality of discharges to Camp Creek, have been generally compliant with the EPL criteria during 2010-2011.

[9] Australian Groundwater and Environmental Consultants

5. CONCLUSIONS

The review and assessment of the documentation and performance of the Metropolitan Coal operations demonstrated a high degree of compliance with the Project Approval and other environmental approvals granted for the project.

Air Quality
Dust management at the Metropolitan Colliery surface facilities area is managed in a satisfactory manner with monitoring results demonstrating compliance with the Project Approval and EPL criteria.

Blasting
No blasting activities have occurred on the surface operational areas of Metropolitan Coal leases.

Biodiversity
To date no impacts on threatened species, populations or ecological communities have been recorded from the various monitoring programs. The location for majority of monitoring sites is considered adequate but some suggestions are provided to improve the ongoing monitoring.

Monitoring of environmental values that are likely to represent important habitat for threatened species, populations or ecological communities have been undertaken within the study area (including surface water quality and flow, cliffs, steep slopes, upland swamp groundwater etc.). Short term effects observed in some of parameters are attributable to natural variation as the changes have been observed in both control and potential impact sites.

Erosion and Sediment Control
The procedures that have been developed within the management plans provide a sound basis for erosion and sediment control for surface activities conducted by Metropolitan Coal.

Groundwater
The project is compliant with the conditions relating to groundwater management. None of the performance measures or performance limits relating to groundwater were exceeded during the 2010-2011 period.

Subsidence
Based on the review of the Extraction Plan, AEMR documents for 2010 and 2011, and the End of Panel Report for LW20, Metropolitan Coal has complied with the Project Approval conditions for mine subsidence impact management during the audit period.

Surface Water
The surface water quality discharges to Camp Creek were compliant with the EPL criteria during 2010-2011 except for one TSS and one pH excursion (January 2010 and August 2010 respectively).

Rehabilitation
The rehabilitation strategy and rehabilitation monitoring program for proposed works is considered appropriate for long term management of the Metropolitan Coal mining activities.

Attachment A - Project Approval 08-0149, 22 June 2009; and Notice of Modification 8 September 2010 and 2 July 2011

Condition No.	Condition	Verification	Compliance	Comments
	SCHEDULE 2 ADMINISTRATIVE CONDITONS			
	OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT			
2/1	The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project		Noted	
	TERMS OF APPROVAL			
2/2	The Proponent shall carry out the project generally in accordance with the: (a) EA; (b) PPR; (c) EA-MOD1 Environmental Assessment titled Metropolitan Mine Replacement Drift Construction Modification Environmental Assessment, dated July 2010; and (d) conditions of this approval. *Note: The general layout of the project is shown in Appendices 2 to 4.*		C	The Metropolitan Mine has been developed generally in accordance with the Environmental Assessment, Preferred Project Report and Modification 1.
2/3	If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.		Noted	No inconsistency with the Metropolitan Colliery development and the Environmental Assessment and Modification 1.
	The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of: (a) any strategies, plans, programs, reviews, audits, or correspondence that are submitted in accordance with this approval; and (b) the implementation of any actions or measures contained in these documents.		Noted	
	LIMITS ON APPROVAL			
2/5	The Proponent may undertake mining operations in the mining area for up to 23 years from the date of this approval. *Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings to the satisfaction of the Director-General. Consequently, this approval will continue to apply in all other respects other than the right to conduct mining operations until the site has been properly rehabilitated.*	Project Approval 22 June 2009	Noted	The mining operations under this Project Approval can occur until 2032.

<table>
<tr><th>Condition No.</th><th>Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td>2/6</td><td>The Proponent shall not:
(a) extract more than 3.2 million tonnes of ROM coal from the mining area in a calendar year, or
(b) transport more than 2.8 million tonnes of product coal from the site in a calendar year.</td><td></td><td>C</td><td>(a) The ROM coal production from the Metropolitan Coal operations has complied with the condition.
<table>
<tr><th>Production Period</th><th>2011</th><th>2010</th><th>2009</th></tr>
<tr><td>ROM coal (mtpa)</td><td></td><td>1,849,163</td><td>1,640,723</td></tr>
<tr><td>Product Coal (mtpa)</td><td></td><td>1,534,585</td><td>1,375,208</td></tr>
</table>
(b) Product coal transported from the site has not exceeded 2.8mtpa.</td></tr>
<tr><td>2/7</td><td>The Proponent shall not export any coal reject from the site after 2021 without the written approval of the D-G.</td><td></td><td>Noted</td><td></td></tr>
<tr><td>2/8</td><td>The Proponent shall not emplace coal reject on the surface of the site without the written approval of the D-G.
Note: This condition applies to the Camp Gully Emplacement Area, as well as to the rest of the surface of the site. It does not apply to the proposed additional coal reject stockpile shown in Appendix 4.</td><td></td><td>C</td><td>No coal reject emplacement occurs on the surface, at the Metropolitan Mine site.</td></tr>
<tr><td></td><td>STRUCTURAL ADEQUACY</td><td></td><td></td><td></td></tr>
<tr><td>2/9</td><td>The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structure, are constructed in accordance with:
(a) the relevant requirements of the BCA; and
(b) any additional requirements of the MSB in areas where subsidence effects are likely to occur.
Notes:
• Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works.
• Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.</td><td>Letter from Planning re Surface Facilities Works at Mine Mangers Residence, 21 Apr 2010</td><td>C</td><td>Renovations have been completed to the former Mine Manager’s residence at the Major Surface Facilities Area for use as Metropolitan Coal administration offices. All works were conducted in accordance with Building Code of Australia requirements and fully landscaped cognisant of the residential surrounds.
Planning considered that the works carried out to the Mine Manager’s residence were exempt development under the State Environmental Planning Policy (Mining, Petroleum Production and Extraction Industries) 2007.</td></tr>
<tr><td></td><td>DEMOLITION</td><td></td><td></td><td></td></tr>
<tr><td>2/10</td><td>The Proponent shall ensure that all demolition work is carried out in accordance with Australian Standard AS 2601-2001: The Demolition of Structures, or its latest version.</td><td>Demolition Safety Plan Metropolitan Colliery Partial Demolition of the Maintenance and Bag House Sheds, 30 Aug 2010
Inspection and Test Record Partial Demolition of Sheds, World Wide Demolitions Pty</td><td>C</td><td>Partial demolition of the maintenance and bag house sheds occurred in 2010 in accordance with the Demolition Safety Plan. The demolition was undertaken by World Wide Demolitions Pty Ltd and Inspection and Test Records were completed by World Wide Demolitions.</td></tr>
</table>

Condition No.	Condition	Verification	Compliance	Comments
		Ltd, 30 Aug 2010		
	OPERATION OF PLANT AND EQUIPMENT			
2/11	The Proponent shall ensure that all plant and equipment used at the site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Standards of Mechanical Engineering, Engineering Standard Practice – Metropolitan Colliery, 2010-2011 Mechanical Engineering M-CM-MP-049	C	All plant and equipment is maintained in accordance with the Metropolitan Colliery Mechanical Engineering M-CM-MP-049 Management System.
	STAGED SUBMISSION OF STRATEGIES, PLANS OR PROGRAMS			
2/12	With the approval of the Director-General, the Proponent may submit any strategies, plans or programs required by this approval on a progressive basis.		Noted	
	Note: The conditions of this approval require certain strategies, plans, and programs to be prepared for the project. They also require these documents to be reviewed and audited on a regular basis to ensure they remain effective. However, in some instances, it will not be necessary or practicable to prepare these documents for the whole project at any one time; particularly as these documents are intended to be dynamic and improved over time. Consequently, the documents may be prepared and implemented on a progressive basis. In doing this however, the Proponent will need to demonstrate that it has suitable documents in place to manage the existing operations of the project.			
	SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS – MINING			
	PERFORMANCE MEASURES			
3/1	The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 1. *Table 1: Subsidence Impact Performance Measures* **Water Resources** | Catchment Yield to the Woronora Reservoir | **Negligible reduction to the** quality or **quantity of water resources reaching the Woronora Reservoir.** No connective cracking between the surface and the mine.	Water Management Plan, Nov 2011 Letter from DP&I re Approval of Water Management Plan, 14 Nov 2011 2010 Annual Review 2011 Annual Review	C C	***Catchment Yield to the Woronora Reservoir*** **-** Negligible reduction to the quantity of water resources reaching the Woronora Reservoir: • Monitoring of Environmental Consequences: has been undertaken in accordance with the Water Management Plan: - Annual Review 2010: Section 3.3.2, p 26. - Annual Review 2011: Section 3.3.2, p 31. • Data Analysis to Assess against Performance Indicators: - Annual Review 2010 S3.3.3.1, p41: the analysis is due to commence in Nov 2010 (6 months from May 2010) following receipt of

<table>
<tr><th>Condition No.</th><th>Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td></td><td></td><td></td><td>C</td><td>data from SCA and to be presented in the 2011 Annual Review.
- Annual Review 2011 Section 3.3.3.1, p48: the analysis has been undertaken in accordance with the WMP.
• Assessment of performance indicator/s:
- Annual Review 2010, Table 7, p40 lists the performance indicator and performance measure as not being exceeded.
- Annual Review 2011 Section 3.3.3.1, p50: performance indicators were not exceeded in 2011.</td></tr>
<tr><td></td><td></td><td></td><td></td><td>-</td></tr>
<tr><td></td><td>Table 1: Subsidence Impact Performance Measures<table><tr><th>Water Resources</th><th></th></tr><tr><td>Woronora Reservoir</td><td>Negligible leakage from the Woronora Reservoir, and …….</td></tr></table></td><td>Water Management Plan, Nov 2011
Letter from DP&I re Approval of Water Management Plan, 14 Nov 2011
2010 Annual Review
2011 Annual Review</td><td>C
Ongoing

C
Ongoing

C
Ongoing</td><td>Woronora Reservoir - Negligible leakage from the Woronora Reservoir.
• Monitoring of Environmental Consequences has been undertaken in accordance with the Water Management Plan:
- Annual Review 2010, Section 3.3.2, pp 27 – 30.
- Annual Review 2011, Section 3.3.2, pp 35-36.
• Data Analysis to Assess against Performance Indicators:
The assessment of the performance indicators has been undertaken in accordance with the Water Management Plan (ie analysed quarterly; mean, standard deviation and sliding mean calculated):
- Annual Review 2010, Section 3.3.3.2.
- Annual Review 2011, Section 3.3.3.2
• Assessment of performance indicator/s:
- Annual Review 2010: the performance indicators were not exceeded in 2010.
- Annual Review 2011 p58: the performance indicators were not exceeded with the exception that the sliding 12 month mean for dissolved iron at WRWQ9 exceeded the baseline mean plus one standard deviation in June and July 2011, and there was not a similar increase in the same measure at the control site WOWQ2.</td></tr>
</table>

Condition No.	Condition	Verification	Compliance	Comments
			C	• Assessment of performance measure: - Annual Review 2010: assessment of performance measure not required, as performance indicators were not exceeded. - Annual Review 2011 pp58 – 61: assessment of performance measure undertaken in accordance with the Water Management Plan and concluded that the performance measure was not exceeded. Notwithstanding that the performance measure was not exceeded, Metropolitan Coal has commissioned an independent review of this performance indicator exceedance, as required by the Water Management Plan Table 20, p82. DP&I approved the specialist engaged to undertake this review.
3/1	*Table 1: Subsidence Impact Performance Measures* **Water Resources** | Woronora Reservoir | ……...Negligible **reduction in the water quality of Woronora Reservoir**		C Ongoing C Ongoing	**Negligible reduction in the water quality of Woronora Reservoir**. • Monitoring of Environmental Consequences in accordance with the Water Management Plan Table 20, pp 82-83): - Annual Review 2010 Section 3.3.2, p 31; Table 7, p40: reservoir quality to be analysed following receipt of SCA. - Annual Review 2011 Section 3.3.3.5, pp 64-66: unable to undertake assessment against performance indicator - insufficient data available from SCA to assess benchmark - baseline mean plus one standard deviation. • Data Analysis to Assess against Performance Indicators: - Assessment not undertaken in 2010 or 2011 as insufficient data was provided by SCA. - To be assessed following receipt of sufficient data from the SCA. - Refer to Annual Review 2010, Section 3.3.3.5, pp 48 – 49 and Annual Review 2011, Section 3.3.3.5, pp 64-66.
3/1	*Table 1: Subsidence Impact Performance Measures* **Water Courses**	Water Management Plan, Nov 2011 Letter from DP&I re Approval		***Waratah Rivulet between full supply level of Woronora Reservoir and the main-gate of Long-wall 23 upstream of Pool P)*** - Negligible environmental consequences

Condition No.	Condition	Verification	Compliance	Comments
	Waratah Rivulet between full supply level of Woronora Reservoir and the main-gate of Long-wall 23 upstream of Pool P). — **Negligible environmental consequences** (that is, no diversion of flows, no change in the natural drainage behaviour of pools, minimal iron staining, and minimal gas releases)	of Water Management Plan, 14 Nov 2011 2010 Annual Review 2011 Annual Review	Not activated C C C	(i.e no diversion of flows, no change in the natural drainage behaviour of pools, minimal iron staining and minimal gas releases): • In 2010 and 2011 mining was not undertaken within 400m of Pool P, hence a number of the performance indicators were not relevant, and were not assessed (only gas releases at Pool P were relevant). • Gas release monitoring has been undertaken in accordance with the Water Management Plan (refer to Annual Review 2010, Section 3.3.6, p49-51 and Annual Review 2011, Section 3.3.6, pp67-69). • In 2010 and 2011 the assessment of the performance indicators has been undertaken in accordance with the Water Management Plan. • The performance indicator was not exceeded in 2010 or 2011.
3/1	*Table 1: Subsidence Impact Performance Measures* **Water Courses** Eastern Tributary between full supply level of Woronora Reservoir and the main-gate of Long-wall 26. — Negligible environmental consequences over at least 70% of the stream length (that is no diversion of flows, no change in the natural drainage behaviour of pools, minimal iron staining and minimal gas releases).	Water Management Plan, Nov 2011 Letter from DP&I re Approval of Water Management Plan, 14 Nov 2011 2010 Annual Review 2011 Annual Review	Not activated	***Eastern Tributary between full supply level of Woronora Reservoir and the main-gate of Long-wall 26*** - Negligible environmental consequences over at least 70% of the stream length (that is no diversion of flows, no change in the natural drainage behaviour of pools, minimal iron staining and minimal gas releases): • N/A. To be addressed in future Extraction Plans and revisions to the Water Management Plan. Not applicable to Long-walls 20-22 (Annual Review 2010, Table 7, p40 and Annual Review 2011, Table 13, p47).
3/1	*Table 1: Subsidence Impact Performance Measures* **Biodiversity** Threatened species, populations, or ecological communities — Negligible impact Swamps 76, 77 & 92 — Sett through condition 4 below.	NSW *Threatened Species Conservation Act* 1995	C	***Threatened species, populations, or ecological communities*** - Negligible impact: One endangered ecological community (EEC), Southern Sydney Sheltered Forest on Transitional Sandstone Soils in the Sydney Basin Bioregion occurs near to the study area. This community occurs in excess of 500m from the LW20-22 study area and is therefore not likely to be at any risk from current mining impacts. This vegetation community is being monitored and no impacts have been observed to date.

<table>
<tr><th>Condition No.</th><th>Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td></td><td></td><td></td><td>Not activated</td><td>No other endangered populations were recorded within the study area.
Swamps 76, 77 & 92 –
• Long-walls 20-22 do not undermine these swamps and it was reported that there is no intention to mine beneath these swamps at this time.</td></tr>
<tr><td>3/1</td><td>Table 1: Subsidence Impact Performance Measures<table><tr><td>Cliffs</td><td>Less than 3% of the total length of cliffs (and associated overhangs within the mining area) experience mining-induced rock fall.</td></tr></table></td><td></td><td>C</td><td>Cliffs - Less than 3% of the total length of cliffs (and associated overhangs within the mining area) experience mining-induced rock fall.
• Five cliffs and overhangs have been identified within 600m of LW 20-22. These features are subject to monthly monitoring during extraction (within 400m of the sites). Similarly steep slopes within 600m of LW 20-22 have been routinely monitored during extraction. No subsidence related impacts have been observed in steep slopes, cliff lines or overhangs.</td></tr>
<tr><td>3/1</td><td>Table 1: Subsidence Impact Performance Measures<table><tr><td colspan="2">Heritage</td></tr><tr><td>Aboriginal Heritage Sites</td><td>Less than 10% of Aboriginal heritage sites within the mining area are affected by subsidence impacts.</td></tr><tr><td>Items of historical or heritage significance at the Garrawarra Centre</td><td>Negligible damage (that is fine or hairline cracks that do not require repair), unless the owner of the item and the appropriate heritage authority agree otherwise in writing</td></tr><tr><td colspan="2">Built Features</td></tr><tr><td>Built Features</td><td>Safe, serviceable and repairable, unless the owner agrees otherwise in writing.</td></tr></table></td><td></td><td>C
Ongoing

C
Ongoing

C
Ongoing</td><td>Aboriginal Heritage Sites - all Aboriginal heritage sites located within the 35º Angle of Draw of the long-walls 3-6 months after the completion of the long-wall, by an archaeologist experienced in rock art recording and management and an Aboriginal stakeholder representative.
In the 2010 and 2011 period monitoring of Aboriginal heritage sites, two affected sites were identified:
• FRC 12 - weathering to the Darmulan engraving was observed during the 2010 survey. This weathering effect did not appear to have deteriorated in the 2011 monitoring survey.
• FRC 139 showed a significant level of cracking of the rock platform during the 2011 site monitoring survey.
All other Aboriginal heritage sites surveyed/monitored during 2011 (14 sites) did not show any changes/deterioration.
Garrawarra Centre - the Garrawarra Complex is located more than 3 km from long-walls 20-22 and at this distance no measurable systematic or non-systematic subsidence movements are anticipated.
Built Features – no subsidence impact performance measure for built features was exceeded during 2009 and 2011.</td></tr>
</table>

Condition No.	Condition	Verification	Compliance	Comments
	CATCHMENT MONITORING PROGRAM			
3/2	The Proponent shall prepare and implement a comprehensive Catchment Monitoring Program for the project to the satisfaction of the Director-General. This program must: (a) be prepared by suitably qualified and experienced experts whose appointment has been endorsed by the Director-General; (b) be prepared in consultation with DWE, SCA and DECC; (c) be approved by the Director-General before the Proponent is allowed to carry out any second workings in the mining area; and (d) include: • detailed baseline data of the existing surface and groundwater resources in the project area; • a program for the ongoing development and use of appropriate surface and groundwater models for the project; and • a program to: - monitor and assess any impacts of the project on the quantity and quality of surface and ground water resources in the project area, and in particular the catchment yield to the Woronora Reservoir; and - validate and calibrate the surface and groundwater models.	Letter from DP&I re Endorsement of Experts, 19 Feb 2010 Catchment Monitoring Program, 14 May 2010	C C C C C	The Catchment Monitoring Program was prepared and submitted to the Director-General prior to second workings in the Long-walls 20-22 area. Minor amendments and formatting changes were approved by DoP on 14 May 2010 and edits and additions made to address comments from the SCA and NSW OoW following submission of the 2011 Annual Review: (a) The CMP has been prepared by Gilbert and Associates, Heritage Computing and Metropolitan Coal; (b) The document Revision Status Register notes that rev CMP-R01-A of the CMP was distributed to the SCA, DECCW, Office of Water and DP&I. (c) The Catchment Monitoring Program was approved by DoP on 14 May 2010 prior to second workings; (d) The CMP includes: • Section 3 Baseline Data, section 3.4 Surface Water, section 3.5 Groundwater • Section 4.3 Surface and Groundwater Models • Section 5.3 Program to Monitor and Assess any Impacts on the Quantity and Quality of Surface and Ground water Resources • Section 4.3.2
	SPECIFIC REQUIREMENTS FOR FURTHER MODELLING & ASSESSMENT			
3/3	If the subsidence effects and subsidence impacts of the project exceed the relevant predictions by more than 15% at any time after mining has progressed beyond the halfway mark of Long-wall 21, or if the profile of vertical displacement does not reflect predictions, then the Proponent shall use appropriate numerical modelling to supplement the subsequent predictions of subsidence effects and subsidence impacts for the project to the satisfaction of the D-G. *Note: The aim of the numerical modelling is to give a better insight into the mechanisms that may account for the differences between predicted and actual subsidence effects and impacts.*	Subsidence Monitoring Program, dated April 2010 Extraction Plan, Attachment 1, 14 May 2010 2010 Annual Review 2011 Annual Review	C	A review of the subsidence survey results and comparison between the predicted and observed subsidence movements associated with Long-wall 20 extraction over the review period was conducted by Mine Subsidence Engineering Consultants (MSEC). The assessment found that subsidence impacts were less than that predicted within the accuracy expected from re-survey. Subsidence Monitoring Program and associated management processes are considered to be adequate.
3/4	The Proponent shall not undermine Swamps 76, 77 and 92 without the written approval of the Director-General. In seeking this approval, the Proponent shall submit the following information with the relevant Extraction Plan (see condition 6 below):	Long-walls 20-22 Figure 6 Upland Swamps	C	The Biodiversity Management Plan prepared as part of the Long-walls 20-22 Extraction Plan addresses the requirements of condition 4:

Condition No.	Condition	Verification	Compliance	Comments
	(a) a comprehensive environmental assessment of the: • potential subsidence impacts and environmental consequences of the proposed Extraction Plan; • potential risks of adverse environmental consequences; and • options for managing these risks; (b) a description of the proposed performance measures and indicators for these swamps; and (c) a description of the measures that would be implemented to manage the potential environmental consequences of the Extraction Plan on these swamps (to be included in the Biodiversity Management Plan – see condition 6(f) below), and comply with the proposed performance measures and indicators.		C C C	(a) Biodiversity Management Plan section 4 Revised Assessment of Potential Environmental Consequences – Subsidence Predictions (b) Biodiversity Management Plan section 5 Performance Measures and Indicators (c) Biodiversity Management Plan section 5 Performance Measures and Indicators and section 4.2 and 6.1 Upland Swamps
	FIRST WORKINGS			
3/5	The Proponent shall not carry out first workings in the mining area that are not consistent with the approved mine plan without the written approval of the Director-General.	Letter to DI&I re MOP Amendment, 18 May 2010 Letter from DI&I re Approval of Metropolitan MOP Amendment, 20 May 2010	C Ongoing	All mine workings have been undertaken in accordance with the approved mine plans and MOP.
	SECOND WORKINGS			
	Extraction Plan			
3/6	The Proponent shall prepare and implement an Extraction Plan for all second workings in the mining area to the satisfaction of the Director-General. This plan must: (a) be prepared by a team of suitably qualified and experienced experts whose appointment has been endorsed by the Director-General; (b) be approved by the Director-General before the Proponent is allowed to carry out the second workings covered by the Extraction Plan; (c) include a detailed plan for the second workings, which has been prepared to the satisfaction of DPI, and provides for adaptive management (from Longwall 23 onwards); (d) include detailed plans of any associated surface construction works; (e) include the following to the satisfaction of DPI: • a coal resource recovery plan that demonstrates effective recovery of the available resource; • revised predictions of the conventional and non-conventional subsidence effects and subsidence impacts of the extraction plan, incorporating any relevant information that has been obtained since this approval; and • a Subsidence Monitoring Program to:	Metropolitan Colliery Long-walls 20-22 Extraction Plan, Apr 2010 Letter from DoP re Approval of Experts for Extraction Plan, 23 Sep 2009 Letter from Planning NSW re Approval of the Extraction Plan, 14 May 2010 Construction Management Plan for Surface Works, Aug 2010 Water Management Plan Revision C, 14 Nov 2011 Coal Resource Recovery Plan Subsidence Monitoring Program Biodiversity Management Plan	C C C C C	The Extraction Plan was prepared to satisfy this condition with supplementary stand-alone plans developed for each of the components in condition 3(d) to (g): (a) The Extraction Plan was Mine Subsidence Engineering Consultants, Gilbert and Associates, Heritage Computing, Cenwest Environmental Services, Flora Search, Bio-Analysis and Kayandel Archaeological Services. The appointment of the team of suitably qualified and experienced experts was endorsed by the Director-General on 23 September 2009. (b) The Extraction Plan was submitted to the Director-General and approved prior to any second workings occurring in the area covered by the Plan. (c) A Coal Resource Recovery Plan, including a detailed plan for the second workings is provided in Appendix 1 of the Subsidence Monitoring Program. (d) Construction Management Plan prepared for Surface Works, August 2010

Condition No.	Condition	Verification	Compliance	Comments
	- validate the subsidence predictions; and - analyse the relationship between the subsidence effects and subsidence impacts of the Extraction Plan and any ensuing environmental consequences; (f) include a: • Water Management Plan, which has been prepared in consultation with DECC, SCA and DWE, to manage the environmental consequences of the Extraction Plan on watercourses (including the Woronora Reservoir), aquifers and catchment yield; • Biodiversity Management Plan, which has been prepared in consultation with DECC and DPI (Fisheries), to manage the potential environmental consequences of the Extraction Plan on aquatic and terrestrial flora and fauna, with a specific focus on swamps; • Land Management Plan, which has been prepared in consultation with SCA, to manage the potential environmental consequences of the Extraction Plan on cliffs, overhangs, steep slopes and land in general; • Heritage Management Plan, which has been prepared in consultation with DECC and the relevant Aboriginal groups, to manage the potential environmental consequences of the Extraction Plan on heritage sites or values; • Built Features Management Plan, which has been prepared in consultation with the owner of the relevant feature , to manage the potential environmental consequences of the Extraction Plan on any built features; and (g) include a Public Safety Management Plan, which has been prepared in consultation with DPI and the DSC (for any mining within the DSC notification area), to ensure public safety in the mining area.	Land Management Plan Heritage Management Plan Built Features Management Plan(s) Letter from DP&I re Approval of Water Management Plan Rev C, 14 Nov 2011 Public Safety Management Plan	C C C	(e) Other plans approved by DPI (DII) • Coal Resource Recovery Plan • Subsidence Monitoring Program (f) plus: • Water Management Plan • Biodiversity Management Plan • Land Management Plan • Heritage Management Plan • Built Features Management Plan(s) for Transgrid, Integral Energy, Nextgen, Optus, Railcorp, RTA, Sydney Water, Telstra and WCC • Water Management Plan Rev C approved on 14 Nov 2011 • The document Revision Status Register notes that rev WMP-R01-A was distributed to the SCA, DECCW and DP&I. Subsequent revisions WMP-R01-B addressed comments by the SCA; WMP-R01-C addressed comments by the SCA and NOW and review/revision following submission of 2010 Annual Review. (g) Public Safety Management Plan prepared in consultation with DPI and the DSC
3/7	In addition to the standard requirements for management plans (see condition 2 of schedule 7), the Proponent shall ensure that the management plans required under condition 6(f) above include: (a) a program to collect sufficient baseline data for future Extraction Plans; (b) a revised assessment of the potential environmental consequences of the Extraction Plan, incorporating any relevant information that has been obtained since this approval; (c) a detailed description of the measures that would be implemented to remediate predicted impacts; and (d) a contingency plan that expressly provides for adaptive management.	Water Management Plan Rev C Land Management Plan Biodiversity Management Plan Extraction Plan Long-walls 20-22	C C C	(a) Water Management Plan / Land Management Plan/ and Biodiversity Management Plan have section 11 Future Extraction Plans; Heritage Management Plan section 13 Future Extraction Plans (b) Water Management Plan Rev C, Section 4 and Land Management Plan/ and Biodiversity Management Plan have section 12 Annual Review and Improvement of Performance; (c) Water Management Plan / Land Management Plan/ and Biodiversity Management Plan have section 8 Annual Review and Improvement of Performance;

Condition No.	Condition	Verification	Compliance	Comments
			C	(d) Water Management Plan / Land Management Plan/ and Biodiversity Management Plan have section 9 Contingency Plan;
	Payment of Reasonable Costs			
3/8	The Proponent shall pay all reasonable costs incurred by the Department to engage independent experts to review the adequacy of any aspect of the Extraction Plan.		Noted	No requests for payment of costs for independent experts to review the Extraction Plan have been received from DP&I.
	RESEARCH PROGRAM			
3/9	The Proponent shall prepare and implement a Research Program for the project to the satisfaction of the D-G, and allocate $320,000 towards the implementation of the program. This program must: (a) be prepared in consultation with DWE, SCA, DECC and DPI; (b) be submitted to the Director-General for approval by the end of 2010; (c) be targeted at genuine research, as opposed to implementing the matters required by this approval; and (d) be directed at encouraging research into improving: • the prediction of valley closure and upsidence, and the resultant subsidence impacts; • the assessment of the environmental consequences of subsidence impacts on natural features; • the remediation of subsidence impacts on watercourses; • the understanding of subsidence impacts and their environmental consequences on swamps; • the conservation of the Eastern Ground Parrot on the Woronora Plateau; or • the environmental management of underground mining operations in the Southern Coalfield.	Letter from DP&I re Approval of Research Program, 27 May 2011	C Ongoing C C C C	Payment of the funds for progress of the components of the Research Program are and will be paid on invoice(s) submitted for components of the research program as they undertaken. (a) Consultation occurred with DECC, SCA and DPI. DECC proposed a component within the Research Program that was included in the approved Research Program (b) The Research Program was submitted to DP&I on November 4 2010 and approved on 27 May 2011. (c) The proposals provided by UNSW, Heritage Computing and DECC were targeted at genuine research. (d) Three research studies have been selected to be funded by the project. These studies do not specifically relate to surface water, but are related to other areas covered by this approval condition (Annual Review 2011, S3.9.2, p 140). The 2010 Annual Review provides a summary of the selection process (Annual Review 2010, S3, p90). • DP&I approved the Program on 27 May 2011 [Approval Sighted], noting that a copy of the Research Program must be made publicly available via the website. The Research Program is uploaded on the website. • UNSW - research into improving the prediction of valley closure and up-sidence, and the resultant subsidence impacts and assessment of the environmental consequences of subsidence impacts on natural features; • DECC proposed research into conservation of the Eastern Ground Parrot on the Woronora

<table>
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<tr><td></td><td></td><td></td><td></td><td>Plateau; and
• Heritage Computing proposed management of underground mining operations</td></tr>
<tr><td>3/10</td><td>The Proponent shall obtain the Director-General's approval for the allocation of any funding under this program.</td><td>Letter from DoP re Approval of Research Program, 27 May 2011</td><td>C</td><td>See above</td></tr>
<tr><td></td><td>CONSTRUCTION MANAGEMENT – WORONORA SPECIAL AREA</td><td></td><td></td><td></td></tr>
<tr><td>3/11</td><td>The Proponent shall prepare and implement a Construction Management Plan for all surface construction works (excluding remediation or rehabilitation works) in the Woronora Special Area to the satisfaction of the Director-General. This plan must be prepared in consultation with SCA, include detailed plans of the proposed construction works, and be approved by the Director-General before the Proponent is allowed to carry out the construction works.</td><td>Letter from SCA re Review of Construction Management Plan, 24 Sep 2010
Construction Management Plan, Nov 2011
Letter to DP&I re Construction Management Plan, 3 Nov 2011</td><td>C</td><td>A Construction Management Plan for the surface works for the Eastern Tributary and Honeysuckle Creek Gauging Stations in the Woronora Special Area, was prepared in consultation with the SCA and submitted to DoP for approval on 26 July 2011. DoP responded with comments on 31 October 2010 and the revised Construction Management Plan was re-submitted to DoP on 3 November 2010, prior to commencement of the construction works.</td></tr>
<tr><td></td><td>SCHEDULE 4 SPECIFIC ENVIRONMENTAL CONDITIONS – GENERAL</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Noise Impact Assessment Criteria</td><td></td><td></td><td></td></tr>
<tr><td>4/1</td><td>By the end of 2014, the Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 2 at any residence on privately-owned land, or on more than 25% of any privately-owned land.
Table 2: Noise Impact Assessment Criteria
<table>
<tr><th>Day</th><th>Evening</th><th>Night</th><th>Night</th></tr>
<tr><th colspan="3">LAeq(15 min)</th><th>LA1(I min)</th></tr>
<tr><td>50dB(A)</td><td>45dB(A)</td><td>45dB(A)</td><td>50dB(A)</td></tr>
</table>
Notes:
• To determine compliance with the LAeq(period) noise limits, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy) may be accepted. The modification factors in Section 4 of the NSW Industrial Noise Policy shall be applied to the noise levels where applicable.
• To determine compliance with the LA1(1 minute) noise limits, noise from the project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct</td><td></td><td>Not yet activated</td><td>This condition is required to be activated by the end of 2014.</td></tr>
</table>

<table>
<tr><th>Condition No.</th><th>Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td></td><td>measurement of noise from the project is impractical, alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy may be accepted.
• The noise emission limits identified in the above table apply under meteorological conditions of:
○ wind speeds of up to 3 m/s at 10 metres above ground level; or
○ temperature inversion conditions of up to 3ºC/100m, and wind speeds of up to 2 m/s at 10 metres above ground level, determined in accordance with the NSW Industrial Noise Policy.</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Noise Acquisition Criteria</td><td></td><td></td><td></td></tr>
<tr><td>4/2</td><td>If after 2014, the noise generated by the project exceeds the criteria in Table 3 at any residence on privately-owned land, or on more than 25% of any privately-owned land, then the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 5-7 of schedule 5.
Table 3: Noise Acquisition Criteria
<table><tr><td>Day
LAeq(15 min)</td><td>Evening
LAeq(15 min)</td><td>Night
LAeq(15 min)</td></tr><tr><td>55 dB(A)</td><td>50 DB(A)</td><td>50 DB(A)</td></tr></table>Note: Noise generated by the project is to be measured in accordance with the notes presented below Table 2. For this condition to apply, the exceedances of the criteria must be systemic.</td><td></td><td>Not activated</td><td>This condition is to be activated after the end of 2014.</td></tr>
<tr><td></td><td>Additional Noise Mitigation Measures</td><td></td><td></td><td></td></tr>
<tr><td>4/3</td><td>If after 2014, the noise generated by the project exceeds the criteria in Table 4 at any residence on privately-owned land, then the Proponent shall, upon receiving a written request from the landowner, implement reasonable and feasible noise mitigation measures (such as double-glazing, insulation, and/or air conditioning) at the residence in consultation with the land owner. If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.
Table 4: Additional Noise Mitigation Criteria
<table><tr><td>Day LAeq(15 min)</td><td>Evening LAeq(15 min)</td><td>Night LAeq(15 min)</td></tr><tr><td>53 dB(A)</td><td>48 dB(A)</td><td>48 dB(A)</td></tr></table></td><td></td><td>Not activated</td><td>This condition may be activated after the end of 2014.</td></tr>
</table>

Condition No.	Condition	Verification	Compliance	Comments
	Note: Noise generated by the project is to be measured in accordance with the notes presented below Table 2.			
	Rail Noise			
4/4	The Proponent shall only use locomotives that are approved to operate on the NSW rail network in accordance with noise limits L6.1 to L6.4 in Rail Corp's EPL (No. 12208) and ARTC's EPL (No. 3142) or a Pollution Control Approval issued under the former Pollution Control Act 1970.	Memo from Freight Corp re 82 and 90 Class Locomotive Noise Tests, 28 Feb 2000 Letter from EPA re Approval of Works on 82 Class and 90 Class Locomotives, 22 Feb 2000 Emails to Pacific National re Locomotives, Apr 2011	C	Clyde Engineering undertook noise mitigation works on the 82 and 90 Class locomotives in February 2000 and the works were approved by the EPA as satisfying condition 9 of the SRA Pollution Control Approvals No. 000993 and 000994.
4/5	The Proponent shall use its best endeavours to minimise night-time movements of rolling stock on the Metropolitan rail spur.	Meeting Minutes with Pacific National re Rail Noise, 29 Sep 2011	C	Pacific National Meeting Minutes on 29 September 2010 stated that *"efforts to minimise noise impacts on the community, and reaffirmed of Schedule 4 condition 5 of Metropolitan Coal's Project Approval which states that the colliery must use its best endeavours to minimise night time movements of rolling stock on the Metropolitan rail spur. All agreed to continue to work together to support compliance with the condition".*
4/6	In the event of any rail noise or vibration issues that may arise from the haulage of coal over the life of the Project, the Proponent shall liaise with the CCC and the rail service provider to facilitate resolution of these issues and implement additional noise reduction measures where appropriate.	Emails to Pacific National re Locomotives, 29 Jan to 16 Feb 2012	C Ongoing	Noted
	Blasting			
4/7	The Proponent shall not undertake blasting operations at the surface facilities area without the written approval of the D-G.		C	No surface blasting has occurred at the Metropolitan Colliery Mine.
	Noise Management Plan			
4/8	The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with DECC by a suitably qualified expert whose appointment has been approved by the Director-General, and submitted to the Director-General for approval by the end of June 2010. It must also provide for real-time noise monitoring.	Noise Management Plan, 26 Aug 2010 Letter to DoP re Noise Management Plan, 23 Jun 2010 Letter from DoP re Approval of Revised Noise Management Plan, 14 Apr 2011	**C**	The Noise Management Plan was prepared in consultation with the DECCW and submitted to the Director-General for approval on the 23 June 2010. Noise Management Plan Section 7.1.1 addresses Real Time Continuous Monitoring and Location of the real time noise monitor.

<table>
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<tr><td></td><td>AIR QUALITY & GREENHOUSE GAS</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Odour</td><td></td><td></td><td></td></tr>
<tr><td>4/9</td><td>The Proponent shall not cause or permit the emission of offensive odours from the site, as defined under Section 129 of the POEO Act.</td><td>Metropolitan Coal Complaints Register</td><td>C</td><td>No odour complaints had been received by Metropolitan Coal during 2009-2011.</td></tr>
<tr><td></td><td>Greenhouse Gas Emissions</td><td></td><td></td><td></td></tr>
<tr><td>4/10</td><td>The Proponent shall implement all reasonable and feasible measures to minimise:
(a) energy use on site; and
(b) the scope 1, 2 and 3 greenhouse gas emissions produced on site, to the satisfaction of the D-G.</td><td>Air Quality and Greenhouse Gas Management Plan, 14 Apr 2011
Metropolitan ESAP First Annual Report, Mar 2010</td><td>C</td><td>Energy efficiency is on-going at Metropolitan Coal through improvement programs, specific development, improvements and upgrade projects. The new underground conveyor system being installed is equipped with variable voltage variable frequency (VVVF) variable speed drives and the reduced underground haulage distance will result in a significant improvement in energy efficiency and a reduced energy use per tonne of ROM produced. Upgrades to the mine ventilation systems and the CH&PP are also expected to result in improved energy performance per tonne of ROM coal.</td></tr>
<tr><td></td><td>Air Quality Impact Assessment Criteria</td><td></td><td></td><td></td></tr>
<tr><td>4/11</td><td>The Proponent shall ensure that dust generated by the project does not cause additional exceedances of the air quality impact assessment criteria listed in Tables 5, 6, and 7 at any residence on privately-owned land, or on more than 25 % of privately-owned land.
Table 5: Long term impact assessment criteria for particulate matter
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Criterion</th></tr>
<tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td>90 µg/m^3</td></tr>
<tr><td>Particulate matter < 10 µm (PM_{10})</td><td>Annual</td><td>30 µg/m^3</td></tr>
</table>
Table 6: Short term impact assessment criterion for particulate matter
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Criterion</th></tr>
<tr><td>Particulate matter < 10 µm (PM_{10})</td><td>24 hour</td><td>50 µg/m3</td></tr>
</table>
Table 7: Long term impact assessment criteria for deposited dust
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Max increase in deposited dust</th><th>Max total deposited dust</th></tr>
<tr><td>Deposited dust</td><td>Annual</td><td>2 g/m^2/month</td><td>4 g/m^2/month</td></tr>
</table></td><td>Air Quality and Greenhouse Gas Management Plan, 14 Apr 2011

Annual Review 2011</td><td>C</td><td>Air quality assessment is reported in the Annual Return in section 4.2 Air Quality and Greenhouse Gas Management.
The annual average HVAS PM_{10} concentration during the 2010-2011period was 11.8 µg/m^3.
(The annual average PM_{10} concentrations during 2007/2008 and 2008/209 were approx 15 µg/m^3 and 25 µg/m^3 in 2009/2010).
All results for PM_{10} have been less than the long and short term criteria.
Annual average total suspended particulate (TSP) concentrations estimated from the PM_{10} measurements by assuming that 40% of the TSP is $PM_{10,}$ indicates that the annual average TSP concentration is approximately 30 µg/m^3 that is less than the performance indicator of 90µg/m^3.
The annual average dust deposition rates from the off-site dust deposition gauges for the 2010-2011 ranged from 0.8 to 1.7g/m^2/mth. The dust deposition recorded at gauge DG3 located at the Mine Entrance was 2.2g/m^2/mth. The annual average for deposited dust at all 10 sites is less than the assessment criteria of 4g/m^2/mth.
The Project Approval requires Metropolitan Coal to</td></tr>
</table>

<table>
<tr><th>Condition No.</th><th>Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td></td><td>Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter – Deposited Matter - Gravimetric Method, or its latest version.</td><td></td><td></td><td>ensure that dust generated by the Project does not cause additional exceedances of the air quality impact assessment criteria listed in Tables 5, 6 and 7 of Schedule 4 Condition 11, at any residence on privately-owned land, or on more than 25% of any privately-owned land. All results are compliant with the criteria.</td></tr>
<tr><td></td><td>Land Acquisition Criteria</td><td></td><td></td><td></td></tr>
<tr><td>4/12</td><td>If the dust generated by the project exceeds the criteria in Tables 8, 9, and 10 at any residence on privately-owned land, or on more than 25% of any privately-owned land, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 5-7 of schedule 5.
Table 8: Long term land acquisition criteria for particulate matter
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Criterion</th></tr>
<tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td>90 µg/m^3</td></tr>
<tr><td>Particulate matter < 10 µm (PM_{10})</td><td>Annual</td><td>30 µg/m^3</td></tr>
</table>
Table 9: Short term land acquisition criteria for particulate matter
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Criterion</th><th>Percentile[1]</th><th>Basis</th></tr>
<tr><td rowspan="2">Particulate matter<10 µm (PM_{10})</td><td>24 hour</td><td>150 µg/m^3</td><td>99[2]</td><td>Total[3]</td></tr>
<tr><td>24 hour</td><td>50 µg/m^3</td><td>98.6</td><td>Increment[4]</td></tr>
</table>
1Based on the number of block 24 hour averages in an annual period.
2Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Director-General in consultation with DECC.
3Background PM10 concentrations due to all other sources plus the incremental increase in PM_{10} concentrations due to the mine alone.
4Incremental increase in PM_{10} concentrations due to the mine alone.
Table 10: Long term land acquisition criteria for deposited dust
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Maximum increase in deposited dust</th><th>Maximum total deposited dust</th></tr>
<tr><td>Deposited dust</td><td>Annual</td><td>2 g/m^2/month</td><td>4 g/m^2/month</td></tr>
</table></td><td></td><td>Not activated</td><td></td></tr>
</table>

Condition No.	Condition	Verification	Compliance	Comments
	Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.			
	Air Quality & Greenhouse Gas Management Plan			
4/12	The Proponent shall prepare and implement an Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with DECC by a suitably qualified expert whose appointment has been approved by the Director-General, and submitted to the Director-General for approval by the end of June 2010. It must also provide for real-time air quality monitoring.	Air Quality and Greenhouse Gas Management Plan, Dec 2011 Letter from Planning re Approval of Air Quality and Greenhouse Management Plan, 14 Apr 2011	**C**	An Air Quality and Greenhouse Gas Management Plan was submitted to the Director-General in June 2010, and approved by DP&I. The Plan included real time air quality monitoring with TEOM PM_{10} monitoring and SMS alert system established at the mine site. The TEOM unit has a minimum reporting interval of 10 minutes, a local storage of two months and a telemetry system connected to a computer for data storage and display of results via a wireless data link to a control point within the Metropolitan Coal offices.
	SOIL & WATER			
	Discharges			
4/14	The Proponent shall ensure that all surface water discharges from the site comply with the discharge limits (both volume and quality) set for the project in any EPL.	Environmental Earth Sciences Monitoring Data Reports, Aug-Nov 2011	Noted	
	Surface Facilities Water Management Plan			
4/15	The Proponent shall prepare and implement a Water Management Plan for the surface facilities area and two ventilation shaft sites to the satisfaction of the Director-General. This plan must be prepared in consultation with DWE and DECC by a suitably qualified expert/ whose appointment has been endorsed by the Director-General, and submitted to the Director-General for approval by the end of June 2010. In addition to the standard requirements for management plans (see condition 2 of schedule 7), this plan must: (a) include a comprehensive water balance for the project; and (b) ensure that suitable measures are implemented to minimise water use, control erosion, prevent groundwater contamination, and comply with any surface water discharge limits. *Note: The water balance in this plan must be suitably integrated with both the Catchment Monitoring Program and the Water Management Plans that form part of the Extraction Plan.*	Surface Facilities Water Management Plan, Sep 2010 Letter from DP&I re Endorsement of Experts, 12 Mar 2011 Letter from Planning re Approval of Surface Facilities Water Management Plan, 14 Apr 2011	**C** **C**	• The Revision Table notes that the first revision (Rev A) of the Surface Facilities Water Management Plan (SFWMP) was distributed to DECC, NSW Office of Water and DP&I. • The Surface Facilities Water Management Plan was prepared by Gilbert & Associates Pty Ltd and HCPL. These experts were endorsed by DP&I on 12 March 2011. • The Surface Facilities Water Management Plan was prepared in consultation with DECCW, NSW Office of Water and DoP in September 2010. The revised document addressing comments received from the authorities was approved by DoP on 14 April 2011. (a) The Australian Water Balance Model (AWBM) 3 was used to simulate runoff from rainfall on the various catchments across the major surface

Condition No.	Condition	Verification	Compliance	Comments
			C	facilities area, with four different sub-catchment types modelled and catchment areas. The mine water make water balance has been suitably integrated with the Metropolitan Mine Catchment Monitoring Program and the Metropolitan Mine Long-walls 20-22 Water Management Plan. (b) Section 8 of the Surface Facilities Water Management Plan provides management measures to minimise water use, control erosion, prevent groundwater contamination, and comply with any surface water discharge limits. The Surface Facilities Water Management Plan, references water balance in two places: • Surface facilities water management schematic and water balance analysis (including underground water make) for average, 10th percentile wet and 10th percentile dry rainfall years (S4.1.1, pp11-12 and Table 2, p13). Table 2 indicates that water from underground accounts for a little more than 50% of inflow to the site. • Figure 7, p18 – mine water balance calculated as difference between inflows and outflows of water from workings. SFWMP also provides an initial assessment of the water make in the underground mine (estimated to be 0.07 ML/day based on a "more realistic estimate of ROM coal moisture content of 7%"). Annual Reviews assess mine water make from metered water into and out of the mine, periodic monitoring of moisture content of ventilation air and monitoring of ROM moisture content. • Annual Review 2010 mine water make 0.1 ML/day (S3.3.2, pp37-39) • Annual Review 2010 mine water make 0.14 ML/day (S3.3.2, pp45-46) • Annual Review 2010 Section 4.3.2, p113 and Annual Review 2011 (Section 4.3.2, p169) state "Daily total rainfall and rainfall intensity are measured at the Metropolitan Coal

Condition No.	Condition	Verification	Compliance	Comments
				meteorological station at Robertson Street in Helensburgh. The rainfall data is used as an input to the surface facilities water balance model." • Surface Facilities Water Management Plan, S6, p19 Note: The Surface Facilities Water Management Plan (S7.4, p21) states that "The mine water make water balance has been suitably integrated with the Metropolitan Mine Catchment Monitoring Program and the Metropolitan Mine Long-walls 20-22 Water Management Plan". Both the Construction Management Plan (S5.4.4. p71) and Water Management Plan (S7.6, p76) include details of the monitoring program to assess mine water make that reflect the monitoring specified in the Surface Facilities Water Management Plan.
	METEOROLOGICAL			
4/16	During the life of the project, the Proponent shall ensure that there is a suitable meteorological station in the vicinity of the surface facilities area that complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline.	Siting Report Automatic Weather Station, Novecom, 30 May 2011	C	The location of the automatic weather station installed at the Metropolitan Colliery at Robertson Street Helensburgh was assessed by Novecom in May 2011 and considered representative of the receiving environment. The weather station includes wind speed and direction, temperature, (2m and 10m), relative humidity and rainfall. The main automatic meteorological station is supplemented with additional weather monitoring locations: **SentineX 90 Module Type Description** M1 Primary meteorological monitoring system M2 Stockpile wind monitoring system D1 TEOM ambient particulate monitoring system D2 Portable dust monitoring system J1 Stockpile level monitoring system J2 Camps Creek discharge J3 Camps Creek extraction
	TRANSPORT			
	Parkes Street Intersection			
4/17	By the end of 2010, the Proponent shall: (a) undertake a road safety audit of the Parkes Street and	Emails between the Metropolitan Colliery, RTA,	C In progress	Stage 5 Road Safety Audit & Recommendations Report - Parkes Street & Colliery Road Intersection,

Condition No.	Condition	Verification	Compliance	Comments
	Colliery Road intersection, in consultation with the RTA and WCC; and (b) implement any recommendations of this audit, to the satisfaction of the Director-General.	Traffic Committee, and Consulting Civil Infrastructure Engineers (J Wyndham Prince), Stage 5 Road Safety Audit & Recommendations Report - Parkes Street & Colliery Road Intersection, Helensburgh, J Wyndham Prince, Sep 2010		Helensburgh, was prepared for Peabody Energy by J Wyndham Prince, in September 2010. A Draft Plan for the Parkes Street intersection has been approved and discussions are ongoing with the Council, RTA and Traffic Committees in relation to progressing with the construction of the approved plan.
	Road Maintenance Contributions			
4/18	From the end of 2009, the Proponent shall make a suitable annual contribution to WCC, WSC, and CC for the maintenance of local roads that are used as haulage routes by the project. If there is any dispute over the amount of the contribution, the matter must be referred to the Director-General for resolution.	Regulatory Requirement Council Contributions, 7 Oct 2011 Wollongong City Council Tax Invoice 8 Sep 2011 Wollondilly Shire Council Tax Invoice No. 14288, 5 Sep 2011 Campbelltown City Council Tax Invoice No. 43408, 4 Oct 2011	C	Contributions have been paid to the WCC ($55,000) on Invoice 404487601980163 dated 8 September 2011. Contribution to Wollondilly Shire Council ($27,500) for road maintenance paid on Invoice No. 14288 dated 5 September 2011. Contribution to Campbelltown City Council ($27,500) for road maintenance paid on Tax Invoice No. 43408 on 5 Oct 2011.
	Road Transport Restrictions			
4/19	The Proponent shall not: (a) load coal or coal reject onto trucks, or transport it off site by road, outside the hours of 7am and 6pm Monday to Friday; (b) transport more than 170,000 tonnes of coal off site by road in a calendar year; (c) transport any coal off site to the Port Kembla Coal Terminal by road. (d) permit the departure of more than 25 trucks containing product coal for delivery to the Corrimal Coke works on any given day; or (e) permit the departure of more than 30 trucks containing product coal for delivery to the Coalcliff Coke works on any given day.	Metropolitan Colliery Traffic Management Plan Letter to DP&I re Project Approval Modification , 9 March 2011 Letter from DP&I re Approval Traffic Management Plan, 14 Apr 2011	**C** Modification to Project Approval In progress	(a) Coal and reject transport off site occur from the Metropolitan Coal site occurs between 7.00am and 6.00pm Monday to Friday only. (b) a Modification submitted to DoP on 9 March 2011 with respect to coal and coal reject trucking requested condition 19 to be modified to provide for the number of trucks per day transporting coal and coal reject to .Coal transported offsite did not exceed the 170,000 tonnes per annum equivalent between July 2011 and December 2011. (c) All coal transport to Port Kembla occurs by rail. (d) Truck movements to Corrimal Coke Works have been less than 25 trucks/day (ranging from 93 truck movements during October 2011 to a maximum of 192 in April 2012); (e) Truck movements to Coalcliffl Coke Works have been less than 30 trucks/day (ranging from 67 truck movements during December 2011 to a maximum of 175 during April 2012).

Condition No.	Condition	Verification	Compliance	Comments
4/20	During emergencies (such as the disruption of rail services) the Proponent may exceed the restrictions in condition 19 above with the written approval of the Director-General.		Noted	
	Monitoring			
4/21	The Proponent shall monitor the amount of coal and coal reject transported from the site by road and rail each year, and report the results of this monitoring on its website every six months.	2010-2011 Annual Review 2009-2010 Annual Review www.peabodyenergy.com.au/	C	Metropolitan Coal monitors the amount of product coal transported from site by road and by rail. Data is presented in the Annual Reviews.
	Traffic Management			
4/22	The Proponent shall prepare and implement a Traffic Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with the RTA, WCC, local schools and the CCC, and submitted to the Director-General for approval by the end of February 2010. The primary aim of this plan is to minimise the traffic impacts of the project on the residential areas and schools within Helensburgh.	Metropolitan Mine Traffic Management Plan, Mar 2011	C	The Traffic Management Plan was prepared in consultation with the RTA, Wollongong City Council, local schools and the Community Consultative Committee and was submitted to the Director-General for approval by the end of February 2010.
	VISUAL			
4/23	The Proponent shall minimise the visual impacts, and particularly the off-site lighting impacts, of the surface facilities area and two ventilation shaft sites to the satisfaction of the Director-General.		C	Potential lighting impacts from the mine structures and activities have been reduced by installation of timers on external lights and administration building lights on site, that are visible from nearest residents.
	WASTE			
4/24	The Proponent shall: (a) minimise the waste (including coal reject) generated by the project; and (b) ensure that the waste generated by the project is appropriately stored, handled, and disposed of, to the satisfaction of the Director-General.	Metropolitan Waste Management Plan, Nov 2010 Metropolitan Coal Waste Management Plan, Revision 14 Apr 2011	C	(a) Waste Hierarchy is applied to waste management and performance indicators have been developed to assess the performance of waste management in particular measures to minimise waste (including coal reject) generated by Metropolitan Coal; and (b) section 7.2 describes Waste Storage, Handling and Disposal strategies.
4/25	The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Director-General. This plan must be submitted to the Director-General for approval by the end of June 2010.	Metropolitan Waste Management Plan, Nov 2010 Letter from DP&I re Revised Waste Management Plan Approval, 14 Apr 2011	C	The Waste Management Plan was submitted to the Director-General for approval prior to June 2010 and the Plan was approved in November 2010. A revision of the Plan was approved by DP&I on 14 April 2011.
	SCHEDULE 5 ADDITIONAL PROCEDURES FOR AIR QUALITY AND NOISE MANAGEMENT			
	Schedule 5 Procedures had not been activated at the date of this audit.			
	NOTIFICATION OF LANDOWNERS			
5/1	If the results of the monitoring required in schedule 4 identify that impacts generated by the project are greater than the relevant impact		Not activated	

Condition No.	Condition	Verification	Compliance	Comments
	assessment criteria in schedule 4, except where a negotiated agreement has been entered into in relation to that impact, then the Proponent shall, within 2 weeks of obtaining the monitoring results, notify the Director-General, the affected landowners and tenants (including tenants of mine owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the criteria in schedule 4.			
5/2	If the results of monitoring required in Schedule 4 identify that impacts generated by the project are greater than the relevant air quality impact assessment criteria in schedule 4, then the Proponent shall send the relevant landowners and tenants (including tenants of mine owned properties) a copy of the NSW Health fact sheet entitled "Mine Dust and You" (and associated updates) in conjunction with the notification required in condition 1.		Not activated	
	INDEPENDENT REVIEW			
5/3	If a landowner considers the project to be exceeding the impact assessment criteria in schedule 4, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land. If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Director-General's decision: (a) consult with the landowner to determine his/her concerns; (b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to: • determine whether the project is complying with the relevant impact assessment criteria in schedule 4; and • identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and (c) give the Director-General and landowner a copy of the independent review.		Not activated	
5/4	If the independent review determines that the project is complying with the relevant impact assessment criteria in schedule 4, then the Proponent may discontinue the independent review with the approval of the Director-General. If the independent review determines that the project is not complying with the relevant impact assessment criteria in Schedule 4, then the Proponent shall: (a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria, and conduct		Not activated	

Condition No.	Condition	Verification	Compliance	Comments
	further monitoring to determine whether these measures ensure compliance; or (b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General. However, if the further monitoring referred to under paragraph (a) above determines that the project is complying with the relevant impact assessment criteria, then the Proponent may discontinue the independent review with the approval of the Director-General. If the independent review determines that the project is not complying with the relevant land acquisition criteria in schedule 4, then the Proponent shall offer to acquire all or part of the landowner's land in accordance with the procedures in conditions 5-7 below, to the satisfaction of the Director-General.			
	LAND ACQUISITION			
5/5	Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on: (a) the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the project the subject of the project application, having regard to the: • existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and • presence of improvements on the property and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of 'reasonable and feasible measures' in condition 3 of schedule 4 or condition 4(a) of this schedule; (b) the reasonable costs associated with: • relocating within the Wollongong local government areas, or to any other local government area determined by the Director-General; • obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and (c) reasonable compensation for any disturbance caused by the land acquisition process. However, if following this period, the Proponent and landowner cannot		Not activated	

Condition No.	Condition	Verification	Compliance	Comments
	agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution. Upon receiving such a request, the Director-General shall request the President of the NSW Division of the Australian Property Institute (the API) to appoint a qualified independent valuer to: (a) consider submissions from both parties; (b) determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above; (c) prepare a detailed report setting out the reasons for any determination; and (d) provide a copy of the report to both parties. Within 14 days of receiving the independent valuer's report, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination. However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the D-G for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Director-General shall determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above and the independent valuer's report. Within 14 days of this determination, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination. If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Director-General determines otherwise.			
5/6	The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 5 above.		Noted	
5/7	If the Proponent and landowner agree that only part of the land shall be acquired, then the Proponent shall also pay all reasonable costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of the plan at the Office of the Registrar-General		Noted	

<table>
<tr><th>Condition No.</th><th>Condition</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td></td><td>SCHEDULE 6 REHABILITATION & OFFSETS</td><td></td><td></td><td></td></tr>
<tr><td></td><td>REHABILITATION</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Rehabilitation Objectives</td><td></td><td></td><td></td></tr>
<tr><td>6/1</td><td>The Proponent shall achieve the rehabilitation objectives in Table 11 to the satisfaction of the Executive Director Mineral Resources.

Table 11: Rehabilitation Objectives
<table>
<tr><th>Domain</th><th>Rehabilitation objective</th></tr>
<tr><td>Surface Facilities Area</td><td>Set through condition 2 below</td></tr>
<tr><td>Waratah Rivulet, between the downstream edge of Flat Rock Swamp and the full supply level of the Woronora Reservoir; and
Eastern Tributary, between the main gate of Longwall 26 and the full supply level of the Woronora Reservoir.</td><td>Restore surface flow and pool holding capacity as soon as reasonably practicable</td></tr>
<tr><td>Cliffs</td><td>Ensure that there is no safety hazard beyond that existing prior to mining</td></tr>
<tr><td>Other land affected by the project</td><td>Restore ecosystem function, including maintaining or establishing self-sustaining native ecosystems:
• comprised of local native plant species;
• with a landform consistent with the surrounding environment</td></tr>
<tr><td>Built features</td><td>Repair/restore to pre-mining condition or equivalent</td></tr>
<tr><td>Community</td><td>Minimise the adverse socio-economic effects associated with mine closure including the reduction in local and regional employment.
Ensure public safety</td></tr>
</table></td><td>Metropolitan Colliery Rehabilitation Plan, Oct 2010</td><td>C
Ongoing</td><td>The Metropolitan Coal Rehabilitation Management Plan provides a description of the measures to be taken to address the rehabilitation objectives of this condition.
Rehabilitation Plan Section 7.1 Rehabilitation of Surface Disturbance Areas, and section 7.2 Stream Pool /Rock Bar Remediation provide an outline of the measures to be implemented to achieve the rehabilitation objectives with monitoring conducted and reported in the Annual Review. Impacts to waterways as a result of the project to date have been negligible. There has been no need to rehabilitate water ways to date.
Waratah Rivulet - The 2011 Annual Review states that stream remediation activities have commenced at Pools A and F on the Waratah Rivulet in accordance with approvals obtained from the SCA under Part 5 of the EP&A Act (AR2011, S3.3.4, p69 and S3.11.3.2, p145)
Eastern Tributary - Area not affected with present scope of mine activities.
Cliffs (and Steep Slopes) -Steep slopes have been included in this assessment of terrestrial ecological values as they provide habitat to a number of flora and fauna of conservation significance. Further, in the unlikely event of large scale slope or cliff failure, dislodged debris has the potential to impact water quality.There have been no impacts to steep slopes or cliffs to date. No remediation works have been required.
Built Features – any damage will be repaired/restored to [re-mining condition if impact occurs.
Community – socio-economic effects associated with mine closure will be addressed when the mine closure dates are determined.</td></tr>
<tr><td></td><td>Rehabilitation Strategy – Surface Facilities Area</td><td></td><td></td><td></td></tr>
<tr><td>6/2</td><td>By the end of October 2011, the Proponent shall prepare a Rehabilitation Strategy for the surface facilities area to the satisfaction</td><td>Letter to DP&I re Experts for Rehabilitation Strategy, 8 Jul</td><td>C</td><td>Metropolitan Coal prepared a Rehabilitation Strategy for the Surface Facilities Area and submitted to</td></tr>
</table>

Condition No.	Condition	Verification	Compliance	Comments
	of the Director-General. This strategy must: (a) be prepared by a team of suitably qualified and experienced experts whose appointment has been endorsed by the Director-General; (b) be prepared in consultation with relevant stakeholders, including WCC and the CCC; (c) investigate options for the future use of the area upon the completion of mining; (d) describe and justify the proposed rehabilitation strategy for the area; and (e) define the rehabilitation objectives for the area, as well as the proposed completion criteria for this rehabilitation.	2011 Letter from DP&I Endorsing Experts for Rehabilitation Strategy Development, 8 Oct 2011 Rehabilitation Strategy, Oct 2011 Letter to DP&I re Rehabilitation Strategy, 26 Oct 2011	C C C C C	the Director-General on 26 October 2011: (a) The team of suitably qualified experts to prepare the Rehabilitation Strategy was approved by DP&I on 8 October 2011: • Reece McDougall, Heritage Consultant, Godden Mackay Logan Pty Ltd. • Elizabeth Norris, Ecologist/Botanist, Eco Logical Australia. • Allan Watson, Civil Engineering Consultant, Allan Watson Associates Pty Ltd. (b) consultation with Wollongong City Council on (26 September 2011), Community Consultative Community (2 August 2011 and 16 August 2011), and the Helensburgh and District Historical Society (2 August 2011 and 8 August 2011). (c) Section 4 Future Land Use Options (d) Section 5 Rehabilitation Objectives (e) Section 5 and 6 Completion Criteria
	Progressive Rehabilitation			
6/3	To the extent that mining operations permit, the Proponent shall carry out rehabilitation progressively, that is, as soon as reasonably practicable following the disturbance.		Noted	
	Rehabilitation Management Plan			
6/4	The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the Executive Director Mineral Resources. This plan must be prepared in consultation with the relevant stakeholders, and submitted to DPI for approval prior to carrying out any second workings in the mining area. *Note: In accordance with condition 12 of schedule 2, the preparation and implementation of Rehabilitation Management Plans is likely to be staged, with each plan covering a defined area (or domain) for rehabilitation. In addition, while mining operations are being carried out, some of the proposed remediation or rehabilitation measures may be included in the detailed management plans that form part of the Extraction Plan. If this is the case, however, then the Proponent will be required to ensure that there is good cross-referencing between the various management plans.*	Metropolitan Colliery Rehabilitation Management Plan, Dec 2010 Letter from DI&I re Approval of the Rehabilitation Management Plan, 22 Oct 2010	C	The Rehabilitation Management Plan was prepared and submitted to the Director-General prior to carrying out any second workings in the Long-wall 20-22 mining area. • DP&I approved the Rehabilitation Management Plan on 14 May 2010, subject to comments provided in a letter dated 21 April 2010 being addressed prior to 31 October 2011. • Rehabilitation Management Plan approved by NSW I&I (Mineral Resources) on 22 October 2010. • Rev A of the Rehabilitation Management Plan was distributed to the SCA, DECCW, NSW Office of Water, NSW I&I (Fisheries), DoP and NSW I&I (Mineral Resources). Rev B of the RMP addressed comments from NSW I&I (Mineral Resources), SCA and DoP. •

Condition No.	Condition	Verification	Compliance	Comments
	OFFSETS			
	Catchment Improvement Works			
6/5	The Proponent shall: (a) pay SCA $100,000 by the end of 2011 to carry out catchment improvement works within the Woronora catchment area; or (b) carry out catchment improvement works within this area that have an equivalent value to the satisfaction of SCA.		C In progress	Metropolitan Coal has consulted with SCA and propose to carry out two projects (rehabilitation of a walking track and a quarry site within the SCA area) plus a weed control program, following agreement with SCA. The consultation with SCA in relation to these projects is planned to occur in December 2011.
	Offsets			
6/6	If the Proponent exceeds the performance measures in Table 1 of this approval, and either (a) the contingency measures implemented by the Proponent have failed to remediate the impact; or (b) the Director-General determines that it is not reasonable or feasible to remediate the impact, then the Proponent shall provide a suitable offset to compensate for the impact to the satisfaction of the Director-General. *Note: Any offsets required under this condition must be proportionate with the significance of the impact.*		Not activated	
	SCHEDULE 7 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING			
	ENVIRONMENTAL MANAGEMENT			
	Environmental Management Strategy			
7/1	The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. The strategy must: (a) be submitted to the Director-General for approval by the end of September 2009; (b) provide the strategic framework for environmental management of the project; (c) identify the statutory approvals that apply to the project; (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project; (e) describe the procedures that would be implemented to: • keep the local community and relevant agencies informed about the operation and environmental performance of the project; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the project;	Metropolitan Colliery Environmental Management Strategy, Mar 2011 Letter from DP&I re Approval of EMS, 14 Nov 2011	C	The Environmental Management Strategy has been prepared and the strategy implemented for the Metropolitan Coal operations: (a) Environmental Management Strategy was prepared and submitted to the D-G in September 2009. (b) The Environmental Management Strategy provides the strategic framework for environmental management of the Metropolitan Colliery operations. (c) Section 3 Statutory (d) Section 5 Environmental Management Responsibility, Personnel and Roles (e) Procedures for implementation of the Environmental Management Strategy: • Section 6.1 Information Dissemination • Section 6.2 Complaints and Response Procedures

Condition No.	Condition	Verification	Compliance	Comments
	• respond to any non-compliance; and • respond to emergencies; (f) include: • copies of the various strategies, plans and programs that are required under the conditions of this approval once they have been approved; and • a clear plan depicting all the monitoring currently being carried out within the project area. •			• Section 6.3 Dispute Resolution • Sections 7Incidents and section 8 Response to Non-Compliances • Section 9 Emergency Response (f) Section 3.1 Statutory Requirements; and Attachment 1 Current Monitoring Locations
	Management Plan Requirements			
7/2	The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures; (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures /criteria; (d) a program to monitor and report on the: • impacts and environmental performance of the project; • effectiveness of any management measures (see c above); (e) a contingency plan to manage any unpredicted impacts and their consequences; (f) a program to investigate and implement ways to improve the environmental performance of the project over time; (g) a protocol for managing and reporting any: • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and (h) a protocol for periodic review of the plan.	Air Quality and Greenhouse Gas Management Plan Biodiversity Management Plan Heritage Management Plan Noise Management Plan Subsidence Management Plan Water Management Plan	C	Management Plans have been generally prepared in a format that addresses the components of this condition: (a) baseline data is addressed in the Management Plans. (b) Relevant statutory requirements are presented in section 3 of the Management Plans and performance criteria and mitigation measures are included in the Management Plans in section 5; (c) measures implemented to comply with the relevant statutory requirements/ limits, or performance measures are included in the Management Plans. (d) program to monitor and report on the implementation of the Management Plan is addressed in the Reporting section. (e) a contingency plan to manage any unpredicted impacts and their consequences is addressed in section 9 of the Management Plans. (f) a program to investigate and implement ways to improve the environmental performance of the project over time is addressed the Management Plans. • a protocol for managing and reporting any incidents, complaints, non-compliances with statutory requirements or exceedances of the impact assessment criteria and/or performance criteria is addressed Reporting Incidents and Complaints, of the Management Plans. • Section 2 of the Management Plans addresses review and update of the Plans.

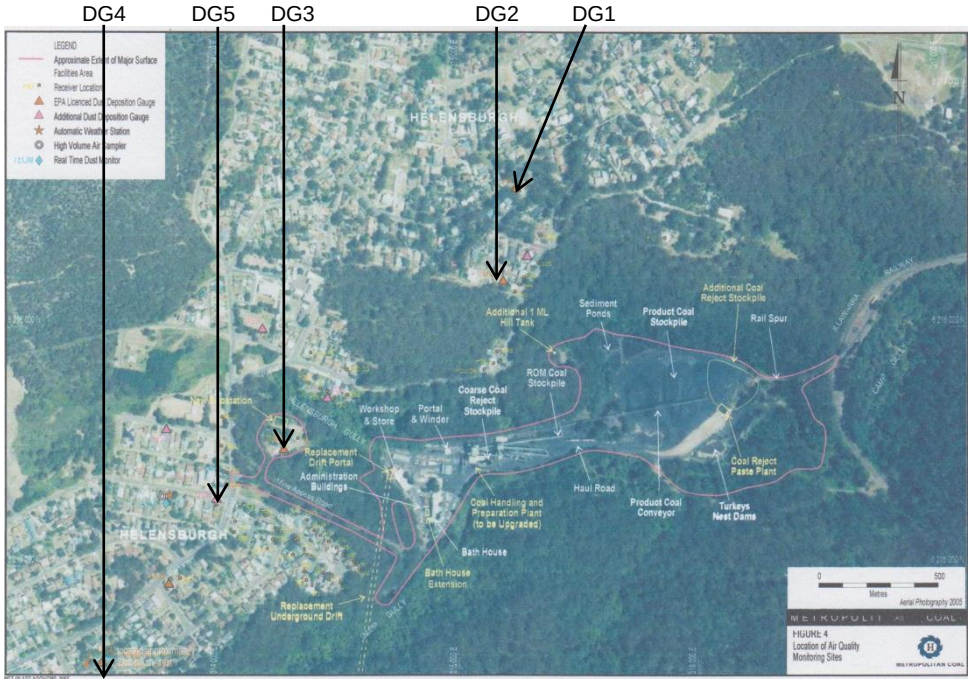
Condition No.	Condition	Verification	Compliance	Comments
	Annual Review			
7/3	By the end of October 2010, and annually thereafter, the Proponent shall review the environmental performance of the project to the satisfaction of the Director-General. This review must: (a) describe the works that were carried out in the past year, and the works that are proposed to be carried out over the next year; (b) include a comprehensive review of the monitoring results and complaints records of the project over the past year, which includes a comparison of these results against the • the relevant statutory requirements, limits or performance measures/criteria; • the monitoring results of previous years; and • the relevant predictions in the EA, PPR, and Extraction Plan; (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the project; (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and (f) describe what measure will be implemented over the next year to improve the environmental performance of the project.	Letter to DP&I re 2010 Annual Review, 29 Oct 2010 Letter from DP&I re 2010 Annual Return, 14 April 2011 Email from DP&I re Extension for Submission of 2011 Annual Return,	C C C C	The Annual Review of the Metropolitan Coal operations has been prepared for the period 1 August to 31 July each year and submitted to the Director-General: (a) section 2 Works During the Reporting Period and section 7 Works Proposed in the Next Reporting Period (b) to (e) Section 3 include relevant requirements or performance criteria, and a review of monitoring results, identification of trends in the monitoring data and the identification of any discrepancies between predicted and actual impacts for Underground Mine and Surrounds and Section 4 Surface Facilities. Non-compliances are identified in the Annual Return sections 3 and 4 "Assessment of Environmental Performance". (f) section 7 Works Proposed in the Next Reporting Period. The 2010 Annual Review identifies a number of "Further Initiatives" in relation to Surface Facilities Water Management (AR2010, S4.3.5, 118 – 119).
	Revision of Strategies, Plans & Programs			
7/4	Within 3 months of the submission of an: (a) audit under condition 8 of schedule 7; (b) incident report under condition 6 of schedule 7; and (c) annual review under condition 3 of schedule 7, the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General. Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.		Noted	
	Community Consultative Committee			
7/5	The Proponent shall establish a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General. This CCC must be operated in general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for	Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects, DoP, 2007	C	The Community Consultative Committee (CCC) for the Metropolitan Colliery Mine project meets quarterly in the Metropolitan Coal Administration Office (Boardroom).

Condition No.	Condition	Verification	Compliance	Comments
	Mining Projects (Department of Planning, 2007, or its latest version) to the satisfaction of the Director-General. *Note: The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval. In accordance with the Guideline, the Committee should comprise an independent chair and appropriate representation from the Proponent, affected councils, recognised environmental groups and the general community in Helensburgh and the area of the project.*	CCC Meeting Minutes: Dec 2011 May 2011 February 2011 Dec 2010 Oct 2010 Jul 2010 May 2010		The CCC Meeting is conducted generally in accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects, and is chaired by Ms Margaret MacDonald-Hill. Minutes of the CCC Meetings are taken by Metropolitan Coal, distributed to the CCC Members and placed on the Company website.
	REPORTING			
	Incident			
7/6	The Proponent shall notify the Director-General and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident.	Letter to DP&I re Incident , 22 Aug 2011	C	Incident Report submitted to DP&I and OEH on 22 August 2011: Water run-off from a Virgin Excavated Natural Material stockpile in the drift construction area at the Colliery drained via an on-site clean water drain to Helensburgh Creek Culvert and subsequently into Camp Creek.
	Regular			
7/7	The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval, and to the satisfaction of the Director-General.	Community Newsletter: Dec 2011 Jul 2011 Feb 2011 Oct 2010	C	The Peabody Energy website provides copies of regular reports and environmental performance of the project: http://www.peabodyenergy.com.au/nsw/metropolitan-environment-community-information The website is updated regularly as new documents or amended documents become part of the plans or programs approved under the conditions of approval.
	INDEPENDENT ENVIRONMENTAL AUDIT			
7/8	*Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Director-General.*			
	By end of December 2011, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must: (a)be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the project and assess whether it is complying with the relevant requirements in this approval and any relevant EPL or Mining Lease (including any		C C	The audit review and inspections were commenced in December 2011 by Trevor Brown. (a) The audit team experts were endorsed by the Director-General on . • The Surface Water Audit was undertaken in January 2011 following delays in gaining access to SCA area due to wet weather. • The Biodiversity audit was conducted on 1 February 2012 following delays in gaining access to SCA area due to wet weather. • Subsidence audit was conducted by Steve

Condition No.	Condition	Verification	Compliance	Comments
	assessment, plan or program required under these approvals); (d) review the adequacy of strategies, plans or programs required under these approvals; and, if appropriate; and (e) recommend measures or actions to improve the environmental performance and/or any assessment, plan or program required under these approvals.		C C C C	Ditton of DgS on 30 January 2012, following delays in gaining access to SCA area due to wet weather. • Noise audit conducted by J Wasserman of Wilkinson Murray on 3 March 2012. (b) No specific requests for matters to be included in the audit were received from relevant agencies in response to email contact. (c) Environmental performance and compliance have been assessed by the audit team. (d) strategies, plans and programs required by the relevant approvals were assessed for adequacy. (e) suggestions and recommend measures or actions to improve environmental performance have been provided where relevant.
7/9	Within 6 weeks of the completing of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.		Noted	
	ACCESS TO INFORMATION			
7/10	From the end of 2009, the Proponent shall make the following information publicly available on its website: (a) a copy of all current statutory approvals; (b) a copy of the current environmental management strategy and associated plans and programs; (c) a summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval; (d) a complaints register, which is to be updated on a monthly basis; (e) a copy of the minutes of CCC meetings; (f) a copy of any Annual Reviews (over the last 5 years); (g) a copy of any Independent Environmental Audit, and the Proponent's response to the recommendations in any audit; and (h) any other matter required by the Director-General.		C	All statutory approvals, relevant plans and programs listed under the Project Approval have been uploaded on the project website: http://www.peabodyenergy.com.au/nsw/metropolitan-environment-community-information A summary of surface water monitoring is provided for both the mine area and surrounds and the surface facilities area. These summaries only include data from 2010. Complaints, CCC Minutes and Community Newsletters, have been uploaded for 2009 to 2011. The Annual Reviews, which include a summary of surface water monitoring, have been uploaded to the project website.

ATTACHMENT B - ENVIRONMENT PROTECTION LICENCE 767

EPL No.	Conditions	Verification	Compliance	Comments
1	**Administrative conditions**			
A1	**What the licence authorises and regulates**			
A1.1	Not applicable.			
A1.2	This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee based activity classification and the scale of the operation. Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition		Noted	
	Scheduled Activity Mining for coal Coal works **Fee Based Activity Scale** Mining for coal > 500000 - 2000000 T produced Coal works 0 - 2000000 T loaded		Noted	Metropolitan Colliery is complaint with the scale of mining and coal produced under the Fee Based Activity
A1.3	Not applicable.		NA	
A2	**Premises to which this licence applies**			
A2.1	The licence applies to the following premises:			
	Premises Details Metropolitan Colliery Parkes Street Helensburgh NSW 2508 LOT 1/DP229817, LOTS 342 & 617/DP752033 **Mining Purposes Lease 276, 725 AND 1344**		Noted	
A3	**Other activities**			
A3.1	Not applicable.		NA	
A4	**Information supplied to the EPA**			
A4.1	Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to "the licence application" includes a reference to: (a) the applications for any licences (including former pollution		Noted	

<table>
<tr><th>EPL No.</th><th>Conditions</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td></td><td>control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
(b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.</td><td></td><td></td><td></td></tr>
<tr><td>2</td><td>Discharges to air and water and applications to land</td><td></td><td></td><td></td></tr>
<tr><td>P1</td><td>Location of monitoring/discharge points and areas</td><td></td><td></td><td></td></tr>
<tr><td>P1.1</td><td>The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.</td><td></td><td>C</td><td></td></tr>
<tr><td></td><td>
<table>
<tr><th>EPA No.</th><th>Type of Monitoring Point</th><th>Location Description</th></tr>
<tr><td>1</td><td>Dust Monitoring</td><td>Dust gauge at 136 The Crescent labelled as "Point DG01" on the map titled "Dust Monitoring Locations" dated 25/06/09 contained in DECC file no. LIC07/2529-02</td></tr>
<tr><td>2</td><td>Dust Monitoring</td><td>Dust gauge at 28 Old Station Road, labelled as "Point 2" on the map titled "Dust Deposition Monitoring Points" dated March 2003</td></tr>
<tr><td>3</td><td>Dust Monitoring</td><td>Dust gauge at the mine entrance, labelled as "Point 3" on the map titled "Dust Deposition Monitoring Points" dated March 2003</td></tr>
<tr><td>4</td><td>Dust Monitoring</td><td>Dust gauge at Helensburgh Golf Course labelled as "Point 4" on the map titled "Dust Deposition Monitoring Points" dated March 2003</td></tr>
<tr><td>5</td><td>Dust Monitoring</td><td>Dust gauge at 83 Parkes Street labelled as "Point 5" on the map titled "EPA Dust Sampling Points" Drawing Number M517A dated 9/11/2006 and contained in DEC file number 280026A22.</td></tr>
</table>
</td><td colspan="2">The EPA air quality monitoring points listed in EPL condition P1.1 have been established and monitored in accordance with EPL condition.
 

EPL Dust Gauge Monitoring Locations DG1 to DG5</td></tr>
</table>

<table>
<tr><th>EPL No.</th><th>Conditions</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td>P1.2</td><td>The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.</td><td></td><td></td><td>The EPA water quality monitoring points listed in EPL condition P1.2 have been established and monitored in accordance with EPL condition</td></tr>
<tr><td></td><td>Water and land
<table>
<tr><th>EPA No.</th><th>Type of Monitoring Point</th><th>Location Description</th></tr>
<tr><td>6</td><td>Discharge to Waters</td><td>The pipe outlet to Camp Creek upstream of the existing weir wall shown on drawing No.M518 titled "EPA Monitoring Points" dated 10/11/06 and contained in DEC file number 280026A22.</td></tr>
<tr><td>7</td><td>Discharge to Waters</td><td>The outlet of the concrete flume (from the water treatment plant) to Camp Creek shown on drawing No. M518 titled "EPA Monitoring Points" dated 10/11/06 and contained in DEC file number 280026A22.</td></tr>
<tr><td>8</td><td>Discharge to Waters</td><td>The overflow from the Turkey Nest Dam to Camp Creek shown on drawing No. M518 titled "EPA Monitoring Points" dated 10/11/06 and contained in DEC file number 280026A22.</td></tr>
<tr><td>9</td><td>Effluent Quality Monitoring</td><td>The clean water tank of the water treatment plant shown on Drawing No. SADA-G-013 titled "Water Clean-up Plant General Arrangement" dated 12/11/2001 and contained in DEC file no. 280026A15</td></tr>
<tr><td>10</td><td>Volume Monitoring</td><td>The flow meter on the pipeline discharging from the clean water tank in the water treatment plant shown on Drawing No. SADAG-013 titled "Water Clean-up Plant General Arrangement" dated</td></tr>
</table></td><td></td><td></td><td></td></tr>
</table>

EPL No.	Conditions	Verification	Compliance	Comments
	12/11/2001 and contained in DEC file no. 280026A15			
P1.3	The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.		Noted	No application of solids or liquids to utilisation areas occurs by Metropolitan Coal.
3	**Limit conditions**			
L1	**Pollution of waters**			
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the *Protection of the Environment Operations Act 1997*.		Noted	
L2	**Concentration limits**			
L2.1	For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.		Noted	
L2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.		Noted	
L2.3	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\s.		Noted	
L2.4	**POINTS 6,7** **Pollutant** / **Units of Measure** / **100 percentile Concentration Limit** Oil and Grease / milligrams per litre / 10 pH / / 6.5 to 8.5 Total Suspended Solids (TSS) / milligrams per litre / 30 *Note: The monitoring at Point 9 required by condition M2 is conducted by the licensee to determine compliance with the limits specified for Points 6 & 7 in condition L3.3*	Water Quality Monitoring Data 2010 Water Quality Monitoring Data 2011 2010 Annual Review 2011 Annual Review	C	The discharge water quality monitoring data for 2010 and 2011 demonstrated compliance with the EPL discharge limits. The 2010 and 2011 Annual Reviews report that all discharges of water to Camp Gully complied with the EPL discharge limits (Annual Review 2010, S4.3, Table 18, p117 and Annual Review 2011, S4.3.3, Table 34, p173).
4	**Operating conditions**			
O1	**Activities must be carried out in a competent manner**			

EPL No.	Conditions	Verification	Compliance	Comments
O1.1	Licensed activities must be carried out in a competent manner. This includes: (a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and (b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.		C	The Metropolitan Coal operational activities associated with processing, handling, movement and storage of coal and the treatment, storage, processing, transport and disposal of waste generated by the activity were observed to be carried out in a competent manner during the audit site inspections.
O2	**Maintenance of plant and equipment**			
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: (a) must be maintained in a proper and efficient condition; and (b) must be operated in a proper and efficient manner.		C	All equipment and plant at the Metropolitan Coal site are maintained in the on-site workshops and were observed to be operated in a proper and efficient manner.
O3	**Dust**			
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.		C	The surface facilities and operations were observed to be managed in a manner that minimised dust generation. The coal stockpiles and conveyor system had water sprays fitted that were activated in dry conditions or when wind speeds exceeded5m/s.
5	**Monitoring and recording conditions**			
M1	**Monitoring records**			
M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.		Noted	
M1.2	All records required to be kept by this licence must be: (a) in a legible form, or in a form that can readily be reduced to a legible form; (b) kept for at least 4 years after the monitoring or event to which they relate took place; and (c) produced in a legible form to any authorised officer of the EPA who asks to see them.		C	All monitoring data and reports are retained by the Environment Section at the Metropolitan Coal site office and can be produced if requested by an authorised officer.
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: (a) the date(s) on which the sample was taken; (b) the time(s) at which the sample was collected; (c) the point at which the sample was taken; and (d) the name of the person who collected the sample.	Certificates of Analysis Excel spread sheets of data for 2011	C	Examples of Certificate of Analysis and monitoring records in Excel format sighted. Date, sample point and name of person who collected the sample provided on Certificate of Analysis.
M2	**Requirement to monitor concentration of pollutants discharged**			

<table>
<tr><th>EPL No.</th><th>Conditions</th><th>Verification</th><th>Compliance</th><th>Comments</th></tr>
<tr><td>M2.1</td><td>For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:</td><td></td><td>C</td><td>All environmental monitoring is conducted in accordance with the monitoring requirements specified in EPL condition M2 and the monitoring programs in the approved management plans.</td></tr>
<tr><td>M2.2</td><td>Air Monitoring Requirements
POINTS 1,2,3,4,5
<table>
<tr><th>Pollutant</th><th>Units of Measure</th><th>Frequency</th><th>Sampling Method</th></tr>
<tr><td>Ash</td><td rowspan="3">g/m^2/mth</td><td rowspan="3">Monthly</td><td rowspan="3">AS3580.10.1-2003</td></tr>
<tr><td>Combustible solids</td></tr>
<tr><td>Insoluble solids</td></tr>
</table></td><td></td><td>Noted</td><td></td></tr>
<tr><td>M2.3</td><td>Water and/or Land Monitoring Requirements
Point 9
<table>
<tr><th>Pollutant</th><th>Units of Measure</th><th>Frequency</th><th>Sampling Method</th></tr>
<tr><td>Oil and Grease</td><td>milligrams per litre</td><td rowspan="3">Monthly during discharge</td><td rowspan="3">Grab sample</td></tr>
<tr><td>pH</td><td>pH</td></tr>
<tr><td>Total Suspended Solids</td><td>milligrams per litre</td></tr>
</table></td><td></td><td>Noted</td><td></td></tr>
<tr><td>M3</td><td>Testing methods - concentration limits</td><td></td><td></td><td></td></tr>
<tr><td>M3.1</td><td>Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
(a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
(b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
(c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.</td><td>Email from Environmental Earth Sciences re Standard Methods, 12 April 2011
Chain of Custody Forms
Certificates of Analysis</td><td>C</td><td>All analysis of samples collected and analysed for parameters stipulated in this condition, are conducted in accordance with approved methods.
• Environmental Earth Sciences (contractor for water sampling) confirmed (email 12/4/2011) that standard methods used for sample collection and handling - comply or exceed minimum requirements in Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales (DEC, 2004)
• Chain of Custody forms sighted.
• Surface water quality testing is undertaken by a NATA Accredited Laboratory. Certificates of</td></tr>
</table>

EPL No.	Conditions	Verification	Compliance	Comments
				Analysis sighted.
M3.2	Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.		C	All monitoring for the concentration of a pollutants is conducted in accordance with the EPA Approved Methods Publication and Standard Methods, by NATA registered laboratories.
M4	**Recording of pollution complaints**			
M4.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Metropolitan Coal Complaints Register	C	A Complaints register is maintained by Metropolitan Colliery and the records retained. A summary of complaints is reported in the Annual Return to the EPA.
M4.2	The record must include details of the following: (a) the date and time of the complaint; (b) the method by which the complaint was made; (c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; (d) the nature of the complaint; (e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and (f) if no action was taken by the licensee, the reasons why no action was taken	Metropolitan Coal Complaints Register	C	The complaints records include details of: (a) date and time of the complaint; (b) method by which the complaint was made; (c) details of the complainant; (d) nature of the complaint; and (e) action taken by Metropolitan Coal in relation to the complaint.
M4.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Metropolitan Coal Complaints Register	C	All records of complaints are retained in the Metropolitan Coal Environment files.
M4.4	The record must be produced to any authorised officer of the EPA who asks to see them.		Noted	
M5	**Telephone complaints line**			
M5.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.		C	Metropolitan Colliery have a Community Complaints line available 24 hours a day – 1800 115 003.
M5.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint		C	The Complaints Line telephone number is available on the Metropolitan Coal website and included in the Community Newsletters distributed by Metropolitan Coal.
M5.3	Conditions M5.1 and M5.2 do not apply until 3 months after: (a) the date of the issue of this licence or (b) if this licence is a replacement licence within the meaning of the *Protection of the*		Noted	

EPL No.	Conditions	Verification	Compliance	Comments
	Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.			
M6	**Requirement to monitor volume or mass**			
M6.1	For each discharge point or utilisation area specified below, the licensee must monitor: (a) the volume of liquids discharged to water or applied to the area; (b) the mass of solids applied to the area; (c) the mass of pollutants emitted to the air; at the frequency and using the method and units of measure, specified below. **POINT 10** **Frequency** / **Unit of Measure** / **Sampling Method** Continuous / Kilolitres per day / Magnetic flow Meter	2010 Annual Review 2011 Annual Review 2010 EPL Annual Return 2011 EPL Annual Return	C	The Annual Reviews and EPA Annual Returns confirm that the monitoring complies with the EPL and provide the total discharge volume for the reporting period: • Annual Review 2010 Section 4.3.2, p114 - 65 ML, • Annual Review 2011 Section 4.3.2, p170 - 156 ML.
6	**Reporting conditions**			
R1	**Annual return documents**			
R1.1	**What documents must an Annual Return contain?** The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: (a) a Statement of Compliance; and (b) a Monitoring and Complaints Summary. A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA.	2010 Annual Return EPL 767 2009 Annual Return EPL 767 2008 Annual Return EPL 767	C	The Annual Returns are prepared on the approved form: (a) Statement of Compliance in included signed by a Metropolitan Coal Director and Company Secretary; (b) The Monitoring and Complaints Summary are included in each Annual Return.
R1.2	**Period covered by Annual Return** An Annual Return must be prepared in respect of each reporting period, except as provided below.	2010 Annual Return EPL 767 2009 Annual Return EPL 767 2008 Annual Return EPL 767	C	Reporting period for the Metropolitan Coal Annual Returns is 1 January to 31 December each year.
R1.3	Where this licence is transferred from the licensee to a new licensee: (a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and (b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.		Noted	

EPL No.	Conditions	Verification	Compliance	Comments
	Note: An application to transfer a licence must be made in the approved form for this purpose.			
R1.4	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: (a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or (b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.		Noted	
R1.5	**Deadline for Annual Return** The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	2010 Annual Return EPL 767 2009 Annual Return EPL 767 2008 Annual Return EPL 767	C	The Annual Returns for Metropolitan Colliery have been submitted within 60 days of the end of the reporting period.
	Notification where actual load can not be calculated			
R1.6	Not applicable.			
R1.7	**Licensee must retain copy of Annual Return** The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	2010 Annual Return EPL 767 2009 Annual Return EPL 767 2008 Annual Return EPL 767	C	Copies of the Annual Returns are retained in the Environment Section files.
R1.8	**Certifying of Statement of Compliance and signing of Monitoring and Complaints Summary** Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: (a) the licence holder; or (b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	2010 Annual Return EPL 767 2009 Annual Return EPL 767 2008 Annual Return EPL 767	C	The Annual Returns are prepared on the approved forms and the Statement of Compliance is signed by a Metropolitan Coal Director and Company Secretary.
R1.9	A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.		Noted	
R2	**Notification of environmental harm**			
	Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.			

EPL No.	Conditions	Verification	Compliance	Comments
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	Incident Report re Discharge from EPA licenced Point 8 Incident Report of release to Camp Creek, 15 Aug 2011	C	Notification to the EPA Pollution Line has occurred for incidents during the 2010-2011 period: 24 November 2010 - water seepage from a borehole (which was being drilled to facilitate underground emplacement of coal wash) into Helensburgh Creek Culvert and subsequently Camp Creek. 2 May 2011 -Notification to the Environment Line re an incident on 2 May 2011, in relation to a discharge from EPA licenced monitoring point 8 following heavy rainfall events. 15 August 2011 – Release of turbid water to Camp Creek
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.	Report to OEH and DP&I re Incident, 24 Nov 2010 Letter to OEH re Incident, 22 Aug 2011	C	Written details of the notifications were provided within 7 days of the incidents: • Environmental incident occurred on 24 November 2010 involving water seepage from a borehole (which was being drilled to facilitate underground emplacement of coal wash) into Helensburgh Creek Culvert and subsequently Camp Creek. Seepage was contained and impacted water was pumped back into the site water management system. Incident reported to both the OEH and DP&I. • Incident Report submitted to OEH and DP&I on 22 August 2011: Water run-off from a Virgin Excavated Natural Material stockpile in the drift construction area at the Colliery drained via an on-site clean water drain to Helensburgh Creek Culvert and subsequently into Camp Creek.
R3	**Written report**			
R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: (a) where this licence applies to premises, an event has occurred at the premises; or (b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.		Noted	
R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.		Noted	

EPL No.	Conditions	Verification	Compliance	Comments
R3.3	The request may require a report which includes any or all of the following information: (a) the cause, time and duration of the event; (b) the type, volume and concentration of every pollutant discharged as a result of the event; (c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; (d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; (e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; (f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and (g) any other relevant matters.		Noted	
R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such details to the EPA within the time specified in the request.		Noted	
	General conditions			
G1	**Copy of licence kept at the premises**			
G1.1	A copy of this licence must be kept at the premises to which the licence applies.	EPL 767	C	Copies of the EPL are kept in the Environment Office at the Metropolitan Colliery Mine site.
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.		Noted	
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.		C	The EPL is kept in the Environment Office at the site and is available for inspection on request.
	Pollution studies and reduction programs			
U1	**Completed PRP Table**		Noted	The PRP table attached to the EPL lists the completed programs and a short description of the requirements of the PRP requirement.
	Special conditions			
E1	Not applicable			

Attachment C Mining Lease

INSTRUMENT OF RENEWAL

Lease No. Consolidated Coal Lease (CCL) No. 703 (ACT, 1973)
Holder: Metropolitan Collieries Limited (ABN. 91 003 135 635)
Date of Lease 3 July 1989 Expiry Date of the Lease: 26 January 2003
Period of Renewal: 26 January 2024
Area: about 51.95 square kilometres
Mineral: Coal

Amendments to the Conditions of the Lease: All the Conditions contained in the lease prior to the renewal have been deleted.
The lease is now subject to the attached Schedule of Conditions of Authority (Coal) (1999) related to environmental management

ML No.	ML Condition		Compliance	Comment
SCHEDULE OF CONDITIONS OF AUTHORITY (COAL) (1999) EXTRACTION OF COAL				
1	The lease holder shall extract as large a percentage of the coal in the subject area as is practicable consistent with the provisions of the Coal Mines Regulations Act 1982 and the Regulations thereunder and shall comply with any direction given or which may be given in this regard by the Minister.		Noted	
MINING, REHABILITATION, ENVIRONMENTAL MANAGEMENT PROCESS (MREMP) MINING OPERATIONS PLAN (MOP)				
2	(1) Mining operations, including mining purposes, must be conducted in accordance with a Mining Operations Plan (the Plan) satisfactory to the Director-General. The Plan together with environmental conditions of development consent and other approvals will form the basis for:- • ongoing mining operations and environmental management; and • ongoing monitoring of the project. (2) The Plan must be prepared in accordance with the Director-General's guidelines, current at the time of lodgement. (3) A Plan must be lodged with the Director-General : • prior to the commencement of operations; • subsequently as appropriate prior to the expiry of any current Plan; and • in accordance with any direction issued by the Director-General. (4) The Plan must present a schedule of proposed mine development for a period of up to seven (7) years and contain diagrams and documentation which identify:-	Mining Operations Plan, 2000 Mining Operations Plan 1 Oct 2005 to 30 Sep 2012, dated 31 Aug 2005 Letter from DPI re Approval of MOP 1 Oct 2005 to 30 Sep 2012, 14 Sep 2005 Draft Final Closure Plan, Oct 2005 Letter from DPI re Draft Final Closure Plan – Addendum to MOP, 24 Oct 2005 Letter from DI&I re Approval of MOP Amendment, 20 May 2010	C	(1) The current Mining Operations Plan 2005 to 2012 was approved by DPI Minerals and amendment of the MOP occurred in 2010 and was approved by DI&I. Environmental management of the mine operations occurs in accordance with the MOP, Project Approval conditions and Environment Protection Licence conditions and monitoring programs. (2) The MOP was prepared by Olsen Environmental Consulting to satisfy the Director-General's Guidelines current in 2005. (3) The MOP was lodged with the D-G prior to expiry of the previous MOP 2000 to address the proposed operations of the Metropolitan Colliery operations for the 1 October to 30 September 2012 period. (4) Section 3 of the MOP presented Proposed Mining Activities for the 2005 to 2012 period: • plans of areas proposed to be disturbed during the period of the MOP (Plans 4A, 4B and 4C); • Section 4 Proposed Rehabilitation Activities during

ML No.	ML Condition		Compliance	Comment
	• area(s) proposed to be disturbed under the Plan; • mining and rehabilitation method(s) to be used and their sequence; • areas to be used for disposal of tailings/waste; • existing and proposed surface infrastructure; • progressive rehabilitation schedules; • areas of particular environmental sensitivity; • water management systems (including erosion and sediment controls); • proposed resource recovery; and • where the mine will cease extraction during the term of the Plan, a closure plan including final rehabilitation objectives/methods and post mining landuse/vegetation The Plan when lodged will be reviewed by the Department of Mineral Resources. The Director-General may within two (2) months of the lodgement of a Plan, require modification and re-lodgement. If a requirement in accordance with clause (6) is not issued within two months of the lodgement of a Plan, lease holder may proceed with implementation of the Plan submitted subject to the lodgement of the required security deposit within the specified time. During the life of the Mining Operations Plan, proposed modifications to the Plan must be lodged with the Director-General and will be subject to the review process outlined in clauses (5) - (7) above.			MOP Term; • Section 2.1.1 Main Pit Top, 2.1.2 No.3 Ventilation Shaft, and 2.1.3 Current Mining Area, and Figure 5A Surface Layout; • Section 6 Environmental and Rehabilitation Risk Identification; • Section 3.6 Water Management; • Section 3 Proposed Mining Activities The 2005-2012 MOP was approved by DPI on 14 September 2005. Addendum requested by D-G for a Final Closure Plan for Metropolitan Colliery as an Addendum to the MOP. The draft Final Closure Plan was accepted as satisfactory by the DPI on 24 October 2005. An Amendment to the MOP was prepared and submitted to the DI&I on 8 May 2010 and approved by DI&I on 20 May 2010.
ANNUAL ENVIRONMENTAL MANAGEMENT REPORT (AEMR)				
3	(1) Within 12 months of the commencement of mining operations and thereafter annually or, at such other times as may be allowed by the Director-General, the lease holder must lodge an Annual Environmental Management Report (AEMR) with the Director-General. (2) The AEMR must be prepared in accordance with the Director-General's guidelines current at the time of reporting and contain a review and forecast of performance for the preceding and ensuing twelve months in terms of:- • the accepted Mining Operations Plan; • development consent requirements and conditions; • Environment Protection Authority and Department of Land and Water Conservation licences and approvals; • any other statutory environmental requirements; • details of any variations to environmental approvals	Guidelines and Format for Preparation of an Annual Environmental Management Report - Version 3, Jan 2006	C	The Annual Environmental Management Reports have been prepared for the period 1 January to 31 December each year and submitted annually to the Director-General. The AEMR's were prepared in accordance with the Guidelines and Format for Preparation of an Annual Environmental Management Report. (Note the Annual Review now replaces the Annual Environmental Management Report (AEMR) for DP&I).

ML No.	ML Condition		Compliance	Comment
	applicable to the lease area. and • where relevant, progress towards final rehabilitation objectives. (3) After considering an AEMR the Director-General may, by notice in writing, direct the lease holder to undertake operations, remedial actions or supplementary studies in the manner and within the period specified in the notice to ensure that operations on the lease area are conducted in accordance with sound mining and environmental practice. (4) The lease holder shall, as and when directed by the Minister, co-operate with the Director-General to conduct and facilitate review of the AEMR involving other government agencies.			
TREES (PLANTING AND PROTECTION OF) FLORA AND FAUNA AND ARBOREAL SCREENS				
27	If so directed by the Minister, the lease holder shall ensure that operations are carried out in such manner so as to minimise disturbance to flora and fauna within the subject area.	Biodiversity Management Plan, April 2010	Noted	The surface areas disturbed for the operations at of the Metropolitan Coal are limited to the Main Surface Infrastructure Facilities Area at the pit top, and small areas required for ventilation fans and exploration.
29	The lease holder shall maintain an arboreal screen to the satisfaction of the Minister within such parts of the subject area as may be specified by the Minister and shall plant such trees or shrubs as may be required by the Minister to preserve the arboreal screen in a condition satisfactory to the Minister.		Noted	The Metropolitan Colliery surface facilities are within an area that is screened from community view (and residents) with natural vegetation and the local topography. Metropolitan Coal have conducted planting of native species in areas along the entrance and access road to increase screening and manage soil stability.
SOIL EROSION				
30	The lease holder shall conduct operations in such a manner as not to cause or aggravate soil erosion and the lease holder shall observe and perform any instructions given or which may be given by the Minister with a view to minimising or preventing soil erosion.	Surface Facilities Water Management Plan – section 8.2, Erosion Control	C	Erosion control is covered in the Surface Facilities Water Management Plan section 8 Management Measures, 8.2 Erosion Control. Erosion and sediment controls observed during the audit site inspections are considered to be adequate for the management of the Metropolitan Coal disturbed areas.
CATCHMENT AREA				
34	(a) The lease holder shall carry out operations within the Woronora Special Area in such a way as to conform strictly to all provisions of the Sydney Water Catchment Management Act, 1998 and the regulations made and currently in force under that Act so that: • no catchment infrastructure works and buildings owned by or vested in the Sydney Catchment Authority [SCA], or the stored waters, are wilfully, accidentally or negligently destroyed, damaged or interfered with; • the Woronora Special Area is not polluted by operations of the lease holder;	Catchment Monitoring Program, April 2010	C	All Metropolitan Coal activities and operations conducted within the Woronora Special Area occur only after consultation/agreement with the Sydney Catchment Authority ([SCA). Access to the Woronora Special Area only occurs following permission being granted by the SCA. Access is limited following rainfall events when SCA closes tracks to reduce erosion and to maintain water quality runoff from the catchment areas.

ML No.	ML Condition		Compliance	Comment
	• the purity of the stored waters within the Woronora. Dam are preserved; • any requirements notified by the SCA to the lease holder, made in accordance with the provisions of the Sydney Water Catchment Management Act, 1998 and the regulations made thereunder, are complied with. If the lease holder shall at all .times and at the first available opportunity notify the SCA of its current use or its intended use of any process which is likely to pollute the Woronora Special Area, the stored waters of the Woronora Dam or cause damage to the catchment infrastructure works, buildings and stored waters owned by the SCA situated on the Special Area. The SCA shall within five (5) working days following the receipt of the lease holder's notification as referred to in Condition 34 (b), inform the lease holder and the Minister of its opinion of the likely impact of the process to pollute the Woronora Special Area and stored waters and to cause damage to the catchment infrastructure works, buildings and stored waters owned by the SCA. The lease holder, upon service of a notice under the hand of the Minister to do so shall: (i) immediately discontinue the use of such process (and in all cases within twenty four (24) hours); or (ii) thereafter refrain from adopting such process at any time, as the case may require The lease holder shall undertake environmental assessment for all surface works (including exploration, drilling, clearing of vegetation, and construction of access tracks) within the Woronora Special Area. The assessments are to be to the satisfaction of the SCA. The lease holder is to obtain the permission of the SCA to enter the Woronora Special Area. The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent the contamination, pollution, erosion or sedimentation of any stream or watercourse or Special Area and shall observe any instruction given or which may be given by the Minister with a view to preventing or minimising the contamination, pollution or sedimentation of any stream watercourse or Special Area. (h) The lease holder hereby covenants with Us Ours Heirs and Successors and as a separate covenant the lese holder hereby covenants with the SCA and its Successors			

ML No.	ML Condition		Compliance	Comment
	that the lease holder shall at all times hereafter save harmless and keep Us and the said SCA and Our Heirs and Successors and the Successors of the said Authority indemnified from payment of compensation and from and against all actions proceedings claims and demands in respect of any injury loss of damage arising out of or in any way connected with any interference with or deprivation or loss of access to the land and premises of this authority which may occur by reason of any works or operations undertaken or carried out by the said SCA or arising out of or in any way connected with any discontinuance or alteration of any process consequent upon the service of a notice in pursuance of the provisidns of Condition 34(b) or arising out of or in any way connected with the operation of any regulations relating to Special Area in force at the date hereof or made by the said SCA at any time hereafter and the lease holder hereby agrees that for the purpose of this condition the said SCA shall be deemed to be a party to this authority.			
35	The lease holder shall: Make such provisions for sanitation as may be directed by the SCA and shall at all times observe and perform any requirements of the said Authority respecting sanitation not establish any camps or habitations within any area under the control of the Authority unless with the consent of the SCA. Not sink any drill hole within the stored waters on the subject area nor within 40 metres of the top water level thereof unless with the consent of the SCA. Not sink any drill hole within any watercourse on the Woronora Special Area nor within 800 metres thereof unless with the consent of the SCA. Not interfere with or impede the use of the SCA's tracks or endanger their stability in any way by reason of the operations. Not construct any road to the sites of any drill holes unless with the consent of the SCA to the proposed route and type of road construction. Not interfere in any way with any fences on or adjacent to the Woronora Special Area unless with the consent in writing of the owner thereof or the SCA. Give 28 days notice to the General Manager Catchment Operations and Major Projects, Sydney Catchment Authority, Penrith, of its intention to commence drilling operations. Not cut or remove any timber except such as directly obstructs or prevents the carrying on of operations and the lease holder		C	Any activities conducted in the Woronora Special Area including exploration may only occur following assessment of the actions by Metropolitan Coal and approval being granted by SCA: • No drill hole will be sunk within the stored waters or within 40 metres of the top water level thereof. • No drill hole will be sunk within any watercourse on the Woronora Special Area or within 800 metres thereof. • No interference with the use or stability of the SCA tracks by the Metropolitan Coal operations. • Not construct any road to the sites without the consent of the SCA to the proposed route and type of road construction. • Not interfere with any fences on or adjacent to the Woronora Special Area. • Not cut or remove any timber except such as directly obstructs or prevents the carrying on of operations. • Complete work in relation to rehabilitation within the Woronora Special Area before termination of the authority to the satisfaction of the SCA.

ML No.	ML Condition		Compliance	Comment
	shall obtain the consent in writing of the SCA before making use of the timber so cut for other than in connection with operations. Complete work in relation to rehabilitation within the Woronora Special Area before termination of the authority to the satisfaction of the SCA.			
TRANSMISSION LINES, COMMUNICATION LINES AND PIPELINES				
41	The lease holder shall as far as is practicable so conduct operations as not to interfere with or impair the stability or efficiency of any transmission line, communication line or pipeline traversing the surface or the excepted surface of the subject area and shall comply with any direction given or which may be given by the Minister in this regard.	Built Features Management Plans	C	Management Plans for infrastructure/built features have been prepared by Metropolitan Coal for each service provider so as activities do not interfere with or impair the stability or efficiency of any transmission line, communication line or pipeline traversing the surface or the excepted surface of the subject area. Built Features Management Plans have been prepared for Transgrid/ Integral Energy/Nextgen/Optus/RailCorp/RTA/Sydney Water/ Telstra/ and Wollongong City Council.
ABORIGINAL PLACE OR ABORIGINAL OBJECT				
43	The lease holder shall not knowingly destroy, deface or damage any Aboriginal object or Aboriginal place within the subject area except in accordance with an authority issued under the *National Parks and Wildlife Act, 1974*, and shall take every precaution in drilling, excavating or disturbing the land against any such destruction, defacement or damage.	Heritage Management Plan, Apr 2010 2010 Annual Review 2011 Annual Review	C	The Heritage Management Plan provides management, remediation and mitigation measures related to identified Aboriginal objects and places on the Metropolitan Coal mine area. Annual reporting occurs on the management of Aboriginal objects and places within the Metropolitan Coal lease areas.
SUBSIDENCE MANAGEMENT				
61	(a) The leaseholder shall prepare a Subsidence Management Plan prior to commencing any underground mining operations which will potentially lead to subsidence of the land surface. (b) Underground mining operations which will potentially lead to subsidence include secondary extraction panels such as long walls or mini walls, associated first workings (gate roads, installation roads and associated main headings, etc), and pillar extractions, and are otherwise defined by the *Guideline for Applications for Subsidence Management Approvals.* (c) The leaseholder must not commence or undertake underground mining operations that will potentially lead to subsidence other than in accordance with a Subsidence Management Plan approved by the Director-General, an approval under the *Coal Mines Regulation Act 1982,* or the document *Transitional Provisions for the New Subsidence Management Plan Approval Process.* (d) Subsidence Management Plans are to be prepared in	*Guideline for Applications for Subsidence Management Approvals* Subsidence Management Plan Long-walls 20-22,	C	(a) Subsidence Management Plans have been developed and approved for Longwalls 20-22. (b) All underground mining operations that could potentially lead to subsidence are included in the Subsidence Management Plan. (c) The Subsidence Management Plans were prepared and approved prior to commencement of underground mining operations in longwalls 20-22. (d) The Subsidence Management Plan for Longwall 20-22 was prepared in accordance with the *Guideline for Applications for Subsidence Management Approvals.* (e) The approved Subsidence Management Plan forms part of the MOP and is reported in the AEMR.

ML No.	ML Condition		Compliance	Comment
	accordance with the *Guideline for Applications for Subsidence Management Approvals.* (e) Subsidence Management Plans as approved shall form part of the Mining Operations Plan required under Condition 2 and will be subject to the Annual Environmental Management Report process as set out under Condition 3. The SMP is also subject to the requirements for subsidence monitoring and reporting set out in the document *New Approval Process for Management of Coal Mining Subsidence.*			