November 2014

Independent Environmental Audit

Austar Coal Mine

Trevor Brown & Associates
APPLIED ENVIRONMENTAL MANAGEMENT CONSULTANTS

Independent Environmental Audit

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applied environmental management consultants

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by

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16 July 2015

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Executive Summary

Development Consent 29/95 and Project Approval 08_0111 granted for the Austar Coal Mine, require an Independent Environmental Audit of the operations to be conducted each 3 years. This Independent Environmental Audit was conducted for Austar Coal Pty Ltd (Austar) by Trevor Brown & Associates between 10 and 14 November 2014.

The Independent Environmental Audit findings indicate that Austar Coal Mine Complex is generally operating in compliance with the conditions of approval attached to Development Consent 29/95, Project Approval 08_0111, Environment Protection Licence 416 and Consolidated Mining Lease CML 2.

The summarised findings of the Independent Environmental Audit conducted in November 2014 are:

Environmental Management Strategy

Environmental Management Strategy Compliance Status: Compliant

The Environmental Management Strategy (EMS) prepared to satisfy Development Approval 29/95 Schedule 5 Condition 1, was revised and integrated with the Environmental Management Strategy (EMS) prepared to satisfy Project Approval 08_0111 Schedule 7 condition 1. This integrated Environmental Management Strategy (EMS) was approved by DP&I on 18 June 2010 and a revision was approved by DP&I on 2 October 2013. The Environmental Management Strategy complies with Development Approval 29/95 Schedule 5 Condition 1 and Project Approval 08_0111 Schedule 7 condition 1, and addresses the majority of the ISO14001 elements providing a sound basis for the management of environmental aspects of the Austar project activities and operation.

Environmental Monitoring Program

Environmental Monitoring Program Compliance Status: Compliant

The integrated Environmental Monitoring Program includes all the monitoring commitments outlined in the specific environmental aspect management plans, and provides a satisfactory program for monitoring meteorology, air quality, ecology, noise, vibration, surface and ground water, and subsidence that provides data for the assessment of the environmental performance of the Austar operations.

Air Quality

Air Quality Compliance Status: Compliant Ongoing

The air quality management for the Stage 2 Austar Mine operations between 2011 and July 2014 occurred in accordance with the approved Air Quality Management and Monitoring Plan, and the Stage 3 Air Quality and Greenhouse Gas Management Plan between July 2013 and November 2014. The approved integrated plan is considered satisfactory for the management and monitoring of dust generated by the current Austar operations. The dust deposition, TSP and PM_{10} air quality monitoring results demonstrated compliance with the Development Consent 29/95 and Project Approval 08_0111 criteria during the 2011 to 2014 period.

Biodiversity

Biodiversity Compliance Status: Compliant Ongoing

Development Consent 29/95 Schedule 3 condition 23 required ecological monitoring of riparian vegetation over Stage 2 Long-wall Panels A3 to A5a, to be conducted with particular reference to the River Flat Eucalypt Forest EEC. Austar implemented the Ecological Monitoring Program for Stage 2 in 2008 to satisfy this condition. To satisfy Project Approval 08_0111 Schedule 4 condition 1, Austar implemented the approved Shaft Construction Environmental Management Plan during the construction SIS works to manage any fauna impacts resulting from construction activities at the SIS, and implemented an ecological monitoring program as part of the Stage 3

Biodiversity Management Plan. Baseline surveys were carried out in Spring 2012 and Autumn 2013. Routine surveys were conducted during this reporting period in Spring 2013 and Autumn 2014.
The Stage 3 Biodiversity Management Plan was prepared to satisfy this condition in consultation with OEH.
The Stage 3 Biodiversity Management Plan was reviewed and updated in December 2013 in response to a modification to PA08_0111 (MOD3), resulting in some sites being relocated and the monitoring schedule of sites being modified. Biodiversity monitoring to November 2014 had not presented evidence of any impacts on ecological features has been identified as attributable to the Austar long-wall mining.

Noise

Noise Compliance Status: Compliant (Two administrative matter suggestions related to assessment of low frequency noise and the Premises Noise Assessment are provided).

In accordance with Development Consent 29/95 Schedule 3 conditions 13 to15, Austar prepared and implemented an approved Noise Monitoring Program (NMP) for the operation. A Noise and Vibration Management Plan prepared to satisfy Project Approval 08_0111 Schedule 4 condition 3, was approved by the Director General DP&I on13 August 2013 and implemented for the Austar activities. To satisfy Project Approval 08_0111 Schedule 4 condition 1, the Shaft Construction Environmental Management Plan approved by the Director General DP&I on13 November 2009 and 15 June 2012 was implemented to manage noise impacts during the construction of the SIS.

This audit found Austar Coal Mine to be operating in compliance with Development Consent 29/95 (MOD 5), Project Approval 08_0111, EPL 416 and associated documents with respect to its noise obligations. There were occasional exceedances of the noise criteria at residences near Pelton CHPP after application of the Industrial Noise Policy low frequency modifying factor of +5dB. Exceedances were discussed in the AEMR's and the EPA was notified in accordance with EPL 416.

Blast and Vibration

Blast and Vibration Compliance Status: Compliant

No surface blasting activities were undertaken for the Austar mining activities during the audit period. No vibration results exceeded the daytime DECC maximum criteria, and only one (1) vibration event exceeded the preferred daytime and maximum night time criteria between November 2011 and November 2014 (which is less than the approved criteria).

Site Water Management

Site Water Management Compliance Status: Compliant

The Site Water Management Plan prepared to satisfy Development Approval 29/95 Schedule 3 condition 6 and Project Approval Schedule 4 conditions 9 provides a satisfactory program of monitoring and mitigation measures for the management of surface and ground water aspects of the Austar surface facilities and underground workings.

Site Water Balance

Site Water Balance Compliance Status: Compliant Ongoing

The Site Water Balance (section 5 of the Site Water Management Plan) satisfies the requirements of Development Consent 29/95 Schedule 3 condition 7 and Project Approval Schedule 4 condition 9(b)(i) and meets the requirements of the approval conditions. The Austar surface water management system has been designed to match the capacity of the underground dewatering systems with additional provision to store and handle surface runoff during heavy rain events, and provides adequate water supply, treatment and reuse on site for the operation of the CHPP and water required for other operations associated with the Austar mine activities.

Surface Water Monitoring

Surface Water Monitoring Compliance Status: Compliant Ongoing

The Austar surface water monitoring program developed to meet the requirements of Development Consent 29/95 Schedule 3 condition 9, Project Approval 08-0111 Schedule 4 condition 9(b)(iii), and Environment Protection Licence 416, conditions P1.3, L2.3, L3.1 and M2.2, has been conducted in compliance with the approved Surface Water Monitoring Program (section 7 of the Site Water Management Plan). The discharge of water from EPL discharge point SW6 (permeate from the Reverse Osmosis Water Treatment Plant), water quality results for pH, EC and TSS were compliant with the EPL limits. Natural fluctuations in water quality in Bellbird Creek, Quorrobolong Creek and Cony Creek have been observed but no environmental impacts on the natural surface waters have been reported that can be attributed to Austar Mine Complex activities.

Groundwater

Groundwater Monitoring Compliance Status: Compliant Ongoing

The approved Groundwater Monitoring Program (section 5 of the Site Water Management Plan) prepared to satisfy Development Consent 29/95 Schedule 3 condition 10 (Stage 2) and Project Approval 08_0111 Schedule 4 condition 9(iv) (Stage 3) is targeted to monitor groundwater levels in the alluvial aquifer, and a shallow water bearing zone at 70 m to 100 m depth, in the Austar mining areas. There has been no observable depressurization of either the alluvial or fractured rock aquifers due to long-wall extraction in the Stage 2 mining area. Water quality data within the monitoring bores has revealed no obvious trends in relation to mining.

Surface Water and Groundwater Response

The Surface Water and Groundwater Response Plan prepared to satisfy Development Consent 29/95MCoA Schedule 3 condition 11 and Project Approval 08_0111 Schedule 4 condition 9(b)(iv) was approved as section 9 of the Site Water Management Plan. The Surface Water and Groundwater Response Plan includes trigger levels that if reached would prompt action(s) described in Table 9.1 of the Plan. The Surface Water and Groundwater Response Plan had not been triggered during the audit period.

Erosion and Sediment Control

Erosion and Sediment Control Compliance Status: Compliant Ongoing (Several observations were made to improve erosion and sediment control risk).

Erosion and Sediment Control Plans were prepared to satisfy Development Consent 29/95 Schedule 3 condition 8 and Project Approval 08-0111 Schedule 4 condition 9(b)(ii), as part of the Site Water Management Plan. The Site Water Management Plan was reviewed in April 2013. The implementation of the requirements of the Erosion and Sediment Control Plan and conformance with the *"Managing Urban Stormwater – Soils and Construction"* Volume 1, Landcom, 2004 and its companion document "*Managing Urban Stormwater – Soils and Construction*" Volume 2e (DECC 2008)), have provided a satisfactory program for the management of erosion and sediment control on the site. Monitoring and mitigation measures for the erosion and sediment control and surface water aspects of the Austar operations and activities represent a suitable and best management approach to erosion and sediment control risk. No erosion or sediment control issues were noted at the CHPP during the site audit inspection. Some suggested recommendations are provided in relation to the Erosion and Sediment Control Plan and stabilisation of disturbed lands in the Aberdare Emplacement Area and rehabilitation planning to achieve stable areas around the SIS site.

Subsidence

Subsidence Management Compliance Status: Compliant (Minor changes to future reporting of curvature and the risk assessment around sensitive features of predicted strains are suggested).

Based on a review of the AEMRs and End of Panel Reports and surface inspection, it was assessed that subsidence management strategies implemented at the Austar Mine have complied with the Development Consent 29/95 and Project Approval 08_0111 conditions for mine subsidence impact management during the 2011 - 2014 reporting period. 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. Actual impacts have been assessed as 'imperceptible' with no surface cracking or environmental impact observed after subsidence of up to 1.45 m. The information being collected is considered adequate for meeting the objectives of current Subsidence Management Plan / Extraction Plan standards and allows for the assessment / mitigation strategies if any environmental damage occurs. Overall, the current strategies, plans and programs for managing mine subsidence impacts to the environment, man-made developments and public safety are considered to be performing adequately.

Rehabilitation

Rehabilitation Compliance Status: Compliant Ongoing

The rehabilitation works for the Austar Complex have occurred and are planned to be undertaken progressively over the period of the approved Austar Mining Operations Plan and Rehabilitation Management Plan. Investigations commenced during the 2013-2014 into the construction of a permanent connection from the Aberdare Extended Reject Emplacement Area to the old underground workings for the management of any acid leachate drainage. A design has also been progressed for the East Pit in consultation with DTI-DRE mine safety officers to allow for safe emplacement of reject in the vicinity of an adit to underground workings.

Bushfire

A Bushfire Management Plan was developed in September 2002 to ensure the land owned by the mine is managed to minimise the risk of bushfire and to reduce the risk of fire originating on Austar owned land spreading to adjacent properties. The revised Bushfire Management Plan being prepared by Eco Logical Australia for the Austar Mine Complex properties will provide current fire risk maps and management strategies for the Austar Mine Complex properties.

Heritage

Heritage Management Compliance Status: Compliant Ongoing

The Historic Heritage Management Plan was prepared to satisfy Project Approval 08_0111 Schedule 3 condition 11 (May 2013) in consultation with Cessnock City Council and the Heritage Branch. Management of historic heritage will occur in accordance with the Historic Heritage Management Plan. Consultation will continue with Cessnock City Council in relation to the European heritage items, as required.

An Aboriginal Heritage Management Plan was prepared to satisfy Project Approval 08_0111 Schedule 3 condition 10 and managing Aboriginal Objects or Skeletal Remains, is undertaken in accordance with the Aboriginal Cultural Heritage Management Plan. Ongoing consultation with registered Aboriginal parties occurs as necessary when new surface disturbance works are planned.

Complaints

Compliant Management Compliance Status: Compliant Ongoing

Numbers of community complaints have reduced significantly between 2011 and 2014 that can be attributed to the Noise Pollution Reduction Program implemented under Environment Protection Licence 416. The response to complaints received between 2011 and 2014 have been in accordance with the procedure in the Austar Environmental Management Strategy section 10.2.

1. Introduction

1.1 Background

The Development Consent 29/95 Schedule 5 condition 6 and Project Approval 08_0111 Schedule 7 condition 7, granted for the Austar Coal Mine, require an Independent Environmental Audit:

"…….. the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:

(a) be conducted by a 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 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 the abovementioned approvals; and

(e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the abovementioned approvals.."

This Independent Environmental Audit was conducted between 10 and 14 November 2014 for Austar Coal Pty Ltd (Austar) by Trevor Brown & Associates endorsed by DP&E on 20 October 2014.

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 Austar Coal Mine included the following components:

- review of compliance with Development Consent 29/95 and Project Approval 08_0111 conditions and other approvals for the project;
- 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 Austar Coal project staff;
- assessment of environmental performance of the development with the requirements of Development Consent 29/95, Project Approval 08_0111, Environment Protection Licence and Mining Lease conditions (including any assessments, plans or programs required under these consents/approvals);
- review of the adequacy of strategies, plans or programs prepared under the abovementioned 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.

***Note** that Stage 2 mining commenced in February 2009 and mining of long-walls A3 to A5A was completed in January 2013. The Stage 3 construction works under the Project Approval 08_0111 commenced in 2011 and mining of Long-wall A7 commenced in June 2013 and was completed in April 2014. Long-wall A8 mining commenced in June 2014.*

1.3 Structure of the Report

The report has been prepared to provide comment on each condition of approval in a tabulated form, with additional discussion where required on specific matters. The tabulated comments are in the Attachments to this Independent Environmental Audit Report. The Independent Audit Report sections are:

Executive Summary
Abbreviations
Section 1 Introduction
Section 2 Austar Mine Development
Section 3 Consents, Approvals and Licenses
Section 4 Review of Environmental Management
Section 5 Conclusions and Recommendations

Attachment A Development Consent 29/95 Conditions
Attachment B Project Approval 08_0111 Conditions
Attachment C Project Approval 08_0111 Statement of Commitments
Attachment D Environment Protection Licence No.416
Attachment E Consolidated Mining Lease (CML) 2 Conditions

1.4 Compliance Table

This audit assessed the activities for compliance with the intent of the conditions via site inspections and verification of relevant documentation related to the conditions as provided by Austar.

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

Status	Description
Compliant	Adequacy and appropriateness of implementation against the Development Consent and Project Approval Conditions, or compliance with commitment made.
Compliant Ongoing	The intent and specific requirements of the condition have been met and the requirements are ongoing for the operation of Austar Coal Mine.
Administrative Non-compliance	A technical non-conformance with a condition of the consent that would not result in material harm to the environment.
Non-Compliant	The intent or one or more specific requirements of the condition have not been met and is environmentally significant. If a non-compliance is identified by the audit a risk assessment will be conducted (in accordance with the Draft Guidelines for Independent Environmental Audit of Mining Projects DP&I, March 2014).
Not active / Not applicable	Condition or requirement has an activation or requirement that had not been triggered at the time of the review, therefore a determination of compliance could not be made.
Noted	Conditions that are statements of requirement but not auditable.

2. Consents, Approvals and Licenses

2.1 Development Consent and Project Approval

The Austar Mine Complex operates within a number of mining leases, and under development consents issued by the Minister and Cessnock City Council between 1974 and 2002, and Project Approval 08_0111 granted on 6 September 2009.

The mine development undertaken by Austar has occurred in three stages. Stages 1 and 2 were regulated under a Development Consent 29/95 issued in 1996. Development Consent 29/95 was modified five times:

- A modification to Development Consent 29/95 was granted by the Minister for Planning in September 2006 to allow extraction of coal from two long-wall panels (Long-walls A1 and A2) in the Stage 1 area using an enhanced form of conventional retreat long-wall extraction known as Long-wall Top Coal Caving (LTCC). Extraction of coal from Long-walls A1 and A2 using LTCC technology was completed in November 2008.
- A second modification to Development Consent 29/95 was approved by the Minister for Planning in June 2008 to allow extraction of up to 6.5 metres of coal using LTCC technology in the Stage 2 area. At this time Stage 2 comprised Long-walls A3 to A5 (LW A3 to A5);
- in 2009 to widen the Stage 2 panels an additional minor modification was approved to Development Consent 29/95 varied the length and widths of Long-walls A4 and A5;
- a modification to Development Consent 29/95 occurred in December 2010 to expand the Stage 2 mining area to include panel A5a; and
- Modification to Development Consent 29/95 (April 2012) was granted to extend the commencing end of panel A5a. Mining in the Stage 2 area commenced during early 2009 and was completed in January 2013.

Stage 3 development is regulated under Project Approval 08_0111, granted by the Minister for Planning on 6 September 2009, enabling long-wall mining using LTCC technology in the Stage 3 area and construction and operation of a new Surface Infrastructure Site (SIS) and access road south of Kitchener. Construction of the SIS commenced in December 2009 and some approved infrastructure was completed in 2013. Stage 3 Long-wall mining commenced in Q4 2013. Project Approval 08_0111 regulates the Austar mine complex's coal production rate from long-wall panels A7 – A19, coal processing, coal rejects and tailings emplacement, transport of coal by rail to the Port of Newcastle, and transport of coal by road to specialist end users.

Subsequent Modifications to Project Approval 08_0111 were granted in 2010, 2012 and 2013 allowing changes to the approval conditions and long-wall layout for panels A7 to A19:

- 4 May 2010 MOD 1) - minor word change to Schedule 3 condition 1,
- 13 March 2012 (MOD 2) - Project Approval Schedule 1 revised to update definitions and update Appendices 1 and 2. The Stage 3 MOD 2 included:
  - removal of longwall A6;
  - extraction of coal in longwalls A7 to A19, which are a reorientation of longwalls A7 to A17;
  - movement of the Stage 3 main headings and limit of longwalls to the west;
  - increase in longwall void widths from 227 metres to 237 metres; and
  - increase in chain pillar width from 45 metres to 55 metres.
- December 2013 (MOD 3) - Project Approval Schedule 1 revised to update definitions and Appendices 1 and 2. The Stage 3 MOD 3 includes:
  - extending long-walls A7 to A10 further to the west. Specifically:
  - finishing position of longwall A7 will be extended approximately 100 metres to the west;
  - finishing position of longwall A8 will be extended approximately 300 metres to the west;
  - finishing position of longwall A9 will be extended approximately 200 metres to the west; and
  - finishing position of longwall A10 will be extended approximately 170 metres to the west.

A summary of compliance with the Development Consent 29/95, Project Approval 08_0111 conditions and Statement of Commitments is presented in Attachment A, B and C.

2.2 Environment Protection Licence

An Environment Protection Licence No. 416 was issued to Austar on 7 May 2002 under section 55 of the *Protection of the Environment Operations Act 1997* for Coal Works and Mining for Coal at Southland Colliery Holding (Referred to in Locality Plan Figure 1.1 forwarded to EPA on 21/08/2001). Variations to the EPL between December 2011 and November2014 were:

Table 2.2: Variations to EPL 416 – July 2011 and February 2014

Notice No.	Date	Variation to Conditions
1515752	10 Feb 2014	The licensee has completed noise reduction works to the coal handling and preparation plant (CHPP) and has completed construction of the 'western' noise bund at the CHPP as required by condition U1 of the licence. Noise monitoring and verification reports have been provided to the EPA in accordance with condition U1.2 confirming the achievement of reductions in noise levels as a result of these works. As noise reduction works have been substantially completed, the EPA now requires the licensee to complete an assessment of noise levels in accordance with the NSW Industrial Noise Policy (EPA, 2000) (INP) to establish noise limits which can be included as conditions in the licence. The EPA also requires the licensee to develop a noise compliance monitoring program to assess compliance with those limits. This notice include a new PRP conditions which requires this work to be completed. On 27 September 2012 the licensee provided a site specific best management practice determination report for particulate matter to the EPA in accordance with condition U2. Condition U2 has been completed and this notice removes that condition from the licence.
1504077	7 Feb 2012	The licensee requested an extension to the due date for completion of Condition U1.1(a). The EPA considered the request and varied the due date for completion of Condition U1.1(a) to 29 February 2012.
1502332	24 Jan 2012	This notice amended the licence to include a Pollution Reduction Program on the licence. On 23 December 2010, the EPA received the reports required under the PRP condition U2.1 Noise Impact Assessment. Accordingly the Noise Impact Assessment PRP was removed from this licence.
1123473	14 Jul 2011	The licensee requested an extension to the due dates for completion of, and a variation to noise reduction works required to be carried out at the Coal Handling and Preparation Plant as required by Condition U1.1 of the licence. The request was considered and Condition U1.1 has been varied accordingly.

A summary of compliance with the EPL No. 416 conditions is presented in Attachment D.

2.3 Mining Leases

Consolidated Mining Lease (CML) 2 was renewed on the 4 December 2008 until 6 July 2025, for an area of 3406ha. The CML includes conditions 2 to 8 and 17 to 23 identified as environmental management for the purposes of Sections 125(3) and 374A of the Mining Act 1992.

A summary of compliance with the CML 2 conditions is presented in Attachment E.

2.4 Water Licences

Current Water Licences held by Austar under the Water Act 1912 Part 5 for monitoring and dewatering bores across the operational area are:

Austar Bore Licence Certificates			
Bore Licence No.	**Licence Currency**	**Purpose of Licence**	**Extraction Limit**
20BL171361	17 May 2007 - Perpetuity	Monitoring bore (AQD1077)	Groundwater Monitoring only
20BL172524	20 July 2010 - Perpetuity	Monitoring Bore (NER1010)	Groundwater Monitoring only
20BL172852	7 June 2011 - Perpetuity	Monitoring Bores (WBH1, WBH2 and WBH3)	Groundwater Monitoring only
20BL173349	31 Oct 2017	Dewatering (groundwater) (16CT pump station)	20BL173349, 20BL171481 & 20BL173350 have a combined extraction limit of 770ML in any 12 month period
20BL173350	31 Oct 2017	Dewatering (groundwater) (No 2 Shaft Borehole)	
20BL171481	16 Aug 2017	Dewatering groundwater No.2 Shaft	
20BL173843	1 Oct 2014- Perpetuity	Monitoring Bores (BB1, BB2, and BB3)	Groundwater Monitoring only

3. Austar Coal Mine Development

The Austar Coal Mine (Austar) is owned by Yancoal Australia Limited. The Austar Coal Mine surface facilities are located off Middle Road Paxton New South Wales, and the Coal Handling and Preparation Plant (CHPP) is located off Wollombi Road, Pelton New South Wales.

Austar Coal is an aggregate of the former Pelton, Ellalong, Cessnock No.1 (Kalingo) Colliery and Bellbird South Collieries. The Austar coal resource covers a large area of the Greta Seam in the Newcastle Coalfield. The Bellbird South reserves are situated north-east of and adjoin the original Ellalong Colliery.

3.1 Historical Development

Underground mining commenced at Pelton Colliery in 1916. The Pelton Coal Handling Preparation Plan (CHPP) was constructed in 1960/1961 for washing Pelton Colliery coal. Pelton Colliery was amalgamated with the neighbouring Cessnock No. 1 Colliery in the 1960s. In 1975 development consent for Ellalong Colliery was granted under Part X11 of the Local Government Act 1919 and the Ellalong Mine Long-wall production commenced in 1983.

In 1996 Development Consent 29/95 was granted by the Minister for Urban Affairs and Planning to extend Ellalong Colliery to the north-east into the Bellbird South area. Development Consent 29/95 allowed for mining within CML2 by conventional retreat long-wall mining producing up to 3 million tonnes per annum of product coal.

In 1998 Southland Coal Pty Limited acquired Ellalong and Pelton Collieries and amalgamated them with Bellbird South Colliery. Ellalong, Pelton and Bellbird South Collieries became known as the Southland Colliery. Southland Colliery and its associated infrastructure was acquired by Yancoal in December 2004 and renamed Austar Coal Mine.

Austar proceeded with mining in the reconfigured Stage 1 area (consisting of LW A1 and A2) following a Modification to Development Consent 29/95 in 2006 that allowed extraction of coal to a height of 6.5 metres using LTCC technology.

A further section 96 Modification (Stage 2) was approved by the Minister for Planning in 2008 to allow LTCC extraction of Long-walls A3 to A5. A third minor section 96(1a) modification approved in 2009 varied the length and widths of Long-walls A4 and A5. A fourth modification approved in December 2010 under Section 75W of the EP&A Act added long-wall A5a to the Stage 2 area, and a fifth modification approved in April 2012 under Section 75W extended the commencing end of long-wall A5a.

	Commencement Date	Completion Date	Notes
Stage 1	2005	November 2008	Austar recommenced underground mining in the former Bellbird South Colliery area.
MOD 1	September 2006		Mining of the reconfigured Stage 1 area (consisting of LW A1 and A2) commenced following a modification of Development Consent 29/95 in 2006 to allow LTCC mining technology.
LW A1	2006		Austar recommenced underground mining in the former Bellbird South Colliery area.
LW A2		November 2008	Long-wall panel A2 in the Stage 1 mining area was completed in November 2008.

	Commencement Date	Completion Date	Notes
Stage 2	February 2009	February 2013	
MOD 2	June 2008		A section 96 Modification (MOD 2) to Development Consent 29/95 was approved in June 2008 to allow extraction of up to 6.5 metres of coal using LTCC technology in the Stage 2 area. At this time Stage 2 comprised Long-walls A3 to A5 (LW A3 to A5); Production in Stage 2 (Long-walls A3-A5a) commenced in February 2009.
MOD 3	February 2009		A minor modification to widen the Stage 2 panels was approved to Development Consent 29/95 in February 2009 to vary the length and widths of Long-walls A4 and A5
MOD 4	December 2010		Modification MOD 4 was approved in December 2010 under Section 75W of the EP&A Act which added long-wall A5a to the Stage 2 area, and permitted extraction using LTCC technology.
MOD 5	27 April 2012		Development Consent 29/95 Modification MOD 5 was approved on 27 April 2012 for Austar to lengthen long-wall A5a in the Stage 2 area.
LW A3	February 2009	March 2010	Longwall extraction period
LW A4	March 2010	May 2011	Longwall extraction period
LW A5	May 2011	March 2012	Longwall extraction period
LW A5a	May 2012	February 2013	Longwall extraction period
Stage 3	September 2009	Ongoing	A new Project Approval 08_0111 was granted in September 2009 for Stage 3 long-wall panels A6 to A17 and Kitchener SIS construction.
MOD 1	May 2010		Modifications (MOD 1) to Project Approval 08_0111 approved in 2010 allowed changes to approval conditions
MOD 2	March 2012		Modification (MOD 2) to Project Approval 08_0111 approved in 2012 allowing removal of longwall A6, extraction of coal in longwalls A7 to A19, which are a reorientation of longwalls A7 to A17; movement of the Stage 3 main headings and limit of longwalls to the west; increase in longwall void widths from 227m to 237m; and increase in chain pillar width from 45m to 55m.
MOD 3	December 2013		Modification (MOD 3) to Project Approval 08_0111 approved in 2013 allowing changes to the finishing position of long-wall panels A7 to A10.
LW A7	June 2013	April 2014	Long-wall mining of panel A7 Stage 3 commenced in June 2013
LW A8	June 2014	Ongoing	Long-wall mining of panel A8 commenced in June 2014.

The Stage 3 mining works utilises the existing approved infrastructure and facilities at the Austar Mining Complex to handle, process and transport coal. Underground long-wall mining at the date of this audit was being undertaken within the Stage 3 area in long-wall A8, Long-wall A7 having been completed in in accordance with Project Approval 08_0111 and an approved Extraction Plan for Long-walls A7 to A10 (Austar 2013a).

Austar Coal Mine Status - November 2014

4.1 Underground Mining Operations

Development of the Austar operations between December 2011 and November 2014 focused on completion of the long-wall panels in Stage 2 (A5 and A5a) and developing the main access roadways and commencement of long-walls A7 and A8 in Stage 3:

- Stage 1 Long-wall panel A2 was completed in November 2008;
- Stage 2 (A3-A5a) commenced production in February 2009. Long-wall A3 was completed in March 2010, Longwall, A4 completed in May 2011, and A5 in March 2012. Long-wall A5a mining commenced in May 2012 and was completed in February 2013
- Development operations then focused on creating the mains access roadways for Stage 3 and Stage 3 longwall panel A7 (which was completed in April 2014) and panel A8 was still active at the date of this audit (November2014).

Construction of ventilation shaft No.5 for Stage 3 commenced in June 2010 with a drilling rig commissioned to bore a 5.5m shaft diameter to a depth of approximately 460m. The shaft was fully lined with a steel and concrete composite liner and a finished diameter of 4.5m. Ventilation Shaft No.5 was completed in 2012.

The currently active Stage 3 development consists of:

- Extension of underground mining after completion of Stage 1 and Stage 2 operations, occurred with the commencement of Stage 3 in 2009. Coal is being extracted from the Greta Coal Seam at depths of 450 to 740 metres using Long-wall Top Coal Caving (LTCC) methods at an approved extraction rate of up to 3.6 Mt of Run of Mine (ROM) coal per year.
- The SIS off Quorrobolong Road south of Kitchener, consists of an access road, upcast and downcast ventilation shafts, and main ventilation fan. Construction of the bathhouse, workshop, electricity substation and distribution line, service boreholes, offices and store had not commenced at the date of this audit. The SIS provides ventilation to the mine and access to the Stage 3 underground workings for materials. Manpower access still occurs from the Pit Top facilities at the main Austar facilities adjacent to the administration buildings.
- Mining of long-wall A7 commenced on 14 June 2013 and was completed on 19 April 2014. Mining of long-wall A8 commenced in November 2013.
- Stage 3 works continue to use the Austar existing water management system, coal transport systems, CHPP and reject emplacement areas.

4.2 Waste (Coal Reject) Management

Austar has development approval to dispose of coarse reject material and manage tailings at Pelton Colliery (both north and south of Wollombi Road), Pelton Open Cut, Aberdare Extended Open Cut and the areas identified under the 1996 Minister's Consent as Reject Emplacement Areas 1, 3 and 4. Reject emplacement continues to be in areas previously approved for Ellalong Colliery (DA 74/75/79), Pelton Open Cut (DA 118/691/181) and the Bellbird South extension to Ellalong Colliery (Development Consent 29/95). These areas have capacity for the emplacement of approximately 17.5 Mt of coarse reject.

Reject emplacement and tailings disposal is undertaken in accordance with an approved Mining Operations Plan (MOP) (Austar 2008) as required by Mining Lease conditions issued under the *Mining Act 1992*.

4.2.1 Coarse Reject Material

Analysis of the course reject waste materials indicated that it contains some sulphur (mostly in the form of pyrite) and is therefore classified as Potentially Acid Forming (PAF) and may result in acid mine drainage (AMD).

Rehabilitation strategies have been developed to reduce the loss of potential acid drainage offsite, with reject emplacement and tailings areas designed to drain any runoff or leachate to old mine workings.
In accordance with the MOP and the Section 102 application approved by the DTI-DRE in 2008, coarse reject emplacement has occurred between 2011 and 2014 at the following sites:

4.2.1.1 Noise Bund to the Northwest of the CHPP

Placement of coarse reject to construct the noise bund to the northwest of the CHPP ROM stockpile area has occurred to satisfy EPL No 416 condition U1 (that requires construction of a noise bund to provide noise shielding to nearby neighbours, situated northwest from CHPP activities).

The majority of the noise bund to the west – northwest of the CHPP is completed. The EPA noted the completion of the western noise bund in EPL notice 10 February 2014 and removed the noise bund condition from EPL No. 416.

4.2.1.2 Aberdare Extended Open Cut Void (Aberdare Extended)

The Aberdare Extended Open Cut area is the primary reject emplacement area utilised since December 2009 when emplacement of coarse rejects material commenced by Austar.

Following the emplacement of rejects, the area will be rehabilitated to a final landform that has been agreed with the private landowner of the property. The area is being progressively rehabilitated in accordance with the approved Mining Operations Plan (2008 to 2015). (When the Aberdare Extended Emplacement Area has reached its maximum capacity, the voids on the Pelton CHPP site will become the primary Austar coal reject emplacement areas).

The Aberdare Extended Emplacement Area is situated in close proximity to neighbouring residences. A community consultation program was implemented prior to commencing night emplacement in June 2013. Subsequently, there have been no complaints regarding reject emplacement activities at Aberdare.

4.2.1.3 East Open Cut Void (East Open Cut)

The East Open Cut is a small void on the CHPP site covering an area of approximately 15 hectares.

The East Open Cut reject emplacement area is primarily utilised during night time periods or at other times when the Aberdare Extended Area is not available. Restricting night reject emplacement to East Open Cut reduces the potential to disrupt nearby residences at the Aberdare Extended site.

4.2.1.4 West Open Cut Emplacement Area (West Open Cut)

The west open cut area was utilised as a clean material overburden emplacement area during previous open cut operations at the site. This area provides a source of inert capping material, which is utilised as part of the rehabilitation of reject emplacement areas. After removal of the clean overburden from the West Open Cut Area for rehabilitation capping purposes at the Aberdare Extended and East Open Cut emplacement areas, the resultant void at the West Open Cut will be used for ongoing reject emplacement.

4.2.1.5 Pelton Underground Mine Workings Tailings Disposal

The fine rejects from the CHPP are pumped into the Pelton old underground mine workings. The return water from these tailings gravitates through the old mine workings and is recovered by dewatering pumps back into the Austar contaminated water management system for treatment and reuse in the CHPP or discharged off-site under EPL license 416 condition P1.3 Discharge Point 6.

4.2.1.6 North West Chitter Area and No. 9 Tailings Dam Recovery

Tailings from the North West Chitter Area and the No. 9 Tailings Dam are recovered and blended with product coal where market specification allows.

5. Review of Environmental Management

5.1 Environmental Management Strategy

[Development Approval 29/95 Schedule 5 Condition 1]
[Project Approval Schedule 7 condition 1]

Environmental Management Strategy Compliance Status: Compliant

The Environmental Management Strategy (EMS) prepared to satisfy Development Approval 29/95 Schedule 5 Condition 1, was revised and integrated with the Environmental Management Strategy (EMS) prepared to satisfy Project Approval Schedule 7 condition 1. This integrated Environmental Management Strategy (EMS) was approved by DP&I on 18 June 2010 and a revision was approved by DP&I on 2 October 2013.

The Austar operations are conducted in accordance with the approved EMS that addresses the elements of AS/NZS ISO14001 and includes:

- an overall framework for environmental management of the Austar 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

Table 5.1 Environmental Management Strategy vs AS/NZS ISO14001 Elements

ISO 14001 Element	Construction Environmental Management Plan section
4.2 Environmental Policy	Section 4 Environmental Policy Appendix A Environment Policy
4.3.1 Environmental Aspects	Section 8 Identification and Management of Environmental Aspects
4.3.2 Legal and Other Requirements	Section 6 Statutory Obligations Appendix B Summary of Key Legislation, Approvals and Licenses
4.3.3 Objectives and Targets	Section 6 Statutory Obligations Appendix B Summary of Key Legislation, Approvals and Licenses
4.3.4 Environmental Management Programs	Section 8 Identification and Management of Environmental Aspects
4.4.1 Structure and Responsibility	Section 7 Roles and Responsibilities
4.4.2 Training Awareness and Competence	Section 7.2 Environmental Awareness Training
4.4.3 Communication	Section 10 Community Involvement
4.4.7 Emergency Preparedness & Response	Section 11 Incident Response
4.5.1 Monitoring and Measurement	Section 12 Monitoring, Review and Improvement Appendix E Consolidated Environmental Monitoring Program
4.5.2 Non-conformance, Corrective and Preventative Action	Section 12.4 Implementing Corrective Actions

5.1.1 Conclusion

The Environmental Management Strategy complies with Development Approval 29/95 Schedule 5 Condition 1 and Project Approval Schedule 7 condition 1, and addresses the majority of the ISO14001 elements and provides a sound basis for the management of environmental aspects of the Austar project activities and operation.

5.2 Environmental Monitoring Program

[Development Approval 29/95 Schedule 5 condition 2]
[Project Approval 08_0111 Schedule 7 condition 1]

Environmental Monitoring Program Compliance Status: Compliant

The Environmental Monitoring Program was prepared for the Austar project Stage 2, in accordance with Development Consent 29/95 Schedule 5 condition 3 approved by DP&I on 18 June 2010, as a component of the Environmental Management Strategy and Stage 3 under Project Approval 08_0111 Schedule 7 condition 1(f).

The conditions related to the preparation of the Environmental Monitoring Program were:

Development Approval Development Consent 29/95 – Stage 2

Environmental Monitoring Program Schedule 5 condition 2

"The Applicant shall undertake monitoring in accordance with the approved Environmental Monitoring Program for the development, to the satisfaction of the Director-General. This program must consolidate the various monitoring requirements of this consent into a single document."

Project Approval 08_0111 – Stage 3

"Environmental Management Strategy Schedule 7 condition 1(f)

1 (f) The Proponent shall prepare and implement an Environmental Management Strategy for the Austar Mine Complex, to the satisfaction of the Director-General. The strategy must:
(f) include:
• A clear plan depicting all the monitoring to be carried out in relation to the mine complex.

The monitoring requirements from each of the Environmental Management Plans are reproduced in the Environmental Monitoring Program Table 3. The Environmental Monitoring Program consolidates the various environmental monitoring requirements of Development Consent 29/95, Project Approval 08_0111 and EPL 416, into a single document. The measurement and evaluation of criteria allows for the assessment of performance against quantitative and qualitative standards and assists in the identification of any non-conformances or areas that may require additional attention. (The location of Austar surface water, groundwater, air quality, noise and vibration monitoring sites are shown on the Austar Environmental Monitoring Network Plan, 16 July 2013).

Table 5.2: Environmental Monitoring Program

Aspect	Monitoring Frequency	Monitoring components
Environmental Inspections	Monthly (by Environment and Community Coordinator)	Paxton Pit Top, Pelton CHPP, No 1 Shaft No 2 Shaft, Kalingo Infrastructure Area (3 shaft) Kitchener Surface Infrastructure Site Rehabilitation areas (Area 12, Area 13) Aberdare Extended Reject Emplacement
Dust Deposition	Monthly dust deposition - insoluble solids	D1 (Pyne Way, Mount View), D2 (Ellalong Road, Pelton Village) D3 (Bimbadeen Rd, Mount View) D4 (Ellalong Village) D5 (South of No 3 shaft upcast ventilation shaft) D7 (Pelton Fire Trail, Quorrobolong) D8 (Coney Creek Lane, Quorrobolong)

Aspect	Monitoring Frequency	Monitoring components
		D9 (Kitchener Village)
Particulate Matter <10µm (PM_{10})	HVAS - 6 day cycle (ug/m^3) TEOM - continuous	D1 (Pyne Way, Mount View), D2 (Ellalong Road, Pelton Village) D8 (Coney Creek Lane, Quorrobolong);and D6 (Bimbadeen Rd, Mount View)
Community Issues	Daily	Checked daily during business hours
Biodiversity	Bi-annual (spring and autumn)	**Stage 2 Area** – Riparian vegetation along Quorrobolong and Cony Creeks (River-flat Eucalypt Forest – Sites 1 to 6 **Stage 3 Area** – Lower Hunter Spotted Gum – Ironbark Forest EEC, River Flat Eucalypt Forest EEC and threatened species – Long-wall panel sites 7 to 14 (Threatened species - *Grevillea parviflora subsp. parviflora* – Site 13 *Rutidosis heterogama* - Site 12)
Meteorology	Continuous	Meteorological station at CHPP Continuous monitoring of air temperature, wind direction, wind speed and sigma theta. Rainfall mm per 24 hour period.
Subsidence Stage 2 Long-walls A3 -5a. Stage 3 Long-walls A7 - 10	Monthly and quarterly until subsidence is complete	Field surveys - General condition inspections for subsidence impacts to land and channel stability (e.g. channel stability, erosion from surface cracks or changes to surface drainage)
Vibration	Continuous	Tri-axial geophone at two locations
Water – surface CHPP EPL sites	• SW2, SW4, SW5, SW6 Monthly Quality - pH, EC, TSS, Fe • SW6 - Volume – kL/day • SW1 – Quality during discharge at a minimum of 12 hourly intervals - pH, EC, TSS, TDS, Fe; Volume daily at a minimum of 12 hourly intervals (kL/day) • SW2, SW4, SW5 - Quality 3 times / week at a minimum of 48 hour intervals - pH, EC, TSS, Fe	Sampling at 5 locations as per EPL 416 and 4 locations per Site Water Management Plan: SW1 (Emergency Dam Spillway) SW2 (Bellbird Creek Pinch Bridge) SW4 (Bellbird Creek, E Bdy Down) SW5 (Unnamed Creek, W Bdy Up) SW6 (1ML tank discharge to Bellbird Ck)
Creeks – Stage 2 UG mining area	Monthly: Quality (pH, EC, TSS, Fe) Photographic (SWQ1, SWC1) Also visual channel stability during Autumn/Spring ecology monitoring.	SW Q1 (Quorrobolong Ck, Sandy Ck Rd) SW Q2 (Quorrobolong Ck Up) SW Q3 (Quorrobolong Ck Down) SW C1 (Coney Ck)
Water – surface Dams – Austar owned	Quarterly quality (pH, EC, , Fe at minimum)	Austar Dam (Paxton Pit Top), Kalingo Dam (KIA) and Dam 7 (CHPP)
Water – surface Dams - Farm	Various landholders	Visual during individual Built Features Management Plan inspections, and during subsidence line surveys.
Water - groundwater	Daily Groundwater levels	AQD1073A, WBH1, WBH2, WBH3 (alluvial aquifers)

Aspect	Monitoring Frequency	Monitoring components
	Monthly (at minimum) flow or pressure Quarterly water quality (pH, TDS, TSS, EC, Ca, Mg, Fe, Si, Oil & Grease at a minimum) Annual water quality (pH, TDS, TSS, EC, Ca, Mg, Fe, Si, Oil & Grease as a minimum)	NER1010 (sandstone aquifer) Underground Waters: East Pelton, West Pelton, Blue Panel, 13.5ct 1 East Mains (Kalingo workings), 5.5ct North West, LW 13 Goaf, SL2 Goaf, Ellalong Goaf (2 Shaft), Mains 100 23ct Fish Tank, Mains 200 Pump Line (Mains 200), Mains 200 18ct Fish Tank, Mains 400 2ct AHdg (LWA7 Holes,Mains 400 8-9ct Fish Tank, Mains 300 7-9ct Stub A Hdg Fish Tank.
Aboriginal Heritage sites		Known site in Stage 2 area (refer to ACHMP). Known site in Stage 3 area (refer to ACHMP).
Historic Heritage sites		Coney Creek Bridge Quorrobolong Road, Quorrobolong Homestead Site Southams Road, Quorrobolong

5.2.1 Conclusion:

The integrated Environmental Monitoring Program includes all the monitoring commitments outlined in the specific environmental aspect management plans, and provides a satisfactory program for monitoring meteorology, air quality, ecology, noise, vibration, surface and ground water, and subsidence that provides data for the assessment of the environmental performance of the Austar operations.

5.3 Air Quality

[Development Approval 29/95 Schedule 3 conditions 17 to 20]

[Project Approval Schedule 4 condition 4 to 7]

Air Quality Compliance Status: Compliant

5.3.1 Air Quality Management Plan

[Development Approval 29/95 Schedule 3 condition19]

[Project Approval Schedule 4 condition 7]

The Air Quality Management and Monitoring Plan dated 29 January 2007 was prepared to address the requirements of Development Consent 29/95 Schedule 3 condition 19 for the Stage 2 project, and was approved by DoP on 15 February 2007.

The Air Quality and Greenhouse Gas Management Plan required under Project Approval 08_0111 Schedule 4 condition 7 for Stage 3, was prepared and integrated the previously approved Air Quality Management and Monitoring Plan. The Air Quality and Greenhouse Gas Management Plan was submitted to the DP&I on 19 June 2013, prior to completion of the construction of ventilation fans at the Kitchener Surface Infrastructure Site (SIS) and was approved by DP&I on 26 June 2013. Underground mining in Stage 3 commenced in Q4 2013.

5.3.2 Meteorological Station

[Development Approval 29/95 Schedule 3 condition 20]

[Project Approval Schedule 4 condition 7]

[EPL 416 condition P1.1, M4]

A meteorological station established adjacent to the Pelton CHPP monitors continuous air temperature, wind direction, wind speed, sigma theta, and rainfal per 24 hour period, conforming with the requirements of Development Approval 29/95 Schedule 3 condition 20, Project Approval Schedule 4 condition 7, and EPL 416 condition P1.1, M4.

Carbon Based Environmental assessed the meteorological station and provided advice that the Vantage Pro 2 Complete System installed at the Austar CHPP site meets the class of station that is standard in AM-2 Guide for measurement of horizontal wind for air quality applications (AS2923-1987).

Use of the wind sensor and sigma theta calculator the Vantage Pro 2 also complies with the AM-4 Meteorological monitoring guidance for regulatory mining applications (USPA (2000) EPA 454/R-99-005).

5.3.3 Dust Management

Austar Pit Top consists of the mine drift, mine dewatering infrastructure, workshop area, equipment storage area, services, coal clearance and offices. Dust generated from traffic around the CHPP, workshops and access roads is controlled by a water cart during active use of these areas. Generally, the majority of the site is stable, and does not generate excessive dust.

In accordance with Development Consent 29/95, Austar implemented the air quality monitoring program in accordance with the Air Quality Management and Monitoring Plan for Stage 2, to satisfy Development Consent 25/95 Schedule 3 Conditions 18 and 19.

A revised Air Quality and Greenhouse Gas Management Plan prepared to satisfy Project Approval 08_0111 Schedule 4 Conditions 6 and 7, approved by DP&I on 26 June 2013 for the for the Austar Mine Complex operations was implemented following approval in 2013.

Dust generated from traffic around the CHPP, Pit Top, workshop areas and access roads is controlled by a water cart during active use of these areas.

In accordance with the approved Air Quality and Greenhouse Gas Management Plan, additional air quality monitoring commenced in July 2013 with eight (8) dust depositional gauges and three (3) high volume air samplers (HVAS). The HVAS monitors particulate matter < 10µm, (i.e. PM_{10}).

Dust samples are collected and analysed by NATA certified laboratories in accordance with statutory requirements and relevant standards. Monitoring equipment is maintained in accordance with the manufacturer's specifications by external qualified specialists.

On 27 September 2012 Austar provided a site specific best management practice determination report for particulate matter to the EPA in accordance with condition U2. Condition U2 has been completed and the condition was removed from the licence in Notice of Variation 1515752 on 10 February 2014.

5.3.4 Dust Monitoring and Criteria

Dust criteria expressed in the Development Consent 29/95 condition 17, Project Approval 08_0111 Schedule 3 condition 4 and Statement of Commitment 1.9.1 are:

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited dust	Annual	2g/m^2/mth	4g/m^2/mth

In accordance with the Air Quality Management and Monitoring Plan, five (5) static dust deposition gauges (DG1 to DG5) and two (2) high volume air samplers (HVAS) (D2 and D6) were installed in March 2007 and retained until July 2013. After July 2013 additional monitoring was implemented in accordance with the Air Quality and Greenhouse Gas Management Plan were established as the dust monitoring network (Eight (8) static dust deposition gauges (DG1 to D5 and D7 to DG9) and three (3) high volume air samplers (HVAS) (D2, D6 and D8) Refer to Table 5.3.4.

Table 5.3.3b: Location of Air Quality Monitoring Points

Site Location	Location Description
Dust Gauge (DG)1	Pyne Way, Mount View
Dust Gauge (DG)2	Ellalong Road, Pelton Village
Dust Gauge (DG)3	Bimbadeen Road, Mount View
Dust Gauge (DG)4	Ellalong Village
Dust Gauge (DG)5	South of No.3 Upcast Ventilation Shaft
Dust Gauge (DG)7	Pelton Fire Trail, Quorrobolong
Dust Gauge (DG)8	Coney Creek Lane, Quorrobolong
Dust Gauge (DG)9	Kitchener Village
HVAS 1 (PM_{10}) D6	Pyne Way, Mount View
HVAS 2 (PM_{10}) D2 HVAS 3 (PM_{10}) D8	Ellalong Road, Pelton Village Coney Creek Lane, Quorrobolong

5.3.5 Review of Dust Monitoring Results

5.3.5.1 Dust Deposition Gauges

Dust results reported for the 2011 to 2014 period are consistent with dust results stated in the 1995 Environmental Impact Statement for extension of underground mining operations at Pelton/Ellalong Colliery. Monitoring of depositional dust has demonstrated annual average results of less than the criteria of 4 g/m^2/month for insoluble solids and less than a maximum increase of 2g/m^2/month, during the 2011 to 2014 period. Historical dust depositional data provided in the EIS 1995 section 4.7.2 since 1991, has ranged between 0.2 to 2.7g/m^2/month.

Table 5.3.5.1: Depositional Dust Gauges Annual Average Results

Dust Gauge No.	Location	Annual Average Insoluble Solids (g/m^2/month)*		
		2011-2012	2012-2013	2013-2014
D1	Pyne Way, Mount View	1.1	0.9	1.9
D2	Ellalong Road, Pelton Village	1.5	2.0	1.8
D3	Bimbadeen Road, Mount View	0.9	1.0	1.1
D4	Ellalong Village	2.0	2.4	1.8
D5	South of No.3 Upcast Ventilation Shaft, Kalingo	0.4	1.9	1.5
D7	Pelton Fire Trail, Quorrobolong	NA	NA	0.7
D8	Coney Creek Lane, Quorrobolong	NA	NA	0.6
D9	Kitchener Village	NA	NA	o.8

*The results for dust deposition gauges contaminated with bird droppings/ insects are left out of the annual average calculations above.

Kalingo Infrastructure Area (Upcast Shaft 3) dust gauge D5 recorded 5.2g/m^2/month in March 2014. The annual average for D5 at the end of the reporting period remained at 1.5 g/m^2/mth, less than the Annual Maximum Criteria of 4 g/m^2/mth .

5.3.5.2 High Volume (PM10) Dust Samplers

The HVAS units operated on the six day cycle during the 2011 to 2014 period. HVAS3 was installed at 159 Coney Creek Lane, Quorrobolong, in June 2014.

The annual average PM_{10} results were consistently less than the long term annual average criterion of 30µg/m^3 and short term impact assessment criterion of 50µg/m^3 during the 2011-2014 period.

The annual average for calculated Total Suspended Particulates (TSP) during the 2011 to 2014 period was less than the 90ug/m^3 criterion stated in Development Consent 29/95 Schedule 3 condition 17. (Note: The TSP is calculated by multiplying the PM10 result by 2.5 in accordance with the method outlined in the AQM&MP).

Table 5.3.5.2: PM_{10} and TSP HVAS Results 2011 to 2014

HVAS No.	Location	Annual Average (µg/m^3)							
		PM_{10}	TSP	PM_{10}	TSP	PM_{10}	TSP	PM_{10}	TSP
		2011-2012		2012-2013		201-2014			
HVAS1	Bimbadeen Road Bellbird	10.3	22.9	12.4	31	12.4	31	30	90
HVAS2	Ellalong Rd Pelton Village	10.7	29.6	14.0	35	14.0	32.5		
HVAS3		NA	NA	NA	NA	NA	8.8		

5.3.6 Conclusion:

The air quality management for the Stage 2 Austar Mine operations between 2011 and July 2014 occurred in accordance with the approved Air Quality Management and Monitoring Plan, and the Stage 3 Air Quality and Greenhouse Gas Management Plan between July 2013 and November 2014. The approved integrated plan is considered satisfactory for the management and monitoring of dust generated by the current Austar operations.

The dust deposition, TSP and PM_{10} air quality monitoring results demonstrated compliance with the Development Consent 29/95 and Project Approval 08_0111 criteria during the 2011 to 2014 period.

5.4 Biodiversity

[Development Consent 29/95 Schedule 3 condition 23]
[Project Approval Schedule 3 condition 4(e)]
[Project Approval Schedule 6 condition 1]
[Statement of Commitment 1.4.1 and 1.4.7]

Biodiversity Compliance Status: Compliant Ongoing

5.4.1 Extraction Plan – Biodiversity Management Sub-Plan

[Project Approval Schedule 3 condition 4(e)]

Development Consent 29/95 Schedule 3 condition 23 required ecological monitoring of riparian vegetation over Stage 2 Long-wall Panels A3 to A5a, to be conducted with particular reference to the River Flat Eucalypt Forest EEC. Austar implemented the Ecological Monitoring Program for Stage 2 to satisfy this condition. The Stage 2 monitoring program commenced with baseline surveys in 2008 and now has six years of data prior to and following the commencement of mining which commenced in LWA3 in February 2009.

To satisfy Project Approval 08_0111 Schedule 4 condition 1, Austar implemented the approved Shaft Construction Environmental Management Plan (SCEMP) during the construction SIS works to manage any fauna impacts resulting from construction activities at the SIS and implemented an ecological monitoring program as part of the Stage 3 Biodiversity Management Plan. Baseline surveys were carried out in Spring 2012 and Autumn 2013. Routine surveys were conducted during this reporting period in Spring 2013 and Autumn 2014.

The Stage 3 Biodiversity Management Plan was prepared to satisfy Project Approval Schedule 3 condition 4(e) in consultation with OEH. The Stage 3 Biodiversity Management Plan was reviewed and updated in December

2013 in response to a modification to Project Approval 08_0111 MOD 3 , resulting in some sites being relocated and the monitoring schedule of sites being modified.

Ecological considerations for the SIS were incorporated into the Landscape Management Plan – Kitchener SIS (June 2013), prepared in accordance with PA08_0111 Schedule 6 Condition 4.

5.4.2 Performance Measures

[Development Consent 29/95 Schedule 3 condition 23]
[Project Approval 08_0111 Schedule 4 condition 1]
[Environmental Assessments - Umwelt 2008, 2011 and 2013]

The Stage 3 Biodiversity Management Plan describes the ecological management strategies, procedures, controls and monitoring programs that are to be implemented to manage the potential environmental consequences of second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species that may occur as a result of subsidence related biodiversity impacts described in the Stage 3 MOD 2 Environmental Assessment (Umwelt 2011) and within the LWA7-A10 Stage 3 Area MOD 3 Environmental Assessment (Umwelt 2013).

(Background information on biodiversity is provided for LWA7 to A19 in the Stage 3 Mining Area).

Two threatened flora species have been recorded within the Stage 3 Area, heath wrinklewort (*Rutidosis heterogama*) and small-flower grevillea (*Grevillea parviflora* subsp. parviflora). Both species were recorded in the northern portions of the LWA7-A10 Modification Area, and both are listed as vulnerable under the TSC Act and the EBPC Act.

Two broad fauna habitat types occur within the LWA7—A10 Stage 3 Area, open forest and derived grassland. The open forest habitat occurs on the drier slopes and crests within the northern and central portions of the LWA7—A10 Area, providing foraging and roosting habitat for a variety of small woodland birds, mammals, micro-bats and reptiles. A few larger hollow bearing trees provide limited nesting habitat for hollow-dependent fauna. Much of the southern portion of the LWA7—A10 Modification Area consists of open grassland habitats which have been heavily cleared and grazed. These areas provide foraging habitat for some micro-bats, macropods and some bird species.

Of 13 threatened fauna species previously recorded within the broader Stage 3 Project area, none were considered to have the potential to be impacted by the LWA7—A10 as the project is not considered likely to modify the habitat requirements of these species.

The two EECs found to be present within the Stage 3 Area are the Lower Hunter Spotted Gum – Ironbark Forest EEC (342.2 ha) and the River-flat Eucalypt Forest EEC (48.7 ha). No endangered flora species were identified within the Stage 3 Area. The Stage3 assessment concluded that no endangered flora populations had potential to occur within the Stage 3 Modification Area.

There are no aquatic EECs listed under the FM Act occurring within or with potential to occur within the assessment area.

5.4.3 Fauna Habitat within the Stage 3 - Local Habitat Connectivity

A large proportion of the proposed Stage 3 Modification Area is dominated by grassland and pasture and continues to be used for agricultural purposes. Consequently, the existing native remnants within the proposed Stage 3 Modification Area are highly fragmented and isolated.

The vegetation and associated habitats along Cony Creek, crossing the site in a general east-west direction, represent the most sizable and significant habitat corridor across the Stage 3 Modification Area. The NPWS Key Habitats and Corridors (Scott, 2003) project does not identify any fauna movement corridors or key habitats for threatened species within the Stage 3 assessment area.

No endangered fauna populations are known to occur within the Stage 3 Modification Area.

5.4.4 Conclusion Extraction Plan – Biodiversity Management

Biodiversity management under the Extraction Plan – Biodiversity Management Plan demonstrates compliance with Project Approval Schedule 3 condition 4(e).

An assessment of the potential impacts of the Proposed LWA7—A10 Modification on each of the threatened species and ecological communities concluded that the LWA7—A10 Modification is unlikely to have a significant impact on surface vegetation (including threatened species and EECs) or habitats of any threatened fauna species due to the LWA7—A10 development not involving any vegetation clearing and the subsidence predicted to be relatively minor and even across the surface of the LWA7—A10 Area, and therefore unlikely to disrupt the condition of vegetation present. Environmental Assessment MOD 2 – 2011 concluded:

> *"Subsidence is not expected to have a significant impact on the ecology or ecological communities of the Stage 3 Modification Area. In addition, due to the depth of cover and relative predicted uniformity of subsidence over the Stage 3 Modification Project area, it was predicted that surface mitigation works along creeks and drainage channels will not be required and hence disturbance of these areas is not likely to be necessary."*

Mining of the Stage 3 Modification Project area is not expected to significantly impact on runoff regimes, bank stability, channel alignment, in-channel and out of channel ponding or groundwater availability. Drainage line analysis of the predicted subsided landform indicates that all creek systems will remain free draining without mitigation works.

Subsidence predictions indicate that there will be no impacts associated with long-wall mining that would result in the significant alteration of surface landforms, vegetation or habitats. The impacts are expected to be very minor and focused in riparian environments.

The ecological assessment of the potential for the underground mining to have an impact on River-flat Eucalypt Forest EEC and the Lower Hunter Spotted Gum – Ironbark Forest concluded that the proposed Stage 3 Modification will not have a significant impact on the River-flat Eucalypt Forest or Lower Hunter Spotted Gum – Ironbark Forest Endangered Ecological Communities.

No EPBC Act listed Endangered Ecological Communities were found within the proposed Stage 3 Modification mining area. There were no EPBC Listed threatened species with the potential to be impacted by the project and the assessment concluded that *"the impacts of underground mining on the River-flat Eucalypt Forest EEC would be minimal and would not result in the modification or loss of any areas of EEC (Umwelt 2011 and 2013)"*

The ecological assessment concluded no specific ecological mitigation measures were necessary for the underground mining of the Stage 3 project, as the subsidence predictions indicate no impact on ecological entities. The Environmental Assessments (Umwelt 2011 and 2013) concluded that mining was not predicted to result in significant changes to the surface and groundwater patterns within the Austar Extraction Plan area or the wider Stage 3 Mining Area, and therefore the potential for impacts on the vegetation and habitats is very low.

5.4.4 Biodiversity Monitoring

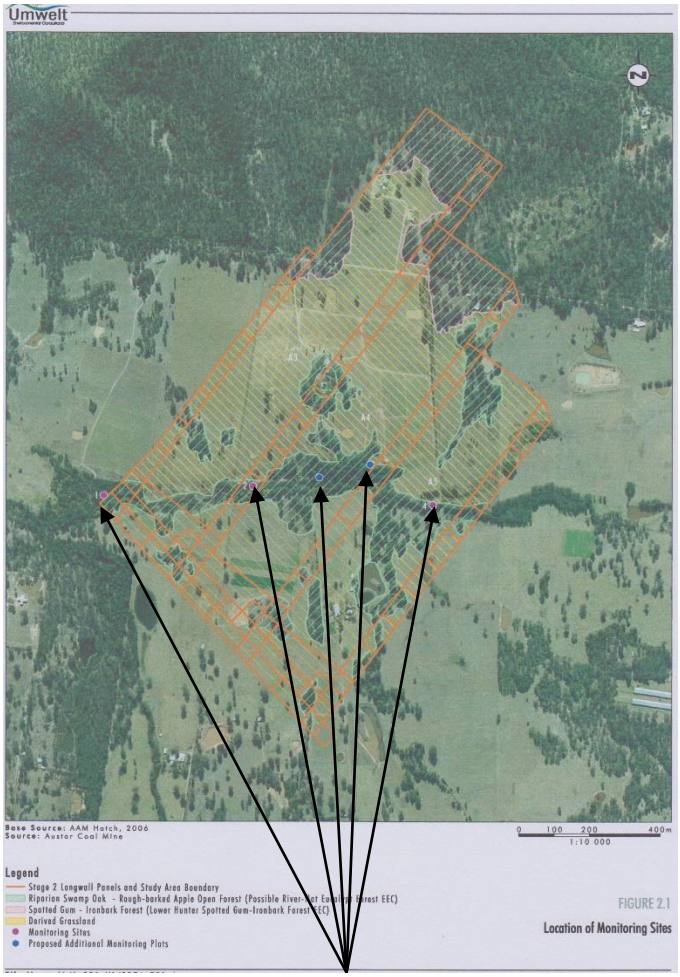


Figure 5.4.4.1: Biodiversity monitoring locations established in accordance with the approved Biodiversity Management Plan for Stage 2.

An ongoing monitoring program of riparian habitats within the Stage 2 and Stage 3 mining areas is conducted to document the condition of these habitats throughout the life of the mining development.

Biannual ecological monitoring has been undertaken (one survey in autumn and one in spring), and annual monitoring (for threatened species) to coincide with flowering events.

The methods used for the biodiversity monitoring are:

- permanent vegetation sampling quadrats;
- ecological condition assessment;
- photographic monitoring; and
- targeted threatened species monitoring.

5.4.4.1 Stage 2

Baseline ecological monitoring undertaken for the Stage 2 mining area during autumn and spring 2008, and autumn and spring 2009 included a description of the vegetation structure, floristics and condition in such a way that comparisons with post-mining data could be readily made to determine any possible impacts of the long-wall mining. During the baseline survey all monitoring sites were found to be in varying states of disturbance, particularly due to past clearing and grazing practices and subsequent heavy weed invasion.

5.4.4.2 Stage 3

The ecological monitoring program implemented for Stage 3 in accordance with the Biodiversity Management Plan includes bi-annual targeted threatened species and EECs monitoring within the long-wall panels A7 to A10 area.

Baseline surveys ahead of mining long-walls A7 and A8 were undertaken in Spring 2012 and Autumn 2013. A monitoring location above each long-wall and two additional monitoring locations outside the affected subsidence zone were surveyed. Baseline monitoring of each of these sites indicated that vegetation is stable, in good health and consistent with that of Lower Hunter Spotted Gum Ironbark Forest EEC.

There were no rare or threatened flora or fauna known to occur within the Austar colliery holding land of approximately 2600 hectares (ha) that require active management. The Austar owned land where threatened

flora and fauna are known to occur is predominantly vegetated, and any disturbance that may be required for the ongoing operations would only occur following appropriate assessments.

Surveys were conducted during Spring 2013 and Autumn 2014 surveys varied slightly in accordance with the approved Biodiversity Management Plan at the time of monitoring, but in each case involved a combination of sites over the long-wall mining area, and reference sites outside the area of mining influence.

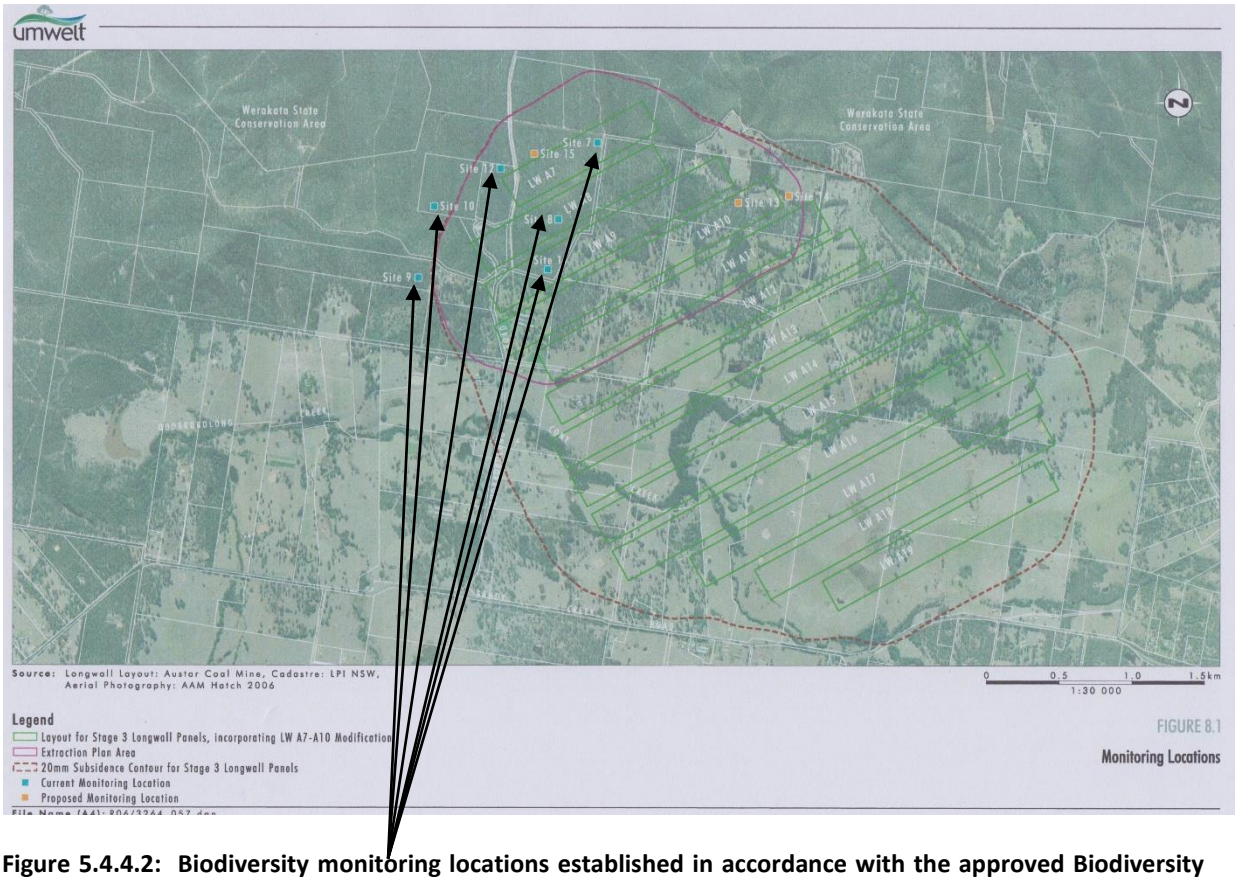


Figure 5.4.4.2: Biodiversity monitoring locations established in accordance with the approved Biodiversity Management Plan for Stage 3.

5.4.4.3 Monitoring Summary for LWA7 to LWA10.

A Biodiversity Management Plan (BMP) has been implemented as part of the Extraction Plan for LWA7 to LWA10. Secondary workings undertaken as part of Stage 3 mining are not anticipated to have a significant impact on biodiversity. However, in order to assess any potential impacts, a detailed Monitoring Program has been developed for the Extraction Plan area. The monitoring specifically focuses on the Lower Hunter Spotted Gum – Ironbark Forest EEC and River Flat Eucalypt Forest EEC which occur on the drier slopes and ridges of the Extraction Plan area and on the drainage flats/lower slopes respectively, and threatened species identified within the subsidence zone of LWA7 to LWA10.

There are currently eight routine monitoring locations above the mining area and two reference sites. (NOTE: Future sites influenced by long-wall mining will be monitored for baseline data 12 months prior to the mining of each long-wall and will continue after the mining of that long-wall and additional sites for future long-wall panels (i.e. LW A11 onwards) will be commenced prior to mining of these panels.

5.4.5 Environmental Performance

The Ecological Monitoring Program results between Spring 2011 and Spring 2014 concluded the following for the Stage 2 long-walls A4, A5 and A5a, and Stage 3 long-wall A7 areas:

- Longwall mining had passed under all Stage 2 monitoring sites;

- None of the Stage 2 or 3 sites appeared to be experiencing impacts as a result of long-wall mining (in particular surface cracking, subsidence, or resulting fluctuations to species numbers);
- No obvious increase in rates of erosion or bank instability has been recorded at any of the Stage 2 sites monitored, or elsewhere in the Stage 2 Study Area;
- No obvious increase in dieback has been recorded at any of the Stage 2 or 3 sites monitored;
- Good levels of regeneration of canopy species were observed along the length of the Stage 2 monitoring sites and are considered likely to be a result of stock exclusion from the riparian zone;
- The photo monitoring indicates there have been no obvious visual changes to the health of the Stage 2 and 3 vegetation since the baseline photos were taken;
- The biggest threat to the ecological integrity of the Stage 2 sites continues to be weed infestation by blackberry (*Rubus fruticosus sp. agg*.) and wandering Jew (*Tradescantia fluminensis*) which are not related to underground mining activity;
- There are not considered to be any significant threats to the ecological integrity of Stage 3 monitoring sites;
- There has been a significant reduction in the ground coverage of wandering Jew at Site 2, as a direct result of a weed control program conductedby Austar; and
- To date, there is no evidence of any impacts on ecological features as a result of Stage 2 or Stage 3 longwall mining.

5.4.6 Conclusion

The Environmental Assessments (Umwelt 2011 and 2013) concluded that mining was not predicted to result in significant changes to the surface and groundwater patterns within the Austar Extraction Plan area or the wider Stage 3 Mining Area, and therefore the potential for impacts on the vegetation and habitats is very low.

Biodiversity monitoring to date has not presented evidence of any impacts on ecological features has been identified as attributable to the Austar long-wall mining.

5.5 Noise

[Development Consent 29/95 Schedule 3 conditions 13 to 15]
[Project Approval 08_011 Schedule 4 conditions 2 and 3]
[EPL 416 condition U1 and U2]

Noise Compliance Status: Compliant (Two administrative matter suggestions related to assessment of low frequency noise and the Premises Noise Assessment are provided).

5.5.1 Noise Management Plan

[Development Consent 29/95 Schedule 3 conditions 13 to 15]
[Project Approval 08_0111 Schedule 4 conditions 1 and 3]

In accordance with Development Consent 29/95 Schedule 3 conditions 13 to15, Austar prepared and implemented an approved Noise Monitoring Program (NMP) for the operation.

To satisfy Project Approval 08_0111 Schedule 4 condition 1, Austar have implemented the Shaft Construction Environmental Management Plan (SCEMP) approved by the Director General DP&I on13 November 2009 and 15 June 2012 to manage noise impacts from the SIS during construction.

To satisfy Project Approval 08_0111 Schedule 4 condition 3, Austar prepared and implemented the Noise and Vibration Management Plan (NVMP) approved by the Director General DP&I on13 August 2013.

5.5.2 Noise Mitigation Works

5.5.2.1 CHPP Noise Pollution Reduction Program (PRP)

For the ongoing use of the CHPP for the production of coal from the Stage 3 mining, a voluntary noise pollution reduction program (PRP) was commenced by Austar under EPL condition U1 (Variation to EPL 416, March 2008). EPL 416 condition U1 required the upgrade of the acoustic performance of the walls and roof of the CHPP building. The upgrade of the walls commenced in June 2009 and involved removal of the old sheeting, maintenance to the structural steel of the building, fitting of new girts to secure the wall cladding, and installation of new composite wall cladding to the outer walls of the CHPP.

Plate 5.5.2.1: CHPP acoustic cladding on walls and roof.

Noise reduction resulting from the upgrades to the CHPP, have improved the acoustic amenity for sensitive receivers near the CHPP site.

5.5.2.2 Noise bund

Construction of the noise bund to provide shielding to residents to the west and northwest of the CHPP has occurred as suitable coal reject material has been available. (To fulfil mining lease rehabilitation commitments to the Department of Trade and Investment, coarse reject material has been hauled to rehabilitate areas of the former Aberdare Extended open cut pits near Bellbird Heights/West Cessnock since December 2009, so availability of this course reject material has been limited for the construction of the noise bund). The OEH granted an extension of time for the construction of the noise bund until 31 December 2012. The noise bund was completed to the final height at the date of this audit.

Plate 5.5.2.2: CHPP from the top of the noise bund between the CHPP refurbished building and receivers to the to the west and northwest

No noise complaints in relation to the CHPP operations were received during the October 2013 to November 2014 period.

5.5.3 Noise Monitoring

[Development Consent 29/95 Schedule 3 conditions 15]
[Project Approval 08_011 Schedule 4 condition 3]

Noise monitoring is conducted quarterly in accordance with the Noise Monitoring Program (February 2007) during 2011 and 2013 period and the Noise and Vibration Management Plan (July 2013) during 2014.

Under the Noise and Vibration Management Plan (2013) there are five (5) monitoring locations near the CHPP and four (4) monitoring locations near the Kitchener Infrastructure Area and SIS.

Noise criteria for emissions from the CHPP are in terms of an LA_{90} as specified in Condition U2.1 of EPL 416. Noise criteria for other receivers are in terms of $LA_{eq(15minute)}$ as specified in Development Consent 29/95 and Project Approval 08_0111.

Quarterly noise monitoring has been conducted by Global Acoustics in accordance with approved Noise Monitoring Program, at five (5) monitoring locations representative of the surrounding receivers, for assessing and evaluating noise emissions from the operation.

Table 5.5.3: Noise Impact Assessment Criteria and Goals

Nearest Potentially Affected Receivers to CHPP				
Receiver		**Receiver Location**		**Criteria/Goal**
Q1 2012-Q2 2013	**Q4 2013 - Q2 2014**			**Noise Limits EPL 416 (c.U1.3)**
NMA	**C2**	Pelton Village	South-east of CHPP	L_{A90} 43 dB
NMB	**C1**	South Bimbadeen Rd, Mt View	West of CHPP	L_{A90} 40 dB
NMC	**C3**	Bimbadeen Rd, Mt View	North-west of CHPP	L_{A90} 37 dB
-	**C4**	84 Bimbadeen Rd Mt View	North of CHPP	L_{A90} 37 dB
-	**C5**	43 Doyle St, Mt View	North East of CHPP	L_{A90} 37 dB
Nearest Potentially Affected Receivers to Surface Infrastructure Site				
				Criteria-DA29/95(Sch.3C.13)*
-	**K1**	Pelton Rd , Quorrobolong	South of SIS	L_{Aeq} 35dB/L_{A1}45 dB
-	**K2**	Coney Creek Ln, Quorrobolong	East of SIS	L_{Aeq} 35dB/L_{A1} 45dB
-	**K3**	Richmond St, Kitchener	North of SIS	L_{Aeq} 35dB/L_{A1} 45dB
Nearest Potentially Affected Receiver Locations Near Kalingo Infrastructure Area (KIA)				
NMD	**K4**	Nash Lane Quorrobolong	East of KIA	L_{Aeq} 35 dB
NME	-	Glennie St Ellalong	West of KIA	L_{Aeq} 35 dB

5.5.4 Review of Noise Monitoring Results

Quarterly noise monitoring was conducted during the 2011 to 2014 period in accordance with Noise Monitoring Program by Global Acoustics. Five (5) key monitoring locations representative of the surrounding receivers have been selected as reference locations and form the basis for assessing and evaluating noise emissions from the operation.

Monitored noise levels during the 2011 to 2014 audit period, as presented in the monitoring reports and summaries in the AEMR's, were generally compliant with the respective noise criteria, although application of a +5 dB modifying correction factor for low frequency noise (in accordance with the NSW Industrial Noise Policy (INP)), resulted in criterion exceedances at the monitoring locations near Pelton CHPP:

> *"Noise limit exceeded during attended noise monitoring occurred at two residences as a result of 5dB low frequency noise modifying factor penalty."*

Exceedances were discussed in the AEMR's and the EPA was notified in accordance with EPL 416. Most exceedances were no greater than 2dB which does not qualify as a non-compliance under the INP Chapter 11: *"a noncompliance is considered to have occurred if the monitored noise level is more than 2 dB above the statutory noise limit specified in the consent or licence condition."*

5.5.4.1 CHPP Noise Monitoring Results

CHPP noise levels have generally been compliant with the noise limits and criteria set for the project except for the recent exceedances of the LA_{90} noise criteria at location NMC within the Q4 2012 and Q1 period 2013. The exceedances occurred in the night monitoring periods. The Q4 2012 and Q3 2013exceedance is not considered significant as Chapter 11 of the *Industrial Noise Policy* indicates that noncompliance is considered to have occurred if *"the monitored noise level is more than 2 dB above the statutory noise limit specified in the consent or licence condition."*

Table 5.5.4a: CHPP Monthly Attended Noise Monitoring Results Q1 2012 to Q2 2013

Austar CHPP Noise only $L_{A90(15\ min)}$									
Quarter/Year	NMA			NMB			NMC		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
	Noise Criteria 43dB			Noise Criteria 40dB			Noise Criteria 37dB		
Q1 2012	IA	IA	<25	35	40	39	33	31	33
Q2 2012	32	32	40	26	27	32	30	NM	31
Q3 2012	IA	IA	40	30	27	34	<30	<25	37
Q4 2012	IA	<20	37	26	34	40	29	34	38
Q1 2013	IA	IA	32	30	<20	40	<20	<20	42
Q2 2013	34	IA	25	22	25	22	27	22	21

Table 5.5.4b: CHPP Monthly Attended Noise Monitoring Results Q3 2013 to Q4 2014

	Noise Monitoring Locations				
	C1	C2	C3	C4	C5
Noise Criteria	**40**	**43**	**37**	**37**	**37**
Q3 2013	28 - 37	39 – 43	37 - 34	32 - 34	36 - 39
Q4 2013	<25 - 38	24 - 40	27 - 35	<25	32
Q1 2014	27 - 36	33 - 36	<25 - 20	29	26 - 28
Q2 2014	26	36 - 37	NM	<25	NM

5.5.4.2 Kalingo Infrastructure Area

Noise levels from the Kalingo Infrastructure Area were compliant with the noise impact assessment criteria expressed in Development Consent 29/95 Schedule 3 condition 13, during the 2012 to 2014 period.

Table 5.5.4.2: KIA Attended Noise Monitoring Results Q1 2012 to Q2 2013

Noise Impact Assessment Results for Nearest Receptors to Kalingo Infrastructure Area		
	NM D	NM E
Noise Criteria	**35**	**35**
Q1 2012	27	16
Q2 2012	27	17
Q3 2012	28	15
Q4 2012	28	16
Q1 2013	28	16
Q2 2013	28	16

5.5.4.3 Kitchener SIS Construction

Construction noise levels at the Kitchener SIS were managed in accordance with the Shaft Construction Management Plan (SCEMP), approved by DoP on 13 November 2009.

Construction at the SIS was completed around the end of June 2013 with the upcast vent fans being commissioned from 10 June 2013. No.6 shaft was completed in June 2013 and a services borehole was also drilled and fully lined during the period. Noise monitoring for Kitchener SIS throughout the reporting period was in accordance with the SCEMP.

Table 5.5.4.3a: Construction Noise Management Levels - $LA_{(eq,15min)}$ (dB)

Location	Background	Standard Working Hours (7am to 6pm)	Out-of-Hours Works (6pm to 7am)		
	LA_{90} noise level	Day	Day	Evening	Night
NM K1 South of SIS	<30	40	35	35	35
NM K2 East of SIS	32	40	35	37	35
NM K3 North of SIS	<30	43	38	35	35

Noise monitoring was undertaken at three receptor locations each month during standard work hours, and once per month for out-of-hours works. Additional monitoring was conducted in response to complaints.

Table 5.5.4.3b: Kitchener SIS Noise Monitoring Results $LA_{(eq,15min)}$ *

		Kitchener SIS Noise Results LAeq,15min*					
		NMK1		NM K2		NM K3	
		Standard Hrs	Out-of-Hours	Standard Hrs	Out-of-Hours	Standard Hrs	Out-of-Hours
CNML $L_{Aeq,15\ min}$		40	35	40	35	43	35
Q1 2012	Jan-Mar	<25-32	<25	26-30	IA	IA	25-26
Q2 2012	Apr-Jun	<25-29	26-33	<25	<25-30	IA	<25-31
Q3 2012	Jul-Sep	27-32	30-38	<25-25	<25-26	<25-28	26-28
Q4 2012	Oct-Dec	<25-34	28	<20	25	IA	IA
Q1 2013	Jan-Mar	21-34	<20-38	IA	22-29	IA	22-29
Q2 2013	Apr- Jun	IA	30-35	IA	IA	IA	IA

* Kitchener SIS Noise Results are ranges per quarter expressed as **$LA_{(eq,15min)}$**

Construction activities at the Kitchener SIS have included shaft construction undertaken on a 24 hour basis, liner construction, and maintenance activities.

Noise monitoring results from the Kitchener SIS indicated compliance with the construction noise management criteria during the construction period which ended in June 2013 when initial construction at the SIS was completed and the No. 5 shaft ventilation fans were commissioned.

Table 5.5.4.3c: SIS Attended Monitoring Q3 2013 to Q2 2014

		K1	K2	K3
	Noise Criteria	**35**	**35**	**35**
Q3 2013	Night	23 - 24	<23	<20
Q4 2013	Night	29 - 34	<25	IA
Q1 2014	Night	24 - 27	IA	IA
Q2 2014	Night	25 – 30	IA	IA

Noise monitoring results from the Kitchener SIS between June 2013 and June 2014, demonstrated compliance with the Noise Management Levels for all results with the main ventilation fans on No. 5 shaft operating.

5.5.5 Application of Low Frequency Penalty

The Industrial Noise Policy Chapter 4 discusses the difference between C-weighted and A-weighted noise "levels" in relation to low frequency noise impacts without mentioning specific noise percentiles.

There are some inconsistencies in the application of the Industrial Noise Policy low frequency penalty of +5dB, although consideration of low frequency noise impacts is generally quite thorough.

5.5.6 Low Frequency Noise Assessment

Noise measurements recorded are analysed for low frequency content, where the above results applied to the measured L_{A90} level. With this 5dB penalty applied, the noise levels exceeding project specific criteria during Q3 2012- Q2 2014 reporting period are shown in Table 5.5.6.

Table 5.5.6: Austar CHPP Only $LA_{90(15\ min)}$ (dB) Low Frequency Exceedances 2012 -2014

	NMA	NMB	NMC	C1	C2	C3	C4	C5
Noise Criteria	43	40	37	40	43	37	37	37
Q3 2012	45	-	42					
Q4 2012	-	45	43					
Q1 2013	-	45	-					
Q2 2013	-	-	-					
Q3 2013				42	44	42	-	-
Q4 2013				43	-	40	-	-
Q1 2014				41	-	-	-	-
Q2 2014				-	-	-	-	-

Up until Q2 2013, the difference between the C- and A-weighted L_{90} was considered in Table 4.8 of the monitoring reports, but this changed to the C- and A-weighted L_{eq} from Q3 2013 onwards. Consideration of the $L_{90(C-A)}$ is appropriate for those receivers with L_{A90} criteria specified under EPL 416 and $L_{eq(C-A)}$ should be considered for those receivers with $L_{Aeq(15minute)}$ noise criteria.

Table 4.6 of the Noise and Vibration Management Plan gives the Industrial Noise Policy low frequency assessment method as "Total L_{Ceq} minus L_{Aeq}". It may not be practical to formally change the Noise and Vibration Management Plan, but assessment of low frequency noise in future monitoring reports must consider:

"Total L_{Ceq} minus L_{Aeq}" for receivers with L_{Aeq} criteria; and
"Total L_{C90} minus L_{A90}" for receivers with L_{A90} criteria.

(Note: There is currently a great deal of subjectivity as to whether the low frequency penalty will or will not be applied, as detailed in Note 7 in the noise monitoring reports. In many cases this can be avoided by adopting the above recommendation. For example, there are many instances when the noise sources are identified as "CHPP and car engine noise" and the total measured L_{A90} level has been attributed to the CHPP. The value of (L_{Ceq} – L_{Aeq}) in these cases is quite often in excess of 15dB but the penalty of +5dB has not been applied due to the presence of cars. If the (L_{C90} – L_{A90}) had exceeded 15dB, and the total L_{A90} was attributed to the CHPP, then application of the +5dB penalty would be automatic with no subjective interpretation, since the cars do not influence the L_{90}).

5.5.7 Premises Noise Assessment

The Premises Noise Assessment (PN) was prepared in accordance with the requirements of EPL 416 condition U1. The modelling exercise found exceedances of both the intrusive and amenity criteria greater than 5 dB even incorporating the considerable amount of noise reduction works that have been completed.

The Premises Noise Assessment does not propose noise criteria for the Pelton CHPP, Austar Pit Top or the Aberdare EEA for those receivers currently without noise criteria established under the INP. Further, the Premises Noise Assessment recommends investigation of reasonable and feasible noise control measures that would reduce noise emissions as far as practicable, before recommending noise criteria. This is a best practice approach and is acceptable. It may be expected that the establishment of noise criteria under the INP, for insertion in the EPL, would be completed in the next audit period.

5.5.8 Conclusion - Noise

In accordance with Development Consent 29/95 Schedule 3 conditions 13 to15, Austar prepared and implemented an approved Noise Monitoring Program (NMP) for the operation. A Noise and Vibration Management Plan prepared to satisfy Project Approval 08_0111 Schedule 4 condition 3, was approved by the DP&I on 13 August 2013 and implemented for the Austar activities.

To satisfy Project Approval 08_0111 Schedule 4 condition 1, the Shaft Construction Environmental Management Plan approved by the DP&I on 13 November 2009 and 15 June 2012 was implemented to manage noise impacts during the construction of the SIS.

This audit found Austar Coal Mine to be operating in compliance with Development Consent 29/95 (MOD 5), Project Approval 08_0111, EPL 416 and associated documents with respect to its noise obligations.

There were occasional exceedances of the noise criteria at residences near Pelton CHPP after application of the Industrial Noise Policy low frequency modifying factor of +5dB. Exceedances were discussed in the AEMR's and the EPA was notified in accordance with EPL 416.

The following administrative matters that may improve the environmental management and reporting of the Austar Project operations have been described in the Independent Environmental Audit and the following suggested recommendations are provided:

- Assessment of low frequency noise during attended monitoring should be undertaken with reference to the noise descriptor of the relevant noise criteria; and
- Pollution Reduction Program required in EPL 416 Condition U2 should continue to build on the outcomes of the Premises Noise Assessment in consultation with the EPA.

5.6 Blasting and Vibration

[Development Consent Schedule 3 condition 16[
[Project Approval Schedule 4 conditions 1 to 3]
[Statement of Commitment 1.8]

Blast and Vibration Compliance Status: Compliant

5.6.1 Vibration Management Plan

[Project Approval Schedule 4 condition 3

In accordance with Development Consent No.29/95 Schedule 3 Condition 16, the Vibration Monitoring Program prepared and approved in July 2009 for Long-wall Panels A3, A4, A5 and A5a was implemented for Stage 2.

In accordance with Project Approval 08_0111 Schedule 4 condition 3, a Noise and Vibration Management Plan was prepared and approved by DP&I on 2 August 2013. The Noise and Vibration Management Plan has been implemented for the Austar Mine Complex including mining operations undertaken within the Stage 3 area.

5.6.2 Blast and Vibration Criteria

[Statements of Commitment 1.8.1 and 1.8.2]

Any surface blasting for the Austar Mine Complex was associated with shaft development at the Surface Infrastructure Site, and occurred in accordance with the Construction Environmental Management Plan. The blast and vibration criteria for the project were specified in Statements of Commitment 1.8.1 and 1.8.2:

- Airblast overpressure from blasting associated with shaft development at the Surface Infrastructure Site when measured at residences not associated with the development is not to exceed a maximum of 120 dBL Linear Peak at any time and not exceed 115 dBL for more than 5% of blasts over a 12 month period.
  and
- Peak particle velocity (vibration) from blasting associated with shaft development at the Surface Infrastructure Site when measured at residences not associated with the development will not exceed a maximum of 10 mm/s at any time and will not exceed 5 mm/s for more than 5% of blasts over a 12 month period.

Vibration criteria specified in Statements of Commitment for subsidence known to be noticeable for humans, or less than any potential building damage are:

- less than 3mm/s - levels known to be noticeable for humans, but significantly less than any potential building damage criteria;.
- less than 5.6mm/s -night time maximum vibration criteria;
- less than 8.6mm/s - daytime preferred vibration criteria;
- 15 mm/s - lowest vibration level where a minimal risk of cosmetic damage may occur; and
- 15 mm/s - maximum vibration criteria.

5.6.3 Monitoring

[Development Consent Schedule 3 condition 16]

No blasting activities were undertaken for the Austar mining activities during the audit period.

Vibration is typically generated from the caving zone behind the long-wall, or from tensile fractures in the overlying strata immediately above the long-wall mining area.

Vibration monitoring across the Stage 2 and 3 mining areas has been undertaken during 2011 to November 2014 in accordance with the approved Noise and Vibration Management Plans.

Monitoring at the Stage 2 locations continued until completion of the long-wall mining in Stage 2 on 11 June 2013. Monitoring of Stage 3 area commenced on 14 June 2013 when long-wall mining of panel A7 commenced, with the vibration monitor located at 345 Quorrobolong Road, Quorrobolong (JB/V7) for monitoring both mining Stage 2 and Stage 3 areas and a vibration monitor located to 159 Coney Creek Lane, Quorrobolong (V8) for the Stage 3 area.

Long-wall mining during the reporting period involved:

- Mining of LWA5 commenced in July 2011 and completed on 26 March 2012;
- Mining LWA5a commenced on 21 May 2012.
- Mining of LWA5a was completed on 18 February 2013;
- Mining of LWA7 commenced on 14 June 2013.
- Mining of LWA7 was completed on 19 April 2014; and
- Mining of LWA8 commenced on 16 June 2014 and was ongoing at the time of this audit.

Monitoring of vibration has indicated vibration in the mining area is event based, between periods of no recorded vibration (i.e. <1mm/sec). There was no vibration measured at >1mm/sec between completion of LWA5a and commencement of LWA7, or completion of LWA7 and commencement of LWA8.

Table 5.6.3: Vibration Results 2011 to 2014

	No. of Vibration Events >1mm/s	Total Vibration Events		Vibration >DECC Criteria		
		< 3mm/s	> 3mm/s	Preferred Daytime 8.6mm/s	Night time Maximum 5.6mm/s	Daytime Maximum 17mm/s
2013-2014	36	30	6	1	1	0
2012-2013	34	27	7	0	0	0
2011-2012	64	47	17	3	0	0

Vibration monitoring in the Stage 3 mining area occurs when the vibration exceeds the trigger of greater than 1mm/second.

5.6.5 Conclusion

No surface blasting activities were undertaken for the Austar mining activities during the2011 to 2014 audit period.

No vibration results exceeded the daytime DECC maximum criteria, and only one (1) vibration event exceeded the preferred daytime and maximum night time criteria between November 2011 and November 2014.

5.7 Site Water Management

[Development Consent 29/95 Schedule 4 condition 9]
[Project Approval 08_011 Schedule 4 conditions 8 to 9]

Site Water Management Compliance Status: Compliant

5.7.1 Water Management

Austar operate under an approved Site Water Management Plan (SWMP). The most recent version of the SWMP incorporating the requirements of the Stage 3 project was prepared in accordance with of Project Approval 08_0111 Schedule 4 Condition 9, approved by the DP&I on 17 May 2013.

Water treatment onsite includes pH adjustment, flocculation and settlement of suspended sediments plus a reverse osmosis water treatment plant. The use of the reverse osmosis water treatment plant, enables the site to operate almost independently of the Hunter Water potable supply. Discharge of treated water to Bellbird Creek only occurs in accordance with EPL 416 conditions P1.3, L2.4 and L3.1 (that allows an annual average discharge of 2000 kilolitres per day). The Water Treatment Plant has a current capacity to treat up to 6.2 ML of water per day for use on-site with any excess discharged to Bellbird Creek.

The site water balance at Austar is complex and variable. There are a number of geographically separated interrelated systems that are managed as a whole to ensure that the operational needs of the mine are addressed whilst also meeting Environment Protection Licence (EPL) requirements.

An interactive computer model has been developed that allows analysis across the operation to forecast the water demand and production of the individual components.

Large water storage areas, both on the surface and underground, act as buffers so that individual systems can operate independently of each other.

The three (3) three major components of the water management system at Austar are:

1. Surface Water Storage and Management System.
2. Underground Mine Water Management System;
2. Pelton CHPP Site Water Management System

5.7.2 Water Management Plan

[Development Approval 29/95 Schedule 3 condition 6]
[Project Approval Schedule 4 conditions 9]

The Site Water Management Plan developed to satisfy the requirements of Development Consent 29/95, Schedule 3 condition 6, was prepared by Austar and reviewed in April 2009 to ensure adequacy for the Stage 2 operations. This revised Site Water Management Plan was approved by DoP on 13 November 2009.

The Site Water Management Plan includes:

- Site Water Balance;
- Erosion and Sediment Control Plan
- Surface Water Monitoring Program;
- Ground Water Monitoring Program; and
- Surface and Ground Water Response Plan.

Water management for the Austar operations has been implemented in accordance with the approved Site Water Management Plan (SWMP) for the Stage 2 operations.

Site Water Management Plan dated April 2013 was prepared to satisfy Project Approval 08_0111 Schedule 4 condition 9 and submitted to DP&I in April 2013.

5.7.3 Conclusion

The Site Water Management Plan provides a satisfactory program of monitoring and mitigation measures for the management of surface and ground water aspects of the Austar surface facilities and underground workings.

5.8 Site Water Balance

[Development Consent 29/95 Schedule 3 condition 7]
[Project Approval Schedule 4 condition 9(b)(i)]

Site Water Balance Compliance Status: Compliant Ongoing

The Site Water Balance for the Austar project was prepared for Stage 2 operations to satisfy DA29/95 Schedule 3 condition 7 and approved in March 2009. There are a number of interrelated water systems to manage the operational water needs of the mine are addressed. The three (3) three major components of the water management system at Austar are:

1. Surface Water Storage and Management System.
2. Underground Mine Water Management System;
2. Pelton CHPP Site Water Management System

5.8.1 Surface Water Sources

The Austar surface water management system has been designed to match the capacity of the underground dewatering systems with additional provision to store and handle surface runoff during heavy rain events. The main surface water storage facilities are:

- Kalingo Dam, - Kalingo Dam has a capacity of approximately 110ML and receives water from old underground workings via No. 2 shaft dewatering pumps via a buried 450mm HDPE pipeline. Kalingo Dam is used as a staging and water storage facility. This dam assists in the removal of iron and manganese via oxidation.

- Austar Dam - Austar Dam has a capacity of approximately 35ML and receives water from Kalingo Dam via a buried 315mm HDPE pipeline. It also receives water from an underground pumping station (16 cut through main south) via a rising main along the drift and surface runoff from the Austar mine pit top.

- Kitchener Surface Infrastructure Site - The sediment basins at the Kitchener SIS have a capacity of approximately 1.9ML and receive runoff water from the construction activities onsite. The water storage dams have a capacity of approximately 5ML. The sediment basins send water to the water storage dams (or discharge offsite in a greater than design rainfall event), which in turn send water to Kalingo Dam via diesel pumps.

- The CHPP water management system includes a number of surface storage dams that have been developed over time and designed to limit the need for off-site discharges to Bellbird Creek (other than at the treated water discharge point licenced by EPL 416) whilst also maximising the potential for water reuse on-site.
  Pelton CHPP operations water treatment onsite includes
  - pH adjustment, flocculation and settlement of suspended sediment in various water storage ponds; and
  - reverse osmosis water treatment plant located at the CHPP site for treatment of saline waters. The treated water from the RO plant enables Austar to operate independently of potable supply. Also the reverse osmosis permeate can be discharged to Bellbird Creek in accordance with EPL 416, if required

5.8.2 Reverse Osmosis Water Treatment System/ Water Source

Mine water pumped from underground workings is pre-treated prior to being directed to the Reverse Osmosis Water Treatment Plant and the CHPP.

All mine water is first treated at the Lime Addition Plant where the pH is adjusted to 7.4. The lime addition and pH adjustment complexes and precipitates iron and other metals. The water is then pumped into the Precipitation Dam where the metals and excess lime settle out and the clarified supernatant water flows to the Process Dam from where it is pumped to the CHPP, or the RO plant for processing.

The Reverse Osmosis (RO) Water Treatment Plant contains 3 RO Trains and can treat up to 6 ML of mine water per day. Water pumped from the Process Dam undergoes primary and secondary filtration through multi-media filters and final tertiary filtration through cartridge and bag filters. The filtered feed water enters the RO Train and the RO process produces permeate and a waste brine stream.

The RO system is a two stage process with RO Trains 1 & 2 operating in parallel to produce permeate and the waste brine from both RO trains is combined to feed RO Train 3 as the second stage improving recovery. The waste brine is returned old underground working via the Pelton and Bellbird Boreholes.

5.8.3 Underground Mine Water Management

The mine groundwater management system is heavily influenced by inflow from surrounding historic mine workings. Inflow water sources to the mine workings can be described as:

- Fairly static natural strata inflow of groundwater;
- Water piped underground used for mining and ancillary underground operations (such as dust control). A large proportion of this water is returned to the surface in the ROM coal;
- Water from high rainfall periods that enter old shallow mine workings via surface cracks
- Coal washery reject water pumped underground into the old shallow mine workings;
- Water from dirty surface water management systems from mining operations, the pit top, and CHPP pumped underground into the old shallow workings; and
- Brine from the Reverse Osmosis water treatment plants pumped underground into the shallow mine workings.

All major groundwater inflow sources have been identified and systems put in place to measure the cumulative volumes generally recorded on a monthly basis and results logged in a database to allow analysis of long term trends and inflows. Water levels are also monitored for the old workings of the neighbouring Bellbird, Kalingo and Aberdare Central Collieries.

5.8.4 Underground Water Storages

The main underground water storages include the following:

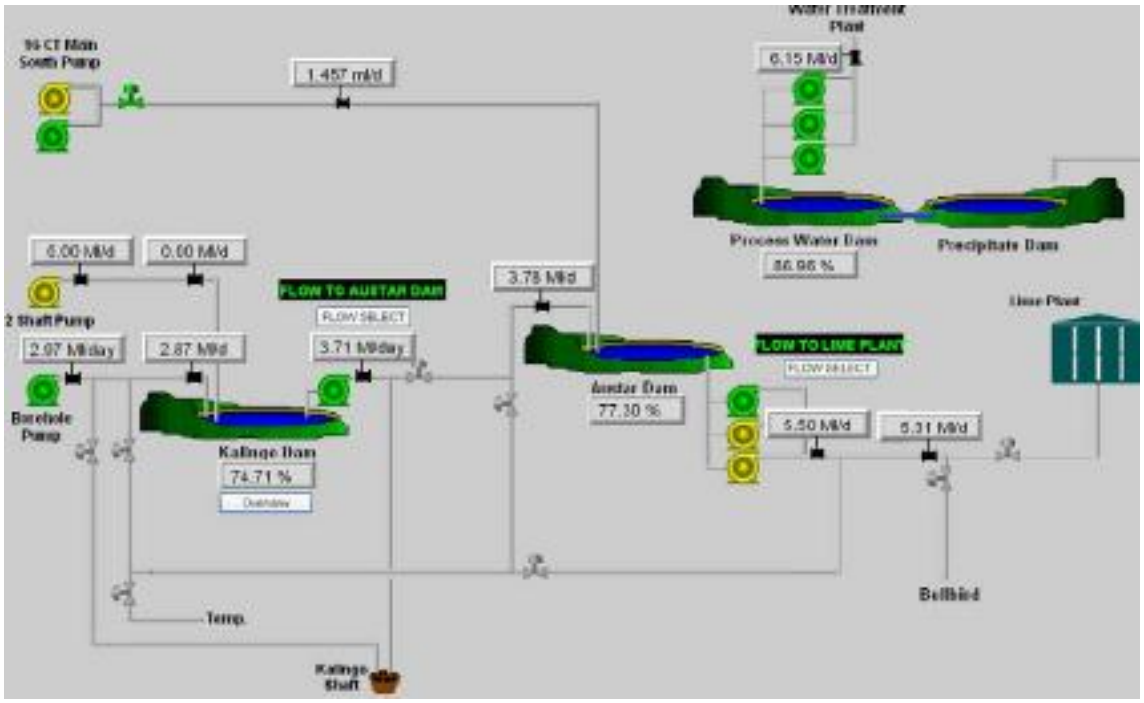
- East Pelton - The old workings of Pelton located adjacent to the East of the Main South Headings and North of East Headings are connected to Austar Coal Mine workings via 5 dewatering boreholes. Water is removed from this area via 2 of the dewatering boreholes into the 16 cut through underground electric pumping station which has a capacity of 2ML/day. Inflow water through the strata from East Pelton into the Austar workings of 0.2ML/day The East Pelton goaf has a normal working capacity of 450ML. Inflow sources to the East Pelton old workings are predominantly from the CHPP and include RO brine, tailings, dirty water from surface runoff, and water from pollution control dams that result from excess site runoff during high rainfall events. Inflow sources from the CHPP and outflow sources from the dewatering holes are measured on a fortnightly basis.
- West Pelton - The old workings of Pelton located adjacent to the West of the main South Headings are connected to Austar Coal Mine workings via 2 dewatering boreholes. The West Pelton goaf has a normal working capacity of 19ML which is constrained by the allowable head of water on the barrier pillar to the Austar workings. Inflow sources are typically from seepage after rainfall and tailings from the CHPP. It is estimated that this area could hold 70ML of water in an emergency.
- Ellalong (East Panel, Long-walls 1-12) - The old workings of Ellalong are utilised as the main underground water storage reservoir for the Austar mine. Water from Austar mine is pumped into this area and water is removed from Ellalong via a pump within Number 2 shaft and an adjacent borehole pump providing a combined pumping system capable of 7ML/day to Kalingo Dam via a vertical rising main and buried pipeline.
- Ellalong Long-wall 13 – Long-wall 13 was mined in 1997. Water from this area is currently managed via a siphon to the Ellalong Goaf. Monitoring of the siphon is undertaken regularly. The source water to LW13 is the old flooded workings of the neighbouring Kalingo Colliery.
- SL2 Panel - The sealed SL2 goaf is currently flooded and free-draining via a pipe from where it is reticulated via staged pumping to the Ellalong goaf. The free draining hole is monitored regularly and maintains the water level in this sealed goaf indicating a daily water inflow of 2ML. The capacity of the SL2 goaf is 345ML. Water flow into this area is predominantly from the old flooded workings of the neighbouring Bellbird and Aberdare Central Collieries.

- Bellbird/ Aberdare Central - Groundwater stored in the old Bellbird and Aberdare Central workings drains to Austar mine and is collected and pumped to the surface where it is treated and either reused, discharged to Bellbird Creek or pumped underground.

5.8.5 Underground Pumping

There are two (2) underground pumping systems that deliver mine water to the surface water management system:

- 16 Cut Through (East Pelton and West Pelton) - The 16 c/t Main South Pump Station has been designed and installed to pump Mine strata water inflow from the old Pelton (East and West) Mine workings. The main tank has two pumps to pump the water to the surface to Austar Dam via a rising main installed in the drift.
- Number 2 Shaft (Ellalong) - The old Ellalong Colliery workings (Long-walls 1 to 12) within Austar mine are utilised as the main underground water storage reservoir for the mine. A large diameter, multistage bore hole pump and additional pumping system installed directly within the Number 2 shaft site pumps water from these underground workings to Kalingo Dam via a vertical rising main and connecting polyethylene pipe line. Mine water may be diverted from this pipeline to Bellbird Colliery.



5.8.6 Coal Handling and Preparation Plant Water Management System

The CHPP requires an average 2.0 ML/day of water for coal processing. This water may be a blend of process dam water and permeate from the RO plant. Approximately 1.2 ML/day of fine tailings from the CHPP is returned underground to the abandoned Pelton at Pelton and Bellbird underground workings that results in settling of sediment prior to the water percolating through coal barriers where it is collected and pumped back to the surface for reuse. Supplementary water supply from Hunter Water is available if required at the CHPP, during peak coal washing periods and during maintenance of the RO water treatment plant.

Permeate from the RO Water Treatment Plant is also used to supplement the Hunter Water potable water supply for all operations except drinking and bathing at the Austar site. Any excess permeate that is unable to be utilised on site is discharged into Bellbird Creek in accordance with the EPL16 condition P1.3 (EPA discharge point 6) and L3.1 that permits up to an annual average of 2ML/day to be discharged.

Stormwater management at the CHPP aims to contain all runoff in surface dams up to their capacity with excess dirty water runoff piped into the former Bellbird Colliery via a borehole.

All dirty water runoff from the CHPP surface is contained within the dirty water management system, with the final destination in normal operation being the Pollution Control Ponds in the eastern part of the CHPP site. Other areas of the CHPP site are used to act as on site retention structures to control stormwater flow to the Pollution Control Ponds in large storm events.

Water levels in the Pollution Control Ponds are monitored and pump status to the Bellbird Colliery borehole checked regularly. In the event of a major storm exceeding the Pollution Control Pond capacity, the overflow from the Ponds is directed to the Emergency Overflow Dam. A pump in the Emergency Overflow Dam can return storm water to the dirty water system to minimise the risk of off-site discharge at the licensed outlet (weir) of the Emergency Overflow Dam.

The CHPP water management system is of adequate capacity to control all dirty water runoff and CHPP wastewater/tailings.

5.8.7 Conclusion

The Site Water Balance (section 5 of the Site Water Management Plan) satisfies the requirements of Development Consent 29/95 Schedule 3 condition 7 and Project Approval Schedule 4 condition 9(b)(i) and meets the requirements of the approval conditions.

The Austar surface water management system has been designed to match the capacity of the underground dewatering systems with additional provision to store and handle surface runoff during heavy rain events, and provides adequate water supply, treatment and reuse on site for the operation of the CHPP and water required for other operations associated with the Austar mine activities.

5.9 Surface Water Monitoring

[Development Consent 29/95 Schedule 3 condition 9]
Project Approval 08-0111 Schedule 4 condition 9(b)(iii)]

Surface Water Monitoring Compliance Status: Compliant

5.9.1 Surface Water Monitoring Program

[Development Consent 29/95 Schedule 3 condition 9]
Project Approval 08-0111 Schedule 4 condition 9(b)(iii)]
[Environment Protection Licence 416, conditions P1.3, L2.3, L3.1 and M2.2]

The Surface Water Monitoring Program was prepared to satisfy Development Consent 29/95 Schedule 3 condition 9 and Project Approval 08-0111 Schedule 4 condition 9(b)(iii) and approved by DP&I.

Monitoring of inflow waters to the mine workings occurs on a monthly basis to measure the cumulative volumes of water and provide data on long term trends and inflows. Water levels are also monitored in the old mine inactive workings of the neighbouring Kalingo and Aberdare Central Collieries by means of dipping shafts and a monitoring bore at Bellbird Mine.

5.9.1.1 Bellbird Creek/Black Creek

EPL 416 condition P1.3 requires sampling (when the site is discharging) above and below the CHPP in Bellbird Creek. This creek forms part of the Black Creek drainage system and is directly influenced by the quality and quantity of water discharged from the mine.

The confluence of Bellbird Creek and Black Creek is over 5 kilometres downstream from the mine on the northern side of Cessnock. At this point the Black Creek system is concrete lined in parts and passes through the urban centre of Cessnock.

5.9.1.2 Cony Creek

Water samples are collected at the point where Quorrobolong Road crosses Cony Creek. Monitoring results from this site are compared with results from downstream locations on Quorrobolong Creek.

5.9.1.3 Quorrobolong Creek

Samples are taken monthly at two locations on Quorrobolong Creek:

- One upstream on the eastern boundary of Austar Mine Complex land holding where Quorrobolong Creek enters the site; and
- One downstream sample site is on the southern boundary where the creek exits the site.

5.9.1.4 Channel Stability

Channel stability in the Stage 2 area is visually monitored on a monthly basis at the surface water monitoring sites on Quorrobolong and Cony Creeks. Channel stability in Quorrobolong and Cony Creeks are also monitored as a part of the Ecological Monitoring Program.

An assessment of the potential impact of long-wall mining on creek systems in the Stage 2 and 3 areas was described in Umwelt (February 2007a) and Umwelt (September, 2008). Based on the maximum predicted and upper bound subsidence predictions it was concluded that *"it was unlikely that the stability of creek banks would be affected by Stage 2 or Stage 3 mining"*.

5.9.1.5 Reject Emplacement Area

The reject emplacement areas have been designed for leachate to drain into the old Bellbird mine workings via two disused boreholes. Water quality in these workings is poor and reflective of historic mine workings. The boreholes provide a conduit to the old workings and as a consequence no surface discharges of leachate from the reject emplacement areas occur.

Monthly checks are conducted to ensure that the area surface water controls are functioning appropriately and the surface runoff and mitigation measures are maintained.

5.9.1.6 Farm Dams

Farm dams within the Stage 2 and Stage 3 areas have been identified in the Subsidence Impact Assessments. Farm dams have also been identified in individual Property Subsidence Management Plans for the Stage 2 and Stage 3 areas.

Regular visual monitoring of water levels in farm dams occurs during the extraction of long-walls. If any leakage or cracking is identified by the landowner during mining alternative water supply would be provided by Austar if required to the affected property for the duration of the mining period.

5.9.2 Review of Surface Water Monitoring Results

A Surface Water Monitoring Program was prepared to satisfy Development Consent 29/95 Schedule 3 condition 9 and approved by DoP on 13 November 2009. The Surface Water Monitoring Program includes the requirements of EPL 416.

In accordance with the Site Water Management Plan the surface water monitoring program includes:

- 5 EPL monitoring sites (three creek sites and two discharge points); and
- 4 creek monitoring sites (three sites in Quorrobolong Creek and one site in Cony Creek).

In addition, grab samples are taken opportunistically from other points around the mine (sediment dams and mine water storage dams) following heavy rain events or following monthly site inspections when water quality is observed to have changed.

Table 5.9.2a: Austar Coal Surface Water Monitoring Sites

EPA No.	Location	Type of Monitoring	
1	Spillway of the Emergency Dam at the Pelton CHPP	Wet weather discharge (quality and volume)	Licensed Discharge Point No.1 (Austar Monitoring point SW 1)
2	Bellbird Creek (near Wollombi Road) Downstream of CHPP	Ambient water quality monitoring	Licensed Discharge Point No.2 (Austar Monitoring point SW 2)
4	Bellbird Creek (northern boundary) Downstream of CHPP	Ambient water quality monitoring	Licensed Discharge Point No.4 (Austar Monitoring point SW 4)
5	Bellbird Creek (western boundary Upstream of CHPP	Ambient water quality monitoring	Licensed Discharge Point No.5 (Austar Monitoring point SW 5)
6	Discharge from "RO Water Treatment Plant"	Discharge (quality and volume)	Licensed Discharge Point No.1 (Austar Monitoring point SW 6)
Austar Creek Monitoring Sites			
SW Q1	Upstream of Austar mining areas on eastern boundary	Ambient water quality monitoring	SW Q1 is on the eastern boundary where Quorrobolong Creek enters the site.
SW Q2	Downstream of Austar mining areas		SW Q2 is downstream on the southern boundary where the creek exits the site.
SW Q3	Downstream of Austar mining areas, on southern boundary		SW Q3 is downstream of Austar mining areas, on southern boundary
SW C1	Upstream of Austar mining areas		SW C1 - where Quorrobolong Road crosses Cony Creek.

Water quality monitoring is undertaken monthly if water is discharged to Bellbird Creek, in accordance with the requirements under the EPL 416 conditions P1.3, L2.3, L3.1 and M2.2. All water monitoring results are included in the EPA Annual Return, EPL Surface Water Monitoring Data on the Austar website, and a summary of results included in the AEMR section 3.5.

Table 5.9.2b: Surface Water Quality Monitoring Results for SW1 and SW6

Surface Water Monitoring Points	Parameter Annual Range	2011-2012 (Range)	20012-2013 (Range)	2013-2014 (Range)
Spillway of the emergency dam at the Pelton Coal Preparation Plant site,				
SW1	pH (pH units)	No discharge	No discharge	No discharge
	EC (µS/cm)			
	TSS (mg/L)			
	Fe (mg/L)			
Discharge from 1ML permeate tank				
SW6	pH (pH units)	7.13 – 7.55	6.83 – 7.83	7.0 -7.48
	EC (µS/cm)	25 - 531	127 - 439	175 - 594
	TSS (mg/L)	<5 - 5	<5 - 5	<5- 20
	Fe (mg/L)	<0.05 – 0.05	<.05 – 0.05	<0.05- 0.11

There was no discharge from SW1 (Emergency Dam spillway) during the 2011 to November 2014 period.

At EPL discharge point SW6 (permeate from the Reverse Osmosis Water Treatment Plant), water quality results for pH, EC and TSS were compliant with the EPL limits.

Table 5.9.2c: Surface Water Quality Monitoring Annual Ranges - Quorrobolong and Cony Creek and CHPP

Surface Water Monitoring Points	Parameter Annual Range	2011-2012 (Range)	20012-2013 (Range)	2013-2014 (Range)
Quorrobolong and Cony Creek monitoring points				
SWQ1, SWQ2, SWQ3 & SWC1	pH (pH units)	6.7 -7.75	6.67 – 7.83	6.52 – 8.03
	EC (µS/cm)	63 – 1,970	116 – 2,680	144 – 3,000
	TSS (mg/L)	<5 – 282	<5 – 135	<5 - 381
	Fe (mg/L)	1.53 – 6.86	0.62 - 7.54	0.07 – 9.40
CHPP creek monitoring points				
SW2, SW4 & SW5	pH (pH units)	6.74 – 7.85	6.54 – 8.34	6.51 – 7.74
	EC (µS/cm)	335 -7,590	122 – 15,900	124 – 13,700
	TSS (mg/L)	<5 -608	<5 - 66	<5 - 104
	Fe (mg/L)	<0.05 – 48.5	0.07 – 17.9	0.06 -14.9

Both upstream (SW5) and downstream (SW4) of the CHPP have been periodically dry between 2011 and 2014.

Natural fluctuations in water quality in Bellbird Creek, Quorrobolong Creek and Cony Creek have been observed but no environmental impacts on the natural surface waters that can be attributed to Austar Mine Complex activities have been reported.

5.9.3 Conclusion

The Austar surface water monitoring program developed to meet the requirements of Development Consent 29/95 Schedule 3 condition 9, Project Approval 08-0111 Schedule 4 condition 9(b)(iii), and Environment Protection Licence 416, conditions P1.3, L2.3, L3.1 and M2.2, has been conducted in compliance with the approved Surface Water Monitoring Program (section 7 of the Site Water Management Plan).

The discharge of water from EPL discharge point SW6 (permeate from the Reverse Osmosis Water Treatment Plant), water quality results for pH, EC and TSS were compliant with the EPL limits.

Natural fluctuations in water quality in Bellbird Creek, Quorrobolong Creek and Cony Creek have been observed but no environmental impacts on the natural surface waters have been reported that can be attributed to Austar Mine Complex activities.

5.10 Groundwater

[Development Approval 29/95 Schedule 3 condition 10]
[Project Approval 08_0111 Schedule 4 condition 9(iv)]

Groundwater Monitoring Compliance Status: Compliant Ongoing

5.10.1 Groundwater – Background Information

The low permeability of the Branxton Formation strata would limit any hydraulic connection from the associated water-bearing zones or aquifers into the coal measures. A potential water-bearing zone occurs at 70 m – 100 m below the ground surface. As the limit of fracturing above the coal seam is predicted to occur between 255-285m below the ground surface, it is unlikely that this fracturing would intercept the water bearing zone.

Current Water Licences held by Austar under the Water Act 1912 Part 5 for monitoring and dewatering bores across the operational area are:

Table 5.10.1: Austar Groundwater Bore Licence Certificates

Bore Licence No.	Licence Currency	Purpose of Licence	Extraction Limit
20BL171361	17 May 2007 - Perpetuity	Monitoring bore (AQD1077)	Groundwater Monitoring only
20BL172524	20 Jul 2010 - Perpetuity	Monitoring Bore (NER1010)	Groundwater Monitoring only
20BL172852	7 Jun 2011 - Perpetuity	Monitoring Bores (WBH1, WBH2 and WBH3)	Groundwater Monitoring only
20BL173843	1 Oct 2014 - perpetuity	Monitoring Bores (BB1, BB2, BB3)	Groundwater Monitoring only
20BL173349	31 Oct 2017	Dewatering (groundwater) (16CT pump station)	20BL173349, 20BL171481 & 20BL173350 have a combined extraction limit of 770ML in any 12 month period
20BL173350	31 Oct 2017	Dewatering (groundwater) (No 2 Shaft Borehole)	
20BL171481	16 Aug 2017	Dewatering groundwater No.2 Shaft	

The current water licences allow for incidental groundwater interception of up to 2.7 ML/day. As set out in the table above, the Connell Wagner (2007) predictions are that these inflows will increase from 0.7Ml/day during Stage 1 mining to 0.9ML/day during the Stage 2 and to a maximum of 1.3ML/day during Stage 3 mining.

Monitoring data from underground inflow sources are used to assess compliance with the groundwater licence conditions on an annual basis and is reported in the AEMR/Annual Review. The licences will be reviewed as mining progresses through Stage 3.

5.10.2 Groundwater Interception

The natural groundwater bearing zones in the vicinity of the Austar Coal Mine activities typically comprise water held within the Greta seam, depressurising into the mine as new workings enter virgin domains and as a result of goaf formation above the long-wall panels within the lower sections of the Branxton Formation.

Bore Licence Certificates 20BL171481, 20BL173349 and 20BL173350 have a combined extraction limit of 770ML (approximately 2.1 ML/day) in any 12 month period commencing 1 July.
The amount of groundwater intercepted from monthly flow rates and volumes for the annual licence period are provided in the AEMR:

12 Month Monitoring Period	Annual Groundwater Interception
July 2013 to June 2014	365 ML
July 2012 to June 2013	383.7 ML
July 2011 to June 2012	440.4 ML

Total incidental groundwater interception has been within the licensed groundwater interception of 770ML during the 12 month periods between July 2011 and June 2014.

Groundwater interception rates are reviewed as mining progresses. The Connell Wagner “Future Mine Development, Groundwater Impact Assessment, Austar Coal Mine”, 27 October 2007, determined the most important natural groundwater resource in the Newcastle / Cessnock area is found in the alluvial sediments. These aquifers are not predicted to be intercepted by Austar mining due to the depth of cover above the Greta Coal Seam. The Connell Wagner Assessment report (2007) concluded that “”the potential for underground mining to impact on groundwater in the alluvium or shallow rock aquifers is negligible, and monitoring within the alluvial aquifer has supported the prediction with no depressurization identified by monitoring in the Stage 2 area.

In relation to predicted future inflows, a groundwater verification report was prepared in 2012-2013 after completion of Longwall A5. This was intended to verify predictions from the 2007 Connell Wagner Report prepared for the Stage 3 Environmental Assessment. The groundwater verification report found:

- Mine water level data show that previously established trends in groundwater movement have generally continued without significant change.
- Mine pumping data indicate a net long term water make of approximately 3 ML/day for the whole mine (including recirculated flows). This is expected to continue at about this level, without significant increase, in the future.
- The original water make predictions were 3.7 ML/day for whole of mine life. are more than, but consistent with, measured water make of 3 ML/day.

5.10.3 Groundwater Monitoring Program

[Development Consent 29/95 Schedule 3 condition 10 Stage 2]
[Project Approval 08_0111 Schedule 4 condition 9(iv) Stage 3]

The Groundwater Monitoring Program (Site Water Management Plan section 5, and Surface and Groundwater Response Plan (Site Water Management Plan section 7) were developed for Stage 2 and Stage 3 mining, largely on the basis of the Groundwater Impact Assessment by Connell Wagner for Stages 2 and 3 of the Austar development. Stage 3 will include mining below identified alluvial aquifers that contain groundwater dependent ecosystems and a number of registered groundwater wells. The strategy is targeted to monitor groundwater levels in the alluvial aquifer, and a shallow water bearing zone at 70 m to 100 m depth, for any changes.

A groundwater quality sampling program has been undertaken for the Austar project since 2006 and water quality sampling will continue to be conducted at the following locations:

- Water pumped out of the mine by the pump at 16c/t;
- Water pumped out of the mine by the #2 shaft pump (Ellalong Goaf);
- West Pelton goaf ;
- East Pelton Goaf;
- Longwall 13;
- 14c/t 1 East Kalingo Borehole (Kalingo workings water);
- SL2 Goaf; and
- Relevant inseam flanking or dewatering drill holes drilled within the current mining area.

The groundwater quality sampling includes pH, total dissolved solids, suspended solids, electrical conductivity, calcium, manganese, iron, silica and oil and grease.

Water levels in the shallow aquifers and the alluvium are monitored on a regular basis that includes:

- continuous monitoring of alluvial groundwater levels in monitoring bores AQD1073A, WBH1, WBH2 and WBH3 adjacent to Quorrobolong Creek with EC readings taken every three months;
- continuous monitoring of groundwater levels in bore NER1010 adjacent to A3-A5a extraction area to monitor the water bearing zone located between 70-100m beneath the surface;
- continuous monitoring in the Cony Creek alluvium over proposed Long-walls A13 and A16 or similar appropriate locations with monitoring to commence at least 2 years prior to the commencement of subsidence impacts with EC readings are to be taken every three months;
- review of groundwater levels in DWE bore GW080975 (30m deep) and the adjacent shallow bore GW080974 (7m deep);

- installation of two additional shallow fractured rock aquifer monitoring bores will occur in the vicinity of Stage 3 prior to subsidence impacts at the monitoring locations, where groundwater levels will be monitored continuously and EC readings taken every three months;
- review of the monitoring results at three months intervals and reporting of the results at the completion of each long-wall panel; and
- Daily rainfall in the vicinity of the site to provide context for fluctuations in groundwater level;

Additional piezometers (WBH1 to WBH3) were installed in the alluvial aquifer above Panel LWA5, in response to comments received from the NSW Office of Water (NOW). Monitoring of these piezometers commenced in August 2011 in advance of mining of this Panel LWA5, to provide some baseline data. Piezometer AQD1073a is located in alluvium above Panel LWA4 and has been monitored for several years, providing good baseline data.

The Groundwater Impact Assessment recommend establishment and monitoring of piezometers in the alluvium over Long-walls A6 and A16 as well as in the shallow fractured rock (Branxton Formation) prior to Stage 3. The Site Water Management Plan references installation of two groundwater monitoring bores in the alluvium over proposed Long-walls A13 and A16 at least two years prior to commencement mining of Long-walls A13 and A16.

It is recommended that the piezometers be installed at least 1 year in advance of the Stage 3 mining to allow establishment of baseline data. Austar has indicated that access to privately owned land will be available in the near future and that installation of additional monitoring wells should commence in 2015.

5.10.4 Groundwater Monitoring Results

[Development Consent 29/95 Schedule 3 condition 10 Stage 2]
[Project Approval 08_0111 Schedule 4 condition 9(iv) Stage 3]

A groundwater specialist is engaged to undertake quarterly groundwater depth monitoring in the Quorrobolong Creek alluvial aquifer (bore AQD1073a), in the fractured rock aquifer within an existing open borehole (bore NER1010 established in January 2010), and in alluvial groundwater monitoring wells WBH1, WBH2 and WBH3.

The groundwater depth and rainfall, and pH and conductivity data has generally exhibited:

- Overall, groundwater levels within AQD1073a, WBH2 and WBH3 have remained generally consistent. The groundwater in NER1010 has exhibited short term spikes in water level in response to rainfall events during the period July 2011 to July 2014.
- The groundwater quality, pH and conductivity remained relatively stable throughout the reporting period.

There has been no observable depressurization of either the alluvial or fractured rock aquifers due to long-wall extraction in the Stage 2 mining area. Water quality data within the monitoring bores has revealed no obvious trends in relation to mining.

5.10.5 Conclusion - Groundwater

The approved Groundwater Monitoring Program (section 5 of the Site Water Management Plan) prepared to satisfy Development Consent 29/95 Schedule 3 condition 10 (Stage 2) and Project Approval 08_0111 Schedule 4 condition 9(iv) (Stage 3) is targeted to monitor groundwater levels in the alluvial aquifer, and a shallow water bearing zone at 70 m to 100 m depth, in the Austar mining areas.
There has been no observable depressurization of either the alluvial or fractured rock aquifers due to long-wall extraction in the Stage 2 mining area. Water quality data within the monitoring bores has revealed no obvious trends in relation to mining.

5.11 Surface and Groundwater Response

[Development Consent 29/95MCoA Schedule 3 condition 11]
[Project Approval 08-0111 Schedule 4 condition 9(b)(v)]

5.11.1 Surface Water and Groundwater Response Plan

[Development Consent 29/95MCoA Schedule 3 condition 11]
[Project Approval 08-0111 Schedule 4 condition 9(b)(v)]

A Surface Water and Groundwater Response Plan was prepared to satisfy Development Consent 29/95MCoA Schedule 3 condition 11 and Project Approval 08_0111 Schedule 4 condition 9(b)(iv) as section 9 and approved by DP&I.

Surface Water and Groundwater Response Plan Table 9.1 describes trigger levels set for the Alluvial Groundwater Levels. It states that *"Groundwater level drops below 2.5m and the rate of decline over the previous fortnight is >20% than any fortnightly period in the past year".* The trigger levels include a trigger depth and rate of decline.

Similar trigger levels will need to be set for the additional alluvial piezometers once sufficient baseline data is collected and prior to mining of the underlying panels. The trigger level that incorporates "*rate of decline over the previous fortnight is >20% than any fortnightly period in the past year"*, should pick up any sudden changes in water level due to mining but may not trigger a steadily increasing rate of decline.

No groundwater impact criteria have been set for the shallow fractured rock aquifer, rather it is proposed that data collected from the monitoring be reviewed at the completion of four nominated mining Panels A5, A10, A15 and A19. The data is proposed to be reviewed to assess the occurrence of unexpected behaviour and allow any necessary remedial measures to be carried out.

The methodology proposed includes a holistic overview of the available groundwater monitoring data, including rainfall records, groundwater levels, groundwater flows, subsidence data, extensometer data and surface water levels, and is considered a practical alternative to the adoption of specific criteria. (This proposed strategy however does introduce the process to subjectivity and judgement with interpretation of the data and therefore such a verification process should be subject to third party review, including the ongoing adequacy of the monitoring program).

Verification was undertaken at the completion of Long-wall A5 and A5a (as included in the 2011-2012 and 2012-2013 AEMRs. The verification indicated increases and decreases in water levels for the alluvial aquifers and Branxton formation in response to rainfall and indicated no groundwater management actions were considered.

Verification was not undertaken of groundwater following completion of Long-wall A7, as there were no monitoring wells in the vicinity of the panel.

5.11.2 Conclusion - Surface Water and Groundwater Response

The Surface Water and Groundwater Response Plan was prepared to satisfy Development Consent 29/95MCoA Schedule 3 condition 11 and Project Approval 08_0111 Schedule 4 condition 9(b)(iv) and approved as section 9 of the Site Water Management Plan. The Surface Water and Groundwater Response Plan includes trigger levels that if reached would prompt action(s) described in Table 9.1 of the Plan. The Surface Water and Groundwater Response Plan had not been triggered during the audit period.

5.12 Erosion and Sediment Control

[Development Consent No. 29/95 Schedule 3 condition 6 and8]
[Project Approval 08-0111 Schedule 4 condition 9(b)(ii)]
[Statement of Commitment 1.3.4, 1.6.2]
[Mining Lease condition 18]

Erosion and Sediment Control Compliance Status: Compliant Ongoing (Several observations were made to improve erosion and sediment control risk).

5.12.1 Erosion and Sediment Control Plan

[Development Consent No. 29/95 Schedule 3 condition 8]
[Project Approval 08-0111 Schedule 4 condition 9(b)(ii)]

An Erosion and Sediment Control Plan was prepared in December 2010 for the Aberdare Extended Emplacement Area with the recommendation that clean and dirty water be separated by minimising runoff inflow from the upstream catchment to the emplacement area. The clean runoff water from upper catchment areas is intercepted by a series of diversion drains to convey the clean water around the emplacement area.

An Erosion and Sediment Control was prepared to satisfy Development Consent 29/95 Schedule 3 condition 8 and Project Approval 08-0111 Schedule 4 condition 9(b)(ii), as part of the Site Water Management Plan section 6, dated March 2009 and was reviewed in April 2013.

This Erosion and Sediment Control Plan provides a satisfactory program of monitoring and mitigation measures for the management of erosion and sediment control, and surface water aspects of the Austar operations and activities and represents a suitable and best management approach to erosion and sediment control risk.

The sizing of the Kitchener Basins appeared to be in excess of the 5 or 2 day 90th percentile rain fall sizing (as indicated in the Blue Book) and are managed by pumping to other storages. A number of floatation curtains (or other devices performing the same function) are placed at the outlet of the main sediment dam to trap possible oil and grease spills, as required in the SIS Construction Environmental Management Plan section 6.2.

The existing Erosion and Sediment Control Plan covers the construction phase for the Kitchener Surface Infrastructure Site location but not current operational phase arrangement. The Erosion and Sediment Control Plan should be updated to reflect the current site management. The current management arrangement complies with suitable practice as it is well managed and risk is controlled.

The majority of the surface disturbance from the Austar Coal Mine project is limited to the Pit Top Surface Facilities Area, Pelton CHPP, waste rock emplacement areas and Kitchener SIS site, inspected during this audit.

5.12.2 General surface erosion and sediment control

Sediment fence along the boundary of disturbed surface area to reduce the potential for loss of sediment off-site.

Installation of sediment fences
Short runs of sediment fences have been erected along the access road into the Austar Pit Top and main office area. These short lengths of sediment fence have been placed in locations that receive runoff from the road but do not have returns at the end of the installed fence. Surface water may be diverted around the ends of the fence forming channels leading to scour.
Clean water diversions around the Austar site are generally well designed with large capacity lined channels and sediment fences to protect the areas outside the disturbed land.

5.12.2.1 Coal Handling and Preparation Plant (CHPP)

The CHPP is located to the north of the Austar Surface Facilities Area on the northern side of Wollombi Road. The ROM coal from the underground workings is washed and crushed at the CHPP and stockpiled for transport from the site. Water for the CHPP operation is sourced from the Water Treatment System or from Hunter Water. Water supply to the Process Dam comes from surface water collected from the CHPP plus water pumped from Austar Dam north of the Austar Surface Facilities Area and Kalingo Dam to the south of the Austar Surface Facilities Area after passing through a Lime Treatment Plant. These dams collect minor surface water runoff from their own catchments but are mainly used for storage of the water pumped from underground workings.

The majority of wastewater from the CHPP is returned underground via adits or boreholes adjacent to the CHPP.

Additionally up to 7.5 ML/day from the CHPP is treated in a reverse osmosis plant for subsequent reuse and/or licenced release to Bellbird Creek (as an environmental flow), that flows through the centre of the CHPP site. Brine from the Reverse osmosis plant is returned underground via the old adit.

During the audit inspection, clean water and dirty water on the CHPP site was observed to be satisfactorily separated with the onsite drainage system, and Bellbird Creek was protected from dirty water runoff from the operational areas. Dirty water is directed to two sediment cells (8 ML) prior to passage to a 40 ML Water Pollution Control Dam from where it is pumped underground via borehole(s) at up to 10 ML/day. An emergency overflow dam (40 ML) is also available.

Assuming a volumetric coefficient of 0.7, 88 ML of storage is significantly more than sufficient for the design rainfall depth (90th percentile, 5-Day event (43 mm)).

Figure 5.12.2.1: CHPP Water Storage Dams and Surface Drainage Management.

5.12.2.2 Waste Rock Emplacement Area (Aberdare Emplacement Area)

The Aberdare Emplacement Area is located east northeast of the CHPP, to the east of Bellbird Village and in an area of former open-cut and is actively used for waste rock emplacement. Dirty water drains into the former open cut and there is no release of dirty water from this area. Generally, dirty surface water is being managed satisfactorily (as it all eventually drains to the old underground Aberdare workings). The emplacement area has a low gradient to the north and drains into an existing cut-off drain upslope of the former open cut. That drain flows northeast to join Black Creek.

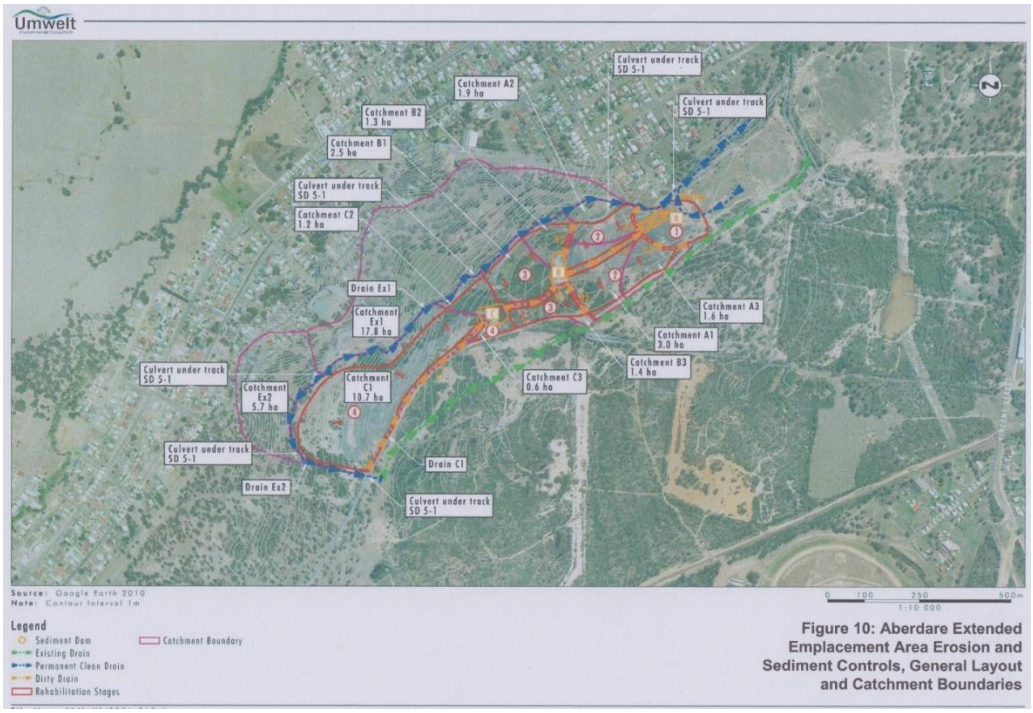


Figure 5.12.2.2: Aberdare Extended Emplacement Area Erosion and Sediment Controls and Catchment Boundaries.

5.12.2.3 Kitchener Surface Infrastructure Site (SIS)

The Kitchener SIS area is located east north east of the Austar Surface Facilities Area.

Dispersive soils are present waste emplacement and batters and present an unstable surface especially where water has channelized the surface. All this area drains to major eastern sediment control basin where it may be pumped to Kalingo Dam to retain storage volume in the pond, or reuse of the water after treatment.

Observations made during the site inspection for the audit were:

All surface runoff from disturbed areas of the Kitchener SIS drains to major eastern sediment control basin where it may be pumped to Kalingo Dam to retain storage volume in the pond

- Kitchener SIS surfaces are stable where flat and gravelled
- Batters of the waste emplacement are reasonably stable where they have been mulched, but the bare surfaces need rehabilitation to reduce erosion potential surface runoff to the eastern sediment on-site pond.
- Minor scour in areas of the stockpile surrounding the basins – this drains directly into the current ponds It was indicated at the inspection that this stockpile is to be re-shaped in the short term
- Dispersive soils are present waste emplacement and batters and present an unstable surface especially where water has channelized the surface. All this area drains to major sediment control basin where it may be pumped to Kalingo Dam to retain storage volume in the pond, or reuse of the water after treatment.

- Gypsum is added to soils as they are reshaped and topsoiled to reduce the dispersive nature of the soils to reduce erosion potential and increase vegetation success.

Western sediment basin east of the unnamed watercourse collecting runoff from the materials storage and handling area.

A sediment dam located east of an unnamed water course, collects dirty water from the SIS materials handling area. Much of the storage and handling area is stabilised with gravel. Dirty water runoff is directed to the sediment pond and pumped to water supply dams or to Kalingo Dam.

5.12.2.3.1 Kitchener (sizing of structures /basins)

Basin sizing appeared to be in excess of the 5 or 2 day 90th %ile rain fall sizing (as indicated in the Blue Book) The erosion and sediment control management arrangements comply with good practice. The main eastern basin has a catchment for 3.7 Ha and a volume of 1600m^3. Applying 43mm as the 90th %ile 5 day rainfall value (from Managing Urban Stormwater 2004 – Cessnock value) and volumetric runoff coefficient of 0.5, the settling zone for this structure is calculated as approximately 800m^3. As such the sizing of this structure should be adequate against the requirements of Managing Urban Stormwater 2004 Volume 1.

The western basin is resourced and managed so as to be pumped out on the day of rain events. As long as this management regime is retained the 5 day rain fall period is not applicable.

5.12.2.3.2 Kitchener Channels

Much of sediment load going to the Kitchener SIS basins is from some of the channels themselves This is an area where ongoing management and performance of the basins may be enhanced.

Rock lined channels along the boundary of the storage and handling area

Rock lined channel into the western sediment basin

5.12.2.4 Power line easement

Power line easement alignment

A section of power line easement was inspected. This easement has been drained with a series of low berms or banks. The ground surface along the easement is generally bare and minor surface erosion was evident where water is bypassing the inlet to the banks or flowing back into the easement area rather than being directed out to adjacent bushland.
The berms in some cases are slightly steep and would benefit from being modified via either re shaping to a less steep angle or placement of material at the outlet to make water pond prior to spilling to adjacent bushland.

5.12.3 Conclusion

The Erosion and Sediment Control prepared to satisfy Development Consent 29/95 Schedule 3 condition 8 and Project Approval 08-0111 Schedule 4 condition 9(b)(ii), as part of the Site Water Management Plan section 6, was reviewed in April 2013.

No erosion or sediment control issues were noted at the CHPP during the site audit inspection.

The implementation of the requirements of the Erosion and Sediment Control Plan and conformance with the "Blue Book" (*"Managing Urban Stormwater – Soils and Construction"* Volume 1, Landcom, 2004 and its companion document "*Managing Urban Stormwater – Soils and Construction*" Volume 2e (DECC 2008)), provides a satisfactory program for the management of erosion and sediment control on the site and monitoring and mitigation measures for the erosion and sediment control measures and surface water aspects of the Austar operations and activities. The implementation of the requirements of the Erosion and Sediment Control Plan represents a suitable and best management approach to erosion and sediment control risk. Some suggested recommendations are provided in Section 6 of this report in relation to the Erosion and Sediment Control Plan and stabilisation of disturbed lands in the Aberdare Emplacement Area and rehabilitation planning to achieve stable areas around the SIS site.

5.13 Subsidence

[Development Consent No. 29/95 Schedule 3 condition 1 to 4, Schedule 4 conditions 1and 2]
[Project Approval 08-0111 Schedule 3 condition 1 to 4]
[Statement of Commitment 1.3.4 and 1.6.3]
[Mining Lease condition 8]

Subsidence Management Compliance Status: Compliant (Minor changes to future reporting of curvature and the risk assessment around sensitive features of predicted strains have been suggested).

5.13.1 Extraction Plan / Subsidence Management Plan

[Development Consent No. 29/95 Schedule 3 condition 3]
[Project Approval 08-0111 Schedule 3 condition 4]
[Statement of Commitment 1.3.4 and 1.6.3]
[Mining Lease condition 8]

The Subsidence Management Plan developed to satisfy Development Consent 29/95 Schedule 5 condition 1, and Extraction Plan developed to satisfy for Project Approval 08_0111 Schedule 7 condition 1 were prepared generally in accordance with approval conditions.

The Subsidence Management Plan for Long-wall A5 was approved by DII - DRE in November 2009 and the Subsidence Management Plan for Long-wall A5a was approved in April 2011. The Austar Stage 2 area includes Coney Creek and several rural residential properties. The surface terrain is gently to mildly undulating with broad crested hills and valley ground slopes ranging between 1^{o} and 10^{o}.

The Extraction Plan for Long-walls A7 to A10 was approved by DII - DRE in June 2013. The surface of the Stage 3 Area includes undeveloped woodland of the Werakata State Conservation Area (previously known as the Aberdare State Forest), rural residential properties. The landform within the Extraction Plan Area is partly within the upper valley sides of the Quorrobolong Creek catchment, with Cony Creek present downslope but outside of the zone of influence of the Extraction Plan area.

Environment Assessment October 2013 section 1.3.2 related to longwalls A7 to A10 Extension stated:

"The extension of longwalls A7 to A10 would provide access to an additional 1.05 million tonnes of ROM coal.

The extent and nature of surface impacts associated with the Proposed LWA7-A10 Modification have been assessed and compared to the approved Stage 3 Project impacts. The Proposed LWA7-A10 Modification represents a 1.8 per cent net increase in the total area of subsidence affectation associated with approved Stage 3 and the maximum predicted subsidence parameters are similar to those predicted for the approved Stage 3 Project. It is therefore considered that the Proposed LWA7-A10 Modification will not result in a significant increase in the surface impacts of the Stage 3 Project."

It is noted that the current approved finishing position of long-walls A7 and A8 was set back from the approved Kitchener Surface Infrastructure Site so as to not constrain construction of surface infrastructure within this area. However, as a number of key surface infrastructure items are yet to be constructed in this location and are not required to be constructed in the short term, construction in this area can be delayed until after the majority of subsidence has occurred, allowing for the extraction of this additional resource in long-walls A7 and A8.

The following conclusions result from the audit review of Austar documentation relevant to subsidence impact and management:

- Development Consent 29/95 Modification 3, dated 28 May 2009, granted approval to widen and lengthen LWs A4 and A5;
- Development Consent 29/95 Modification 4, dated 7 December 2010, granted approval to add LW 5a;
- Development Consent 29/95 Modification 5, dated 27 April 2012, granted approval to extend LW A5a.
- Modification 2 to Project Approval _08-0111 dated 13 March 2012 to re-orientate Stage 3 LWs A7 to A19 to be aligned with principle horizontal stress, delete A6 and increase chain pillar width from 45 m to 55 m to reduce subsidence and roadway instability or stress "bump" potential.
- Modification 3 to PA_08-0111 dated 17 December 2013 to extend Stage 3 LWs A7 to A10 west by 100 m to 300 m.
- Aboriginal Cultural Heritage Management 19 May 2013 Project Approval_08-0111 Schedule 4, Condition 10. Aboriginal Heritage monitoring did not detect any impacts to artefact sites or grinding groove sites during the November 2011 to November 2014 period.
- Historic Heritage Management Plan 19 April 2013 Project Approval_08-0111 Schedule 4, Condition 1.
- Development of an Extraction Plan for Stage 3 LWs A7 to A10 (30/5/2013) as per Project Approval _08-0111 Schedule 3, Conditions 4 & 5.
- The subsidence effect predictions and impacts for LWs A5 and A5A in Stage 2 and LWs A7 in Stage 3. LWA8 commenced in June 2014 and was still being extracted at the date of this audit (December 2014). Monitoring is conducted in affected areas pre and post mining on a monthly and quarterly basis. Details of the subsidence monitoring are provided in the End of Panel Reports and summarised in the AEMRs.
- Several 'minor' tilt and strain exceedances of up to 1 to 2 mm/m above the predicted maximum values presented in the SMP and Extraction Plans for Stages 2 and 3 long-walls have been identified above several long-walls. The exceedances were assessed to be caused by strain concentrations at changes in slope or due to peg disturbance. It was also noted that no exceedances of the upper-bound subsidence effect values that were originally presented in the Environmental Assessment for the project (based on 65% of Mining Height) have occurred.
- No abnormal subsidence events or impacts to the environment have been detected during the audit period November 2011 to November 2014.
- No surface cracking, erosion or subsurface re-routing of flows along creeks and watercourses have occurred above any of the extracted long-walls.
- Three standpipe piezometers were installed into alluvium above LWA5A in August 2011 to monitor shallow groundwater levels and water quality (as part of the Groundwater Monitoring Program). No surface groundwater (alluvium) impacts have been detected within the Quorrobolong Creek catchment to-date.

- Fractured rock aquifer impacts have been monitored in five borehole piezometers in Stages 2 to 3. No de-pressurisation or unusual mine water make inflows have been detected during long-wall extraction to-date.
- Ecological surveys have not detected any change to flora species populations, riparian vegetation or creek bank instability. Several weed control operations targeting lantana, wandering jew, blackberry and other noxious weed species were undertaken during the November 2011 to November 2014 period.
- Vibration monitoring occurs at two triaxial geophone sites within Stages 2 and 3. Complaints regarding excessive vibration of residential properties during night and day have been made during the audit period. The geophones indicated that all of the vibrations have been within "cosmetic structural damage" limits. A few events have been above preferred but below maximum recommended daytime and/or night time criteria or DECC "annoyance limits".
- DII-DRE raised concerns about the level of community complaint about vibrations caused by the long-wall mining process during the 2011/2012 period. The Mine's response was to review the data and identify appropriate criteria for day time and night time "annoyance" vibration limits. It has subsequently been established that the number of complaints in an affected area have decreased significantly as long-wall mining activities progress to another area.
- A water tank on an Austar-owned property was damaged (cracked) by Longwall A5. An alternate water supply has been provided by the mine until repairs to or replacement of the tank is undertaken.
- On the same Austar owned property it has been reported for one farm dam, which has two overflow weirs, that dam overflow water used to drain from one particular weir, and now favours the other weir after the extraction of LWA3 and A4. There has been no action required with this dam to date.
- Impacts to houses are required to be within Safe, Serviceable and Repairable limits (SSR) unless landholders agree to greater impact. It is understood that Austar has entered into several royalty agreements with land holders, which are based on the quantity of land above mineable reserves. Impacts that have occurred in Stage 2 (LW A3) have not exceeded SSR limits set by the Mine Subsidence Board (MSB) for a given structure. No impacts to houses occurred during the current audit period.

5.13.2 End of Panel Reports (EOPRs)

Details of the subsidence data review are provided in the End of Panel Reports for Long-walls A5, A5a and A7 submitted DII - DRE. The reports provide the relevant subsidence and environmental monitoring data that has been presented in the AEMRs. Details of measured subsidence data versus predicted values are summarised below:

5.13.2.1 Stage 2 - LWs A5 and A5a

- Measured surface subsidence was 1.145 m above LW A5 and 1.21 m above LW A5a. The predicted maximum subsidence values ranged from 1.285 m to 1.35 m and were all greater than the measured data.
- Measured maximum tilt above LW A5 and A5a ranged from 1.6 mm/m to 7.6 mm/m and predicted values ranged from 3.2 mm/m to 5.6 mm/m. The predicted values were 1.5 mm/m to 2 mm/m below the measured values.
- Measured maximum tensile strain above LW A5 and A5a ranged from 1.5 mm/m to 2.2 mm/m and predicted values were all 1 mm/m. The predicted values were 0.5 mm/m to 1 mm/m below the measured values.
- Measured maximum compressive strain above LW A5 and A5a ranged from 1.0 mm/m to 3.4 mm/m and predicted values were all 2 mm/m. The predicted values were 1 mm/m above to 1.4 mm/m below the measured values.
- The tilt and strain prediction exceedances were assessed to be caused by strain concentrations at changes in slope or due to peg disturbance.

- No surface impacts were detected due to the above movements.

5.13.2.2 Stage 3 - LW A7

Measured surface subsidence was 0.232 m above LWs A7 and the predicted maximum subsidence was 0.45 m and greater than the measured value.

- Measured maximum tilt above LW A7 ranged from 1.3 mm/m to 1.9 mm/m and predicted values ranged from 1.5 mm/m to 2.5 mm/m. The predicted values were higher than the measured values.
- Measured maximum tensile strain above LW A7 ranged from 0.6 mm/m to 0.9 mm/m and predicted values were all 0.6 mm/m. The predicted values were 0 mm/m to 0.3 mm/m below the measured values.
- Measured maximum compressive strain above LW A7 ranged was 0.9 mm/m and predicted values were all 0.9 mm/m. The predicted values were 0 mm/m to 0.3 mm/m below the measured values.
- No surface impacts were detected due to the above movements.

5.13.3 Audit Site Inspection

The surface above Stage 2 (LWs A3 to A5a) and Stage 3 (LW A7) was inspected by a Principal Engineer during the audit on the 10 November 2014. The following sites were visited and notes / photographs taken of the observed conditions:

- Broad crested hillside in Stage 2 that was also inspected during the 2011 audit (see Plate 5.13.3a)
- Impacted in-ground tanks for Austar-owned residence in Stage 2 (Plate 5.13.3b)
- Alternative water supply tank for Austar-owned residence in Stage 2 (Plate 5.13.3c)
- Coney Creek and riparian vegetation above Stage 2 and 3 (Plate 5.13.3d)

Plate 5.13.3a: Prominent Hill Side above Stage 2 Area previously inspected in 2011

Plate 5.13.3b: Damaged in-ground tank location (steel plates) at Vineyard owned by Austar above Stage 2

Plate 5.13.3c: Alternate water supply at Vineyard owned by Austar above Stage 2

Plate 5.13.3d: Coney Creek and Riparian vegetation above Stage 2 and 3

There were no perceptible impacts from mine subsidence of up to 1450 mm in Stage 2 or 250 mm observed in Stage 3 to the date of this audit (November 2014).

5.13.4 Compliance and Effectiveness of the Subsidence Management Plans

It is considered that the AEMR and End of Panel Reports prepared during the audit period have generally met the requirements of the Stage 2 Development Consent 29/95 Modification 3, dated 27 April 2012, granted approval to 29/95 and Stage 3 Project Approval 08_0111 conditions issued in December 2013

However, it is assessed that there were two issues of note that should be considered in regards to the assessment and reporting of measured subsidence effects.

5.13.4.1 Tilt and Strain Prediction Exceedances

[Statements of Commitment 1.2.5 and 1.3.1]

Whilst the tilt and strain exceedances noted in the AEMRs were inconsequential in regards to the lack of any surface impact, it was noted that the exceedances were generally recorded at changes in slope or before mining effects at some locations. It was therefore considered that some of the exceedances were due to disturbances to pegs (i.e. non-mining related).

It is possible however, that the apparent localised doubling of tensile or compressive strain from 1 to 2 mm/m is mining related and caused by several observed differential subsidence or secondary curvature movements (i.e. kinks in the subsidence profile) that resulted from the bending of a 'blocky' rock mass with surface slope changes (i.e. valleys & hill crests) and discontinuities (i.e. vertical jointing and horizontal bedding partings). Valley closure phenomena may also be present.

It is recommended that a separate risk based examination of the impact of doubled strains around any sensitive features (only), rather than double strain predictions throughout be included in future extraction plans.

5.13.4.2 Missing Curvature Data and Predictions

It is noted that the subsidence review reports present and discuss strain instead of curvature. The Statement of Commitments attached to Project Approval 08_0111 indicate the following subsidence parameters that should not be exceeded by Stage 3 long-walls:

> *Statement of Commitment 1.2 Life of Stage 3 Concept Mine Plan*
> *"1.2.5 Mining parameters for the proposed mine plan as detailed in the Extraction Plan will be designed to ensure that predicted systemic subsidence in terms of subsidence, tilt, tensile strain and compressive strain will comply with or be less than the Upper Bound predictions detailed in the Environmental Assessment:*
>
> - *3000 mm subsidence;*
> - *11 mm/m tilt;*
> - *0.09 km^{-1} total conventional hogging curvature; and*
> - *0.15 km^{-1} total conventional sagging curvature.*
>
> *Statement of Commitment 1.3 Subsidence*
>
> *1.3.2 The Mine Plan submitted as part of the Extraction Plan for long-wall extraction will take into consideration monitoring results from previous Austar Mine Complex operations and will be designed to ensure that subsidence as a result of mining does not exceed Upper Bound predictions as set out in the Environmental Assessment for subsidence, tilt, tensile strain and compressive strain:*

- *Maximum Upper Bound subsidence ranges from approximately 825 mm for LWA7 to approximately 3000 mm for LWA19.*
- *Maximum Upper Bound tilt ranges from approximately 4.0 mm/m for LWA7 to approximately 11 mm/m for LWA19.*
- *Maximum Upper Bound conventional hogging curvature ranges from approximately should be 0.013 km^{-1} for LWA7 to approximately 0.09km-1 for LWA19.*
- *Maximum Upper Bound conventional sagging curvature ranges from approximately 0.06km^{-1} for LWA7 to approximately 0.15km^{-1} for LWA19.*

Based on a Strain/Curvature factor of 15, it is apparent that the measured curvatures above Stage 2 have ranged between + 0.15 km^{-1} (hog) and -0.23 km^{-1} (sag) and +0.06 km^{-1} (hog) and -0.05 km^{-1} (sag) in Stage 3.

It is recommended that curvature values should be included in subsequent Stage 3 End of Panel Reports; and Statement of Commitments values should be reviewed to ascertain whether the quoted values are un-necessarily / un-realistically low and should be amended to reflect measured values of strains (and curvatures) to-date.

5.13.5 Conclusion - Subsidence

Based on a review of the AEMRs and End of Panel Reports and surface inspection, it is assessed that subsidence management strategies implemented at the Austar Mine have complied with the Development Consent 29/95 and Project Approval 08_0111 conditions for mine subsidence impact management during the 2011 - 2014 reporting period.

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. Actual impacts have been assessed as 'imperceptible' with no surface cracking or environmental impact observed after subsidence of up to 1.45 m.

The information being collected is considered adequate for meeting the objectives of current Subsidence Management Plan / Extraction Plan standards and allows for the assessment / mitigation strategies if any environmental damage occurs. Several minor changes to future reporting of curvature and the risk assessment around sensitive features of predicted strains to allow for possible non-systematic or discontinuous subsidence profile development above future longwalls have been suggested

The issue of concern raised in the previous audit period on whether the frequency of vibration events was becoming a significant issue with local residents appears to have abated. It is noted that the magnitude of the vibrations have not exceeded minimum limits for cosmetic damage and the number of complaints received in a given area have diminished from 6/annum to zero during the last three years. It is likely that the affected residents have experienced fewer vibration events as long-wall mining moves away from them into other areas.

Overall, the current strategies, plans and programs for managing mine subsidence impacts to the environment, man-made developments and public safety are considered to be performing adequately.

5.14 Rehabilitation

[Project Approval 08_0111 Schedule 3 conditions 35 to 37]

Rehabilitation Compliance Status: Compliant Ongoing

The majority of the surface disturbance from the underground Austar Coal Mine project activities is limited to the Austar Pit Top Surface Facilities Area, the Pelton CHPP, Reject Emplacement Areas, and the Kitchener SIS construction area.

- The Pit Top Surface Facilities Area is maintained in a park-like setting with native vegetation and sealed access roads. There is no open disturbed land around this area.
- The Pelton CHPP area has been operational since the commencement of coal mining with expansion of the CHPP and upgrade of the Pelton rail loading facility and rail spur in 1975.
- The area of disturbed land from mining activities around the CHPP are still active and include coal handling, water treatment and reject emplacement areas. Rehabilitation and revegetation will occur once activities are finished and as the disturbed areas profile is finalised. The riparian vegetation along Bellbird Creek (that runs through the CHPP site) has been retained and provides an undisturbed corridor through the site.
- The Aberdare Extended Open Cut Reject Emplacement Area is an active reject emplacement area, and is being progressively rehabilitated as areas are brought up to final landform.
- The Kitchener Surface Infrastructure Site construction (off Quorrobolong Road) occurred on an area of approximately 8 to 10ha. The stripped topsoil was stockpiled and any cleared vegetation within the disturbance area was mulched and used onsite for erosion control on topsoil stockpiles and surrounding catch/diversion drains.

5.14.1 Austar Mining Operations Plan

All aspects of current Austar operations, including environmental management and rehabilitation, are managed in accordance with the current Austar seven year Mining Operations Plan (MOP) developed for the period from 2008 to 2015. The MOP was approved by the Department of Primary Industries (now the Division of Resource and Energy) in May 2008. The MOP encompasses all mining activities within Austar mining leases including:

- underground mining;
- activities at Ellalong Drift and Pit Top;
- overland transport of ROM coal from Ellalong Drift to Pelton CHPP;
- processing and handling of coal at Pelton CHPP;
- reject management and emplacement activities;
- water management;
- use and management of Austar's remote infrastructure sites (No. 1, 2, 3 and 4 shafts and the Kalingo site); and rehabilitation activities.

Review and reporting of Austar performance against the MOP is provided through Annual Environmental Management Reports (AEMR) and DRE inspections.

5.14.2 Rehabilitation Principles

[Project Approval 08_0111 Schedule 6 condition 1]

The Landscape Management Plan was prepared by AECOM dated June 2013 to satisfy Project Approval 08_0111 Schedule 6 condition 1. The Rehabilitation Objectives in Table 6 of condition 1 for land affected by the project were:

Table 5.14.2: Rehabilitation Objectives

Domain	Rehabilitation objective
Surface Infrastructure Site	Revegetate the cleared portion of the site with a structured native vegetation community similar to that existing pre-mining, or other land use approved by the Director-General. Additional objectives/criteria described in the Landscape Management Plan.
Biodiversity offset area	Implement the offset strategy described in the Environmental Assessment and shown conceptually in Appendix 5. Additional objectives/criteria described in the Landscape Management Plan.
Land affected by the project (including watercourses and steep slopes)	Rehabilitate landform, land use and ecosystem function to that existing pre-mining and consistent with the surrounding landform. Reduce safety hazards to no more than those existing pre- mining. Minimise erosion risk.

Time frames were specified where relevant, to guide activities undertaken in accordance with this Landscape Management Plan based on the SIS construction activities and Offset Strategy implementation. Short, medium and long terms measures for the Stage 3 project address the following:

- Rehabilitation of the SIS;
- Implementation of the Offset Strategy; and
- Management of the remnant vegetation and habitat at the SIS.

Monitoring to assess the impact of the operations against these performance measures and indicators are detailed in the Landscape Management Plan Section 4.0.

5.14.3 Reject Management

[Development Consent 29/95 Modification 3, Schedule 3 condition 21]
[Project Approval 08-0111 Schedule 4 condition 16]

The various reject emplacement areas used by Austar are old disused open cut mining areas within the Mining Leases held by Austar Coal (these areas were mined prior to Yancoal Australia Limited purchasing the mine in December 2004). These areas are being progressively filled with coarse reject from the CHPP to final level and rehabilitated when the final profile is reached. Placement of the coarse rejects and surface water runoff management appeared to be progressing in a planned manner to restore a stable surface area for rehabilitation.

Austar has development approval to dispose of coarse reject material and manage tailings at Pelton Colliery (both north and south of Wollombi Road), Pelton Open Cut, Aberdare Extended Open Cut and the areas identified under the 1996 Minister's Consent as Reject Emplacement Areas 1, 3 and 4. Reject emplacement continues to be in areas previously approved for Ellalong Colliery (DA 74/75/79), Pelton Open Cut (DA 118/691/181) and the Bellbird South extension to Ellalong Colliery Development Consent 29/95 Modification 3, dated 27 April 2012, granted approval to 29/95). These areas have capacity for the emplacement of approximately 17.5 Mt of coarse reject.

Reject emplacement and tailings disposal is undertaken in accordance with an approved Mining Operations Plan (2008) as required by Mining Lease conditions issued under the *Mining Act 1992*.

Coarse reject from the Pelton CHPP is trucked via the private haul road to either the Aberdare Extended Open Cut emplacement area or is emplaced in open cut voids at the Pelton Open Cut. The major current area for waste rock / coarse reject emplacement are the disused Aberdare Extended Open Cut Voids located east northeast of the CHPP, and to the east of Bellbird Village. The southwest of this area is filled almost to final level, topsoiling

is not complete and the area not revegetated. This is not an issue in relation to surface runoff as the area drains north to the lowest point into disused underground workings.

5.14.4 Rehabilitation Progress

During the 2011-2014 period, rehabilitation works have been undertaken in the following areas:

- Kalingo Site;
- Areas 12;
- Aberdare Reject Emplacement Area; and
- Kitchener SIS.

5.14.4.1 Kalingo Site

Local indigenous trees and shrubs were planted at Kalingo in April 2013. Plants selected were characteristic of Lower Hunter Spotted Gum – Ironbark Forest EEC. The area was prepared by removing weeds and rubbish, and then the soil was ripped six weeks prior to planting. Conservation Volunteers Australia's professional bush regeneration team undertook the plantings. The aim was to extend areas of existing native vegetation into a previously cleared which was occupied by mine worker housing at the old Kalingo infrastructure area.

5.14.4.2 Area 12

Capping of Area 12 occurred in March 2013, with capping sourced from the West Pit overburden stockpile at the CHPP site. Works to complete capping of 4.5 hectares within Area 12 commenced in September 2013, including landform shaping and the construction of drainage lines. Bulk earthworks were completed in November 2013 and the shaped surface treated with gypsum, lime and compost in late November 2013, and seeded with a pasture mix in early December 2013.

Approximately 0.6 hectare has been left untreated as a stockpile area to be used as future capping material.

Natural regeneration of grass and tree species has occurred on an area capped in 2010. On completion of capping and shaping, the area will be sowed to pasture in accordance with the MOP.

Weed management occurred on Area 12 and Area 13 during the 2013-2014 period.

5.14.4.3 Aberdare Reject Emplacement Area

The Aberdare Extended Reject Emplacement Area is being rehabilitated as future open space under agreement with the landholder. This will involve:

- Filling the site to within 1 metre of the agreed final landform with coarse reject material;
- Capping the coarse reject with at least 1 metre of suitable overburden material from the West Open Cut;
- Shaping the landform to be free draining in accordance with the agreed final landform;
- Topsoiling the shaped landform (if available), or application of some organic material; and
- Establishing a stable grass cover over the reshaped landform.

A recommendation of the 2011 Independent Environmental Audit to stabilise an area of disturbed lands to the south of the Aberdare Extended Reject Emplacement Area, beyond the extent of the open cut pit where emplacement activities occurred in December 2012. An area of 3.8ha has been reshaped to be free draining, lime applied at a rate of 5t/Ha and the area ripped to 300mm prior to approximately 4,000m^3 of weed free native forest mulch being applied.

The northern and southern ends of the Aberdare Extended Emplacement Area have been rehabilitated with 1.3 hectares of the 24 hectare area completed to final landform levels. Compost derived from mixed waste streams and topsoil was spread to a depth of 150 mm over an area of approximately 0.96 hectares at the northern end of the emplacement area.

Soil sampling and analysis was carried out on 4.3 hectares of completed capped areas and lime, gypsum and compost were applied based on the results of the soil tests, then capping material was emplaced from the West Pit overburden stockpile at the CHPP site.

All treated areas were seeded with a pasture/fertiliser mix on 15 May 2013 in accordance with the MOP requirement to progressively revegetate the area to open grassland as per the land owner's requirement.

Drainage works were undertaken to manage groundwater seepage flows occurring at the south western extent of the emplacement area.

5.14.4 Kitchener SIS

Rehabilitation works were undertaken at the Kitchener SIS from February to June 2014 to stabilise the areas not required for operational purposes. This involved bulk shaping of shaft cuttings stockpiles and the construction of drainage lines, with installation of geofabric and rock lining in areas of concentrated flow with a high erosion risk.

Stabilisation works at the Kitchener SIS involving spreading of stockpiled topsoil, landform shaping, soil treatment and seeding with a pasture mix are planned to occur during December 2014 and March 2015. The majority of rehabilitation undertaken principally involves reshaping of disturbed areas and establishment of a stable vegetative cover in these areas.

5.14.4.5 Rehabilitation Status November 2014

	Areas Affected / Rehabilitated (hectares)		
	2011- Jun 2013	Jul 2013 – Jun 2014	Jul 2014 –Jun 2015
A. Mine Lease Area			
A1 Mine Lease(s) Area	10927.2	10927.2	10927.2
B. Disturbed Areas			
B1 Infrastructure Area - CHPP, Pit Top, Shafts 1, 2, 3, Kalingo Site, Rail line, conveyor, Kitchener SIS	80.3	80.3	80.3
B2 Active Mining Area (excluding items B3 – B5 below)	NA	NA	NA
B3 Waste Emplacements (active / unshaped/uncapped). Aberdare Extended Emplacement Area, CHPP, East Open Cut, CHPP NW chitter area, Area 12 stockpile.	38.5	40.0	36.5
B4 Tailings Emplacements (active /unshaped/uncapped) CHPP No.9 Dam	3.4	3.4	3.4
B5 Shaped Waste Emplacement (awaits final vegetation)	0	5.0	1
ALL DISTURBED AREAS	**122.2**	**128.7**	**121.2**
C. Rehabilitation Progress			
C1 Total Rehabilitated Area (except for maintenance) 1.3 Ha Aberdare grassed. 5.16 Ha of Area 12 grassed.	6.48	5.6	1
D. Rehabilitation on Slopes			
D1 10 to 18 degrees (from 2008 MOP)	0.5	0.5	0.5
D2 Greater than 18 degrees	0	0	0
E. Surface of Rehabilitated Land			
E1 Pasture and grasses - Area 12, Area 13, West Pit, CHPP Trial areas, former CHPP Clay Pit.	46.4	40.0	47.4

5.14.5 Conclusion

The rehabilitation works for the Austar Complex have occurred and are planned to be undertaken progressively over the period of the approved Austar Mining Operations Plan and Landscape Management Plan.

Investigations commenced during the 2013-2014 into the construction of a permanent connection from the Aberdare Extended Reject Emplacement Area to the old underground workings for the management of any acid leachate drainage.

A design has also been progressed for the East Pit in consultation with DTI-DRE mine safety officers to allow for safe emplacement of reject in the vicinity of an adit to underground workings.

5.15 Bushfire Management

[Project Approval 08_0111 Schedule 6 condition 4(b)(iv)]

[Statement of Commitment 1.4.3]

5.15.1 Bushfire Management Plan

A Bushfire Management Plan was developed in September 2002 to ensure the land owned by the mine is managed to minimise the risk of bushfire and to reduce the risk of fire originating on Austar owned land spreading to adjacent properties.

The Bushfire Management Plan was being reviewed at the time of this audit (November 2014) and a revised Bushfire Management Plan prepared by Eco Logical Australia for the Austar Mine Complex properties will be prepared.

Austar owns significant areas of land surrounding the Pit Top and CHPP. These properties are covered predominantly by native woodland and forests, with occasional grassland paddocks. These areas provide a buffer zone to reduce the impact of operations on nearby private residences and require active management to minimise the risk of bushfires originating, or spreading through Austar property.

5.15.2 Conclusion

A Bushfire Management Plan was developed in September 2002 to ensure the land owned by the mine is managed to minimise the risk of bushfire and to reduce the risk of fire originating on Austar owned land spreading to adjacent properties. The revised Bushfire Management Plan being prepared by Eco Logical Australia for the Austar Mine Complex properties will provide current fire risk maps and management strategies for the Austar Mine Complex properties.

5.16 Heritage

[Development Consent 29/95 MOD 3, Schedule 3 conditions 3, 24 and 25]

[Project Approval 08_0111 Schedule 3 condition 1(b), 10 and 11]

[Statement of Commitments 1.5]

Heritage Management Compliance Status: Compliant Ongoing

5.16.1 Historic Heritage Plan

[Project Approval 08_0111 Schedule 3 condition 1(b), 10 and 11]

[Statement of Commitments 1.5.8]

A Historic Heritage Management Plan was prepared to satisfy Project Approval 08_0111 Schedule 3 condition 11 by Umwelt in March 2013 in consultation with Cessnock City Council and the Heritage Branch, and submitted

to DP&I for approval prior to the commencement of second workings in Stage 3 and/or construction of the Surface Infrastructure Site. Consultation has continued with Cessnock City Council in relation to the heritage items.

Several buildings are proposed to be demolished as part of site rehabilitation works including the remaining buildings at the Bellbird site, Kalingo site and several buildings and the pony stables at the CHPP site.

A Historical Heritage Assessment and Structural Engineer's inspection report were completed in November and August 2008 respectively. The Heritage Assessment identified items which did not require further heritage management, and items of potential heritage value. Items which were identified as having no heritage significance in the Heritage Assessment will be progressively demolished.

The *Historical Heritage Assessment: Austar Coal Mine Project, Stage* 3 (Umwelt 2008a) was prepared as part of the Environmental Assessment for Stage 3 of the mining operations at the Austar Coal Mine. The assessment examined the European heritage features associated with the project with the aim of assessing and evaluating the potential heritage impacts associated with the project. The 2008 report identified the heritage sites contained within the project area and assessed the significance of any impacts on these sites potentially resulting from the project.

5.16.2 Aboriginal Cultural Heritage Management Plan

[Development Consent 29/95 MOD 3, Schedule 3 conditions 3, and 24A]
[Project Approval 08_0111 Schedule 3 condition 3(c), 24 and 24A]
[Statement of Commitments 1.5.1]

An Aboriginal Cultural Heritage Management Plan for Stage 2 (2008) was prepared by Umwelt to satisfy Development Consent 29/95 MOD 4, Schedule 3 conditions 3, and 24A, and an Aboriginal Cultural Heritage Management Plan for Stage 3 (2013) was prepared to satisfy Project Approval 08_0111 Schedule 3 condition 10 prior to the commencement of second workings in Stage 3 and/or construction of the Surface Infrastructure Site. The SIS shaft construction works were managed in accordance with the Stage 3 Infrastructure Site Shaft Construction Environmental Management Plan, dated November 2009. All other Stage 3 works are conducted in accordance with the Aboriginal Cultural Heritage Management Plan, May 2013.

The Aboriginal Cultural Heritage Management Plan defines management and mitigation strategies for Aboriginal cultural heritage items including responsibilities of all parties, ongoing consultation with registered Abroiginal groups, compliance with legislative requirements and heritage works.

As the majority of the Austar activities are related to underground works, any Aboriginal cultural heritage surveys or management/mitigation procedures occur when surface disturbance is planned for the development of the mine complex.

5.16.3 Conclusion - Heritage

The Historic Heritage Management Plan was prepared to satisfy Project Approval 08_0111 Schedule 3 condition 11 (May 2013) in consultation with Cessnock City Council and the Heritage Branch. Management of historic heritage will occur in Accordance with the Historic Heritage Management Plan. Consultation will continue with Cessnock City Council in relation to the heritage items, as required.

An Aboriginal Cultural Heritage Management Plan was prepared to satisfy Project Approval 08_0111 Schedule 3 condition 10 and managing Aboriginal Objects or Skeletal Remains, is undertaken in accordance with the Aboriginal Cultural Heritage Management Plan. Ongoing consultation with registered Aboriginal parties occurs as necessary when new surface disturbance works are planned.

5.17 Community Complaints

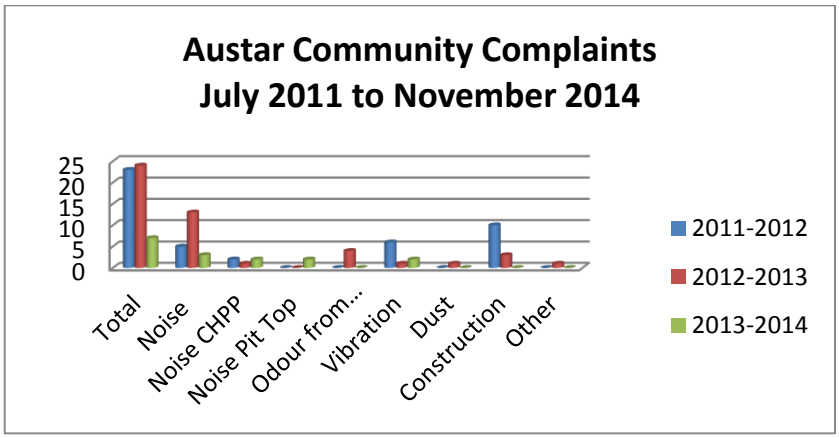
[Development Consent 29/95 Modification 3, Schedule 5 condition 1, 5 and 9]
[Project Approval 08_0111 Schedule 7 condition 1(e), 2, 3, 9]
[Environment Protection Licence 416 condition M5, M6, R1]

Complaint Management Compliance Status: Compliant Ongoing

The Austar Environmental Management Strategy includes a procedure for receiving, investigating, responding and reporting complaints received from the community. A 24-hour-a-day, 7 days a week, free call number 1800 701 986 is maintained by Austar to receive environmental complaints and other enquiries.

The complaints are recorded quarterly for the CCC, recorded in the AEMR's and EPA Annual Returns, and placed on the Austar website.

In the 2011-2012 AEMR reporting period, 23 community complaints with 10 related to construction of the Kitchener Surface Infrastructure Site were received and a significant reduction in the complaints related to the CHPP that can be attributed to the Noise Pollution Reduction Program implemented under Environment Protection Licence 416 condition U1 - Coal Handling and Preparation Plant Noise Reduction Program.
In the 2012-2013 AEMR reporting period, there were 13 complaints related to the Kitchener Surface Infrastructure Site, and some complaints received in regard to odour from compost applied for rehabilitation at the Aberdare Reject Emplacement Area.
In the 2013-2014 AEMR reporting period a total of seven (7) complaints were received, a significant decrease on the complaints received in the 2012-2013 reporting period.



5.17.1 Conclusion

Numbers of community complaints have reduced significantly between 2011 and 2014 that can be attributed to the Noise Pollution Reduction Program implemented under Environment Protection Licence 416. The response to complaints received between 2011 and 2014 have been in accordance with the procedure in the Austar Environmental Management Strategy section 10.2.

6. Conclusions and Recommendations

This Independent Environmental Audit conducted for Austar Coal Pty Ltd (Austar) by Trevor Brown & Associates between 10 and 14 November 2014 indicates that the Austar Coal Mine Complex is generally operating in compliance with Development Consent 29/95, Project Approval 08_0111, Environment Protection Licence 416 and Consolidated Mining Lease CML 2, conditions of approval.

The Austar Project has been developed generally in accordance with the project described in the Environmental Assessments and predictions for noise, air quality, water quality, vibration and heritage management. Commitments made in the Environmental Assessments and Environmental Management Plans have generally been implemented and conform to the proposed mine development and operation.

No non-complaint issues requiring risk assessment under the *Draft Guidelines for Independent Environmental Audit of Coal Mines*, DP&E March 2014 were identified during this audit. The following administrative matters that may improve the environmental management and reporting of the Austar Project operations have been described in the Independent Environmental Audit and the following suggested recommendations are provided:

Noise

Recommendation Noise 1:
Assessment of low frequency noise during attended monitoring should be modified and reported with reference to the noise descriptor of the relevant noise criteria.

Recommendation Noise 2:
The Pollution Reduction Program should continue to build on the outcomes of the Premises Noise Assessment in consultation with the EPA.

Groundwater

Recommendation Groundwater 1:
It is recommended that the piezometers be installed at least 1 year in advance of the Stage 3 mining to allow establishment of baseline data. Austar has indicated that access to privately owned land will be available in the near future and that installation of additional monitoring wells should commence in 2015.

Erosion and Sediment Control

Recommendation Erosion and Sediment Control 1:
It is recommended that a revision of the Erosion and Sediment Control Plan section 6.3 occur to clearly describe the actual management of the Kitchener Basins.

Recommendation Erosion and Sediment Control 2:
Any sediment basin is designed to the requirements of *"Managing Urban Stormwater – Soils and Construction"* Volume 1, Landcom, 2004 and its companion document "*Managing Urban Stormwater – Soils and Construction*" Volume 2e (DECC 2008).

Recommendation Erosion and Sediment Control 3:
Stabilise disturbed lands in the small catchments to the Aberdare Emplacement Area to ensure capture of dirty water and to reduce the potential for loss of sediment laden water to Black Creek.

Recommendation Erosion and Sediment Control 4:
Attention should be focused during rehabilitation planning to achieve stable areas around the SIS site as soon as possible via shaping channels with broad flat bases and a low grade. Including rock grade stabilising structures to reduce elevation rather than having steep sections of channel would reduce water flow rates and potential erosion of the channel base/walls. Use of jute mesh in the channel invert with rock cover and revegetation of the bare surface areas of the waste emplacement and storage / handling area should also occur to control runoff.

Recommendation Erosion and Sediment Control 5:
A review of the surface water management along power line easement should be undertaken as part of ongoing maintenance and management.

Subsidence

Recommendation Subsidence 1:
It is recommended that a separate risk based examination of the impact of doubled strains around any sensitive features (only), rather than double strain predictions throughout be included in future extraction plans.

Recommendation Subsidence 2:
It is recommended that:
(i) curvature values should be included in subsequent Stage 3 End of Panel Reports; and
(ii) the Statement of Commitments values should be reviewed to ascertain whether the quoted values are un-necessarily / un-realistically low and should be amended to reflect measured values of strains (and curvatures) to-date.

Attachment A - Development Consent 29/95 Conditions

Attachment B - Project Approval 08_0111 Conditions

Attachment C - Statements of Commitment Table

Attachment D - Environment Protection Licence No. 416 Conditions

Attachment E - Mining Lease Conditions

Attachment A Development Approval 29/95

Consolidated Development Approval Conditions MOD 5 dated 27 April 2012

Green type represents June 2008 modification (MOD 2)
Blue type represents May 2009 modification (MOD 3)
Red type represents November 2010 modification (MOD 4)
Pink type represents April 2012 modification (MOD 5)

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT			
1	The Applicant shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the development.			**Noted**
	TERMS OF APPROVAL			
2	The Applicant shall carry out the development generally in accordance with the: (a) DA 29/95 and accompanying Environmental Impact Statement prepared by HLA Envirosciences Pty Limited, dated August 1995 (August 1995 EIS); (b) modification application MOD-49-4-2006 and accompanying Statement of Environmental Effects, titled Austar Coal Mine Section 96 Modification, prepared by Environmental Resources Management Australia Pty Ltd (ERM) and dated April 2006 (April 2006 SEE), and information from ERM clarifying the modification application MOD-49-4-2006, dated 13 July 2006; (c) modification application DA29/95 – Mod 2 and accompanying Statement of Environmental Effects, titled Austar Coal Mine Statement of Environmental Effects Section 96 Modification Stage 2 Long-wall Panels A3-A5, prepared by Austar Coal Mine and dated September 2007 (September 2007 SEE); and (d) modification application DA 29/95 – MOD 3 and the accompanying Statement of Environmental Effects prepared by Austar Coal Mine Pty Ltd and dated April 2009; (e) modification application DA 29/95 – MOD 4 and the accompanying Environmental Assessment prepared by Umwelt (Australia) Pty Ltd and dated July 2010; (f) modification application DA 29/95 – MOD 5 and EA (MOD 5); and (g) the conditions of this consent.	• Environmental Impact Statement, HLA Envirosciences Aug 1995 • Statement of Environmental Effects MOD-49-4-2006 Austar Coal Mine Environmental Resources Management, Apr 2006 • Statement of Environmental Effects MOD 2 - Stage 2 Long-wall Panels A3-A5, Austar Coal Mine Sep 2007 • Statement of Environmental Effects – MOD 3, Austar Coal Mine Apr 2009; • Environmental Assessment – MOD 4 Umwelt Jul 2010; • Environmental Assessment – MOD 5, Apr 2012	The Austar Coal Mine has been developed generally in accordance with the Environmental Impact Statements , Environmental Assessment and Statements of Environmental Effects: • Environmental Impact Statement, HLA Envirosciences Pty Limited, August 1995 • Statement of Environmental Effects MOD-49-4-2006 Austar Coal Mine Section 96 Modification, Environmental Resources Management Australia Pty Ltd (ERM) April 2006 • Statement of Environmental Effects MOD 2 - Section 96 Modification Stage 2 Long-wall Panels A3-A5, Austar Coal Mine September 2007 • Statement of Environmental Effects – MOD 3, Austar Coal Mine Pty Ltd April 2009; • Environmental Assessment – MOD 4 Umwelt (Australia) Pty Ltd July 2010; • Environmental Assessment – MOD 5	**Compliant Ongoing**

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	If there is any inconsistency between the above documents, the latter document shall prevail over the former to the extent of the inconsistency. However, the conditions of this consent shall prevail over all other documents to the extent of any inconsistency.			
3	The Applicant shall comply with any reasonable requirements of the Director-General arising from the Department's assessment of: (a) any reports, plans, strategies, programs or correspondence that are submitted in accordance with this consent; and (b) the implementation of any actions or measures contained in these reports, plans, strategies, programs or correspondence.	• Site Water Management Plan Revised, Apr 2013	The Site Water Management Plan was updated in April 2013 after consultation with Department of Resources and Energy (DRE), NSW Office of Water (NOW) and Environmental Protection Authority (EPA). The updated plan was approved by DP&I on 17 May 2013.	**Compliant Ongoing**
	Operation of Plant and Equipment			
4	The Applicant 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.			**Noted**
	LIMITS ON APPROVAL			
5	This consent lapses on 14 February 2017. *Note: this condition does not affect the operation of section 95 of the EP&A Act.*		This consent remains active until 14 February 2017	**Compliant Ongoing**
	Management Plans/Monitoring Programs			
6	With the approval of the Director-General, the Applicant may submit any management plan or monitoring program required by this consent on a progressive basis.		All management plans required under this approval have been prepared and submitted to the Director-General for approval.	**Compliant**
7	Following any modification to this consent, or if directed by the Director-General, the Applicant shall review and if necessary revise all relevant management and monitoring strategies, plans and programs required under this consent to the satisfaction of, and within a timeframe approved by, the Director-General.		Management plans and monitoring programs have been reviewed and revised as required following approval of Modifications to DA29/95 and Project Approval 08_0111.	**Compliant Ongoing**
	STRUCTURAL ADEQUACY			
	OPERATION OF PLANT AND EQUIPMENT			
8	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.			**Noted**
	SCHEDULE 3 **SPECIFIC ENVIRONMENTAL CONDITIONS – MINING**			

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	ACQUISITION UPON REQUEST			
1	Upon receiving a written request for acquisition from the landowner of land listed in Table 1, the Applicant shall acquire the land in accordance with the procedures in conditions 3 to 5 of Schedule 4: *Table 1: Land subject to acquisition upon request* Property A03a - Duff | Property A04a – Bukan Main Pty Limited However, the Applicant is not required to acquire the land listed in Table 1 if: (a) the Applicant has a current written negotiated agreement with the landowner in regard to the management of subsidence-related impacts, and a copy of this agreement has been forwarded to the Department by the Applicant; or (b) the landowner has agreed to the MSB purchasing the land under the *Mine Subsidence Compensation Act* 1961; or (c) a request for acquisition has not been made following completion of mining in long-walls A3 to A5, and the MSB determines that the residence/s on the land listed in Table 1 remains safe, serviceable and repairable. *Notes:* • *To avoid any uncertainty in regard to condition 1(c), the Applicant is required to act on any request for acquisition by a landowner listed in Table 1 unless the residence/s on the land has been declared to be safe, serviceable and repairable by the MSB after mining has been completed in long-walls A3 to A5.* • *For more information on the references to land used in this condition see Figure 9 of Appendix C to the September 2007 SEE prepared for long-walls A3 to A5.*		Austar notified Department of Planning of the purchase of A04a Bukan Main Pty Ltd 145 Nash Lane Quorrobolong on 31 March 2009, and A03a Duff 93 Nash Lane Quorrobolong on 30 April 2010, following written requests for acquisition. These properties remained Austar owned at the time of the 2014 audit.	**Compliant**
	SUBSIDENCE			
	Subsidence Impact Assessment Criteria			
2	If the subsidence generated by the development results in damage to any residence on privately-owned land (excluding the land listed in Table 1) that in the opinion of the MSB exceeds safe, serviceable and repairable criteria, the Applicant shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 3 to 5 of Schedule 4. However, the Applicant does not have to act on any such request if:		No requests for acquisition resulting from subsidence generated by the development that resulted in damage to any residence on privately-owned land occurred between November 2011 and November 2014.	**Compliant Noted**

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	(a) the Applicant has a current written negotiated agreement with the landowner in regard to the management of subsidence-related impacts, and a copy of this agreement has been forwarded to the Department by the Applicant; or (b) the landowner has agreed to the MSB purchasing the land under the *Mine Subsidence Compensation Act* 1961.			
	Subsidence Management Plan			
3	The Applicant shall revise the approved Subsidence Management Plan for the Stage 2 mining area to include long-wall A5a, to the satisfaction of DRE. The revised plan must: (a) include a mine plan for the relevant area; (b) integrate ongoing management of previously mined areas; (c) include management, monitoring and contingency plans for all man-made and natural features which may experience subsidence effects, subsidence impacts or environmental consequences, including: • built structures; • farm dams; • watercourses; • groundwater; • terrestrial flora and fauna and ecology (including any threatened species and their habitats); and • Aboriginal cultural heritage; (d) be approved by the Director-General of DRE prior to the commencement of extraction of long-wall A5a; and (e) be implemented, following approval, to the satisfaction of the Executive Director, Mineral Resources.	▪ Letter from DPI for Approval of SMP for Long-wall A3 Only, 3 Feb 2009 ▪ Letter from DI&I re SMP Approval for Long-walls A4 and A5, 24 Dec 2009 ▪ Letter from DI&I re SMP Approval for Long-wall A5A, 27 April 2011	Approval of the Subsidence Management Plan for long-wall A3 was received from DPI on 3 February 2009, long-walls A4 and A5 SMP approval received from DII on 24 December 2009, and approval for long-wall A5a was received on 27 April 2011. (a) SMP section 2.1 SMP Application Area and Plan 1 - Long-walls A3 to A5 Existing and Proposed Workings; (b)SMP section 10 Subsidence and its Impacts provides outline of the monitoring to be conducted for the assessment (c)Long-wall A5a SMP was approved on 27 April 2011 prior to commencement of mining. (d) SMP Approval for Long-wall A5a, received from DI&I on 27 April 2011. (e) approved Subsidence Management Plan for long-wall panel A5a implemented.	**Compliant**
	Public Safety Management Plans			
4	The Applicant shall: (a) before carrying out any underground mining that will potentially lead to subsidence within the Werakata State Conservation Area, the Applicant shall prepare (and following approval implement) a Public Safety Management Plan for the Werakata State Conservation Area; and (b) before carrying out any underground mining that will potentially lead to subsidence at Nash Lane, the Applicant shall prepare (and following approval implement) a Public Safety Management Plan for Nash Lane, to the satisfaction of the DRE.	▪ *Guideline for Subsidence Management Approvals, DPI,* 2003 ▪ Subsidence Management Plan Long-walls A3 to A5, Sep 2008 ▪ Public Safety Subsidence Management Plan – Long-walls A3 to A5, Jan 2009	This Public Safety Subsidence Management Plan prepared to satisfy this condition addresses the management of the potential hazards to the public as a result of underground mining in long-walls A3 to A5 in the Greta seam. This plan was prepared in accordance with the DPI-Mineral Resources *Guideline for Subsidence Management Approvals dated* 2003. The northern portion of the SMP area is located within the Werakata State Conservation Area (SCA). The SCA is located	**Compliant**

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
			outside of the 20 mm subsidence contour, therefore any potential subsidence impacts are expected to be minimal.	
	WATER QUALITY			
	Discharge Limits			
5	Except as may be expressly provided by a EPA Environmental Protection Licence, or in accordance with section 120 of the *Protection of the Environment Operations Act 1997*, the Applicant shall not discharge any water from the site.	• *Protection of the Environment Operations Act 1997*, section 120		**Noted**
	Site Water Management Plan			
6	Prior to mining commencing in panel A3, or other date agreed by the Director-General, the Applicant shall revise its Site Water Management Plan for the mine, in consultation with the NOW and the EPA, and to the satisfaction of the Director-General. This plan shall be implemented to the satisfaction of the Director-General, and must include: (a) a Site Water Balance; (b) an Erosion and Sediment Control Plan; (c) a Surface Water Monitoring Program; (d) a Ground Water Monitoring Program; and (e) a Surface and Ground Water Response Plan.	• Site Water Management Plan Apr 2013 • 2011-2012 AEMR • 2012-2013 AEMR • 2013-2014 AEMR	The Site Water Management Plan was prepared in March 2009 for Stage 2 works in consultation with DECC and NOW and approved by the DoP on 13 November 2009. The Site Water Management Plan was revised for Stage 3 and approved in April 2013 and includes: a) a Site Water Balance has been developed and is updated on a monthly basis as evidenced in the AEMRs ; (b) an Erosion and Sediment Control Plan; (c) a Surface Water Monitoring Program; (d) a Ground Water Monitoring Program; and (e) a Surface and Ground Water Response Plan	**Compliant**
	Site Water Balance			
7	The Site Water Balance must: (a) include details of: • sources of water; • water use on site; • water management on site; • off-site water transfers or discharges; • reporting procedures; and (b) describe measures to minimise water use by the development.	• Site Water Balance, March 2009 • Letter from Planning re Water Management Plan, 13 Nov 2009 • Site Water Management Plan Apr 2013 • 2011-2012 AEMR • 2012-2013 AEMR • 2013-2014 AEMR	(a) Site Water Balance was included as section 2 of the Site Water Management Plan (dated March 2009), and included: • section 2.2.1 Inflow Sources • section 2.3 CHPP Water Management System • section 2.2 Underground Mine Water Management System • section 2.4 Surface Water Storage and Pumping System • section 2.5 Reporting Procedures (b) section 2.6 Water Management Initiatives	**Compliant**
	Erosion and Sediment Control			
8	The Erosion and Sediment Control Plan must:	• Erosion and Sediment Control Plan, Mar 2009	Erosion and Sediment Control Plan was prepared to satisfy the requirements of this condition Site Water	**Compliant**

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	(a) be consistent with the requirements of the Landcom Managing Urban Stormwater: Soils and Construction manual; (b) identify activities that could cause soil erosion and generate sediment; (c) describe measures to minimise soil erosion and the potential for transport of sediment downstream; (d) describe the location, function and capacity of erosion and sediment control structures; and (e) describe what measures would be implemented to maintain the structures over time.	• Letter from Planning re Revised Water Management Plan, 13 Nov 2009 • Erosion and Sediment Control Plan, April 2013	Management Plan Section 3 (March 2009) and approved by Planning NSW on 13 November 2009: (a) the Erosion and Sediment Control Plan is consistent with the *Managing Urban Stormwater: Soils and Construction* manual; (b) Section 3.2 Site Activities and Potential for Soil Erosion (c) Section 3.2.1 Surface Activities outlines the management measures for the erosion and sediment control for the CHPP, waste rock emplacement area and Kitchener site shaft construction. (d) Figures 12, 13 and 14 of the Site Water Management Plan present the location and function of the erosion and sediment control structures. (e) Section 3.3 Maintenance of Erosion and Sediment Controls	
	Surface Water Monitoring			
9	The Surface Water Monitoring Program must include: (a) surface water assessment criteria; (b) a program to monitor surface water flows and quality (particularly in Black, Cony and Quorrobolong Creeks); (c) a program to monitor water levels in farm dams within the subsidence zone; (d) a program to monitor channel stability in Quorrobolong and Cony Creeks; (e) reporting procedures; and (f) a protocol for the investigation, notification and mitigation of identified exceedances of the surface water criteria that are related to the development (particularly in respect of acid mine drainage and acid leachate).	• Surface Water Monitoring Program, March 2009 • Letter from Planning re Revised Water Management Plan, 13 Nov 2009 • Surface Water Monitoring Program, Apr 2013 • Letter from DP&I re Approval of Site Water Management Plan, 17 May 2013	The Surface Monitoring Program is presented in section 4 of the Site Water Management Plan (dated March 2009) approved by DoP on 13 November 2009. The Surface Monitoring Program Surface Monitoring Program was revised as section 7 of the Site Water Management Plan I April 2013: (a) Section 4.1 On Site Monitoring Requirements presents the water assessment criteria specified in EPL condition L3.2. (b) Section 7 Other monitoring presents the program for monitoring Quorrobolong Creek (section 7.2.1), Cony Creek (section 7.2.2), Bellbird Creek and Black Creek (section 7.2.3. (c) Section 7.2.5 Farms Dams (d) Section 7.2.6 Channel Stability (e) Section 6 Reporting and Review of Data (f) Section 9 Surface and Groundwater Response Plan	**Compliant**
	Groundwater Monitoring			
10	The Groundwater Monitoring Program must include: (a) ground water impact assessment criteria; (b) a program to monitor the volume and quality of ground water seeping into the underground mine workings;	• Groundwater Monitoring Program, Mar 2009 • Letter from Planning re Revised Water Management Plan, 13 Nov 2009	The Groundwater Monitoring Program was prepared as section 8 of the Site Water Management Plan (dated March 2009) and an revised Groundwater Monitoring Program was approved by Planning NSW on 17 May 2013:	**Compliant**

<table>
<tr><th>Condition No.</th><th>Development Approval 29/95 Condition</th><th>Verification</th><th>Comments</th><th>Compliance</th></tr>
<tr><td></td><td>(c) a program to monitor ground water levels and quality; and
(d) a protocol for the investigation, notification and mitigation of identified exceedances of the ground water impact assessment criteria.</td><td>• Groundwater Monitoring Program, Apr 2013
• Letter from DP&I re Revised Water Management Plan, 17 May 2013</td><td>(a) Section 8.2.1 Groundwater Quality and section 8.3 Groundwater Quality Records
(b) Section 8.2.3 Groundwater Quality
(c) Section 8.2.3 Groundwater Inflows and Water Levels in Underground Workings; (d)
(d) Section 7 Surface and Groundwater Response Plan</td><td></td></tr>
<tr><td></td><td>Surface and Ground Water Response Plan</td><td></td><td></td><td></td></tr>
<tr><td>11</td><td>The Surface and Ground Water Response Plan must include:
(a) the procedures that would be followed in the event of any exceedance of surface or groundwater impact assessment criteria, or other identified impact on surface or groundwater;
(b) measures to mitigate, remediate and/or compensate any identified impacts (including measures to mitigate and/or compensate potentially affected landowners for any loss of surface water flows in local creeks or farm dams); and
(c) disposal/neutralisation contingencies in the event that acid leachate problems emerge after the mine closes.</td><td>• Surface and Groundwater Response Plan, Mar 2009
• Letter from DP&I re Revised Water Management Plan, 13 Nov 2009
• Surface and Groundwater Response Plan, Apr 2013
• Letter from DP&I re Revised Surface and Groundwater Response Plan, 17 May 2013</td><td>A surface and groundwater response plan is included in the Site Water Management Plan,
a) Actions for exceedance of defined groundwater trigger levels are provided in Site Water Management Plan Section 9 Table 9.1. No time frame is provided for review of trigger and appropriate actioning with respect to Alluvial Aquifer Levels
b) Actions for investigation, mitigation and reporting of identified impacts including replacement water supplies to affected landholders are provided in Site Water Management Plan Section 9 Table 9.1 and discussed in Sections 8.2 and 9.3;
c) Site Water Management Plan Section 9.4 indicates that a mine closure water management plan identifying monitoring and contingency measures will be developed to reduce potential acid leachate.</td><td>Compliant</td></tr>
<tr><td></td><td>Groundwater Study</td><td></td><td></td><td></td></tr>
<tr><td>12</td><td>The Applicant shall, in the event it selects the Cessnock No. 1 Shaft at Kalingo as the ventilation shaft site for the mine, submit a report to the Director-General and the DRE which includes a groundwater study and mine water disposal plan prepared in accordance with the requirements of the DRE and EPA.</td><td></td><td>Use of Cessnock No.1 Shaft as a ventilation shaft for the mine had not occurred at the date of this audit.</td><td>Not triggered</td></tr>
<tr><td></td><td>NOISE AND VIBRATION</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Impact Assessment Criteria</td><td></td><td></td><td></td></tr>
<tr><td>13</td><td>The Applicant shall ensure that the noise generated by the Infrastructure Upgrade Area identified in Figure 1.3 of the April 2006 SEE does not exceed the noise impact assessment criteria in Table 2.

Table 2: Noise impact assessment criteria dB(A)
<table><tr><th>Day/Evening/Night</th><th>Land</th></tr><tr><td>35 LAeq(15 minute)</td><td>All privately owned land</td></tr></table></td><td>• Noise Monitoring Program Austar Coal Mine, Heggies, 22 Jan 2007
• Noise and Vibration Management Plan, 2013</td><td>The attended noise monitoring results to determine noise generated from the Kalingo Infrastructure Area between 2011 and 2014 demonstrated compliance with the noise impact assessment criteria in DA 29/95 Schedule 3 condition 13.
There were occasional exceedances of the noise criteria at residences near Pelton CHPP after application of the Industrial Noise Policy low frequency modifying factor of</td><td>Compliant</td></tr>
</table>

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	Notes: *a) Noise from the development is to be measured at the most affected point or 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, to determine compliance with the LAeq(15 minute) noise limits in the above table. Where it can be demonstrated that direct measurement of noise from the development is impractical, the Department and the EPA may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.* b) 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. However, if the Applicant has a written negotiated noise agreement with any landowner of the land listed in Table 2, and a copy of this agreement has been forwarded to the Department and the EPA, then the Applicant may exceed the noise limits in Table 2 in accordance with the negotiated noise agreement.		+5dB. Exceedances were discussed in the AEMR's and the EPA was notified in accordance with EPL 416.	
	Continuous Improvement			
14	The Applicant shall: (a) implement all reasonable and feasible noise mitigation measures; (b) investigate ways to reduce the noise generated by the development; and (c) report on these investigations and the implementation and effectiveness of these measures in the AEMR, to the satisfaction of the Director-General.	• Assessment of Noise Impacts Austar Coal Mine, Global Acoustics, Sep 2008 • CHPP Noise Pollution Reduction Program Status Report, 31 Aug 2010 • CHPP Noise Pollution Reduction Program Status Report, 1 Aug 2011	(a) The cladding on the CHPP has been upgraded to reduce noise emissions from the plant. (b) The report prepared by Global Acoustics in 2008 suggested noise control options for the CHPP including: • Closing openings in the CHPP building; • Upgrading CHPP wall and roof sheeting; • Installation of silencers on roof CHPP vents; • Construction of a noise bund around the CHPP stockpiles; • Shielding/enclosing all conveyors and conveyor drives. (c) Annual Reports on the Noise Pollution Reduction Program have been prepared and submitted to the DECC/OEH/EPA in accordance with EPL condition U1.2.	**Compliant**

<table>
<tr><th>Condition No.</th><th>Development Approval 29/95 Condition</th><th>Verification</th><th>Comments</th><th>Compliance</th></tr>
<tr><td></td><td>Noise Monitoring</td><td></td><td></td><td></td></tr>
<tr><td>15</td><td>The Applicant shall implement the approved Noise Monitoring Program for the development to the satisfaction of the Director-General. This program must include quarterly attended noise monitoring and a noise monitoring protocol for evaluating compliance with the noise impact assessment criteria in this consent.</td><td>▪ Noise Monitoring Program Austar Coal Mine, Heggies, 22 Jan 2007
▪ Letter from DoP re Approval of Noise Monitoring Program, 157 Feb 2007
▪ Environmental Noise Monitoring Additional Sites for Quarter 4 - 2010, Global Acoustics
▪ Noise and Vibration Management Plan, 24 Jul 2013</td><td>The Noise Monitoring Program section 8.2 specifies operator attended noise measurements shall be undertaken during the day, evening and night periods on a quarterly basis.
The Noise Monitoring Program Section 11 Reporting and Review of Noise Monitoring Data, presents the protocol for evaluating compliance with the noise impact assessment criteria.</td><td>Compliant</td></tr>
<tr><td></td><td>Vibration Monitoring</td><td></td><td></td><td></td></tr>
<tr><td>16</td><td>The Applicant shall implement the approved Vibration Monitoring Program for the development to the satisfaction of the Director-General. This program must be capable of recording ground vibrations on the surface emanating from underground mining activities.</td><td>▪ Vibration Monitoring Program, July 2009
▪ Noise and Vibration Management Plan, 24 Jul 2013</td><td>The Vibration Monitoring Program for Long-walls A3, A4, and A5 provided a monitoring program and surface locations for the recording ground vibrations emanating from underground mining activities.</td><td>Compliant</td></tr>
<tr><td></td><td>AIR QUALITY</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Impact Assessment Criteria</td><td></td><td></td><td></td></tr>
<tr><td>17</td><td>The Applicant shall ensure that the dust emissions generated by the Infrastructure Upgrade Area identified in Figure 1.3 of the April 2006 SEE do not cause additional exceedances of the air quality impact assessment criteria listed in Tables 3, 4 and 5 at any residence on, or on more than 25 percent of, any privately-owned land.
Table 3: Long term impact assessment criteria for particulate matter – Surface Infrastructure Site
<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>90µg/m^3</td></tr>
<tr><td>Particulate matter <10µm (PM_{10})</td><td>Annual</td><td>30µg/m^3</td></tr>
</table>
Table 4: Short term impact assessment criterion for particulate matter – Surface Infrastructure Site
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Criterion</th></tr>
<tr><td>Particulate matter <10µm (PM_{10})</td><td>24 hour</td><td>50µg/m^3</td></tr>
</table></td><td>▪ Air Quality Management and Monitoring Plan Jan 2007
▪ Air Quality and Greenhouse Management Plan, Jun 2013</td><td>In accordance with the Air Quality Management and Monitoring Plan, five (5) static dust gauges and two (2) high volume air samplers were installed in March 2007.

The project average for calculated Total Suspended Particulates (TSP) is below the annual average criterion of 90ug/m^3 (calculated by multiplying the PM_{10} by 2.5 in accordance with the method of the Air Quality Management and Monitoring Plan).

The annual average PM_{10} results were less than the long term annual average criterion of 30 µg/m^3 and short term impact assessment criterion of 50 µg/m^3 during the 2011 and 2014.

Dust depositional results have been below the annual average criteria of 4 g/m^2/month for insoluble solids and less than the assessment criteria of a maximum increase of 2g/m^2/month annual average during the 2011 to 2014 period.</td><td>Compliant Ongoing</td></tr>
</table>

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	Table 5: Long term impact assessment criteria for deposited dust – Surface Infrastructure Site Pollutant / Averaging Period / Maximum increase in deposited dust level / Maximum total deposited dust level Deposited Dust / Annual / 2g/m^2/mth / 4g/m^2/mth *Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 2003, AS 3580.10.1-2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.*		(The results for dust deposition gauges contaminated with bird droppings/ insects are left out of the annual average calculation).	
	Operating Conditions			
18	The Applicant shall: (a) ensure any visible air pollution generated by the development is assessed regularly, and measures taken to minimise air quality impacts on privately-owned land; and (b) implement all practicable measures to minimise the off-site odour and fume emissions generated by the mine's ventilation system or any spontaneous combustion at the development, to the satisfaction of the Director-General.	▪ Spontaneous Combustion Management Plan, Dec 2009 ▪ Environmental Inspection Reports	(a) Monthly Environmental Inspections are conducted with visual assessment of air quality occurs at No 3 and 4 shafts, CHPP, coal storage area, Kitchener SIS, and reject areas (Abedare and East Open Cut). (b) The Spontaneous Combustion Management Plan provides processes for managing spontaneous combustion to reduce the potential for odour emissions from the mine and vent system.	**Compliant Ongoing**
	Monitoring			
19	The Applicant shall implement the approved Air Quality Monitoring Program for the development to the satisfaction of the Director-General. This program must include an air quality monitoring protocol for evaluating compliance with the air quality impact assessment criteria in this consent. The Applicant shall implement the approved Air Quality Monitoring Program for the development to the satisfaction of the Director-General. This program must include an air quality monitoring protocol for evaluating compliance with the air quality impact assessment criteria in this consent.	▪ Air Quality Management and Monitoring Plan, Jan 2007 ▪ Air Quality and Greenhouse Management Plan, Jun 2013	The Air Quality Management and Monitoring Plan includes a protocol for evaluating compliance with the air quality impact assessment criteria in section 7 - EPL Conditions and section 8 - Air Quality Goals. The Air Quality and Greenhouse Gas Management Plan April 2013 prepared under Project Approval 08_0111 has been implemented for the Austar Complex.	**Compliant**
	METEOROLOGICAL MONITORING			
20	The Applicant shall ensure that there is a suitable meteorological station operating in the vicinity of the development in accordance with the requirements in Approved Methods for Sampling of Air Pollutants in New South Wales and to the satisfaction of the Director-General.	• Letter from DoP re Approval of Meteorological Station 6 Feb 2009	A meteorological station consistent with the requirements of Approved Methods for Sampling Air Pollutants and EPL 416 condition M7.2 has been installed at the Austar CHPP site.	**Compliant**
	REJECT EMPLACEMENT			

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
21	The Applicant shall undertake reject emplacement in accordance with the current Mining Operations Plan as updated and approved by DRE from time to time. If reject emplacement in Areas 1, 3 and 4 as described in the August 1995 EIS is proposed, the Applicant shall: (a) investigate and report to the DRE on the possibility of disposing all reject into one emplacement area, at least 12 months before reject emplacement into the disturbed mining areas is complete; (b) provide a report on the geotechnical investigations and engineering specifications for emplacement areas 1, 3 and 4 to the DRE, and the Director-General at least 6 months prior to commencement of reject emplacement in these areas; and (c) commence use of emplacement areas 1, 3 and 4 only after consultation with the Council and approval by the DRE.	▪ Mining Operations Plan, 2008-2015 ▪ Letter from DPI re Approval of MOP, 30 Jun 2008	(a) Noted (b) Coarse reject emplacement occurs at three main sites approved by DI&I: • Abedare Extended Open Cut Void; • East open Cut Void; and • West Open Cut Emplacement Area (c) The MOP approval granted by DPI on 30 June 2008 included approval of reject emplacement to the Abedare Emplacement and East and West Open Cut Voids.	**Compliant**
	FLORA AND FAUNA			
22	The Applicant shall: (a) take all reasonable measures to protect native vegetation from damage during construction except where trees, shrubs and other vegetation are removed for approved works; and (b) salvage all useable trees and shrubs for reuse in controlling erosion and/or site rehabilitation.	• Clearing, Excavation, Stake or Pile Driving Permits (EMP-P-007	(a) Any disturbance of land or vegetation only occurs after completion of form EMP-P-007 and approval prior to vegetation removal for approved works. (b) Usable trees and shrubs are retained for control of erosion or for habitat establishment.	**Compliant**
23	The Applicant shall: (a) undertake fauna surveys for bat species at undisturbed sites proposed for reject emplacement as required by the EPA; (b) report results of any fauna surveys to the EPA; (c) undertake a monitoring program of riparian vegetation along Quorrobolong and Cony Creeks in the area of long-walls A3 to A5a with particular reference to River Flat Eucalypt Forest EEC; and (d) carry out any necessary ameliorative measures requested by the EPA in relation to the findings of the fauna surveys and riparian vegetation monitoring program, to the satisfaction of the EPA.	• Ecological Monitoring Program Stage 2 Longwall Mining, Austar Coal Mine Quorrobolong, Umwelt, Mar 2011 • 2010 Ecological Monitoring Report Stage 2 Longwall Mining, Austar Coal Mine Quorrobolong, Umwelt, Jun 2012 • Ecological Monitoring Report Stage 2 Longwall Mining, Austar Coal Mine Quorrobolong, Umwelt, Jun 2013 • Letter to OEH re Revised Ecological Monitoring Program Stage 2, 17 Nov 2013	(a) No reject emplacement or works have occurred in undisturbed areas of the site. No bat surveys have been required. (b) Fauna surveys conducted opportunistically during the ecological monitoring program site inspections are reported in the Ecological Monitoring Program Reports submitted to OEH. (c) Monitoring of riparian vegetation along Quorrobolong and Cony Creeks in the area of long-walls A3 to A5a have occurred with reference to River Flat Eucalypt Forest EEC and are reported in the annual Ecological Monitoring Program Reports. (d) Not activated	**Compliant Ongoing**
	HERITAGE			
	Aboriginal Heritage			
24	Six months prior to commencing activities in undisturbed reject emplacement areas to use Cessnock No. 1 Colliery		The use Cessnock No. 1 Colliery surface facilities had not occurred at the date of this audit (November 2014.	**Noted**

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	surface facilities, the Applicant shall undertake additional Aboriginal heritage surveys to the satisfaction of the EPA.			
24A	The Applicant shall prepare and implement an Aboriginal Cultural Heritage Management Plan for the Stage 2 mining area to the satisfaction of the Director-General. The plan must: (a) be prepared by a suitably qualified archaeologist in consultation with EPA and the relevant Aboriginal groups, and be submitted to the Director-General for approval prior to the commencement of extraction of long-wall A5a; and (b) include a program/procedures for: • salvage and management of Aboriginal sites within the Stage 2 mining area; • monitoring and management of Aboriginal sites within the Stage 2 mining area; • managing the discovery of any new Aboriginal objects or skeletal remains discovered during the project; • undertaking additional archaeological surveys on any areas subject to extensive remediation activities; and • ongoing consultation with and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site. *Note: This plan can be incorporated into the Aboriginal Cultural Heritage Management Plan required under the Project Approval for the Stage 3 mining area (08_0111).*	• Aboriginal Heritage Assessment, 2008 • Aboriginal Cultural Heritage Management Plan, Stage 2, 2008 • Aboriginal Cultural Heritage Management Plan, Stage 3, May 2013	An Aboriginal Cultural Heritage Management Plan for the Stage 2 and Stage 3 mining areas: (a) prepared by Umwelt (Australia) Pty Ltd in consultation with EPA / OEH and Aboriginal groups prior to commencement of extraction of coal from Longwall Panel A5a or Stage 3; (b) The Aboriginal Cultural Heritage Management Plan includes: • Section3.0 - Aboriginal Cultural Heritage Management Strategy • Section 3.2 – Archaeological Site Monitoring Program; • Section3.6 – Protocol for Previously Unidentified Aboriginal Objects/Features and section3.8 – Protocol for Human/Skeletal Remains; • Section 3.3 – Mitigation of Potential Impacts from Future Surface Works; • Section1.4 – Aboriginal Community Consultation.	**Compliant Ongoing**
	European Heritage			
25	The Applicant shall: (a) undertake a Heritage Impact Assessment of the site and prepare a Heritage Management Plan, in consultation with the Council, for the approval of the Heritage Council of NSW prior to recommencing any mining activities at the Cessnock No 1 Colliery surface facilities at Kalingo; (b) make application under section 132 of the Heritage Act 1977 for any works proposed to be undertaken on or under Lot 1, DP 87087 and Part Lot 1, DP 69968 County Northumberland, Parish Heddon; and (c) take all reasonable measures to protect the ring-barked tree referenced in the April 2006 SEE, to the satisfaction of the Director-General. *Note: The land referred to in condition 25(b) is currently subject to a section 130 order under the Heritage Act 1977 to prevent harm to buildings, works, relics etc of the South Maitland Railway, gazetted 16 September, 1983.*	• Heritage Management Plan, May 2013	The Heritage Management Plan was: (a) prepared by Umwelt March 2013 in consultation with Heritage Council of NSW; (b) and (c) No works had commenced at the Cessnock No. 1 Colliery area at the date of this audit.	**Not triggered**
	TRAFFIC AND TRANSPORT			

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
26	The Applicant shall: (a) prior to the commencement of operations in reject emplacement areas 3 and 4 (as described in the August 1995 EIS), provide to the satisfaction of the Council and the RTA and at its own cost, a crossing over Wollombi Road (Main Road 218) in the vicinity of these coal waste emplacement areas with respect to type and sight distance in accordance with AS2890-1. Such crossing shall consist of pavement and bitumen seal extending at least 30 metres either side of Main Road 218; and (b)provide a Type BA intersection at the nominated entry to the Cessnock No 1 Colliery site. The intersection type and location shall be determined in conjunction with Council and constructed prior to commencement of operations at the Cessnock No 1 Colliery site.		(a) No operations have occurred in reject emplacement areas 3 and 4 described in the EIS, August 1995 (b) No works had commenced at the Cessnock No. 1 Colliery area at the date of this audit.	**Not triggered**
27	The Applicant shall: (a) prior to 31 December 2008, or as otherwise agreed with the Director-General, undertake upgrade works to the road level crossing at Vincent Street, Kitchener, as recommended in Austar Coal Mine Pty Limited Report on Four Rail Level Crossings in Cessnock LGA Stage 5 Road Safety Audit (GHD March 2007); and (b) prior to 30 June 2009, use its best endeavours to under-take upgrade works at the following road level crossings as recommended in Austar Coal Mine Pty Limited Report on Four Rail Level Crossings in Cessnock LGA Stage 5 Road Safety Audit (GHD March 2007): • Cessnock Road, Kearsley; • Neath Road, Neath; and • Mitchell Avenue, Weston, in consultation with the South Maitland Railway, and to the satisfaction of the Council and the RMS.	▪ Letter from DoP re Approval for Extension of Time to Complete Works, 2 Feb 2009 ▪ Letter from Cessnock City Council re Notice of Determination for Proposed Works Vincent Street Cessnock, 26 May 2009 ▪ Letter from GHD re Level Crossing Upgrade (Vincent Street), 23 Oct 2009 ▪ Letter from South Maitland Railways re Mitchell Ave Kurri Kurri Level Crossing, 6 Aug 2013 ▪ Safety Report –Mitchell Avenue Level Crossing, Lycopodium, Apr 2014 ▪ Email from Ausgrid re Completion of Neath Road Lighting Upgrade, 8 May 2014	(a) A Notice of Determination of the Application under the Roads Act 1993 for proposed works and structures within the public road known as Vincent Street Cessnock was received from the Cessnock City Council on 26 May 2009. GHD contracted for delivery of the project. The works were completed in 2010. (b) upgrade works for the following road level crossings have occurred: • Cessnock Road – funding for the Cessnock Road/Caledonia Street Kearsley level crossing boom gates was provided by the Federal Government, 4 April 2009. • Neath Road - lighting upgrade at Neath Road Neath, adjacent to the rail crossing (Pole No: GS-83314) was completed in April 2014; • Mitchell Road - A Safety Report –Mitchell Avenue Level Crossing, was prepared for South Maitland Railways Pty Ltd by Lycopodium, dated April 2014. The report concluded that: *"the crossing conforms with appropriate Australian Standards and regulations and there is no requirement for an upgrade at this time*".	**Compliant**
	SCHEDULE 4 ADDITIONAL PROCEDURES FOR SUBSIDENCE MANAGEMENT			

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	NOTIFICATION OF LANDOWNERS			
1	Prior to 31 June 2008, the Applicant shall notify the landowners of land listed in Table 1 in writing that they have the right to require the Applicant to acquire their land in accordance with condition 1 of Schedule 3 and conditions 3 to 5 below.	▪ Letter to S&C Duff re Austar Coal Mine Stage 2 Modification, 30 Jun 2008: ▪ Letter to Bukan Main Pty Ltd re Austar Coal Mine Stage 2 Modification, 30 Jun 2008	Letters notifying landowners of the have the right to require the Applicant to acquire their land were sent on 30 June 2008.	**Compliant**
2	Prior to 31 June 2008, the Applicant shall notify all landowners whose land may be subject to subsidence as a result of the development about the procedures for rectification and compensation for subsidence effects on residences, farm buildings, agricultural land and other infrastructure under the *Mining Act* 1992 and the Mine *Subsidence Compensation Act* 1961.	▪ Letter to S&C Duff re Austar Coal Mine Stage 2 Modification, 30 Jun 2008: ▪ Letter to Bukan Main Pty Ltd re Austar Coal Mine Stage 2 Modification, 30 Jun 2008 ▪ Letter to P McGreevey and P Malou re Austar Coal Mine Stage 2 Modification, 30 Jun 2008 ▪ Letter to T&N Duckworth re Austar Coal Mine Stage 2 Modification, dated 30 June 2008	Letters notifying landowners of procedures for rectification and compensation for subsidence effects on residences, farm buildings, agricultural land and other infrastructure were sent on 30 June 2008.	**Compliant**
	LAND ACQUISITION			
3	Within 3 months of receiving a written request from a landowner with acquisition rights as specified in Condition 1 or Condition 2 of Schedule 3, the Applicant 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 development the subject of the development 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 measures implemented by the MSB; (b) the reasonable costs associated with:	▪ Letter Report from TEW Property Consultants re Duff property 93 Nash Lane Quorrobolong Valuation,17 Aug 2009 ▪ Letter from Austar to DoP re Acquisition of Properties, 17 May 2010	Austar notified DoP of the purchase by Austar Coal of properties A04a Bukan Main Pty Ltd 145 Nash Lane Quorrobolong on 31 March 2009, and A03a Duff 93 Nash Lane Quirrobolong on 30 April 2010, following written requests for acquisition.	**Compliant**

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	• relocating within the Cessnock local government area, 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 required; and (c) reasonable compensation for any disturbance caused by the land acquisition process. However, if at the end of this period, the Applicant and landowner cannot 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 (see Appendix 1). Upon receiving such a request, the Director-General shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer or Fellow of the Institute, to consider submissions from both parties, and determine a fair and reasonable acquisition price for the land, and/or terms upon which the land is to be acquired. Within 14 days of receiving the independent valuer's determination, the Applicant shall make a written offer to purchase the land at a price not less than the independent valuer's determination. If the landowner refuses to accept this offer within 6 months of the date of the Applicant's offer, the Applicant's obligations to acquire the land shall cease, unless otherwise agreed by the Director-General.			
4	The Applicant shall bear the costs of any valuation or survey assessment requested by the independent valuer, or the Director-General and the costs of determination referred above.			**Noted**
5	If the Applicant and landowner agree that only part of the land shall be acquired, then the Applicant shall 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**
	SCHEDULE 5 ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING			
	Environmental Management Strategy			
1	The Applicant shall implement the approved Environmental Management Strategy for the development to the satisfaction of the Director-General. This Strategy must:	▪ Environmental Management Strategy, Jun 2010 ▪ Letter from Planning re Approval of Environmental	The Environmental Management Strategy revised by Austar Coal in June 2010 included: (a) Section 2 Purpose of the EMS (b) Section 6 Statutory Obligations	**Compliant**

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	(a) provide the strategic context for environmental management of the development; (b) identify the statutory requirements that apply to the development; (c) describe in general how the environmental performance of the development would be monitored and managed during the development; (d) describe the procedures that would be implemented to: • keep the local community and relevant agencies informed about the operation and environmental performance of the development; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the development; • respond to any non-compliance; • manage any cumulative impacts; • respond to emergencies; and (e) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the development.	Management Strategy and Environmental Monitoring Program, 18 Jun 2010 ▪ Environmental Management Strategy, 2 Oct 2013 ▪ Letter from Planning re Approval of Environmental Management Strategy 2 Oct 2013	(c) Section 12 Monitoring, Review and Improvement (d) Procedures to be implemented: • Section 10.1 Community Involvement • Section 10.2 Complaint Protocol • Section 9 Cumulative Impacts • Section 11 Incident Response (e) Section 7.1 Roles and Responsibilities	
	Environmental Monitoring Program			
2	The Applicant shall undertake monitoring in accordance with the approved Environmental Monitoring Program for the development, to the satisfaction of the Director-General. This program must consolidate the various monitoring requirements of this consent into a single document.	▪ Consolidated Environmental Monitoring Program (Ref ENV-001-03-EMP001), May 2013 31 May 2013. ▪ Environmental Monitoring Program, Jun 2010 ▪ Letter from Planning re Approval of Environmental Management Strategy and Environmental Monitoring Program, 18 Jun 2010 ▪ Letter from Planning re Approval of Environmental Management Strategy 2 Oct 2013	The monitoring requirements for the various environmental aspects have been collated into the Environmental Monitoring Program, dated June 2010 Environmental monitoring requirements are outlined in the 'Consolidated Environmental Monitoring Program' (CEMP, Ref □). AEMRs for 2011-2012, 2012-2013 and 2013-2014 (Refs 5, 8, 9) indicate monitoring has been undertaken in accordance with the CEMP	**Compliant**
	Environmental Manager			
3	Prior to carrying out any development, the Applicant shall employ a suitably qualified and experienced Environmental Manager, whose appointment has been endorsed by the Director-General, for the duration of the development to oversee the environmental performance of the development and compliance with the conditions of this approval.	▪ Letter from DoP Approving Appointment of New Environmental Co-ordinator, 1 Jul 2009	Mr Gary Mulhearn was appointed Austar Environmental Coordinator in November 2011 and was endorsed by the NSW Department of Planning for this role	**Compliant**

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	Incident Reporting			
4	Within 7 days of detecting an exceedance of the limits/performance criteria in this consent, the Applicant shall report the exceedance/incident to the Department (and any relevant agency). The report must: (a) describe the date, time, and nature of the exceedance/incident; (b) identify the cause (or likely cause) of the exceedance / incident; (c) describe what action has been taken to date; and (d) describe the proposed measures to address the exceedance/incident.	▪ 2011-2012 AEMR ▪ 2012-2013 AEMR ▪ 2013-2014 AEMR	Environmental incidents are recorded and actions implemented and reported to the DoP/DP&I/EPA in the Annual Review/AEMR's Appendix G. Reportable incidents are notified in accordance with the EPL condition R2.1 and R2.2, and reported in the Annual Returns to the EPA.	**Compliant**
	Annual Reporting			
5	Each year, the Applicant shall submit an Annual Environmental Management Report (AEMR) to the Director-General and the relevant agencies. This report must: (a) identify the standards and performance measures that apply to the development; (b) describe the works carried out in the last 12 months; (c) describe the works that will be carried out in the next 12 months; (d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years; (e) include a summary of the monitoring results for the development during the past year; (f) include an analysis of these monitoring results against the relevant: • impact assessment criteria/limits; • monitoring results from previous years; and • predictions in the EIS and/or SEE; (g) identify any trends in the monitoring results over the life of the development; (h) identify any non-compliance during the previous year; and (i) describe what actions were, or are being, taken to ensure compliance.	▪ 2011-2012 AEMR ▪ 2012-2013 AEMR ▪ 2013-2014 AEMR	The Annual Environmental Management Reports have been prepared to satisfy the requirements of condition 5 by Austar Coal and submitted to the Director-General and other relevant agencies: (a) Section 1.3 Consents, Leases and Licences (b) Section 2 Operations during the Reporting Period (c) Section 6 Activities Proposed for the Next AEMR Period (d) Section 4.2 Environmental Complaints (e) to (i) Section 3 Environmental Management and Performance	**Compliant**
	Independent Environmental Audit			
6	Prior to 31 December 2008, and every 3 years thereafter, unless the Director-General directs otherwise,	▪ Independent Environmental Audit, GSS Environmental, Apr 2009	An Independent Environmental Audit was conducted by GSS Environmental Pty Ltd with site inspections on the	**Compliant**

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must: (a) be conducted by suitably qualified, experienced, and independent expert/s whose appointment has been endorsed by the Director-General; (b) include consultation with the relevant agencies; (c) assess, in respect of the requirements of this consent and any relevant mining lease or environment protection licence, the environmental performance of the development and its effects on the surrounding environment; (d) assess whether the development is complying with relevant standards and performance measures specified in these approvals (including under any strategy, plan or program required under these approvals) and with other statutory requirements; (e) review the adequacy of strategies, plans or programs required under these approvals; and, if necessary, (f) recommend measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals. *Note: This audit team must be led by a suitably qualified auditor and include experts in the fields of subsidence, surface water, groundwater, noise and air quality.*	▪ Letter from Planning re Independent Environmental Audit, 16 Nov 2009 ▪ Letter from Planning re Approval of Independent Environmental Audit Team, 20 Oct 2011 ▪ Independent Environmental Audit, Nov 2011 ▪ Letter from DP&I re Endorsement of Independent Environmental Audit Team, Oct 2014	3 and 4 December 2008 and the report submitted to Austar Coal in April 2009. The next Independent Environmental Audit was commissioned by Austar in 2011: (a) The Independent Environmental Audit Team was approved by Planning on 20 October 2011 (b) Consultation occurred with the EPA/DP&I/DII in December 2011 (c) The site inspections for the 2011 audit were conducted on 2 November 2011 (Surface water/ erosion and sediment control/rehabilitation and general site inspection) and the 29 November 2011 (subsidence and groundwater). The Independent Environmental Audit Report was submitted to Austar Coal in January 2012. (d) Audit of documentation for compliance was conducted for MCoA/EPL/ML (e) Adequacy of strategies, plans or programs was conducted and reported. Recommendations were provided where relevant to improve the environmental performance of the development and actions taken by Austar were reported to the DoP. This current audit has been conducted by the Trevor Brown & Associates audit team endorsed by DP&I on 20 October 2014. Consultation occurred with the EPA/DP&E/DRE in November 2014. No request for audit of specific matter were received from the agencies.	
7	Within 6 weeks of completing this audit, or as otherwise agreed by the Director-General, the Applicant shall submit a copy of the audit report to the Director-General with a response to any recommendations contained in the audit report.		Austar provided responses to DoP in relation to actions related to the recommendations made in Table 7 of the 2011 Independent Environmental Audit Report.	**Compliant**
8	Within 3 months of submitting the audit report to the Director-General, the Applicant shall review and if necessary revise the strategies/plans/programs required under this consent, to the satisfaction of the Director-General.		In response to the Independent Environmental Audit conducted in November 2012, the recommendations were implemented and reported to the Director-General.	**Compliant**
	Community Consultative Committee			
9	The Applicant shall establish and maintain a Community Consultative Committee (CCC) to oversee the	▪ Letter from Planning re Appointment of Community	(a)The Community Consultative Committee (CCC) members were approved by Planning on 15 Dec 2009	**Compliant Ongoing**

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	ongoing environmental performance of the development. The CCC shall: (a) be comprised of: • 2 representatives from the Applicant, including the person responsible for environmental management at the mine; • at least 1 representative from Council; and • at least 3 representatives from the local community, • whose appointment has been approved by the Director-General in consultation with the Council. The local community representative positions will be re-appointed every two years unless otherwise agreed by the Director-General; (b) be chaired by an independent chairperson, or council representative, whose appointment has been approved by the Director-General; (c) meet at least 4 times a year, or as otherwise approved by the Director-General; (d) review the Applicant's performance with respect to environmental management and community relations; (e) undertake regular inspections of the mine operations; (f) review community concerns or complaints about the mine operations, and the Applicant's complaints handling procedures; and (g) provide advice to: • the Applicant on improved environmental management and community relations, including the provision of information to the community and the identification of community initiatives to which the Applicant could contribute; • the Department regarding the conditions of this consent; and the general community on the performance of the mine with respect to environmental management and community relations; and (h) be operated generally in accordance with any guidelines the Department may publish in regard to the operation of Community Consultative Committees for mining developments. *Note: The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that* *the Applicant complies with this consent.*	Consultative Committee Members, 15 Dec 2009 ▪ Letter from Planning re Appointment of additional CCC Member, 24 May 2010. ▪ Letter from DP&I re appointment of Chairperson, 30 January 2014. ▪ CCC Meeting Minutes 17 Feb 2012 ▪ CCC Meeting Minutes 18 May 2012 ▪ CCC Meeting Minutes 10 Aug 2012 ▪ CCC Meeting Minutes 23 Nov 2012 ▪ CCC Meeting Minutes 13 Feb 2013 ▪ CCC Meeting Minutes 14 Aug 2010 ▪ CCC Meeting Minutes 13 Nov 2013 ▪ CCC Meeting Minutes 12 Feb 2014 ▪ CCC Meeting Minutes 14 May 2014 ▪ CCC Meeting Minutes 13 Aug 2014	and 24 May 2010 and Meetings are held quarterly. The members of the CCC are: ***Community Representatives:*** Louise Dews David Holmes Peter Sturrock Alan Smith ***Cessnock City Council Representative:*** Cr Jeff Maybury ***Austar Representatives:*** Gary Mulhearn Environment & Community Manager Carly McCormack (CCC Minute Records) David McLean Adrian Moodie Greg Pawley (b) ***Chairman*** - Hon. Gary West (until November 2013, and Ms Margaret McDonald-Hill (February 2014 to present) (c) CCC Meetings were held quarterly. (d) the CCC Meetings are provided with a review of environmental performance and community relation issues. (f)Community complaints are presented and reviewed by the CCC. (g) the CCC members discuss the performance of the mine in relation to community relations and approval conditions. (h) the CCC Meetings are run formally by the Chairman in accordance with CCC's for mining projects	
10	The Applicant shall fulfil all responsibilities set out for companies in the CCC guidelines, including at its own expense:	▪ CCC Meeting Minutes 17 Feb 2012	(a) two representatives of Austar Coal attend each CCC Meeting	**Compliant Ongoing**

Condition No.	Development Approval 29/95 Condition	Verification	Comments	Compliance
	(a) ensuring that 2 of its representatives attend CCC meetings; (b) regularly providing the CCC with reports and other information on the environmental performance and management of the development; (c) providing meeting facilities for the CCC, if the CCC requests; (d) arranging site inspections for the CCC, if requested; (e) taking minutes of the CCC meetings, if the CCC requests; (f) making these minutes available to the public; and (g) responding to any advice or recommendations the CCC may have in relation to the environmental management or community relations.	▪ CCC Meeting Minutes 18 May 2012 ▪ CCC Meeting Minutes 10 Aug 2012 ▪ CCC Meeting Minutes 23 Nov 2012 ▪ CCC Meeting Minutes 13 Feb 2013 ▪ CCC Meeting Minutes 14 Aug 2010 ▪ CCC Meeting Minutes 13 Nov 2013 ▪ CCC Meeting Minutes 12 Feb 2014 ▪ CCC Meeting Minutes 14 May 2014 ▪ CCC Meeting Minutes 13 Aug 2014	(b) reporting on environmental performance and management is presented at each meeting (c) CCC Meetings are held in the Board Room at the Austar Coal Mine Main Office (d) Site inspections are arranged if requested (e) Minutes of the CCC Meeting are prepared and distributed by the Austar Environment and Community Manager (f) Minutes are made available on the Austar website (g) Austar respond to the CCC on matters raised from previous meetings.	
11	The Applicant shall fund the payment of invoices received to facilitate the general purposes and functioning of the CCC up to $2,000 each year until the cessation of operations under the consent. Note. The contribution is to be indexed according to the CPI at the time of each payment. The first payment shall be made by the date of the first CCC meeting.		Austar Coal provide a venue for the CCC Meetings, accommodation and expenses for the Chairman as required to attend meetings and any other expense for the operation of the CCC.	**Compliant Ongoing**
	Access to Information			
12	By 30 April 2008, and thereafter within 3 months of the approval of any strategy/plan/program required under this consent (or any subsequent revision of these strategies / plans / programs), or the completion of the audits or AEMRs required under this consent, the Applicant shall: (a) provide a copy of the relevant document/s to the relevant agencies and CCC; and (b) put a copy of the document/s on its website.	Austar website (www.austarcoalmine.com.au)	(a) Copies of strategy/plan/programs/audits/ AEMR's are provided to the relevant authorities and CCC, and (b) the documentation is placed on the Austar Coal website.	**Compliant Ongoing**
13	By 30 April 2008, and thereafter during the life of the development, the Applicant shall: (a) include a copy of this consent, as may be modified from time to time, on its website; (b) provide a full summary of monitoring results required under this consent on its website; and (c) update this summary on a regular basis (at least every 3 months).	Austar website (www.austarcoalmine.com.au)	The Austar website continues to be updated with: (a) copy of consents and modifications are provided as Modifications are granted; (b) Summary of monitoring/ AEMR's are placed on the website. (c) Documentation on the website is updated as required.	**Compliant Ongoing**

Attachment B
Project Approval 08_0111 (Stage 3 Expansion Project)

Attachment B

Project Approval 08_0111 (Stage 3 Expansion Project)

Consolidated Project Approval Conditions MOD 3 dated 17 Dec 2013

May 2010 modification in red type MOD 1
March 2012 modification in blue type MOD 2
December 2013 modification in green type MOD3

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT			
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	The Proponent shall carry out the project generally in accordance with the: (a) EA; (b) EA (MOD 1); (c) EA (MOD 2); (d) EA (MOD 3); (e) statement of commitments; and (f) conditions of this approval. *Notes:* • *The general layout of the project is shown in Appendix 2;* • *The statement of commitments is reproduced in Appendix 3.*	• Environmental Assessment MOD 1, May 2010 • Environmental Assessment MOD 2, Mar 2012 • Environmental Assessment MOD 3, Oct 2013	The Austar Coal Mine has been developed generally in accordance with the, Environmental Assessment s: • Environmental Assessment MOD 1 May 2010 • Environmental Assessment MOD 2March 2012 • Environmental Assessment MOD 3, October 2013	**Compliant Ongoing**
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**
4	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**

<table>
<tr><th>Condition No.</th><th>Project Approval 08_0111 Condition</th><th>Verification</th><th>Comments</th><th>Compliant</th></tr>
<tr><td></td><td>LIMITS ON APPROVAL</td><td></td><td></td><td></td></tr>
<tr><td>5</td><td>Mining operations in Stage 3 may take place until 31 December 2030.
Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings to the satisfaction of the Director-General and the Executive Director, Mineral Resources. 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.</td><td></td><td></td><td>Noted</td></tr>
<tr><td>6</td><td>The Proponent shall not extract more than 3.6 million tonnes of ROM coal a year from the Austar Mine Complex.</td><td>• AEMR 2013-2014
• AEMR 2012-2013
• AEMR 2011-2012</td><td>Total ROM coal extracted by the Austar Mine during 2011-2014 period did not exceed the approved ROM tonnage.
<table><tr><th>Period</th><th>ROM Tonnage</th></tr><tr><td>2013-2014</td><td>1,566,002 tpa</td></tr><tr><td>2012-2013</td><td>1,383,835 tpa</td></tr><tr><td>2011-2012</td><td>1,862,788 tpa</td></tr></table></td><td>Compliant</td></tr>
<tr><td>7</td><td>The Proponent may transport a maximum of 60,000 tonnes of coal (including coal reject) per calendar year from the mine complex by road. All other coal shall be transported from the site by rail.</td><td>• AEMR 2013-2014
• AEMR 2012-2013
• AEMR 2011-2012</td><td>No product coal was transported from the Austar Mine by road between 2011 and 2014:
<table><tr><th>Period</th><th>Road Transport</th></tr><tr><td>2013-2014</td><td>Nil</td></tr><tr><td>2012-2013</td><td>Nil</td></tr><tr><td>2011-2012</td><td>Nil</td></tr></table></td><td>Compliant</td></tr>
<tr><td></td><td>STRUCTURAL ADEQUACY</td><td></td><td></td><td></td></tr>
<tr><td>8</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>•</td><td>A construction and operational approve for a septic tank system was obtained from the Cessnock City Council.

Other demountable buildings placed on the Austar Coal site adjacent to the Administration Building, do not require approvals as part of the mine facilities, under the Mines Act 1992.</td><td>Compliant Ongoing</td></tr>
<tr><td></td><td>DEMOLITION</td><td></td><td></td><td></td></tr>
</table>

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
9	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.		No demolition works occurred between November 2011 and November 2014.	**Noted**
	PROTECTION OF PUBLIC INFRASTRUCTURE			
10	Unless a claim under the Mine Subsidence Compensation Act 1961 can be made, or where the Proponent and the applicable authority agree otherwise, the Proponent shall: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; or (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project.			**Noted**
	OPERATION OF PLANT AND EQUIPMENT			
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.		Plant and equipment used at the site is maintained in a proper and efficient condition in the Austar workshops and operated in an efficient manner	**Compliant Ongoing**
	STRATEGIES, PLANS AND PROGRAMS			

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.	• Extraction Plan Dec 2013
		• Biodiversity Management Plan, Umwelt Dec 2013
		• Land Management Plan AECOM, Dec 2013;
		• Heritage Management Plan, Umwelt, May 2013;
		• Built Features Management Plan, Dec 2013
		• Public Safety Management Plan, Dec 2013
		• Site Water Management Plan April 2013
		• Site Water Balance
		• Erosion & Sediment Control Plan
		• Surface Water Monitoring Program
		• Groundwater Monitoring Program
		• Surface and Groundwater Response Plan
		• Noise and Vibration Management Plan
			Management Plans developed for second workings were approved by DP&I:
			• Extraction Plan Dec 2013
			  • Biodiversity Management Plan, Umwelt Dec 2013
			  • Land Management Plan AECOM, Dec 2013;
			  • Heritage Management Plan, Umwelt, May 2013;
			  • Built Features Management Plan, Dec 2013
			  • Public Safety Management Plan, Dec 2013
			• Site Water Management Plan April 2013
			  • Site Water Balance
			  • Erosion and Sediment Control Plan
			  • Surface Water Monitoring Program
			  • Groundwater Monitoring Program
			  • Surface and Groundwater Response Plan
			• Noise and Vibration Management Plan
			• Traffic Management Plan
			Implementation of these Plans had occurred for Stage 3 works on the date of this audit as secondary workings had commenced.
				Compliant

<table>
<tr><th>Condition No.</th><th>Project Approval 08_0111 Condition</th><th>Verification</th><th>Comments</th><th>Compliant</th></tr>
<tr><td></td><td></td><td>• Traffic Management Plan</td><td></td><td></td></tr>
<tr><td>13</td><td>With the approval of the Director-General, the Proponent may integrate any strategies, plans, programs, reviews, audits or committees required by this approval with any similar requirement under another development consent or approval relating to the Austar Mine Complex.</td><td></td><td></td><td>Noted</td></tr>
<tr><td></td><td>SCHEDULE 3
SPECIFIC ENVIRONMENTAL CONDITIONS – MINING</td><td></td><td></td><td></td></tr>
<tr><td></td><td>KEY PERFORMANCE MEASURE</td><td></td><td></td><td></td></tr>
<tr><td></td><td>The Proponent shall ensure that the project does not cause any exceedance of key performance measures in Table 1.
Table 1: Subsidence Impact Performance Measures
<table>
<tr><td colspan="2">Water Resources and Flooding</td></tr>
<tr><td>Flooding</td><td>No significant increased risk on built features, unless the landowner agrees otherwise in writing.</td></tr>
<tr><td colspan="2">Built Features</td></tr>
<tr><td>Built Features</td><td>Built features Safe, serviceable and repairable, unless the owner agrees otherwise in writing</td></tr>
</table>
Note: The Proponent will be required to define more detailed performance indicators for these performance measures in the various management plans that are required under this approval (see condition 4 below).</td><td></td><td>No significant increased risk of flooding on built features occurred between November 2011 and November 2014.</td><td>Compliant Ongoing</td></tr>
<tr><td></td><td>ACQUISITION OF AFFECTED RESIDENCES</td><td></td><td></td><td></td></tr>
<tr><td>2</td><td>If the subsidence generated by the project results in damage to any residence on privately-owned land that in the opinion of the MSB exceeds its safe, serviceable and repairable criteria, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 5 to 7 of schedule 5. However, the Proponent does not have to act on any such request if:
(a) the Proponent has a current, written negotiated agreement with the landowner in regard to the management of subsidence-related impacts beyond safe, serviceable and repairable criteria, and a copy of this agreement has been forwarded to the Department by the Proponent; or
(b) the landowner has agreed to the MSB purchasing the land or otherwise compensating the impacts under the Mine Subsidence Compensation Act 1961.</td><td></td><td>No acquisition of residences occurred between November 2011 and November 2014.</td><td>Not triggered</td></tr>
</table>

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	If the landowner has not made a written request for acquisition within 12 months of the date of being notified of the criteria exceedance and his/her acquisition rights by the Proponent, then the Proponent's obligations to acquire the land shall cease, unless the Director-General determines otherwise.			
	FIRST WORKINGS			
3	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 Planning re Modification to First Workings, 21 Jul 2010 ▪ Letter from Planning re First Workings, 13 Jan 2010 ▪ Figure 3 Revised First Workings Plan 4A Mining Activities 2010-2011 ▪ Letter from DP&I re Longwall A7 – Change to First Workings, 21 Feb 2013 ▪ Letter from DP&I re Longwall Planning re Longwall A8 – Modification to First Workings, 20 Nov 2013 ▪ Letter from DP&I re Longwall A9 – Modification to First Workings, 23 December 2013	A request to modify the first workings layout for Stage 3 was submitted to DP&I and approval granted by the Director-General on 13 August 2010 and progressive approvals for longwalls were obtained as required prior to commencement of mining of each longwall.	**Compliant**
	SECOND WORKINGS			
	Extraction Plan			
4	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, and be approved by the Director-General prior to the commencement of any second workings covered by the Extraction Plan; (b) include a detailed plan for the second workings, which has been prepared to the satisfaction of DRE, and provides for adaptive management; (c) include detailed plans of any associated surface construction works; (d) include the following to the satisfaction of DRE: • a coal resource recovery plan that demonstrates effective recovery of the available resource;	• Extraction Plan – LWA7 to LWA10, Dec 2013 • Biodiversity Management Plan, Umwelt Dec 2013 • Land Management Plan AECOM, Dec 2013; • Heritage Management Plan, Umwelt, May 2013; • Built Features Management Plan, Dec 2013 • Public Safety Management Plan, Dec 2013	Extraction Plan was prepared in 2013 to satisfy the requirements of condition 4, prior to commencement of coal extraction in Stage 3 area: (a) prepared by a team of suitably qualified and experienced experts whose appointment has been endorsed by the Director-General; (b) a detailed plan for the second workings, which has been prepared to the satisfaction of DRE; (c) No surface construction works associated with Stage 3 are required beyond the SIS development. Stage 3 mining product will be processed and handled using the existing infrastructure; (d) DRE was consulted during the preparation of the Extraction Plan and the approval process;	**Compliant**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	• revised predictions of the 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: o validate the subsidence predictions; and o analyse the relationship between the subsidence effects and subsidence impacts of the Extraction Plan and any ensuing environmental consequences; (e) include a: • Watercourse Management Plan, which has been prepared in consultation with OEH and • NOW, to manage the environmental consequences of second workings on watercourses (including flooding and ponding) and alluvial aquifers; • Biodiversity Management Plan, which has been prepared in consultation with OEH, to manage the potential environmental consequences of second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species; • Land Management Plan, to manage the potential environmental consequences of second workings on steep slopes and land in general; • Heritage Management Plan, which has been prepared in consultation with OEH and the relevant Aboriginal groups, to manage the potential environmental consequences of second workings 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 second workings on any built features; and (f) include a Public Safety Management Plan, which has been prepared in consultation with DRE, to ensure public safety in the mining area. *Notes:* • *In accordance with condition 12 of schedule 2, the preparation and implementation of Extraction Plans for* • *second workings may be staged, with each plan covering a defined area of second workings. In addition, these plans are only required to contain management plans that are relevant to the specific second workings that are being carried out.*		• section 2.2.4 – Mining Parameters Tables 2.1 and 2.2 Estimated Resource Recovery • section 2.3 – Subsidence Predictions; • section 4 - Subsidence Monitoring Program and Management (e) specific management plans have been prepared as part of the Extraction Plan: • Biodiversity Management Plan, Umwelt Dec 2013 • Land Management Plan AECOM, Dec 2013; • Heritage Management Plan, Umwelt, May 2013; • Built Features Management Plan, Dec 2013 • (f) Public Safety Management Plan, Dec 2013	

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	• *The Watercourse Management Plan must be integrated with all relevant aspects of the Site Water Management Plan required under condition 8 of schedule 4.*			
5	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 4(e) 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.	• Extraction Plan, section 4.2	For the preparation of future Extraction Plans, Austar prepares End of Panel Reports that provide an assessment of the predictions and performance of the long-wall panel mining, and: (a) provides baseline data for future Extraction Plans; (b) provides assessment of potential environmental consequences of the Extraction Plan, incorporating relevant information that has been obtained since the approval of this current Plan; and (c) outlines measures that would be implemented to remediate predicted impacts; and (d) provide Trigger Action Response Plan (TARP) - contingency plan that provides for adaptive management.	**Compliant Ongoing**
	Payment of Reasonable Costs			
6	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**
	SCHEDULE 4 SPECIFIC ENVIRONMENTAL CONDITIONS – GENERAL			
	CONSTRUCTION			
	Surface Infrastructure Site – Shaft Construction Management			
1	The Proponent shall prepare and implement a Shaft Construction Management Plan for the Surface Infrastructure Site, to the satisfaction of the Director-General. This plan must: (a) be submitted to the Director-General for approval prior to commencement of shaft construction activities on the Surface Infrastructure Site; and (b) include, in addition to the standard requirements for management plans (see condition 2 of schedule 7), a description of the measures/procedures to be implemented for: • minimising and managing the disturbance area; • protecting vegetation and soil outside the disturbance area; • controlling erosion and sedimentation, and managing water use; • undertaking pre-clearance surveys and managing impacts on fauna;	▪ Stage 3 Infrastructure Site Shaft Construction Environmental Management Plan, Nov 2009 ▪ Letter from NSW Planning re Approval of the Shaft Construction Environmental Management Plan, 13 Nov 2009 ▪ Letter from NSW Planning re Approval of the Shaft Construction Environmental Management Plan, 15 June 2012	The Shaft Construction Environmental Management Plan for the Surface Infrastructure Site was: (a) The Stage 3 Shaft Construction Environmental Management Plan was prepared in November 2009 and June 2012 and submitted to the Director-General prior to commencement of the construction activities: (b) Measures and Procedures to be implemented: • section 4 Minimising Disturbance Area • section 5 Minimising Impacts on Fauna and section 5.2 Pre-clearance Procedure • section 6 Erosion and Sediment Control • section 5.3 Vegetation Clearing Procedure • section 8 Managing any Aboriginal Objects or Skeletal Remains Discovered • section 9 Traffic Management	**Compliant**

<table>
<tr><th>Condition No.</th><th>Project Approval 08_0111 Condition</th><th>Verification</th><th>Comments</th><th>Compliant</th></tr>
<tr><td></td><td>• managing any Aboriginal objects or skeletal remains discovered during the project;
• traffic management; and
• noise, vibration and dust management.
Note: Shaft construction activities are limited to the construction of the access road to the shafts, erection of security fencing, vegetation clearing (approximately 1.8 hectares), construction of the shafts and minor ancillary works.</td><td></td><td>• section 10, Noise, section 11 Vibration, and section 12 Dust Management</td><td></td></tr>
<tr><td></td><td>NOISE</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>2</td><td>The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in:
(a) Table 2, for noise generated by the Surface Infrastructure Site; and
(b) any relevant EPL, for noise generated by all other components of the project.

Table 2: Noise impact assessment criteria – Surface Infrastructure Site, dB(A)

<table><tr><th>Day/Evening/Night $LA_{eq(15\ minute)}$</th><th>Night $LA_{1(1\ minute)}$</th><th>Land</th></tr><tr><td>35</td><td>45</td><td>All privately owned land</td></tr></table>Notes:
• The location of the Surface Infrastructure Site is shown in the figures in Appendix 2.
• Noise generated by the project is to be measured in accordance with the relevant requirements, and
• exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.
• The noise limits in Table 2 do not apply if the Proponent has an agreement with the relevant owner/s of these residences/land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.
• The noise limits in Table 2 do not apply to construction of the Surface Infrastructure Site. Noise generated during construction activities is to comply with the requirements of the Interim Construction Noise Guideline (DECCW 2009).</td><td>▪ Stage 3 Infrastructure Site Shaft Construction Environmental Management Plan, Nov 2009
▪ Noise and Vibration Management Plan, Global Acoustics, Jul 2013</td><td>Stage 3 works commenced in 2013 and noise monitoring in relation to this condition was undertaken in accordance with the SIS Construction Environmental Management Plan approved in November 2009.
Noise monitoring results demonstrated compliance with the criteria in condition 2 between November 2011 and November 2014, except for the following measurements:
<table><tr><th>Date</th><th>Noise $LA_{eq(15\ min}$</th><th>Comment</th></tr><tr><td>October 2013</td><td>39 (K1)</td><td rowspan="3">INP Low frequency modifying factor applied</td></tr><tr><td>June 2013</td><td>38 (NM K1)</td></tr><tr><td>July 2012</td><td>38 (NM K1)</td></tr></table>The required notification and investigation procedure in the Shaft Construction Environmental Management Plan or Noise and Vibration Management Plan were submitted to the relevant agency. Follow up monitoring did not indicate a systemic or sustained noise or vibration issue.
This audit has found Austar Coal Mine Pty Ltd to be operating generally in compliance with Development Consent DA29/95 (MOD 5), PA08_0111, EPL 416 and associated documents with respect to its noise obligations. There were occasional exceedances of the noise criteria at residences near Pelton CHPP after application of the INP low frequency modifying factor of +5dB. Exceedances were discussed in the AEMR's and the EPA was notified in accordance with EPL 416.</td><td>Compliant</td></tr>
</table>

<table>
<tr><th>Condition No.</th><th>Project Approval 08_0111 Condition</th><th>Verification</th><th>Comments</th><th>Compliant</th></tr>
<tr><td></td><td>Noise and Vibration Management</td><td></td><td></td><td></td></tr>
<tr><td>3</td><td>The Proponent shall prepare and implement a Noise Management Plan for the mine complex, to the satisfaction of the Director-General. This plan must:
(a) be prepared in consultation with EPA, and be submitted to the Director-General for approval prior to the commencement of construction of the Surface Infrastructure Site (other than shaft construction referred to in condition 1 above);
(b) include, in addition to the standard requirements for management plans (see condition 2 of schedule 7):
• a noise monitoring program providing for a combination of continuous and supplementary attended monitoring measures;
• a vibration monitoring program that is capable of recording ground vibrations on the surface emanating from underground mining activities; and
• a detailed continual improvement program for investigating, implementing and reporting on all reasonable and feasible measures to reduce noise levels and vibration impacts generated by the mine complex.</td><td>• Noise and Vibration Management Plan, Global Acoustics, Jul 2013
• 2011-2012 AEMR
• 2012-2013 AEMR
• 2013-2014 AEMR</td><td>The Noise and Vibration Management Plan for the Austar Mine Complex was prepared by Global Acoustics (dated July 2013) to cover the Stage 3 mining that commenced in 2013.
(The construction works for the Stage 3 surface infrastructure site (SIS) was covered by the Shaft Construction Environmental Management Plan section 10 – Noise).
The Noise and Vibration Management Plan July 2013 was:
(a) Prepared in consultation with the EPA and approved by DP&I prior to commencement of construction of the SIS;
(b) Section 5.1 - Noise Monitoring Program and section 5.3 Vibration Monitoring Program; and section6 Continual Improvement.
The Noise and Vibration Management Plan was implemented and the monitoring program results reported in the AEMR's.</td><td>Compliant</td></tr>
<tr><td></td><td>AIR QUALITY AND GREENHOUSE GAS</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Impact Assessment Criteria</td><td></td><td></td><td></td></tr>
<tr><td>4</td><td>The Proponent shall ensure that the dust emissions generated by the project do not cause additional exceedances of the air quality impact assessment criteria in:
(a) Tables 3, 4 and 5 for dust generated by the Surface Infrastructure Site; and
(b) any relevant EPL, for dust generated by all other components of the project, at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.
Table 3: Long term impact assessment criteria for particulate matter – Surface Infrastructure Site
<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>90µg/m^3</td></tr>
<tr><td>Particulate matter < 10 µm (PM10)</td><td>Annual</td><td>30µg/m^3</td></tr>
</table></td><td>• Infrastructure Site Shaft Construction Environmental Management Plan, approved in Nov 2009
• Air Quality and Greenhouse Gas Management Plan, Jul 2013
• 2011-2012 AEMR
• 2012-2013 AEMR
• 2013-2014 AEMR</td><td>Stage 3 works dust monitoring in relation to this condition was undertaken in accordance with the Air Quality and Greenhouse Gas Management Plan.
(The Kitchener SIS construction management occurred under the Stage 3 Infrastructure Site Shaft Construction Environmental Management Plan, approved in November 2009).
The dust emission monitoring conducted for Stage 3 operations and the Shaft construction works demonstrated compliance with the long term and short term assessment criteria for the November 2011 to November 2014 period.
PM_{10} Annual Average Range (µg/m^3)
<table>
<tr><th></th><th></th><th>2011-2014</th></tr>
<tr><th>No.</th><th>Location</th><th>PM_{10}</th></tr>
<tr><td>HVAS1</td><td>Pyne Way Mount View</td><td>10.3 – 12.4 µg/m^3</td></tr>
</table></td><td>Compliant</td></tr>
</table>

<table>
<tr><th>Condition No.</th><th>Project Approval 08_0111 Condition</th><th>Verification</th><th>Comments</th><th>Compliant</th></tr>
<tr><td></td><td>Table 4: Short term impact assessment criterion for particulate matter – Surface Infrastructure Site
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Criterion</th></tr>
<tr><td>Particulate matter < 10 µm (PM10)</td><td>24 hour</td><td>50µg/m^3</td></tr>
</table>
Table 5: Long term impact assessment criteria for deposited dust – Surface Infrastructure Site
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>Maximum increase in deposited dust level</th><th>Maximum total deposited dust level</th></tr>
<tr><td>Deposited Dust</td><td>Annual</td><td>2g/m^2/mth</td><td>4g/m^2/mth</td></tr>
</table>
Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 2003, AS 3580.10.1-2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.</td><td></td><td>
<table>
<tr><td>HVAS2</td><td>Ellalong Rd Pelton Village</td><td>10.7 – 14.0 µg/m^3</td></tr>
<tr><td>HVAS3</td><td>Coney Creek Lane Quorrobolong</td><td>3.5 µg/m^3 (Jun – Dec 2014)</td></tr>
<tr><td colspan="2">MCoA and EPL Criteria</td><td>30 µg/m^3</td></tr>
</table>
Dust Gauges Annual Average 2011 - 2014
<table>
<tr><th>Dust Gauge</th><th>Location</th><th>Annual Average (g/m^2)</th></tr>
<tr><td></td><td></td><td>2011-2014</td></tr>
<tr><td>D1</td><td>Pyne Way Mount View</td><td>0.9 – 1.9</td></tr>
<tr><td>D2</td><td>Ellalong Rd Pelton</td><td>1.5 - 1.8</td></tr>
<tr><td>D3</td><td>Bimbadeen Rd Mount View</td><td>0.9 – 1.1</td></tr>
<tr><td>D4</td><td>Ellalong Village</td><td>1.8 – 2.4</td></tr>
<tr><td>D5</td><td>KIS*</td><td>0.4 – 1.9</td></tr>
<tr><td>D7</td><td>Quorrobolong</td><td>0.7</td></tr>
<tr><td>D8</td><td>Coney Creek Lane Quorrobolong</td><td>0.6</td></tr>
<tr><td>D9</td><td>Kitchener Village</td><td>0.8</td></tr>
</table>
*Kalingo Infrastructure Site</td><td></td></tr>
<tr><td></td><td>Operating Conditions</td><td></td><td></td><td></td></tr>
<tr><td>5</td><td>The Proponent shall:
(a) ensure that any visible air pollution generated by the project is assessed regularly and measures are taken to minimise air quality impacts on privately-owned land; and
(b) implement all reasonable and feasible measures to minimise the off-site odour and fume emissions generated by the mine complex's ventilation system or any spontaneous combustion on the site,
to the satisfaction of the Director-General.
The Proponent shall:
(a) ensure that any visible air pollution generated by the project is assessed regularly and measures
are taken to minimise air quality impacts on privately-owned land; and
(b) implement all reasonable and feasible measures to minimise the off-site odour and fume emissions generated by the mine complex's ventilation system or any spontaneous combustion on the site,
to the satisfaction of the Director-General.</td><td>• Monthly Environmental Inspection Reports</td><td>(a) Monthly Environmental Inspections are conducted by the Environmental Manager for the Austar Mine Complex facilities and activities and actions presented for completion/close out.
Areas covered by the inspections are Pit Top, No.1 Shaft, No. 2 Shaft, No. 3 and 4 Shaft, Washery Area, Coal Storage Area, Dams, Rehabilitation Areas, Reject Area and Kitchener SIS.
(b) Monitoring of gas emissions from the vent/fans is undertaken. Actions and measures to reduce fume emissions and odour are proposed with close-out/ completion checked and signed off by the responsible Austar personnel.</td><td>Compliant Ongoing</td></tr>
</table>

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	Air Quality and Greenhouse Gas Management			
6	The Proponent shall prepare and implement an Air Quality and Greenhouse Gas Management Plan for the mine complex, to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with EPA, and be submitted to the Director-General for approval prior to the commencement of construction of the Surface Infrastructure Site (other than shaft construction referred to in condition 1 above); and (b) include, in addition to the standard requirements for management plans (see condition 2 of schedule 7): • an air quality monitoring program providing for a combination of continuous monitors, high volume samplers and dust deposition gauges; • an energy savings action plan, including a feasibility study into the capture and beneficial utilisation of methane gas emissions from the project; and • a detailed continual improvement program for investigating, implementing and reporting on all reasonable and feasible measures to reduce dust generated by the mine complex.	• Air Quality and Greenhouse Gas Management Plan, May 2013 • 2011-2012 AEMR • 2012-2013 AEMR • 2013-2014 AEMR	The Air Quality and Greenhouse Gas Management Plan for the mine complex was prepared prior to the commencement of construction of the Surface Infrastructure Site (other than shaft construction): (a) The Air Quality and Greenhouse Gas Management Plan was prepared in consultation with EPA, and be submitted to the Director-General for approval prior to the commencement of construction of the Surface Infrastructure Site; (b) Section 2.3 Air Quality Monitoring Program; section 3 – Greenhouse Gas Management; Section 6 – Review and Improvement.	**Compliant**
	METEOROLOGICAL			
7	The Proponent shall ensure that there is a suitable meteorological station operating in the vicinity of the project in accordance with the requirements in Approved Methods for Sampling of Air Pollutants in New South Wales and to the satisfaction of the Director-General.	• *Approved Methods for Sampling of Air Pollutants in New South Wales* • EPL 416 condition M4 • Letter from Department of Planning indicating approval of meteorological station, 2 Feb 2009.	The Austar meteorological station has been installed and operates remotely with the data able to be accessed on a continuous basis as required. The meteorological station was installed in compliance with EPL 416 condition M4.	**Compliant**
	SURFACE AND GROUND WATER			
	Discharge Limits			
8	The Proponent shall not discharge any water from the site except as may be expressly provided by an EPL, or in accordance with section 120 of the Protection of the Environment Operations Act 1997.	• EPL 416 condition L.2. • *Protection of the Environment Operations Act 1997* section 120		**Noted**
	Site Water Management Plan			
9	The Proponent shall prepare and implement a Site Water Management Plan for the mine complex to the satisfaction of the Director-General. This plan must:	• Site Water Management Plan, Apr 2013	The Site Water Management Plan for the Austar Mine Complex Stage 3 was prepared prior to construction	**Compliant**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	(a) be prepared in consultation with EPA, NOW and DRE, and be submitted to the D-G for approval prior the commencement of second workings in Stage 3 and construction of the Surface Infrastructure Site (other than shaft construction referred to in condition 1 above); and (b) include, in addition to the standard requirements for management plans (see condition 2 of schedule 7):	• Letter from DP&I re Approval of the Site Water Management Plan, 17 May 2013	of the SIS and the commencement of second workings in Stage 3: (a) the Site Water Management Plan was prepare in consultation with EPA, NOW and DRE and submitted to the DOP prior to the commencement of second workings in Stage 3 and construction of the Surface Infrastructure Site; and (b) included the following management plans: (i) Site Water Balance section 5; (ii) Erosion and Sediment Control Plan section 6; (iii) Surface Water Monitoring Program section 7; (iv) Groundwater Monitoring Program section 8; (v) Surface and Ground Water Response Plan section 9 The Site Water Management Plan was updated in April 2013 in consultation with DRE, NOW and EPA. The updated plan was approved by DPI on 17 May 2013 without recommendation for further measures.	
	(i) a Site Water Balance, which details; • sources and security of water supply; • water use and management on site; • any off-site water transfers or discharges; and • measures to minimise water use by the project;	• Site Water Balance • Site Water Management Plan, section 5, Apr 2013	(i) Site Water Balance was included as section 2 of the Site Water Management Plan (dated April 2013), and included: • section 2.2.1 Inflow Sources • section 2.3 CHPP Water Management System • section 2.2 Underground Mine Water Management System • section 2.4 Surface Water Storage and Pumping System • section 2.5 Reporting Procedures (b) section 2.6 Water Management Initiatives	**Compliant**
	(ii) an Erosion and Sediment Control Plan;	• Erosion and Sediment Control Plan, Apr 2013 • Site Water Management Plan, section 6, Apr 2013	Erosion and Sediment Control Plan is included as section 6 of the Site Water Management Plan (dated April 2013) and approved by DoP: The Erosion and Sediment Control Plan is consistent with the *Managing Urban Stormwater: Soils and Construction* manual; Section 6.2 Site Activities and Potential for Soil Erosion Section 6.2.1 Surface Activities outlines the management measures for the erosion and sediment control for the CHPP, waste rock emplacement area and Kitchener site shaft construction.	**Compliant**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
			Section 6.2.3 Reject Emplacement Areas Figures 12, 13 and 14 of the Site Water Management Plan present the location and function of the erosion and sediment control structures. Section 6.3 Maintenance of Erosion and Sediment Controls	
	(iii) a Surface Water Monitoring Program, including programs to monitor: • surface water flows and quality, stream health and channel stability in Black Creek, Cony Creek, Sandy Creek and Quorrobolong Creek; and • impacts on water users and water levels in farm dams;	• Surface Water Monitoring Program, Apr 2013 • Letter from DP&I re Approval of Site Water Management Plan, 17 May 2013	The Surface Monitoring Program is presented in section 4 of the Site Water Management Plan (dated March 2009) approved by DoP on 13 November 2009. The Surface Monitoring Program Surface Monitoring Program was revised as section 7 of the Site Water Management Plan April 2013: (a) Section 4.1 On Site Monitoring Requirements presents the water assessment criteria specified in EPL condition L3.2. (b) Section 7 Other monitoring presents the program for monitoring Quorrobolong Creek (section 7.2.1), Cony Creek (section 7.2.2), Bellbird Creek and Black Creek (section 7.2.3. (c) Section 7.2.5 Farms Dams (d) Section 7.2.6 Channel Stability (e) Section 6 Reporting and Review of Data (f) Section 9 Surface and Groundwater Response Plan	**Compliant**
	(iv) a Ground Water Monitoring Program, including programs to monitor: • groundwater volumes and quality seeping into the underground mine workings; • impacts on regional aquifers; • impacts on the groundwater supply of potentially affected landowners; • impacts on the alluvial aquifers in Black Creek, Cony Creek, Sandy Creek and Quorrobolong Creek; and • impacts on groundwater dependent ecosystems and riparian vegetation (including the River-flat Eucalypt Forest EEC); and	• Groundwater Monitoring Program, Mar 2009 • Letter from Planning re Revised Water Management Plan, 13 Nov 2009 • Groundwater Monitoring Program, Apr 2013 • Letter from DP&I re Revised Water Management Plan, 17 May 2013~~Groundwater Monitoring Program, Apr 2013~~ • ~~Letter from DP&I re Approval of Site Water Management Plan, 17 May 2013~~	The Groundwater Monitoring Program was prepared as section 8 of the Site Water Management Plan (dated March 2009) and an revised Groundwater Monitoring Program was approved by Planning NSW on 17 May 2013: (e) Section 8.2.1 Groundwater Quality and section 8.3 Groundwater Quality Records (f) Section 8.2.3 Groundwater Quality (g) Section 8.2.3 Groundwater Inflows and Water Levels in Underground Workings; (d) Section 7 Surface and Groundwater Response Plan~~The Groundwater Monitoring Program was prepared as section 8 of the Site Water Management~~	**Compliant**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
			~~Plan (dated April 2013) and approved by Planning NSW on 13 November 2009:~~ • ~~Section 8.2.1 Groundwater Quality and section 8.3 Groundwater Quality Records~~ • ~~Section 8.2.3 Groundwater Quality~~ • ~~Section 8.2.3 Groundwater Inflows and Water Levels in Underground Workings; (d)~~ • ~~Section 7 Surface and Groundwater Response Plan~~	
	(v) a Surface and Ground Water Response Plan, which describes the measures and/or procedures that would be implemented to: • respond to any exceedances of the relevant performance measures/criteria; • compensate landowners of privately-owned land whose water supply is adversely affected by the project; and • mitigate and/or offset any adverse impacts on groundwater dependent ecosystems or riparian vegetation.	• Surface and Ground Water Response Plan, Apr 2013 • Letter from DP&I re Revised Water Management Plan, May 2013	A surface and groundwater response plan is included in the Site Water Management Plan, a) Actions for exceedance of defined groundwater trigger levels are provided in Site Water Management Plan Section 9 Table 9.1. No time frame is provided for review of trigger and appropriate actioning with respect to Alluvial Aquifer Levels b) Actions for investigation, mitigation and reporting of identified impacts including replacement water supplies to affected landholders are provided in Site Water Management Plan Section 9 Table 9.1 and discussed in Sections 8.2 and 9.3; c) Site Water Management Plan Section 9.4 indicates that a mine closure water management plan identifying monitoring and contingency measures will be developed to reduce potential acid leachate.	**Compliant**
	HERITAGE			
	Aboriginal Cultural Heritage			
10	The Proponent shall prepare and implement an Aboriginal Cultural Heritage Management Plan for the project to the satisfaction of the Director-General. The plan must: (a) be prepared by a suitably qualified archaeologist in consultation with OEH and the relevant Aboriginal groups, and be submitted to the Director-General for approval prior to the commencement of second workings in Stage 3 and construction of the Surface Infrastructure Site (other than shaft construction referred to in condition 1 above); and (b) include, in addition to the standard requirements for management plans (see condition 2 of schedule 7) ,a program/procedures for: • salvage and management of Aboriginal sites within the Surface Infrastructure Site disturbance area;	• Stage 3 Infrastructure Site Shaft Construction Environmental Management Plan, Nov 2009 • Aboriginal Cultural Heritage Management Plan, May 2013 • Aboriginal Cultural Heritage Management Plan Amendment, Umwelt, Oct 2013	The Aboriginal Cultural Heritage Management Plan was prepared by Umwelt prior to the commencement of second workings in Stage 3 and construction of the Surface Infrastructure Site. The SIS shaft construction works were managed in accordance with section 8 Managing and Aboriginal Objects or Skeletal Remains, Stage 3 Infrastructure Site Shaft Construction Environmental Management Plan section 7, November 2009. Stage 3 works are conducted in accordance with the Aboriginal Cultural Heritage Management Plan, Umwelt, May 2013.	**Compliant**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	• monitoring and management of Aboriginal sites within the mining area; • managing the discovery of any new Aboriginal objects or skeletal remains discovered during the project; • undertaking additional archaeological surveys on any areas subject to extensive remediation activities; • undertaking additional archaeological surveys to the satisfaction of the Director-General, prior to commencing activities in undisturbed reject emplacement areas (as shown on the figure in Appendix 4); and • ongoing consultation with and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site. *Note: The Proponent has committed to a $100,000 contribution to Aboriginal projects to offset the potential impact on an axe grinding groove (see Appendix 3).*			
	Historic Heritage			
11	The Proponent shall prepare and implement a Heritage Management Plan for the project to the satisfaction of the Director-General. The plan must: (a) be prepared by a suitably qualified heritage consultant in consultation with Council and the Heritage Branch, and be submitted to the Director-General for approval prior to the commencement of second workings in Stage 3 and construction of the Surface Infrastructure Site (other than shaft construction referred to in condition 1 above); and (b) include, in addition to the standard requirements for management plans (see condition 2 of schedule 7), a program/procedures for: • monitoring and management of identified heritage sites within the mining area and other disturbance areas; • undertaking a Heritage Impact Assessment to the satisfaction of the Director-General, prior to re-commencing any mining activities at the Cessnock No.1 Colliery surface facilities at Kalingo; • obtaining relevant approvals under the Heritage Act 1977 for any works proposed to be undertaken on or under Lot 1 DP 87087 and Part Lot 1 DP 69968 County of Northumberland, Parish of Heddon; and • managing the discovery of any new heritage items during the project. *Note: Lot 1 DP 87087 and Part Lot 1 DP 69968 County of Northumberland, Parish of Heddon is currently subject to*	• Historic Heritage Management Plan, Umwelt, Mar 2013 • Heritage Management Plan, May 2013	An Historic Heritage Management Plan was prepared to satisfy condition 11: (a) The Historic Heritage Management Plan was prepared by Umwelt in March 2013 in consultation with Council and the Heritage Branch, and submitted to DP&I for approval prior to the commencement of second workings in Stage 3 and construction of the Surface Infrastructure Site; (b) Section 4 – Historical Heritage Management Strategy addresses management and monitoring of sites; (c) Section 3.2 – Heritage Impact Assessment addresses Cessnock No.1 Colliery surface facilities at Kalingo; (d) Section4.4 – Procedure for Relevant Heritage Act Approvals for Lot 1 DP 87087 and Part Lot1 DP 69968 of County of Northumberland, Parish of Heddon; (e) Section 3 – Evaluation of Heritage Sites in the Project Area;	**Compliant**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	a section 130 order under the Heritage Act 1977 to prevent harm to buildings, works, relics etc of the South Maitland Railway, gazetted 16 September, 1983.			
	TRANSPORT			
	Road Upgrades			
12	The Proponent shall undertake the following road upgrade works generally in accordance with the recommendations in the EA, and to the satisfaction of Council and/or the RMS: (a) provide crossings over Wollombi Road and Middle Road, prior to the commencement of any reject emplacement south of those roads other than to Aberdare emplacement areas; (b) construct the Surface Infrastructure Site access intersection on Quorrobolong Road (including lighting and signage) and upgrade the Wollombi Road / West Avenue intersection to provide a designated right turn into West Avenue, prior to the commencement of construction of buildings on the Surface Infrastructure Site; (c) upgrade the road level crossing at Vincent Street, Kitchener, as recommended in Austar Coal Mine Pty Limited Report on Four Rail Level Crossings in Cessnock LGA Stage 5 Road Safety Audit (GHD March 2007), prior to the SIS; and (d) use its best endeavours to upgrade the following road level crossings, as recommended in Austar Coal Mine Pty Limited Report on Four Rail Level Crossings in Cessnock LGA Stage 5 Road Safety Audit (GHD March 2007), in consultation with South Maitland Railway, prior to the commencement of construction of buildings on the SIS: • Cessnock Road, Kearsley; • Neath Road, Neath; and • Mitchell Avenue, Weston.	▪ Letter from DoP re Approval for Extension of Time to Complete Works, 2 Feb 2009 ▪ Letter from Cessnock City Council re Notice of Determination for Proposed Works Vincent Street Cessnock, 26 May 2009 ▪ Letter from GHD re Level Crossing Upgrade (Vincent Street), 23 Oct 2009 ▪ Letter from South Maitland Railways re Mitchell Ave Kurri Kurri Level Crossing, 6 Aug 2013 ▪ Safety Report –Mitchell Avenue Level Crossing, Lycopodium, Apr 2014 ▪ Email from Ausgrid re Completion of Neath Road Lighting Upgrade, 8 May 2014	(a) Not triggered (b) Not triggered (c) A Notice of Determination of the Application under the Roads Act 1993 for proposed works and structures within the public road known as Vincent Street Cessnock was received from the Cessnock City Council on 26 May 2009. GHD contracted for delivery of the project. The works were completed in 2010. (d) upgrade works for the following road level crossings have occurred: • Cessnock Road – funding for the Cessnock Road/Caledonia Street Kearsley level crossing boom gates was provided by the Federal Government, 4 April 2009. • Neath Road - lighting upgrade at Neath Road Neath, adjacent to the rail crossing (Pole No: GS-83314) was completed in April 2014; • Mitchell Road - A Safety Report –Mitchell Avenue Level Crossing, was prepared for South Maitland Railways Pty Ltd by Lycopodium, dated April 2014. The report concluded that *"the crossing conforms with appropriate Australian Standards and regulations and there is no requirement for an upgrade at this time*".	**Compliant Ongoing**
	Road Maintenance Contributions			
13	From the end of 2009, the Proponent shall make an appropriate annual contribution to Council 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 shall be referred to the Director-General for resolution.	• Letter to Cessnock City Council re Haulage Road Contributions from Stage 3, 8 Feb 2010 • Letter to Cessnock City Council re Road Maintenance Contributions Offer, 27 Sep 2013 • Letter from CCC re Road Maintenance Contributions, 11 Nov 2013	The annual contribution to the Cessnock City Council for maintenance of roads used when haulage of coal from the Stage 3 project occurs on public roads.	**Compliant Ongoing**
	VISUAL			

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
14	The Proponent shall: (a) take all reasonable and feasible measures to mitigate visual and off-site lighting impacts of the project; and (b) ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting, to the satisfaction of the Director-General.	• Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting	(a) Lighting from the Stage 3 shaft construction has not resulted in any complaints to the date of this audit. (b) External lighting is managed in accordance with the relevant standards.	**Compliant**
	WASTE			
	Waste Minimisation			
15	The Proponent shall: (a) minimise the waste (including coal reject) generated by the project; (b) ensure that the waste generated by the project is appropriately stored, handled and disposed of; and (c) report on waste management and minimisation in the Annual Review, to the satisfaction of the Director-General.	• 2011-2012 AEMR • 2012-2013 AEMR • 2013-2014 AEMR	(a) waste from the Austar Mine Complex is managed by Transpacific Industries Group that provides a monthly waste management report used to improve waste management on site. (b) all waste generated by the Austar Mine Complex activities is segregated and placed in waste specific bins. (c) Section 2.7 of the AEMR's describes the waste management aspects of the operations.	**Compliant**
	Reject Emplacement			
16	If reject emplacement outside the existing operational West Open Cut, East Open Cut and Aberdare emplacement areas is proposed, the Proponent shall: (a) at least 12 months before reject emplacement into existing operational emplacement areas is complete, after consultation with the Executive Director, Mineral Resources and to the satisfaction of the Director-General: • justify the need for the use of additional emplacement area/s; • provide reports on geotechnical investigations and engineering specifications for the proposed emplacement area/s; and • investigate and report on the possibility of disposal of all reject into a single additional emplacement area; and (b) emplace coal reject in the additional emplacement area/s subject to such conditions as the Director-General may impose. *Note: The existing operational reject emplacement areas are shown on the Austar mine complex figure in Appendix 2. Both the existing operational and additional (formerly-approved) reject emplacement areas are shown on the figure in Appendix 4.*			**Not triggered**
	SCHEDULE 5 ADDITIONAL PROCEDURES			

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	NOTIFICATION OF LANDOWNERS			
1	If the results of the monitoring required in schedule 4 identify that impacts generated by the project are greater than the relevant impact assessment criteria, 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.	• Letter to DP&I re Exceedance of Noise Limits, 29 Nov 2013	Notification to the DP&I and EPA occurred on 29 November 2013 in relation to exceedance of the noise criteria during routine compliance noise monitoring on the night of 16 October 2013, due to application of the Industrial Noise Policy low frequency modifying factor. The notification was submitted within 2 weeks of obtaining the monitoring results.	**Compliant Ongoing**
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 triggered**
	INDEPENDENT REVIEW			
3	If a landowner of privately-owned land 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 triggered**
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			**Not triggered**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	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 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. 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.			
	LAND ACQUISITION			
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; (b) the reasonable costs associated with: • relocating within the Cessnock local government area, 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 land owner cannot agree on the acquisition price of the land		No event that would trigger acquisition rights under condition 5 of Project Approval 08_0111 occurred between 2011 and 2014. No written request from a landowner with acquisition rights was received between November 2011 and November 2014.	**Not triggered**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	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 Director-General 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.			
6	The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 5 above.			**Not triggered**
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			**Not triggered**

<table>
<tr><th>Condition No.</th><th>Project Approval 08_0111 Condition</th><th>Verification</th><th>Comments</th><th>Compliant</th></tr>
<tr><td></td><td>registration of the plan at the Office of the Registrar-General.</td><td></td><td></td><td></td></tr>
<tr><td></td><td>SCHEDULE 6 REHABILITATION AND OFFSETS</td><td></td><td></td><td></td></tr>
<tr><td></td><td>REHABILITATION AND BIODIVERSITY OFFSETS</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Rehabilitation Objectives</td><td></td><td></td><td></td></tr>
<tr><td></td><td>The Proponent shall achieve the rehabilitation objectives in Table 6 to the satisfaction of the Executive Director, Mineral Resources.
Table 6: Rehabilitation Objectives
<table>
<tr><th>Domain</th><th>Rehabilitation Objective</th></tr>
<tr><td>Surface Infrastructure Site</td><td>Revegetate the cleared portion of the site with a structured native vegetation community similar to that existing pre-mining, or other land-use approved by the Director-General.
Additional objectives/criteria to be set through condition 4 below</td></tr>
<tr><td>Biodiversity Offset Area</td><td>Implement the offset strategy described in the EA and shown conceptually in Appendix 5.
Additional objectives/criteria to be set through condition 4 below.</td></tr>
<tr><td>Land affected by the project (including water courses and steep slopes)</td><td>Rehabilitate landform, land-use and ecosystem function to that existing pre-mining and consistent with the surrounding landform.
Reduce safety hazards to no more than those existing pre-mining.
Minimise erosion risk.</td></tr>
<tr><td>Built Features</td><td>Repair/restore/replace to pre-mining condition or better, unless a claim under the Mine Subsidence Compensation Act 1961 is made for the repairs, restoration or replacement</td></tr>
<tr><td>Community</td><td>Minimise the adverse socio-economic effects associated with mine closure.</td></tr>
</table></td><td></td><td></td><td>Noted</td></tr>
<tr><td></td><td>Progressive Rehabilitation</td><td></td><td></td><td></td></tr>
<tr><td>2</td><td>To the extent that mining operations permit, the Proponent shall carry out rehabilitation progressively, that is, as soon as reasonably practicable following the disturbance.</td><td></td><td></td><td>Noted
Ongoing</td></tr>
<tr><td></td><td>Long Term Security of Offset Area</td><td></td><td></td><td></td></tr>
</table>

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
3	Within 2 years of the date of this approval, the Proponent shall make suitable arrangements to provide appropriate long term conservation security for the offset area to the satisfaction of the Director-General. *Note: The offset area is described in the EA and shown conceptually in Appendix 5.*	• Letter from B&M Properties re Austar Mine Purchase from Minister for National Parks and Wildlife Act, 11 Dec 2009 • Transfer Certificate of Title 3/755225 to Austar Coal Mine Pty Ltd – Stamped Transfer of Folio Identifier 1/1145356	A land swap with National Parks occurred for the long term conservation security of the nominated offset area. The transfer of the title to Austar Coal Mine of Certificate of Title 3/755225 occurred from the Minister administering the National Parks and Wildlife Act 1974, on 11 December 2009.	**Compliant Complete**
	Landscape Management Plan			
4	The Proponent shall prepare and implement a Landscape Management Plan for the project to the satisfaction of the Director-General and the Executive Director, Mineral Resources. This plan must: (a) be prepared in consultation with the relevant stakeholders by suitably qualified expert/s whose appointment/s have been endorsed by the Director-General, and be submitted to the Director-General for approval prior to the commencement of second workings in Stage 3 and construction of the Surface Infrastructure Site (other than shaft construction referred to in condition 1 of schedule 4); (b) in addition to the standard requirements for management plans (see condition 2 of schedule 7), include: (i) the rehabilitation objectives for the site and offset area; (ii) a description of the short, medium, and long term measures that would be implemented to: • rehabilitate the site; • implement the offset strategy; and • manage the remnant vegetation and habitat on the site and in the offset area; (i) performance and completion criteria for the rehabilitation of the site and implementation of the offset strategy; (ii) a detailed description of the measures would be implemented over the next 3 years, including the procedures to be implemented for: • minimising and rehabilitating disturbed areas; • implementing the offset strategy; • protecting vegetation and soil outside the disturbance areas; • undertaking pre-clearance surveys; • managing impacts on fauna; • landscaping the site to minimise visual impacts; • conserving and reusing topsoil; • collecting and propagating seed for rehabilitation works;	• Land Management Plan, Dec 2013 • Letter from DP&I re Landscape Management Plan, 22 Jul 2013 • Letter from DRE re Landscape Management Plan, 5 Aug 2013	A Landscape Management Plan was prepared by AECOM to satisfy this condition, prior to construction of the Surface Infrastructure Site and commencement of second workings in Stage 3: (a) The Landscape Management Plan was prepared by AECOM prior to the commencement of second workings in Stage 3 and construction of the Surface Infrastructure Site (b) The Landscape Management Plan was prepared to include: (i) Section 2.4 – Rehabilitation Objectives; section 5 – Objectives, Performance Measures, Indicators and Criteria; and Table 1 – Rehabilitation Objectives; (ii) section 5 – Objectives, Performance Measures, Indicators and Criteria; (iii) Appendix C – Land Management Procedures: • Pre-Clearance Procedure; • Vegetation Clearing Procedure; • Nest Box Procedure.	**Compliant**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	• salvaging and reusing material from the site for habitat enhancement; • controlling weeds and feral pests; • controlling access; and • bushfire management.			
	SCHEDULE 7 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING			
	ENVIRONMENTAL MANAGEMENT			
	Environmental Management Strategy			
1	The Proponent shall prepare and implement an Environmental Management Strategy for the Austar Mine Complex, to the satisfaction of the Director-General. The strategy must: (a) be submitted to the Director-General for approval prior to the commencement of second workings in Stage 3 and construction of the Surface Infrastructure Site (other than shaft construction referred to in condition 1 of schedule 4); (b) provide the strategic framework for environmental management of the mine complex; (c) identify the statutory approvals that apply to the mine complex; (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the mine complex; (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 mine complex; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the project; • 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 to be carried out in relation to the mine complex.	• Environmental Management Strategy, Jun 2010 • Letter from Planning re Approval of Environmental Management Strategy and Environmental Monitoring Program, 18 Jun 2010 • Environmental Management Strategy, May 2013 • Letter from Planning re Approval of Environmental Management Strategy, 2 Oct 2013	The Environmental Management Strategy revised by Austar Coal and approved by DP&I October 2013 included: (a) Section 2 Purpose of the EMS (b) Section 6 Statutory Obligations (c) Section 12 Monitoring, Review and Improvement (d) Section 7.1 Roles and Responsibilities (e) Procedures to be implemented: • Section 10.1 Community Involvement • Section 10.2 Complaint Protocol • Section 9 Cumulative Impacts • Section 11 Incident Response (f) copies of the strategies, plans and programs that have been approved are referenced in the EMS and the Monitoring Plan collates the overall monitoring programs to be conducted for the mine complex	**Compliant**
	Management Plan Requirements			
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;		The management plans have been prepared generally in accordance with the requirements of this	**Compliance**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	(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 continually 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.		condition for construction and operational activities and second workings in Stage 3. The management plan 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 continually improve the environmental performance of the project over time; (g) a protocol for managing and reporting any: • incidents; • complaints; • non-compliances with statutory requirements; • exceedances of the impact assessment criteria and/or performance criteria; and (h) a protocol for periodic review of the plan.	
	Annual Review			
3	Each year, the Proponent shall review the environmental performance of the mine complex 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;	• 2011-2012 AEMR • 2012-2013 AEMR • 2013-2014 AEMR	The Annual Environmental Management Reports (Annual Reviews) have been prepared by Austar and submitted to the Director-General: (a) section 2 Operations during the Reporting Period;	**Compliant Ongoing**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	(b) include a comprehensive review of the monitoring results and complaints records of the mine complex 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 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 mine complex; (e) identify any discrepancies between the predicted and actual impacts of the mine complex, 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 mine complex.		(b) section 3 – Environmental Management and Performance; • section 1.3 – Consents, Leases, and Licenses; • section 3 – Environmental Management and Performance; • section 3 – Environmental Management and Performance; • section 3.17 – Mine Subsidence (c) to (e) section 3 – Environmental Management and Performance; (f) section 6 Activities Proposed for the Next AEMR Period.	
	Revision of Strategies, Plans and Programs			
4	Within 3 months of: (a) the submission of an annual review under Condition 3 above; (b) the submission of an incident report under Condition 6 below; (c) the submission of an audit report under Condition 7 below; or (d) any modification to the conditions of this approval, (unless the conditions require otherwise), the Proponent shall review the strategies, plans, and programs required under this approval, to the satisfaction of the Director-General. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Director-General. *Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the project.*			**Noted** **Compliant** **Ongoing**
	Community Consultative Committee			
5	The Proponent shall maintain a Community Consultative Committee (CCC) for the mine complex to the satisfaction of the Director-General. This CCC must be operated in	▪ Letter from Planning re Appointment of Community	(a)The Community Consultative Committee (CCC) members were approved by Planning on 15 Dec 2009 and Meetings are held quarterly. The CCC is	**Compliant** **Ongoing**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version). *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*.	Consultative Committee Members, 15 Dec 2009 ▪ CCC Meeting Minutes: ▪ 17 Feb 2012 ▪ 18 May 2012 ▪ 10 Aug 2012 ▪ 23 Nov 2012 ▪ 13 Feb 2013 ▪ 14 Aug 2010 ▪ 13 Nov 2013 ▪ 12 Feb 2014 ▪ 14 May 2014 ▪ 13 Aug 2014	provided with a review of environmental performance and community relation issues. The members of the CCC are: ***Chairperson*** - Hon. Gary West (until November 2013, and Ms Margaret McDonald-Hill (February 2014 to present) ***Community Representatives:*** Louise Dews (until November 2011), David Holmes, Peter Sturrock, Alan Smith ***Cessnock City Council Representative:*** Cr Jeff Maybury ***Austar Representatives:*** Gary Mulhearn Environment & Community Manager Carly McCormack, David MacLean, Adrian Moodie, Greg Pawley	
	INCIDENT REPORTING			
6	The Proponent shall notify the Director-General and any other relevant agencies of any incident associated with the mine complex 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 D-G and any relevant agencies with a detailed report on the incident.	• Environmental Management Strategy, May 2013 • Austar Pollution Incident Response Management Plan, Aug 2012	Reportable environmental incidents have been notified to the EPA and DP&E (DP&I) in accordance with this condition, the Austar Pollution Incident Response Management Plan, and the Environmental Management Strategy section11.	**Compliant Ongoing**
	INDEPENDENT ENVIRONMENTAL AUDIT			
7	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 mine complex. 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 mine complex and assess whether it is complying with the requirements in relevant project approvals and development consents 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 (e) recommend appropriate measures or actions to improve the environmental performance of the mine complex,	▪ Letter from Planning re Approval of Independent Environmental Audit Team, 20 Oct 2011 ▪ Independent Environmental Audit, Nov 2011 ▪ Letter from DP&I re Endorsement of Independent Environmental Audit Team, 10 Oct 2014	An Independent Environmental Audit was commissioned by Austar in 2011: (a) Independent Environmental Audit Team was approved by Planning on 20 October 2011 (b) Consultation occurred with the EPA/DP&I/DII in December 2011 (c) The site inspections for the 2011 audit were conducted on 2 November 2011 (Surface water/ erosion and sediment control/rehabilitation and general site inspection) and the 29 November 2011 (subsidence and groundwater). (d) The review of the adequacy of strategies, plans or programs required under the approvals were provided. (e) Recommendations were provided where relevant to improve the environmental performance of the development.	**Compliant Ongoing**

Condition No.	Project Approval 08_0111 Condition	Verification	Comments	Compliant
	and/or any assessment, plan or program required under these approvals. *Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Director-General.*		This current audit has been conducted by the Trevor Brown & Associates audit team endorsed by DP&E on 10 October 2014: "*The Secretary endorses the following experts to undertake the audit:* *Trevor Brown, Trevor Brown & Assoc(Lead Auditor); Steven Ditton, of DgS Pty Ltd (Subsidence);* *Neil Pennington, Spectrum Acoustics (Noise and Vibration);* *Will Wright and Ms Dana Wilson, Douglas Partners (Groundwater); and* *Carl Vincent, ErSed Environmental Consulting (Surface water)".*	
8	Within 6 weeks of the completing of this audit, or as otherwise agreed by the D-G, the Proponent shall submit a copy of the audit report to the D-G, together with its response to any recommendations contained in the audit report.		Austar provided responses to DoP in relation to actions to the recommendations made in Table 7 of the 2011 Independent Environmental Audit Report.	**Compliant**
	ACCESS TO INFORMATION			
9	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 for the mine complex; (b) a copy of the current environmental management strategy and associated plans and programs; (c) a summary of the monitoring results of the mine complex, 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.	Austar website (www.austarcoalmine.com.au)	The documentation placed on the Austar Coal website includes: (a) copy of consents and modifications are provided as Modifications are granted; (b) Copies of strategy/plan/programs/audits/ AEMR's are provided to the relevant authorities ad CCC, (c) Summary of monitoring/ AEMR's are placed on the website (d) Complaints register is placed on the website; (e) copy of the minutes of CCC meetings; (f) copy of AEMR's; (g) copy of any Independent Environmental Audit, and the Proponent's response to the recommendations.	**Compliant Ongoing**

Attachment C

Statement of Commitments – Austar Coal Mine Stage 3

[Note: Sections, figures and appendices are references to the Environmental Assessment – Austar Coal Mine LWA7-A10 Modification – Stage 3 Area, dated Oct 2013]

SoC No.	Statement of Commitment	Verification	Comment	Compliance
	Compliance with the EA			
1.1	Operation of the Stage 3 development will be undertaken in accordance with the environmental controls and commitments as described in the EA or as specified in this Statement of Commitments.	• Environmental Assessment, Oct 2013	***Refer Project Approval 08_0111 Schedule 2 condition 2*** The operation of the Stage 3 development is being undertaken generally in accordance with the Environmental Assessment, October 2013.	**Compliant**
	Life of Stage 3 Concept Mine Plan			
1.2.1	**Project Life** The project approval life will be until 31 December 2030. Closure and rehabilitation activities may continue beyond this period and will be undertaken in accordance with an approved Mining Operations Plan.		***Refer Project Approval 08_0111 Schedule 2 condition 5***	**Noted**
1.2.2	**Production Limits** Underground mining in Stage 3 will produce up to 3.6 Mtpa ROM coal by LTCC methods. This coal will be conveyed, handled, processed and transported using Austar Mine Complex infrastructure.	• 2011-2012 AEMR • 2012-2013 AEMR • 2013-2014 AEMR	***Refer Project Approval 08_0111 Schedule 2 condition 6*** The Austar Coal Mine production has been less than 3.6Mtpa between November 2011 and November 2014.	**Compliant Ongoing**
1.2.3	**Hours of Operation** Mining and associated activities for the Stage 3 Project may be undertaken 24 hours a day, seven days a week.		Mining and associated activities for the Stage 3 Project are undertaken 24 hours a day, seven days a week.	**Noted**
	Refinement of Mine Plan			
1.2.4	Any material changes to the concept mine plan outlined in this EA report will be detailed and assessed as part of Extraction Plans (EPs) and Mining Operations Plan (MOP) prepared by Austar Coal Mine.			**Noted**
1.2.5	Mining parameters for the proposed mine plan as detailed in the EP will be designed to ensure that predicted systemic subsidence in terms of subsidence, tilt, tensile strain and compressive strain will comply with or be less than the Upper Bound predictions detailed in the EA. Those being: · 3000 mm subsidence; · 11 mm/m tilt; · 0.09km^{-1}total conventional hogging curvature; and · 0.15km^{-1}total conventional sagging curvature.	• Extraction Plan, Dec 2013	***Refer Project Approval 08_0111 Schedule 3 condition 4 and Independent Environmental Audit Section 5.9.4.2.*** The Statement of Commitments values should be reviewed to ascertain whether the quoted values are un-necessarily / un-realistically low and should be amended to reflect measured values of strains (and curvatures) to-date.	**Ongoing**

SoC No.	Statement of Commitment	Verification	Comment	Compliance
1.2.6	The locations of any minor surface infrastructure that may be required to implement the project will be detailed and assessed as part of MOP's prepared by Austar Coal Mine.			
1.3	**Subsidence**			
1.3.1	Austar Coal Mine will manage the impacts of mining subsidence as required by the conditions of the consent, conditions of the ML and other DII conditions.			**Noted**
	The Mine Plan submitted as part of the EP for long-wall extraction will take into consideration monitoring results from previous Austar Mine Complex operations and will be designed to ensure that subsidence as a result of mining does not exceed Upper Bound predictions as set out in the EA for subsidence, tilt, tensile strain and compressive strain. Those being: · Maximum Upper Bound subsidence ranges from approximately 825 mm for LWA7 to approximately 3000 mm for LWA19. · Maximum Upper Bound tilt ranges from approximately 4.0 mm/m for LWA7 to approximately 11 mm/m for LWA19. · Maximum Upper Bound conventional hogging curvature ranges from approximately 0.2 mm/m for LWA7 to approximately 0.09 $^{km-1}$ for LWA19. · Maximum Upper Bound conventional sagging curvature ranges from approximately 0.06km-1 for LWA7 to approximately 0.15 $^{km-1}$ for LWA19.	• Extraction Plan, Dec 2013	***Refer Project Approval 08_0111 Schedule 3 condition 4; and Independent Environmental Audit Section 5.9.4.2.*** Based on a Strain/Curvature factor of 15 the measured curvatures above Stage 2 to-date ranged between + 0.15 $^{km-1}$ (hog) and -0.23 $^{km-1}$ (sag) and +0.06 $^{km-1}$ (hog) and -0.05 $^{km-1}$ (sag) in Stage 3. It is therefore considered that: (h) curvature values should be included in subsequent Stage 3 End of Panel Reports; and (i) (ii) the SoC values should be reviewed to ascertain whether the quoted values are un-necessarily / un-realistically low and should be amended to reflect measured values of strains (and curvatures) to-date.	**Ongoing**
1.3.3	Where a potential subsidence impact is identified on private property, Austar Coal Mine will prepare a Built Features Management Plan in consultation with the property owner. This plan will clearly outline impacts of mining on the property and the management and remediation measures to be implemented.	• Built Features Management Plan, Dec 2013 • Extraction Plan Long-walls A7 – A10, Dec 2013	***Refer Project Approval 08_0111 Schedule 3 condition 4(e)*** A Built Features Management Plan has been prepared as part of the Extraction Plan for the Stage 3 mining.	**Compliant**
1.3.4	Subsidence management measures to be implemented as part of the project will include: · subsidence monitoring lines to be located as determined as part of the EP process where access is granted; · visual assessment of all natural features and items of surface infrastructure before, during and following mining to detect subsidence impacts such as surface cracking, irregularities in the subsidence profile, erosion, damage to structures, changes in drainage patterns or loss of water from drainage structures where access is granted; · detailed subsidence monitoring in accordance with DRE requirements. This data will be utilised to regularly update the subsidence predictions for Stage 3;	• Extraction Plan Long-walls A7 – A10, Dec 2013	***Refer Project Approval 08_0111 Schedule 3 condition 4; and Independent Environmental Audit Section 5.9.4.*** 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. Actual impacts have been assessed as 'imperceptible' with no surface cracking or environmental impact observed after subsidence of up to 1.45 m. Overall, the current strategies, plans and programs for managing mine subsidence impacts to the environment, man-made developments and public safety are considered to be performing adequately.	**Compliant Ongoing**

SoC No.	Statement of Commitment	Verification	Comment	Compliance
	· remediation and rehabilitation of subsidence impacts will be carried out, where required, as soon as practicable following subsidence using methods specified in the EP where access is granted; · building structures located within the subsidence affectation area will be inspected by a structural engineer prior to and after undermining and appropriate management measures implemented where access is granted ; · informing all relevant service providers of the potential impacts of mining subsidence on services; · farm dams within the subsidence affectation area will be monitored during and following undermining where access is granted, to ensure they remain in a safe and serviceable condition. Remediation works will be undertaken as required; · in the event of any significant loss of water from a privately-owned farm dam, Austar Coal Mine will provide an alternate source of water, as required, until the dam is repaired where access is granted ; and · any privately-owned bores within the subsidence affectation area will be monitored during and following undermining where access is granted. If the capacity of any utilised private bore is reduced to unacceptable level as a result of subsidence, Austar Coal Mine will provide an alternative supply of water until such time as the MSB re-establishes or replaces the bore.			
1.3.5	Austar Coal Mine will, prior to undermining of Quorrobolong Road, Nash Lane and Coney Creek Lane prepare and implement a Traffic Management Plan to manage any subsidence impacts on the roads and associated culverts and bridges in consultation with Cessnock City Council and DRE and to the satisfaction of the Director-General.	• Built Features Management Plan, 8 Nov 2013 • Council Built Features Management Plan , 8 Nov 2013 • Correspondence from Cessnock City Council re s138 Approval, 19 Dec 2013	Austar prepared a Built Features Management Plan on 8 November 2013 in consultation with Cessnock City Council and DRE. The Built Features Management Plan addressed subsidence impacts to roads and associated culverts in the LWA7-LWA10 Extraction Plan area. A s138 Approval was obtained from Council 19 Dec 2013 for subsidence monitoring, signage which included a Traffic Management Plan.	**Compliant**
1.3.6	Austar Coal Mine will prepare management plans in consultation with relevant service providers, for the protection of infrastructure and services within the potential Stage 3 mine subsidence area to ensure these remain in a safe and serviceable condition throughout the mining period. These plans will be submitted to the D-G for approval as part of the EP prior to undermining of the services.	• Built Features Management Plan - Ausgrid, May 2013 • Built Features Management Plan - Telstra, 31 May 2013 • Council Built Features Management Plan , 8 Nov 2013	Management plans are prepared as required in consultation with relevant service providers, for the protection of infrastructure and services within the potential Stage 3 mine subsidence area. Austar prepared Built Features Management Plans for Ausgrid, Telstra, and Cessnock City Council in consultation with the infrastructure owners, and Mines Subsidence Board and DRE in relation to subsidence impacts from LWA7 to LWA10. Infrastructure owners indicated satisfaction with the plans.	**Compliant**
1.4	**Ecology**			

SoC No.	Statement of Commitment	Verification	Comment	Compliance
1.4.1	Austar Coal Mine will establish and manage the proposed Offset Area (refer to Figure 7.1 of the EA) to protect and enhance its ecological values in perpetuity, to the satisfaction of the Director-General.	• Letter from B&M Properties re Austar Mine Purchase from Minister for National Parks and Wildlife Act, 11 Dec 2009 • Transfer Certificate of Title 3/755225 to Austar Coal Mine Pty Ltd – Stamped Transfer of Folio Identifier 1/1145356	***Refer Project Approval 08 0111 Schedule 6 condition 3*** A land swap with National Parks occurred for the long term conservation security of the nominated offset area. The transfer of the title to Austar Coal Mine of Certificate of Title 3/755225 occurred from the Minister administering the National Parks and Wildlife Act 1974, on 11 December 2009.	**Compliant**
1.4.2	A Weed Management Plan will be developed for the Surface Infrastructure Site.	• Landscape Management Plan – section 3.6, Jun 2013	***Refer to PA 08 0111 Schedule 6 condition 4*** Weed management is addressed in the Landscape Management Plan – section 3.6 and section 5, Table 2.	**Compliant**
1.4.3	The Austar bushfire management strategy will be revised to include the specific requirements of the Surface Infrastructure Site during the construction and operation phases.	• Landscape Management Plan – Appendix M, Bushfire Management Plan	***Refer to PA 08 0111 Schedule 6 condition 4*** A bushfire management strategy is outlined in the Landscape Management Plan section 5, Table 2.	**Compliant**
1.4.4	Prior to the commencement of construction of the Surface Infrastructure Site (other than for those works identified in the Shaft Construction Management Plan), an Austar Mine Complex Ecological Management Plan which integrates management of ecological issues associated with construction of the Surface Infrastructure Site, Stage 3 underground mining and with the remainder of Austar Coal Mine operations will be submitted to the Director-General for approval. This will include: · clearing procedures for establishment of the Surface Infrastructure Site and associated access road/services easement; · replacement of arboreal habitat within surrounding areas or within the Biodiversity Offset Area, should the removal of any hollow-bearing trees be required; and · extension of the existing Austar Coal Mine ecological monitoring program to include monitoring of vegetation condition within subsidence affected areas.	• Biodiversity Management Plan, Dec 2013 • Ecological Monitoring Program, Umwelt, March 2009 • Ecological Monitoring Program Stage 2 Longwall Mining, Austar Coal Mine Quorrobolong, Umwelt, Mar 2012 • Ecological Monitoring Report Stage 2 Longwall Mining, Austar Coal Mine Quorrobolong, Umwelt, Jun 2011 • 2009 Ecological Monitoring Report Stage 2 Longwall Mining, Austar Coal Mine Quorrobolong, Umwelt, Jun 2010	***Refer Project Approval 08 0111 Schedule 3 condition 4*** The Ecological Management Plan that integrates the Austar Coal Mine operations management of ecological issues including the construction of the Surface Infrastructure Site, Stage 3 underground mining and with the remainder of	**Compliant**
1.4.5	Clearing of vegetation will be restricted to the minimum area necessary to construct the proposed infrastructure and provide adequate fire protection and will be undertaken in accordance with the tree felling procedure outlined in Section 7.5.3 of the EA.	• Landscape Management Plan, Jun 2013	***Refer Project Approval 08 0111 Schedule 6 condition 4*** Clearing activities are addressed in the Landscape Management Plan, section 5, Table 2, and Appendix C.	**Compliant**
1.4.6	An appropriate speed limit on access roads will be implemented to minimise the risk of vehicle collision with ground-dwelling fauna dispersing between adjacent habitats.	• Traffic Management Plan, Dec 2009	The speed limit on access roads around and within the Austar Mine Complex is signed as 40kmh.	**Compliant**
1.4.7	An appropriately designed nest box will be erected (either within remaining bushland areas or within the Biodiversity	• Landscape Management Plan, Jun 2013	***Refer Project Approval 08 0111 Schedule 6 condition 4***	**Compliant Ongoing**

SoC No.	Statement of Commitment	Verification	Comment	Compliance
	Offset Area) for the compensation of each tree hollow removed as a result of clearing required for construction of the proposed Surface Infrastructure Site.	• Email to NTJ Mining for supply and Installation of Nest Boxes, 8 Mar 2013	The erection of nest boxes as compensatory habitat for tree hollows removed is described in the Landscape Management Plan Appendix C. Maintenance of the nest box program has occurred with nest box supply and installation by NTJ Mining at the Kitchener SIS in March 2013.	
1.4.8	Any outbreaks of invasive weeds observed on the property boundary will be appropriately controlled to avoid their escape into the surrounding Werakata State Conservation Area and subsequently competing with threatened flora species. Early detection will ensure the management required is not extensively onerous.	• Landscape Management Plan, Jun 2013	***Refer Project Approval_08_0111 Schedule 6 condition_4*** Weed management is outlined in the Landscape Management Plan section 3.6 and section 5, Table 2.	**Compliant**
1.4.9	Any to reduce the risk of invasive plant species escaping into the adjacent reserve and competing with threatened flora species. Particular care will be taken to avoid planting species which are known to escape and naturalise into native bushland.	•	***Refer Project Approval_08_0111 Schedule 6 condition_4*** Landscaping undertaken around infrastructure areas use only locally occurring native plant species – refer to Landscape Management Plan, Appendix B – Species to be used for Revegetation of the SIS.	**Ongoing**
1.5	**Heritage**			
1.5.1	An Aboriginal Cultural Heritage Management Plan (ACHMP) will be prepared for the Austar Mine Complex to outline all Aboriginal heritage management strategies for the project, responsibilities of all parties and the timeframe for required heritage works.	• Aboriginal Cultural Heritage Management Plan, May 2013	***Refer Project Approval 08_0111 Schedule 4 condition10*** An Aboriginal Cultural Heritage Management Plan was prepared for the Austar Mine Complex outlining all Aboriginal heritage management strategies for the project.	**Compliant**
1.5.2	Austar will make a monetary contribution of $100,000 to an Aboriginal project or program (to be decided by Aboriginal stakeholders) as an offset for any subsidence impacts that affect the grinding groove site. Austar will make this contribution when all necessary government approvals for the Project have been obtained.	• Aboriginal Cultural Heritage Management Plan, Appendix 1, May 2013 • Aboriginal Stakeholder Project Inception Meeting, 7 Dec 2010	Austar conducted consultation with the Aboriginal stakeholders and the distribution of funds. On 21 February 2012 an account was created by Austar and $106,000 (CPI adjusted) transferred to the account by Austar. Distribution of funds for Aboriginal Projects or Programs in consultation with relevant Aboriginal stakeholders has occurred since all government approvals for the Project were obtained in 2013.	**Compliant**
1.5.3	No Aboriginal archaeological site be visited, or have works done there, without Aboriginal stakeholders in attendance.	• Aboriginal Cultural Heritage Management Plan, May 2013	***Refer Project Approval 08_0111 Schedule 4 condition10***	**Noted Ongoing**
1.5.4	Known sites on accessible properties will be included in a monitoring program. This will involve recording each site before and after subsidence to identify any impacts. This will be done by an archaeologist and Aboriginal stakeholders.	• Aboriginal Cultural Heritage Management Plan, May 2013	***Refer Project Approval 08_0111 Schedule 4 condition10*** Aboriginal Cultural Heritage Management Plan, May 2013 section 3.1 – Aboriginal Site Monitoring Program.	**Ongoing**
1.5.5	Aboriginal stakeholders (and an archaeologist if requested by Aboriginal stakeholders) will provide relevant Austar personnel with a cultural heritage awareness training session.	• Aboriginal Cultural Heritage Management Plan, May 2013	***Refer Project Approval 08_0111 Schedule 4 condition10*** Aboriginal Cultural Heritage Management Plan, May 2013 section 3.1 – Aboriginal Cultural Heritage Awareness Training.	**Ongoing**
1.5.6	If any additional sites are found within the Project area, these will be inspected by an archaeologist and Aboriginal stakeholders where access is granted to assess the site and decide on how it should be managed.	• Aboriginal Cultural Heritage Management Plan, May 2013	***Refer Project Approval 08_0111 Schedule 4 condition10*** Aboriginal Cultural Heritage Management Plan, May 2013 section 3.4 - Aboriginal Cultural Heritage Management Strategy	**Ongoing**

SoC No.	Statement of Commitment	Verification	Comment	Compliance
1.5.7	If remediation works are required on any of the creek-lines within the Stage 3 area, an archaeological survey with Aboriginal stakeholders will be undertaken prior to commencement of any works where access is granted.	• Aboriginal Cultural Heritage Management Plan, May 2013	***Refer Project Approval 08_0111 Schedule 4 condition10*** Aboriginal Cultural Heritage Management Plan, May 2013 section 3.4 - Aboriginal Cultural Heritage Management Strategy	**Ongoing**
1.5.8	Historic Heritage Management Plan incorporating all of Austar Mine Complex will be developed.	• Historic Heritage Management Plan, Mar 2013	***Refer to Project Approval 08_0111 Schedule 4 condition11*** Historic Heritage Management Plan was prepared by Umwelt to satisfy Project Approval 08_0111 Schedule 4 condition 11.	**Compliant**
1.6	**Surface Water and Drainage**			
1.6.1	Austar will develop a detailed Soil and Water Management Plan for the Surface Infrastructure Site prior to commencement of construction.	• SIS Construction Environmental Management Plan	***Refer Project Approval 08_0111 Schedule 3 condition 4*** A detailed Site Water Management Plan was prepared as part of the Construction Environmental Management Plan for the Surface Infrastructure Site prior to commencement of construction.	**Compliant**
1.6.2	Erosion and sediment control measures will be designed and implemented for construction of surface infrastructure to a standard consistent with Managing Urban Stormwater: Soils and Construction (NSW Landcom 2004) (the Blue Book) and Guidelines for Establishing Drainage Lines on Rehabilitated Mine sites (Draft) (DLWC, 1999).	• Site Water Management Plan, Apr 2013 • Erosion and Sediment Control Plan, Apr 2009	***Refer Project Approval 08_0111 Schedule 3 condition 4*** Erosion and Sediment Control Plan was prepared and implemented for the SIS construction.	**Compliant**
1.6.3	Any subsidence impacts on drainage lines will be effectively remediated where access is granted such that there is no significant impact on downstream water users and environmental flows. Drainage line monitoring and remediation protocols will be developed as part of the EP process, and in consultation with NOW, to guide the management of subsidence impacts and drainage line remediation works on surface water systems. The drainage line monitoring and remediation protocols will include: · detailed monitoring protocols; · a program to complete drainage remediation works in a timely manner, post-subsidence to limit the potential for surface water capture; · details of the design of drainage line remediation works such that the rehabilitated drainage lines maintain a similar channel form and sinuosity to the pre-mining environment, to ensure that the overall erosive power of the creek system is consistent with that existing pre-mining; · assessment of the viability and benefits of applying proactive measures such as the installation of liners or geo-fabrics in drainage lines prior to subsidence; and · the existing Austar Site Water Management Plan will be extended to include the Surface Infrastructure Site and Stage 3 underground mining. The plan will be updated in consultation with NOW and DRE and submitted to the	• Extraction Plan, May 2013	***Refer Project Approval 08_0111 Schedule 3 condition 4(e)*** Any subsidence impacts on drainage lines will be remediated where access is granted, so there is no significant impact on downstream water users and environmental flows. Drainage line monitoring and remediation protocols will be developed as part of the Extraction Plan.	**Ongoing**

<table>
<tr><th>SoC No.</th><th>Statement of Commitment</th><th>Verification</th><th>Comment</th><th>Compliance</th></tr>
<tr><td></td><td>Director-General prior to the commencement of construction of the Surface Infrastructure Site.</td><td></td><td></td><td></td></tr>
<tr><td>1.6.4</td><td>Surface water monitoring results will be reported annually in the Annual Review.</td><td>• 2011-2012 AEMR
• 2012-2013 AEMR
• 2013-2014 AEMR</td><td>The surface water monitoring results are presented in the AEMRs in section 3.5.</td><td>Compliant</td></tr>
<tr><td>1.7</td><td>Groundwater</td><td></td><td></td><td></td></tr>
<tr><td>1.7.1</td><td>A groundwater monitoring program will be implemented for the project as outlined in Appendix 14, or as otherwise agreed by the Director-General in consultation with NOW.</td><td>• Site Water Management Plan, Apr 2013</td><td>A groundwater monitoring program is detailed in Site Water Management Plan section 8.</td><td>Compliant</td></tr>
<tr><td>1.7.2</td><td>The results of groundwater monitoring and a comparison of measured and predicted impacts will be reported annually in the Annual Environmental Management Report.</td><td>• Site Water Management Plan, Apr 2013
• 2011-2012 AEMR
• 2012-2013 AEMR
• 2013-2014 AEMR</td><td>A groundwater monitoring program is detailed in the Site Water Management Plan section 8 and monitoring results are presented in the AEMRs in section 3.6.</td><td>Compliant</td></tr>
<tr><td>1.7.3</td><td>Impacts on privately-owned bores will be assessed by monitoring where access is granted and in the event that any utilised privately-owned bore is significantly affected, an alternative water supply will be provided by Austar Coal Mine until such time as the bore is re-established or replaced.</td><td>• Site Water Management Plan, Apr 2013</td><td>No impacts have been identified in privately-owned bores or alternative water supply required to be provided by Austar Coal during the 2011 to 2014 period.</td><td>Not triggered</td></tr>
<tr><td>1.7.4</td><td>An annual analysis of surface and groundwater monitoring data will be undertaken and will include:
· comparison of groundwater levels with rainfall information;
· identification of any changes or long-term trends in groundwater levels; and
· visual inspection of creeks and drainage lines</td><td>• 2011-2012 AEMR
• 2012-2013 AEMR
• 2013-2014 AEMR</td><td>The surface water (section 3.5) and groundwater (section 3.6) monitoring results are presented in the AEMRs in section 3.6.</td><td>Compliant</td></tr>
<tr><td>1.7.5</td><td>The monitoring results and analysis findings will be reported in the Annual Review.</td><td>• 2011-2012 AEMR
• 2012-2013 AEMR
• 2013-2014 AEMR</td><td>The monitoring results are presented in the AEMRs in section 3.6.</td><td>Compliant</td></tr>
<tr><td>1.8</td><td>Noise and Blasting</td><td></td><td></td><td></td></tr>
<tr><td>1.8.1</td><td>Unless otherwise agreed with the landowner, Austar Coal Mine will manage operations associated with the Stage 3 underground mining and Surface Infrastructure Site such that the noise emissions from these operations comply with the noise criteria included in Table 1.1 at surrounding residences for the range of meteorological conditions modelled in the EA.
<table>
<tr><th>Location</th><th>Period</th><th>Intrusive Criteria</th><th>Amenity Criteria</th><th>Project Specific Noise Criteria</th></tr>
<tr><td rowspan="3">Kitchener Residences</td><td>Day</td><td>38</td><td>50</td><td>38</td></tr>
<tr><td>Evening</td><td>35</td><td>45</td><td>35</td></tr>
<tr><td>Night</td><td>35</td><td>40</td><td>35</td></tr>
<tr><td></td><td>Day</td><td>37</td><td>50</td><td>37</td></tr>
</table></td><td>• Noise and Vibration Management Plan, Jul 2013</td><td>Austar operations associated with the Stage 3 underground mining and Surface Infrastructure Site are managed to ensure the noise emissions from the operations comply with the noise criteria.
This audit has found Austar Coal Mine Pty Ltd to be operating generally in compliance with Development Consent DA29/95 (MOD 5), PA08_0111, EPL 416 and associated documents with respect to its noise obligations.

There were occasional exceedances of the noise criteria at residences near Pelton CHPP after application of the INP low frequency modifying factor of +5dB. Exceedances were</td><td>Compliant</td></tr>
</table>

SoC No.	Statement of Commitment	Verification	Comment	Compliance
	Serradilla and Kauter Residences, Penney and Linton Property — Evening: 37 / 45 / 37; Night: 35 / 40 / 35		discussed in the AEMR's and the EPA was notified in accordance with EPL 416.	
1.8.2	Unless otherwise agreed with the landowner, Austar Coal Mine will manage the construction phase of the Surface Infrastructure Site in accordance with the requirements of DECCW's Interim Construction Noise Guideline (2009).	• Shaft Construction Management Plan 13 Nov 2009 • Shaft Construction Management Plan Nov 2012 • Noise and Vibration Management Plan, Jul 2013	Construction at the SIS shaft and services was completed at the end of June 2013 with the upcast vent fans being commissioned from 10 June 2013. Construction noise impacts were managed in accordance with noise limits derived from DECC Interim Construction Noise Guideline included in the Shaft Construction Environmental Management Plan (2009, 2012) and the Noise and Vibration Management Plan (2013).	**Compliant**
1.8.3	Acoustic bunding will be constructed to a height of 3.5 metres above ground level along the northern boundary adjacent to the car park and bathhouse.	• Noise and Vibration Management Plan, section 6.2.1, Jul 2013 • EPL 416 condition U1.1(b)	A Hebel block wall was erected to >3.5m height to the north of the ventilation fans, completed in 2014.	**Compliant**
1.8.4	The ventilation fan outlet will be directed to the west.		The ventilation fan outlet is directed to the west.	**Compliant**
1.8.5	Man and materials winder and second egress winder motors will be enclosed.	• Noise and Vibration Management Plan, section 6.2.1, Jul 2013	Man and materials winder and second egress winder had not been installed at the date of this audit (November 2014).	**Not triggered**
1.8.6	Blasting will generally take place only once per day and will be undertaken between the hours of 9.00am to 5.00 pm Monday to Saturday with no blasting on Sundays or Public Holidays.	• Noise and Vibration Management Plan, Jul 2013	No blasting had occurred between 2011 and 2014.	**Not applicable**
1.8.7	Airblast overpressure from blasting associated with shaft development at the Surface Infrastructure Site when measured at residences not associated with the development will not exceed a maximum of 120 dBL Linear Peak at any time and will not exceed 115 dBL for more than 5% of blasts over a 12 month period.	• Shaft Construction Management Plan, 13 Nov 2009 • Shaft Construction Management Plan, 13 Nov 2012	No blasting had occurred between 2011 and 2014. Construction at the SIS was completed in June 2013 with the upcast vent fans being commissioned from 10 June 2013. Construction noise levels at the Kitchener SIS were managed in accordance with the Shaft Construction Management Plan.	**Compliant**
1.8.8	Peak particle velocity from blasting associated with shaft development at the Surface Infrastructure Site when measured at residences not associated with the development will not exceed a maximum of 10 mm/s at any time and will not exceed 5 mm/s for more than 5% of blasts over a 12 month period.	• Shaft Construction Management Plan, 13 Nov 2009.	No blasting had occurred between 2011 and 2014. Construction at the SIS was completed in June 2013 with the upcast vent fans being commissioned from 10 June 2013. Construction noise levels at the Kitchener SIS were managed in accordance with the Shaft Construction Management Plan.	**Compliant**
1.9	**Air Quality**			
1.9.1	Austar Coal Mine will manage operations associated with the operation of the Surface Infrastructure Site so that dust deposition as a result of the development does not exceed	• Air Quality and Greenhouse Gas Management Plan, Jun 2013	***Refer Project Approval 08_0111 Schedule 4 condition 4*** Dust monitoring was implemented in accordance with the Air Quality and Greenhouse Gas Management Plan, with eight (8)	**Compliant Ongoing**

<table>
<tr><th>SoC No.</th><th>Statement of Commitment</th><th>Verification</th><th>Comment</th><th>Compliance</th></tr>
<tr><td></td><td>levels set out in Table 1.2 at nearest non-project related residences.
<table><tr><th>Pollutant</th><th>Averaging Period</th><th>Max. increase in deposited dust level</th><th>Max. total deposited dust level</th></tr><tr><td>Deposited Dust</td><td>Annual</td><td>2g/m^2/mth</td><td>4g/m^2/mth</td></tr></table>Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS 3580.10.1-1991: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates- Deposited Matter - Gravimetric Method.</td><td></td><td>dust deposition gauges (DG1 to D5 and D7 to DG9) and three (3) high volume air samplers (HVAS) (D2, D6 and D8).</td><td></td></tr>
<tr><td>1.9.2</td><td>Austar Coal Mine will expand the existing dust monitoring network to include dust deposition gauges allocations to the south and north of the proposed Surface Infrastructure Site. Dust monitoring findings relating to the Surface Infrastructure Site will be reported annually in the Annual Review.</td><td>• Air Quality and Greenhouse Gas Management Plan, Jun 2013
• 2011-2012 AEMR
• 2012-2013 AEMR
• 2013-2014 AEMR</td><td><u>Refer Project Approval 08_0111 Schedule 4 condition 4</u>
In accordance with the Air Quality Management and Monitoring Plan, five (5) static dust deposition gauges (DG1 to DG5) and two (2) high volume air samplers (HVAS) (D2 and D6) were installed in March 2007. Additional monitoring was implemented in July 2013, accordance with the Air Quality and Greenhouse Gas Management Plan, with eight (8) dust deposition gauges (DG1 to D5 and D7 to DG9) and three (3) high volume air samplers (HVAS) (D2, D6 and D8).</td><td>Compliant Ongoing</td></tr>
<tr><td>1.10</td><td>Energy and Greenhouse Gas</td><td></td><td></td><td></td></tr>
<tr><td>1.10.1</td><td>Austar Coal Mine will develop and maintain an internal energy and GHG management plan for Stage 3 operations in accordance with Austar Coal Mine requirements. This will include reviewing:
· energy efficiency in plant and equipment procurement, consideration be given to the life cycle costs advantages obtained by using energy efficient components;
· the opportunity to install additional sub-metering for offices, workshops and winders;
· operational initiatives such as turning off idling plant equipment;
· control and temperature settings for air conditioning units in offices and switch rooms;
· automatic control of external and internal lighting;
· potential energy efficiency opportunities in water pumping and dust suppression systems (for example, variable speed drive pumps);
· review changes in power consumption with installation of new equipment and install power factor correction equipment to suit; and</td><td>• Air Quality and Greenhouse Gas Management Plan, Jun 2013</td><td><u>Refer Project Approval 08_0111 Schedule 4 condition 6</u>
The Air Quality and Greenhouse Gas Management Plan section 3 addresses greenhouse gas management.
The primary sources of greenhouse gas at the Austar Mining Complex are electricity consumption; fuel combustion; and fugitive emissions.
The management controls implemented at Austar Mining Complex will be site based greenhouse gas management controls.
• Design Controls for Stage 3 expansion was selected based on operational efficiency and development cost. Longwall Top Coal Caving (LTCC) technology was chosen for mining of coal, which allows for significantly increased resource extraction and increased operational energy efficiency within thick coal seams. Greenhouse gas and energy efficiency assessments were included in the design decision making process.
• Operational greenhouse gas management controls are evaluated and implemented at both corporate and site levels. Austar is participating in the EEO program and</td><td>Ongoing</td></tr>
</table>

SoC No.	Statement of Commitment	Verification	Comment	Compliance
	· review workshop and bathhouse lighting and office and high bay lighting.		reviews greenhouse gas and energy reduction opportunities as part of this program.	
1.11	**Visual**			
1.11.1	Austar Coal Mine will implement the following visual controls to screen or reduce the from views of the Surface Infrastructure Site from residential areas and public road locations: · Maintain a vegetative screen along the edges of the access road to the Surface Site. · Limit clearing on the Surface Infrastructure Site to that required for construction protection purposes. · Use appropriate natural tones on the winder building to ensure that it blends into the native forest when viewed from Kitchener and sections of Quorrobolong Road. · Direct night-time security lights into the site and ensure that all lighting is located and as to not directly impact on residential or road locations. Lighting will be designed excessive night glow in a manner consistent with AS 4282 Control of the Obtrusive Outdoor Lighting. · All buildings potentially visible to the public to be coloured in suitable natural tones.	• SIS Construction Environmental Management Plan	***Refer Project Approval 08_0111 Schedule 4 condition 14*** Visual controls to screen or reduce the from views of the Surface Infrastructure Site from residential areas and public road locations have included: · Maintaining a vegetative screen along the edges of the access road to the SIS. · Limited clearing on the SIS to that required for construction purposes. · Night-time security lights are directed into the site and ensure that all lighting is located so as to not directly impact on residential or road locations.	**Compliant Ongoing**
1.12	**Transport**			
1.12.1	To mitigate potential traffic impacts associated with the development of the Surface Infrastructure Site, Austar Coal Mine will: · Construct an Austroads type AUR intersection treatment with an auxiliary passing lane for through traffic on Quorrobolong Road around right turning traffic at the proposed Surface Infrastructure Site access. · Provide lighting at the proposed pit top facility access intersection on Quorrobolong Road. · Erect a left side road junction (W2-4) warning sign for northbound traffic approaching the proposed Surface Infrastructure Site access intersection to compensate for less than desirable Safe Intersection Site Distance (SISD). · Prepare a traffic management plan for oversize and heavy vehicle movements to and from the Surface Infrastructure Site during construction of the Stage 3 development. This Plan will take into consideration specific measures that may be required in regard to address school bus movements on Quorrobolong Road during the construction phase.	• Correspondence from Cessnock City Council re s138 Roads Act approval for AUR intersection, 22 Dec 2009	Austar received *Roads Act 1993* section 138 approval from Cessnock City Council for anauxiliary passing lane for through traffic on Quorrobolong Road at the SIS intersection. Traffic Management Plan for oversize and heavy vehicle movements was included in the Shaft Construction Environmental Management Plan. The section 138 approval for the intersection provided for it to be constructed in stages. First stage was during shaft construction, with the remainder of the anauxiliary passing lane and lighting to be constructed when the Pit Top facility was constructed.	**Compliant Ongoing**
1.13	**Community**			
1.13.1	Austar Coal Mine will work with Cessnock City Council, the Department and Community Consultative Committee to	CCC Meeting Minutes:	***Refer Project Approval 08_0111 Schedule 7condition 5***	**Compliant Ongoing**

SoC No.	Statement of Commitment	Verification	Comment	Compliance
	incorporate representatives from the Stage 3 Project area. Austar Coal Mine will provide the Community Consultative Committee with regular information regarding the environmental management performance of the Stage 3 Project and any relevant matters regarding community relations.	▪ 17 Feb 2012 ▪ 18 May 2012 ▪ 10 Aug 2012 ▪ 23 Nov 2012 ▪ 13 Feb 2013 ▪ 14 Aug 2010 ▪ 13 Nov 2013 ▪ 12 Feb 2014 ▪ 14 May 2014 ▪ 13 Aug 2014	The Community Consultative Committee (CCC) members were approved by DP&I and Meetings are held quarterly. The CCC is provided with a review of environmental performance and community relation issues. The members of the CCC are: ***Chairperson*** - Hon. Gary West (until November 2013, and Ms Margaret McDonald-Hill (February 2014 to present) ***Community Representatives:*** Louise Dews, David Holmes, Peter Sturrock, Alan Smith ***Cessnock City Council Representative:*** Cr Jeff Maybury ***Austar Representatives:*** Gary Mulhearn Environment & Community Manager Carly McCormack, David MacLean, Adrian Moodie	
1.13.2	Maintain a 24 hour per day community information and complaint line.		Austar have a 24hour community information and complaint line – 1800 701 986.	**Compliant Ongoing**
1.13.3	Provide regular updates of mine development and monitoring on the Austar Coal Mine website.		Copies of consents and modifications and summary of monitoring/ AEMR's and mine development are placed on the Austar website.	**Compliant Ongoing**
1.14	**Decommissioning and Rehabilitation**			
1.14.1	A decommissioning plan will be prepared for the Surface Infrastructure Site as part of the MOP process and submitted to the DRE for approval approximately five years prior to the commencement of decommissioning works.			**Noted**
1.15	**Continuous Improvement of Existing Operations**			
1.15.1	Austar Coal Mine will review and extend its current Site Water Management Plan for Austar Mine Complex to include Stage 3 operations and operation of the Surface Infrastructure Site. The water performance of the water management system will be reported in the Annual Review.	• 2011-2012 AEMR • 2012-2013 AEMR • 2013-2014 AEMR	The Site Water Management Plan was updated in April 2013 and includes the Stage 3 operations and the Surface Infrastructure Site.	**Compliant**
1.15.2	Activities within Austar Mine complex will be undertaken in accordance with approved Mining Operation Plan that will be reviewed and updated at least every seven years.	• Mining Operations Plan	Activities within Austar Mine complex are undertaken in accordance with the current approved Mining Operation Plan	**Compliant Ongoing**
1.15.3	Austar Coal Mine will continue to implement the voluntary Noise Pollution Reduction Program for Pelton CHPP in consultation with OEH.	• EPL 416, condition U1.1	Austar has implemented the voluntary Noise Pollution Reduction Program for Pelton CHPP in accordance with EPL condition U1.1	**Compliant Ongoing**
1.15.4	Austar Coal Mine will commit to a Noise Management Plan that incorporates current noise monitoring, the voluntary Noise Pollution Reduction Program and associated noise management for Austar Mine Complex operations and will investigate reasonable and feasible noise mitigation strategies where appropriate.	• Noise and Vibration Management Plan, Jul 2013	The Noise and Vibration Management Plan, dated July 2013 was prepared by Global Acoustics to satisfy Development Consent 29/95 Schedule 2 condition 15, Project Approval 08_0111 Schedule 4 condition 3 and EPL 416 requirements.	**Compliant**

SoC No.	Statement of Commitment	Verification	Comment	Compliance
1.15.5	Austar Coal Mine will investigate opportunities for reduction in energy use and greenhouse gas emissions from the Austar Mine Complex. This will include: · ongoing review of emissions monitoring and management technology; · review of coal operations and potential for improvement as part of producing clean coal through coal preparation to reduce moisture and ash content, sulphur, nitrogen and other contaminants. This results in reduced emissions of greenhouse gases and other pollutants when the coal is used; and · consider the application of the in-force National Greenhouse and Energy Reporting System (NGERS) and the Carbon Pollution Reduction System (CPRS) on Austar operations.	• Air Quality and Greenhouse Gas Management Plan, Jun 2013	***Refer Project Approval 08_0111 Schedule 4 condition 6*** The Air Quality and Greenhouse Gas Management Plan section 3 addresses greenhouse gas management. The primary sources of greenhouse gas at the Austar Mining Complex are electricity consumption; fuel combustion; and fugitive emissions. The management controls implemented at Austar Mining Complex will be site based greenhouse gas management controls. • Design Controls for Stage 3 expansion was selected based on operational efficiency and development cost. Longwall Top Coal Caving (LTCC) technology was chosen for mining of coal, which allows for significantly increased resource extraction and increased operational energy efficiency within thick coal seams. Greenhouse gas and energy efficiency assessments were included in the design decision making process. • Operational greenhouse gas management controls are evaluated and implemented at both corporate and site levels. Austar is participating in the EEO program and reviews greenhouse gas and energy reduction opportunities as part of this program.	**Compliant Ongoing**
1.16	**Environmental Management, Monitoring, Auditing and Reporting**			
1.16.1	Austar Coal Mine will incorporate the Stage 3 Project into the Annual Review for Austar Mine Complex.		Stage 3 Project activities and operations are included in the Annual Environmental Management Report.	**Compliant Ongoing**
1.16.2	Three years after commencement of the Stage 3 Project, and every three years thereafter, Austar Coal Mine will commission and pay the full cost of an Independent Environmental Audit of the project in consultation with the Director-General of the Department. A copy of the audit report will be provided to the Director-General of the Department and DRE, OEH, NOW, Cessnock City Council, and members of the Community Consultative Committee for the Stage 3 Project. This audit may be combined with other independent environmental audits required by the Director-General of the Department.		An Independent Environmental Audit of the project was conducted in November 2011 and this current audit is being conducted 3 years after that last audit in consultation with the Director-General of DP&E.	**Compliant Ongoing**

Attachment D
Environment Protection Licence No. 416

Attachment D
Environment Protection Licence No. 416

<table>
<tr><th>EPL Condition No.</th><th>EPL Condition</th><th>Verification</th><th>Comment</th><th>Compliance</th></tr>
<tr><td>1</td><td>Administrative Conditions</td><td></td><td></td><td></td></tr>
<tr><td>A1</td><td>What the licence authorises and regulates</td><td></td><td></td><td></td></tr>
<tr><td>A1.1</td><td>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.

<table><tr><th>Scheduled Activity</th><th>Fee Based Activity</th><th>Scale</th></tr><tr><td>Coal Works</td><td>Coal Works</td><td>0-2,000,000T handled</td></tr><tr><td>Mining for Coal</td><td>Mining for Coal</td><td><500,000-2,000,000T</td></tr></table></td><td></td><td>Total ROM coal extracted by the Austar Mine during the 2011-2014 period did not exceed the approved ROM tonnage.<table><tr><th>Period</th><th>ROM Tonnage</th></tr><tr><td>2013-2014</td><td>1,566,002 tpa</td></tr><tr><td>2012-2013</td><td>1,383,835 tpa</td></tr><tr><td>2011-2012</td><td>1,862,788 tpa</td></tr></table></td><td>Compliant Ongoing</td></tr>
<tr><td>A2</td><td>Premises or plant to which this licence applies</td><td></td><td></td><td></td></tr>
<tr><td>A2.1</td><td>The licence applies to the following premises:
Austar Coal Mine
Wollombi Road Pelton NSW 2325

Southland Colliery Holding, Refer to Locality Plan Figure 1.1 forwarded to EPA on 21/08/2001</td><td></td><td></td><td>Noted</td></tr>
<tr><td>A3</td><td>Information supplied to the EPA</td><td></td><td></td><td></td></tr>
<tr><td>A3.1</td><td>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 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>Noted</td></tr>
<tr><td>2</td><td>Discharges to Air and Water and Applications to</td><td></td><td></td><td></td></tr>
</table>

<table>
<tr><th>EPL Condition No.</th><th>EPL Condition</th><th>Verification</th><th>Comment</th><th>Compliance</th></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.
Air
<table>
<tr><th>EPA identification No.</th><th>Type of Monitoring Point</th><th>Location Description</th></tr>
<tr><td>7</td><td>Weather monitoring</td><td>Eastings 341198, Northings 6361368 (MGA 56)</td></tr>
</table></td><td></td><td>A meteorological station was established by Austar Coal at the CHPP site to measure wind speed and direction, sigma/theta temperature, rainfall, dew point.</td><td>Compliant Ongoing</td></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></td></tr>
<tr><td>P1.3</td><td>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.
Water and Land
<table>
<tr><th>EPA ID No.</th><th>Type of Monitoring Point</th><th>Location Description</th></tr>
<tr><td>1</td><td>Wet weather discharge Quality and Volume monitoring</td><td>Spillway of the emergency dam at the Pelton Coal Preparation Plant site, labelled as 1 on amended Figure 5 entitled Water Management System, submitted to the EPA on 21/11/01.</td></tr>
<tr><td>2</td><td>Ambient water quality monitoring</td><td rowspan="2">Bellbird Creek labelled as 4 on amended Figure 5 entitled Water Management System, submitted to the EPA on 21/11/01.</td></tr>
<tr><td>4</td><td>Ambient water quality monitoring</td></tr>
<tr><td>5</td><td>Ambient water quality monitoring</td><td>The unnamed creek labelled as 5 on amended Figure 5 entitled Water Management System, submitted to the EPA on 21/11/01.at the Western Boundary of the Pelton Mine landholding.</td></tr>
<tr><td>6</td><td>Discharge to waters</td><td>Discharge from 1ML permeate tank as shown on Drawing No.</td></tr>
</table></td><td>• Site Water Management Plan, April 2013
• Consolidated Environmental Monitoring Program, May 2013</td><td></td><td>Compliant Ongoing</td></tr>
</table>

<table>
<tr><th>EPL Condition No.</th><th>EPL Condition</th><th>Verification</th><th>Comment</th><th>Compliance</th></tr>
<tr><td></td><td><table><tr><td></td><td>quality and volume monitoring,</td><td>Proposed Relocation of EPL 416 Discharge Point 6, dated 8/12/09.</td></tr></table></td><td></td><td></td><td></td></tr>
<tr><td>L1</td><td>Pollution of waters</td><td></td><td></td><td></td></tr>
<tr><td>L1.1</td><td>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.</td><td>• Protection of the Environment Operations Act 1997</td><td></td><td>Noted</td></tr>
<tr><td>L1.2</td><td>Discharge from Point 1 is permitted only when the discharge occurs solely as a result of rainfall at the premises exceeding:
a) a total of 168 millimetres over any consecutive five day period; or
b) 48 millimetres in less than any consecutive 12 hour period.</td><td></td><td>No discharge has occurred from Point 1 between November 2011 and November 2014.</td><td>Compliant</td></tr>
<tr><td>L2</td><td>Concentration limits</td><td></td><td></td><td></td></tr>
<tr><td>L2.1</td><td>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.</td><td>• Consolidated Environmental Monitoring Program, Jun 2010
• Annual Return 31 Dec 2011 to 30 Dec 2012
• Annual Return 31 Dec 2012 to 30 Dec 2013
• Annual Return 31 Dec 2013 to 30 Dec 2014</td><td></td><td>Compliant Ongoing</td></tr>
<tr><td>L2.2</td><td>Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.</td><td></td><td></td><td>Noted</td></tr>
<tr><td>L2.3</td><td>To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\s.</td><td></td><td></td><td>Noted</td></tr>
<tr><td></td><td>Water and/or Land Concentration Limits
Point 1<table><tr><th>Pollutant</th><th>Unit of measure</th><th>100%ile conc. limit</th></tr><tr><td>Iron</td><td>mg/L</td><td>1</td></tr><tr><td>pH</td><td>pH units</td><td>6.5-8.5</td></tr><tr><td>Total Dissolved Solids (TDS)</td><td>mg/L</td><td>6000</td></tr><tr><td>Total Suspended Solids (TSS)</td><td>mg/L</td><td>50</td></tr></table>Point 6<table><tr><th>Pollutant</th><th>Unit of measure</th><th>100%ile conc. Limit</th></tr><tr><td>Conductivity</td><td>µS/cm</td><td>600</td></tr><tr><td>Iron</td><td>mg/L</td><td>1</td></tr><tr><td>pH</td><td>pH units</td><td>6.5-8.5</td></tr></table></td><td></td><td></td><td>Noted</td></tr>
</table>

<table>
<tr><th>EPL Condition No.</th><th>EPL Condition</th><th>Verification</th><th>Comment</th><th>Compliance</th></tr>
<tr><td></td><td><table><tr><td>Total Dissolved Solids (TDS)</td><td>mg/L</td><td>6000</td></tr><tr><td>Total Suspended Solids (TSS)</td><td>mg/L</td><td>50</td></tr></table></td><td></td><td></td><td></td></tr>
<tr><td>L3</td><td>Volume and mass limits</td><td></td><td></td><td></td></tr>
<tr><td>L3.1</td><td>For each discharge point or utilisation area specified below (by a point number), the volume/mass of:
a) liquids discharged to water; or;
b) solids or liquids applied to the area;
must not exceed the volume/mass limit specified for that discharge point or area.
<table><tr><th>EPA Point</th><th>Unit of measure</th><th>Volume/Mass Limit</th></tr><tr><td>1</td><td>Kilolitres/day</td><td>2000</td></tr><tr><td>6</td><td>Measure 1</td><td>2000</td></tr></table>Note: For the purpose of this condition ‘Measure 1’ means KL/day measured as an annual average.</td><td>• Annual Return 31 Dec 2011 to 30 Dec 2012
• Annual Return 31 Dec 2012 to 30 Dec 2013
• Annual Return 31 Dec 2013 to 30 Dec 2014</td><td>The Annual Return to the EPA provides the volumes of water discharged from Point 6 (no discharge has occurred from Point 1). The annual average discharge is compliant with the L4.1 criteria:
<table><tr><th colspan="4">Average Annual Volume KL/d Summary</th></tr><tr><th></th><th>2011-2012</th><th>2012-2013</th><th>2013-2014</th></tr><tr><td>Point 1</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Point 6</td><td>670</td><td>1362</td><td>1468</td></tr></table></td><td>Compliant Ongoing</td></tr>
<tr><td>4</td><td>Operating Conditions</td><td></td><td></td><td></td></tr>
<tr><td>O1</td><td>Activities must be carried out in a competent manner</td><td></td><td></td><td></td></tr>
<tr><td>O1.1</td><td>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.</td><td></td><td></td><td>Noted</td></tr>
<tr><td>O2</td><td>Maintenance of plant and equipment</td><td></td><td></td><td></td></tr>
<tr><td>O2.1</td><td>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.</td><td></td><td></td><td>Noted</td></tr>
<tr><td>O3</td><td>Dust</td><td></td><td></td><td></td></tr>
<tr><td>O3.1</td><td>The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.</td><td></td><td>As most of the Austar operations and activities are underground (except for the CHPP area), dust generation is not a major issue. Dust deposition monitoring has indicated compliance with the dust criteria for the Austar operations.</td><td>Compliant Ongoing</td></tr>
<tr><td>5</td><td>Monitoring and Recording Conditions</td><td></td><td></td><td></td></tr>
<tr><td>M1</td><td>Monitoring records</td><td></td><td></td><td></td></tr>
</table>

<table>
<tr><th>EPL Condition No.</th><th>EPL Condition</th><th>Verification</th><th>Comment</th><th>Compliance</th></tr>
<tr><td>M1.1</td><td>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.</td><td></td><td></td><td>Noted</td></tr>
<tr><td>M1.2</td><td>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.</td><td></td><td></td><td>Noted</td></tr>
<tr><td>M1.3</td><td>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.</td><td></td><td>All monitoring records kept by Austar provide the date and time on which the sample was collected, sampling point and name of the person taking the sample.</td><td>Compliant Ongoing</td></tr>
<tr><td>2</td><td>Requirement to monitor concentration of pollutants discharged</td><td></td><td></td><td></td></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>• Consolidated Environmental Monitoring Program, Jun 2010
• Annual Return 31 Dec 2011 to 30 Dec 2012
• Annual Return 31 Dec 2012 to 30 Dec 2013
• Annual Return 31 Dec 2013 to 30 Dec 2014</td><td>The monitoring requirements in M2.1 are included in Austar Environmental Monitoring Program.</td><td>Compliant Ongoing</td></tr>
<tr><td>M2.2</td><td>Water and/ or Land Monitoring Requirements
Point 1
<table>
<tr><th>Pollutant</th><th>Unit of measure</th><th>Frequency</th><th>Sampling Method</th></tr>
<tr><td>Conductivity</td><td>µS/cm</td><td rowspan="5">Special Frequency 1</td><td rowspan="5">Grab sample</td></tr>
<tr><td>Iron</td><td>mg/L</td></tr>
<tr><td>pH</td><td>pH</td></tr>
<tr><td>TDS</td><td>mg/L</td></tr>
<tr><td>TSS</td><td>mg/L</td></tr>
</table>
Point 2, 4, 5
<table>
<tr><th>Pollutant</th><th>Unit of measure</th><th>Frequency</th><th>Sampling Method</th></tr>
<tr><td>Conductivity</td><td>µS/cm</td><td rowspan="4">Special Frequency 1</td><td rowspan="4">Grab sample</td></tr>
<tr><td>Iron</td><td>mg/L</td></tr>
<tr><td>pH</td><td>pH</td></tr>
<tr><td>TSS</td><td>mg/L</td></tr>
</table></td><td></td><td></td><td>Compliant Ongoing</td></tr>
</table>

<table>
<tr><th>EPL Condition No.</th><th>EPL Condition</th><th>Verification</th><th>Comment</th><th>Compliance</th></tr>
<tr><td></td><td>Point 6
<table>
<tr><th>Pollutant</th><th>Unit of measure</th><th>Frequency</th><th>Sampling Method</th></tr>
<tr><td>Conductivity</td><td>µS/cm</td><td rowspan="4">Once a month min of 4 weeks)</td><td rowspan="4">Grab sample</td></tr>
<tr><td>Iron</td><td>mg/L</td></tr>
<tr><td>pH</td><td>pH</td></tr>
<tr><td>TSS</td><td>mg/L</td></tr>
</table>
Note: Special Frequency 1 means daily collected at a minimum of twelve hourly intervals when a discharge is occurring.
Special Frequency 2 means three times per week during any period of discharge from Point 1 at a minimum of 48 hour intervals commencing as soon as practical after discharge has commenced. Once
per month during any period of discharge from Point 6 at a minimum of 4 weekly intervals.</td><td></td><td></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>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.</td><td></td><td>All samples are analysed at NATA registered laboratories using approved methods.</td><td>Compliant Ongoing</td></tr>
<tr><td>M4</td><td>Weather monitoring</td><td></td><td></td><td></td></tr>
<tr><td>M4.1</td><td>The meteorological weather station must be maintained so as to be capable of continuously monitoring the parameters specified in condition M4.2.</td><td></td><td></td><td>Noted</td></tr>
<tr><td>M4.2</td><td>For each monitoring point specified in the table below the licensee must monitor (by sampling and
obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling
method, units of measure, averaging period and sample at the frequency, specified opposite in the other
columns.
Point 7
<table>
<tr><th>Parameter</th><th>Unit</th><th>Frequency</th><th>Averaging period</th><th>Sampling Method</th></tr>
<tr><td>Air temp</td><td>oC</td><td rowspan="3">Continuous</td><td>1 hour</td><td>AM-4</td></tr>
<tr><td>Wind direction</td><td>Degrees</td><td>15 min</td><td rowspan="2">AM-2 &AM-4</td></tr>
<tr><td>Wind speed</td><td>m/s</td><td>15min</td></tr>
</table></td><td>• Approved Methods for Sampling of Air Pollutants in New South Wales
• Project Approval 08_0111 Schedule 4 condition 7</td><td>The Austar meteorological station has been installed and operates remotely with the data able to be accessed on a continuous basis as required.
The meteorological station was installed in compliance with EPL 416 condition M4.
Carbon Based Environmental provided advice that the Vantage Pro 2 Complete System installed ta the Austar site meets the class of station that is standard in AM-2 Guide for measurement of horizontal wind for air quality applications (AS2923-1987).
Use of the wind sensor and sigma theta calculator the Vantage Pro 2 also complies with the AM-4 Meteorological monitoring guidance</td><td>Compliant Ongoing</td></tr>
</table>

EPL Condition No.	EPL Condition	Verification	Comment	Compliance
	<table><tr><td>Sigma Theta</td><td>Degrees</td><td></td><td>15min</td><td></td></tr><tr><td>Rainfall</td><td>mm</td><td></td><td>24 hours</td><td>Standard rain gauge</td></tr></table>		for regulatory mining applications (USPA (2000) EPA 454/R-99-005).	
M4.3	Rainfall at the premises must be measured and recorded in millimetres per 24 hour period, at the same time each day. *Note: The rainfall monitoring data collected in compliance with Condition M4.2. can be used to determine compliance with L1.2.*		The meteorological station provides continuous rainfall recording enabling the rainfall to be read at the same time each day.	**Compliant Ongoing**
M5	**Recording of pollution complaints**			
M5.1	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.		Complaints are recorded in a Complaints register maintained by the Environment and Community Manger.	**Compliant Ongoing**
M5.2	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.	• Complaints Register • 2013-2014 AEMR Appendix G • 2012-2013 AEMR Appendix G • 2011-2012 AEMR Appendix G	The Complaints Register records: a) date and time of the complaint; (b) method by which the complaint was made; (c) details of the complainant which were provided by the complainant; (d) nature of the complaint; (e) follow up action taken by Austar in relation to the complaint; and (f) comments if no action was taken .	**Compliant Ongoing**
M5.3	The record of a complaint must be kept for at least 4 years after the complaint was made.		A copy of all complaints is retained by the Environmental and Community Manager.	**Compliant Ongoing**
M5.4	The record must be produced to any authorised officer of the EPA who asks to see them.			**Noted**
M6	**Telephone complaints line**			
M6.1	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.		Austar Coal have a Community Contact Line set up for the sole purpose of receiving enquiries about the operations – 1800 701 986. The community hotline is noted on the Austar Coal Mine website – http://www.austarcoalmine.com.au/community .	**Compliant Ongoing**
M6.2	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.			**Compliant**
M6.3	The preceding two conditions 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 Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the			**Noted**

<table>
<tr><th>EPL Condition No.</th><th>EPL Condition</th><th>Verification</th><th>Comment</th><th>Compliance</th></tr>
<tr><td></td><td>licence was served on the licensee under clause 10 of that regulation.</td><td></td><td></td><td></td></tr>
<tr><td>M7</td><td>Requirement to monitor volume or mass</td><td></td><td></td><td></td></tr>
<tr><td>M7.1</td><td>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 1<table><tr><th>Frequency</th><th>Unit of measure</th><th>Sampling method</th></tr><tr><td>Special Frequency 1</td><td>Kilolitres/day</td><td>In-line instrumentation</td></tr></table>Point 6<table><tr><th>Frequency</th><th>Unit of measure</th><th>Sampling method</th></tr><tr><td>Monthly</td><td>Kilolitres/day</td><td>In-line instrumentation</td></tr></table></td><td></td><td>No discharge has occurred from Point 1 between November 2011 and November 2014.
Discharge of permeate from the RO Water Treatment Plant occurs from Point 6 to Bellbird Creek.
The volume of discharge is recorded in Kilolitres/day for Point 6.</td><td>Compliant Ongoing</td></tr>
<tr><td>M7.2</td><td>Special Frequency 1 means daily collected at a minimum of twelve hourly intervals when a discharge is occurring.</td><td></td><td></td><td>Noted</td></tr>
<tr><td>6</td><td>Reporting Conditions</td><td></td><td></td><td></td></tr>
<tr><td>R1</td><td>Annual return documents</td><td></td><td></td><td></td></tr>
<tr><td>R1.1</td><td>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.
At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.</td><td>• Annual Return 31 Dec 2011 to 30 Dec 2012
• Annual Return 31 Dec 2012 to 30 Dec 2013
• Annual Return 31 Dec 2013 to 30 Dec 2014</td><td>The Annual Returns prepared by Austar Coal for submission to the EPA include a signed Statement of Compliance and a Monitoring Compliance Summary.</td><td>Compliant Ongoing</td></tr>
<tr><td>R1.2</td><td>An Annual Return must be prepared in respect of each reporting period, except as provided below.
Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.</td><td>• Annual Return 31 Dec 2011 to 30 Dec 2012
• Annual Return 31 Dec 2012 to 30 Dec 2013
• Annual Return 31 Dec 2013 to 30 Dec 2014</td><td>The 12 month period covered by the Annual Return for the Austar Mine Complex is 31 December to 30 December</td><td>Compliant Ongoing</td></tr>
<tr><td>R1.3</td><td>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</td><td>• Annual Return 31 Dec 2011 to 30 Dec 2012
• Annual Return 31 Dec 2012 to 30 Dec 2013</td><td></td><td>Compliant Ongoing</td></tr>
</table>

EPL Condition No.	EPL Condition	Verification	Comment	Compliance
	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. *Note: An application to transfer a licence must be made in the approved form for this purpose.*	• Annual Return 31 Dec 2013 to 30 Dec 2014		
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.			**Not applicable**
R1.5	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').	• Annual Return 31 Dec 2011 to 30 Dec 2012 • Annual Return 31 Dec 2012 to 30 Dec 2013 • Annual Return 31 Dec 2013 to 30 Dec 2014	The Annual Return is provided to the EPA by registered post within 60 days of the end of each reporting period (i.e. by 1 March each year).	**Compliant Ongoing**
R1.6	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.	• Annual Return 31 Dec 2011 to 30 Dec 2012 • Annual Return 31 Dec 2012 to 30 Dec 2013 • Annual Return 31 Dec 2013 to 30 Dec 2014	A copy of each Annual Return is retained by the Environment and Community Manager.	**Compliant Ongoing**
R1.7	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.	• Annual Return 31 Dec 2011 to 30 Dec 2012 • Annual Return 31 Dec 2012 to 30 Dec 2013 • Annual Return 31 Dec 2013 to 30 Dec 2014	The Statement of Compliance is certified and the Monitoring and Complaints Summary signed by Austar management personnel.	**Compliant Ongoing**
R1.8	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.	• Annual Return 31 Dec 2011 to 30 Dec 2012 • Annual Return 31 Dec 2012 to 30 Dec 2013 • Annual Return 31 Dec 2013 to 30 Dec 2014		**Noted**
R2	**Notification of environmental harm** *Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.*			

EPL Condition No.	EPL Condition	Verification	Comment	Compliance
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.			**Noted**
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.		The EPA has been notified of reportable incidents and an Incident Report submitted:	**Noted**
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.			
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 further details to the EPA within the time specified in the request.			**Noted**
7	**General Conditions**			
G1	**Copy of licence kept at the premises or plant**			

EPL Condition No.	EPL Condition	Verification	Comment	Compliance
G1.1	A copy of this licence must be kept at the premises to which the licence applies.		Copies of the EPL are kept on site by the Environment and Community Manager.	**Compliant**
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.			**Noted**
8	**Pollution Studies and Reduction Programs**			
U1	**Premises Noise Assessment**			
U1.1	The licensee must conduct a noise assessment in accordance with the document, 'NSW Industrial Noise Policy', (EPA, 2000) (INP) for the operations and activities carried out at the licensed premises and submit a report to the Manager, Hunter Region, by no later than 31 AUGUST 2014.	• Premises Noise Assessment, 2014	The Premises Noise Assessment was prepared in accordance with the requirements of EPL 416 condition U1and the NSW Industrial Noise Policy, (EPA, 2000) for the operations and activities carried out at the Austar Mine Complex premises and submitted the report to the EPA prior to the 31 August 2014.	**Compliant**
	The report referred to in condition U1.1 must include, but is not limited to the following: 1. Project Specific Noise Levels for the nearest noise sensitive receiver location(s). The project specific noise levels may be sourced from recent documentation submitted in support of a project approval application, or determined specifically in response to this condition, provided that: (a) The source of the project specific noise levels are stated; (b) The project specific noise levels have been derived in accordance with the INP; (c) Details are provided of how the project specific noise levels have been derived; and (d) The nearest noise sensitive receiver locations chosen are representative of those potentially most affected by noise from the premises. 2. Predicted or measured noise level contributions for the noise sensitive receiver locations identified in U1.2.1 above as a result of all activities and operations carried out at the premises. These may be sourced from recent documentation submitted in support of a project approval or determined specifically in response to this condition, provided that: (a) The source of the predicted or measured noise level(s) are stated; (b) Noise levels have been predicted or measured in accordance with the INP; and (c) Details of how the noise levels have been predicted are provided. 3. Noise Limits proposed for the location(s) identified in U1.2.1 above, derived with regard to the project specific noise levels and	• CHPP Noise Pollution Reduction Program Status Report, July 2011 • CHPP Noise Pollution Reduction Program Status Report, January 2011 • CHPP Noise Pollution Reduction Program Status Report, July 2010	The six monthly noise reports prepared to address the requirements for the PRP provided noise monitoring data and comments on the progress of the works: (a) Noise monitoring was conducted and reported in the six monthly reports; (b) Trends in reduced noise levels off site were monitored during the panel fitting process and following completion of the works. (c) Refinement / revision of the noise bund construction occurred to achieve the noise reduction predicted in the Noise Report and modelling was reviewed. Reduction in noise at the receivers from the noise bund construction is variable and other options for noise reduction are being considered. The Premises Noise Assessment did not propose noise criteria for those receivers currently without noise criteria established under the Industrial Noise Policy. The PNA recommended a thorough investigation of reasonable and feasible noise control measures that would reduce noise emissions as far as practicable, before recommending noise criteria. This is a best practice approach and is acceptable.	**Compliant Ongoing**

<table>
<tr><th>EPL Condition No.</th><th>EPL Condition</th><th>Verification</th><th>Comment</th><th>Compliance</th></tr>
<tr><td></td><td>predicted noise level contributions from U1.2.1 and U1.2.2 above, that can be placed on the licence, for all activities and operations carried out at the premises.
4. Details of methods to be used to determine compliance with the limits in U1.2.3 above.
Note: (a) A reference to the INP includes a reference to the INP Application Notes; and
(b) Noise sensitive receiver locations do not include any locations owned by the licensee or another coal mine or where a negotiated agreement (as outlined in the INP) is in place between the landowner and any licence holder.</td><td></td><td></td><td></td></tr>
<tr><td>U2</td><td>Premises Noise Limits</td><td></td><td></td><td></td></tr>
<tr><td>U2.1</td><td>Noise generated at the premises must not exceed the noise limits below:
<table><tr><th>Receiver</th><th>Noise Limit dB(A)L90</th></tr><tr><td>Pelton Village</td><td>43</td></tr><tr><td>Pyne residence</td><td>40</td></tr><tr><td>O'Hearn residence</td><td>37</td></tr></table>Note: These noise limits apply until new noise limits, determined through the "Premises Noise Assessment"
pollution reduction program, condition U1 of this licence, are applied to the licence.</td><td></td><td>Austar Coal Mine is operating in compliance with Development Consent DA29/95 (MOD 5), Project Approval 08_0111, EPL 416 and associated documents with respect to its noise obligations.</td><td>Compliant Ongoing</td></tr>
<tr><td>U2.2</td><td>The noise limits apply at all times under wind speeds up to 3 metres per second (measured at 10 metres above ground level) and Pasquill stability class from A to F.</td><td></td><td>Meteorological data is obtained from the Austar Coal Mine meteorological station for correlation of atmospheric parameters and noise levels.</td><td>Noted</td></tr>
<tr><td>U2.3</td><td>Noise from the premises is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of the dwelling where the dwelling is more than 30 metres from the boundary, to determine compliance with the noise limits in Condition U2.1 unless otherwise stated.
Where it can be demonstrated that direct measurement of noise from the premises is impractical, the EPA may accept alternative means of determining compliance. See Chapter 11 of the NSW Industrial Noise Policy.
The modification factors presented in Section 4 of the NSW Industrial Noise Policy must also be applied to the measured noise level where applicable.</td><td rowspan="2">• Industrial Noise Policy, EPA
• Environmental Noise Monitoring Reports, Global Acoustics:
○ Q3 2014
○ Q2 2014
○ Q1 2014
○ Q4 2013
○ Q3 2013
○ Q2 2013
○ Q1 2013
○ Q4 2012
○ Q3 2012
○ Q2 2013
○ Q1 2013</td><td>Attended monitoring was conducted in accordance with the Environment Protection Authority (EPA) 'Industrial Noise Policy' (INP) guidelines and Australian Standard AS1055 'Acoustics, Description and Measurement of Environmental Noise'. Atmospheric condition measurements were also undertaken.</td><td>Compliant Ongoing</td></tr>
<tr><td>U2.4</td><td>A noise compliance assessment report must be submitted to the EPA's Regional Manager, Hunter on a quarterly basis. The report must contain the results of noise compliance monitoring specified in U2.3.</td><td>Quarterly Noise Monitoring Reports are prepared by Global Acoustics and submitted to the EPA.</td><td>Compliant Ongoing</td></tr>
<tr><td>9</td><td>Special Conditions</td><td></td><td></td><td></td></tr>
</table>

EPL Condition No.	EPL Condition	Verification	Comment	Compliance
E1	**Advice to Black Creek Water Users**			
E1.1	The licensee must maintain a system acceptable to water users on Black Creek for advising those water users registered with the company of the discharge of waters from discharge point 1. Where possible, water users will be advised within the 24 hour period immediately prior to the commencement of any discharge. Where prior advice is not possible, advice will be given as soon as practicable after discharge commences. The licensee will advise water users of the conductivity of water being discharged. The conductivity of the waters of Bellbird Creek at the intersection of Black Creek with Lomas Lane will be advised to water users on request.		No discharge from Point 1 has occurred during the 2011-2014 period.	**Not triggered**

Attachment E
Mining Lease

ML Condition No.	Mining Lease Condition	Verification	Comment	Compliance
	INSTRUMENT OF RENEWAL			
	ML Holder: Austar Coal Mine Pty Limited ACN 111 910 822 Date of Lease: 24 March 1993 Expiry Date of Lease: 15 May 2009 Period of Renewal Until: 6 July 2025			
	ML Area: 3406 hectares as shown on Plan No. M27131			
	Depth Restriction: Various to a maximum depth of 900 metres below Australian Height Datum (AHD) Minerals: Coal			
	Amendments to Conditions of the Consolidated Mine Lease: All the Conditions contained in the lease prior to the renewal have been deleted. The lease is now subject to the attached Mining Lease Conditions 1-23 (inclusive), 25, 26 and 28-35 (inclusive) **(NB: *Condition Nos. 2-8 inclusive and 17-23 inclusive are identified as conditions relating to environmental management for the purposes of Sections 125(3) and 374A of the Mining Act 1992*).**			
	CONSOLIDATED MINING LEASE CONDITIONS 2008			
1	**Notice to Landholders**			
2	**Environmental Harm** The proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of the development.	• Drill Site Safety and Environmental Plan, Austar Technical Services, 27 Oct 2011 • Environmental Management Strategy, May 2013 and associated Management Plans	The management plans developed for the drilling and construction works and mining activities for Austar provide practical measures to minimise environmental harm from the activities.	**Compliant Ongoing**
3	**Mining Operations Plan** (a) Mining operations must not be carried out otherwise than in accordance with: (a) a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries. (b) The MOP must: (i) identify areas that will be disturbed by mining operations;	• *Guidelines to the Mining, Rehabilitation and Environmental Management Process* Department of Primary Industries, Jan 2006 • Mining Operations Plan 2008-2015	(a) The MOP for the Stage 2 and Stage 3 works was prepared in 2008 and approved by DPI. Any variations to the Stage 3 works have been submitted as a revision to the 2008-2015 MOP prior to commencement of secondary works. (b) The MOP was prepared in accordance with the Guidelines to the Mining, Rehabilitation and	**Compliant Ongoing**

ML Condition No.	Mining Lease Condition	Verification	Comment	Compliance
	(ii) detail the staging of specific mining operations; (iii)identify how the mine will be managed to allow mine closure; (iv) identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment; (v) reflect the conditions of approval under: (vi) the Environmental Planning and Assessment Act 1979 the Protection of the Environment Operations Act 1997 and any other approvals relevant to the development including the conditions of this lease; and (vii) have regard to any relevant guidelines adopted by the Director-General. (c) The titleholder may apply to the Director-General to amend an approved MOP at any time. (d) It is not a breach of this condition if: i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the Mining Act 1992, the Environmental Planning and Assessment Act 1979, Protection of the Environment Operations Act 1997 or the Occupational Health and Safety Act 2000; and ii) the Director-General had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out. (e) A MOP ceases to have affect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition 5 does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director-General.	• Letter from DPI re Acceptance of Mining Operations Plan, 30 Jun 2008	Environmental Management Process (Department of Primary Industries, dated January 2006). (c) The MOP will be revised for Stage 3 secondary works as required. (d) Noted (e) The MOP was prepared for the 2008-2015 period (i.e. 7 years).	
	Environment Management Reporting			
4	The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.		Refer DA 29/95 Schedule Condition ; Project Approval 08_0111 Schedule 5 condition 5 An Annual Environmental Management Report has been prepared and sub mitted to the Director-General.	**Compliant Ongoing**
5	The EMR must: (a) report against compliance with the MOP; (b) report on progress in respect of rehabilitation completion criteria; (c) report on the extent of compliance with regulatory requirements; and (d) have regard to any relevant guidelines adopted by the Director-General;	Annual Environmental Management Reports: • 2014-2013 AEMR • 2012-2013 AEMR • 2011-2012 AEMR	The AEMR's addresses: (a) and (b) - section 5.2 Rehabilitation of Disturbed Land reports against compliance with the MOP; (c) AEMR section 3 reports on the extent of compliance with regulatory requirements under each environmental aspect; (d) any new relevant guidelines adopted by the Director-General are considered in the AEMR.	**Compliant Ongoing**

ML Condition No.	Mining Lease Condition	Verification	Comment	Compliance
6	Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.			**Noted**
	Rehabilitation			
7	Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.		***Refer Project Approval 08_0111 Schedule 6 conditions 1 to 4***	**Noted**
	Subsidence Management			
8	(a) The lease holder 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 Applications for Subsidence Management Approvals guidelines (EDG1 7). (c) The lease holder 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 Mine Health & Safety Act 2004, or the document New Subsidence Management Plan Approval Process — Transitional Provisions (EDP09). (d) Subsidence Management Plans are to be prepared in 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 3 and will be subject to the Annual Environmental Management Report process as set out under Condition 4. 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 – Policy.	• *Guideline for Applications for Subsidence Management Approvals*, DMR • Subsidence Management Plan Long-walls A4 and A5, Sep 2008 • Letter from DII re Approval of Austar Mine SMP for Long-walls A4 and A5, 24 Dec 2009 • Extraction Plan, Long-walls A7 to A10, Dec 2013	***Refer DA 29/95 Schedule 3 condition 3; and Project Approval 08_0111 Schedule 3 condition 4*** Subsidence Management Plan was prepared for Long-walls A3 to A5 in September 2008 prior to commencement of secondary workings for A3 and A5. The SMP was approved by DII on 24 December 2008. The Extraction Plan and Subsidence Management Plan for Long-walls A7 to A10 was prepared and approved in December 2013. (a) Noted (b) Noted. See (a) above. (c) The Subsidence Management Plan was prepared in accordance with the requirements of the *Guideline for Applications for Subsidence Management Approvals*, DMR. (d) Noted	**Compliant Ongoing**
	Exploratory Drilling			
17	(a) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Water and Energy Regional Hydrologist of	• *Borehole Sealing Requirements on Land: Coal Exploration, Environmental*	(a) Prior to commencement of exploration drilling operations Austar have notified the Director-General of the intention to drill exploratory drill holes. A letter to DPI (dated 20 December 2006)	**Compliant Ongoing**

ML Condition No.	Mining Lease Condition	Verification	Comment	Compliance
	the intention to drill exploratory drill holes together with information on the location of the proposed holes. (b) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:- (a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established; (i) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface; (ii) all drill holes are permanently sealed with cement plugs to prevent surface discharge of ground waters; (iii) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape; (iv) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers. (v) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General. (vi) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.	*Management Guideline* EDG01, Dec 1997 • Letter to DPI re Austar Exploratory Drilling Program, 20 Dec 2006 • Letter to NSW Office of Water re Intention to Drill Two Exploration Boreholes EL6598, 10 June 2011 • Letter from NSW Office of Water re Notification of Coal Exploration Activity, 30 Jun 2011 • Austar Drill Safety and Environmental Plan for 2011 Exploration	was submitted by Austar 28 days prior to commencement of drilling by McDermott Drilling Contractor. A further Notification was submitted to NSW Office of Water on 10 June 2011 re the intention to drill exploration boreholes as part of the planned program for Exploration Licence 6598. (b) The drilling program would be undertaken in accordance with the Austar Drill Safety and Environmental Plan. Exploration and rehabilitation of the drill holes is conducted in accordance with EDG01 Borehole Sealing Requirements on Land: Coal Exploration.	
	Prevention of Soil Erosion and Pollution			
18	Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan. For the purpose of this condition, water shall be taken to include any watercourse, water-body or groundwater. The lease holder must observe and perform any instructions given by the Director-General in this regard.	• Mining Operations Plan 2008-2015, section 3.1 Exploration and Section 7.2 Erosion and Sediment Control • Site Water Management Plan, , Apr 2013 • Erosion and Sediment Control Plan, Apr 2013	***Refer DA 29/95 Schedule 3 condition 8;*** ***Project Approval Schedule 4 condition 9(b)(ii); and Statement of Commitment 1.6.2*** The drilling activities have been conducted in an area of minimal disturbance for the drill pad, with topsoil and other excavated material stockpiled in defined areas with sediment fence installed to prevent loss of sediment from the site. The Austar mining operations and construction activities have been conducted in accordance with the MOP and Site Water Management Plan.	**Compliant Ongoing**
	Transmission lines, Communication lines and Pipelines			
19	Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.		Mining operations have not interfered with any transmission line, communication line, pipeline or any other utility on the lease area	**Noted**
	Fences, Gates			

ML Condition No.	Mining Lease Condition	Verification	Comment	Compliance
20	(a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate. (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.		Exploration activities have been carried out in a manner that has not interfered with or damaged fences or gates on the lease area.	**Compliant Ongoing**
	Roads and Tracks			
21	(a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate. (b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.		***Refer DA 29/95 Schedule 3 condition 26 and Project Approval 08_0111 Schedule_4 condition 12*** Austar operations do not affect any public road unless in accordance with an approved Mining Operations Plan.	**Compliant Ongoing**
22	Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Environment and Climate Change		Access tracks across the Austar operational areas have been kept to a minimum and positioned so that they do not cause any unnecessary damage to the land	**Compliant Ongoing**
23	**Trees and Timber** (a) The lease holder must not fell trees, strip bark or cut timber on the lease without the consent of the landholder who is entitled to the use of the timber, or if such a landholder refuses consent or attaches unreasonable conditions to the consent, without the approval of a warden. (b) The lease holder must not cut, destroy, ringbark or remove any timber or other vegetative cover on the lease area except such as directly obstructs or prevents the carrying on of operations. Any clearing not authorised under the Mining Act 1992 must comply with the provisions of the Native Vegetation Act 2003. (c) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area.	• Landscape Management Plan, Appendix C • Clearing, Excavation, Stake or Pile Driving Permit, EMP-P-007	Management of the areas within the mine lease encompass large areas overlain by a combination Austar owned land, privately owned land and portions of Werakata State Conversation Area (previously Abedere State Forest. Clearance where it is required only occurs following a Pre-clearance Survey and Vegetation Clearing Protocol, and completion of a Clearing Excavation, Stake or Pile Driving Permit, EMP-P-007, to ensure that threatened flora or fauna are not affected and if any licences are required these would be obtained prior to commencement of any clearing.	**Compliant Ongoing**

Appendix 1 Agency Consultation Letters

TREVOR BROWN & ASSOCIATES

Applied Environmental Management Consultants

TBA Ref :Austar/14/11

03 November 2014

Environmental Management

ISO14000 EMS development

EMP preparation

EMS Implementation

Environmental audits

Due Diligence Audits

Compliance Audits

Environmental Risk Assessment

Environmental Training

Environmental Workshops

Environmental Project Management

for

Mining

Construction

Industry

Government

Small-Medium Enterprises

Department of Planning and Environment

Attention: Paul Freeman

Dear Paul

Independent Environmental Audit – Austar Coal Mine Project

I have been endorsed as Lead Auditor by the Department of Planning and Environment (DP&E) in accordance with Project Approval 08_0111 Schedule 7 Condition 7 for the conduct of an Independent Environmental Audit of Wagga Wagga Quarry Extension Project as determined by the DP&E 10 October 2014.

The independent audit will assess the current environmental status of the development of the Austar Coal Mine Project and compliance with the requirements of DA29/95 and Project Approval 08_0111 Environmental Protection Licence 0416, and the environmental management plans prepared to satisfy the conditions of the Project Approval. The audit will also involve a review of the adequacy of strategies, plans and programs prepared under the abovementioned approvals and, where necessary, recommend appropriate measures or actions to improve the environmental performance of the project.

The audit will be comprehensive however, if there are any particular environmental aspects that you would like the audit to take into consideration, please contact me via email before the 10 November 2014.

Yours sincerely 3 November 2014

Trevor Brown
Principal Environmental Management Auditor

Trevor Brown & Associates
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TREVOR BROWN & ASSOCIATES

Applied Environmental Management Consultants

TBA Ref :Austar/14/11

03 November 2014

Environmental Management

ISO14000 EMS development

EMP preparation

EMS Implementation

Environmental audits

Due Diligence Audits

Compliance Audits

Environmental Risk Assessment

Environmental Training

Environmental Workshops

Environmental Project Management

for

Mining

Construction

Industry

Government

Small-Medium Enterprises

Division of Resources and Energy

Attention: Neil McElhinney

Dear Neil

Independent Environmental Audit – Austar Coal Mine Project

I have been endorsed as Lead Auditor by the Department of Planning and Environment (DP&E) in accordance with Project Approval 08_0111 Schedule 7 Condition 7 for the conduct of an Independent Environmental Audit of Wagga Wagga Quarry Extension Project as determined by the DP&E 10 October 2014.

The independent audit will assess the current environmental status of the development of the Austar Coal Mine Project and compliance with the requirements of DA29/95 and Project Approval 08_0111 Environmental Protection Licence 0416, and the environmental management plans prepared to satisfy the conditions of the Project Approval. The audit will also involve a review of the adequacy of strategies, plans and programs prepared under the abovementioned approvals and, where necessary, recommend appropriate measures or actions to improve the environmental performance of the project.

The audit will be comprehensive however, if there are any particular environmental aspects that you would like the audit to take into consideration, please contact me via email before the 10 November 2014.

Yours sincerely 3 November 2014

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Environment Protection Authority

Attention: Rebecca Ackhurst

Dear Rebecca

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NSW Office of Water

Attention: Hemantha de Silva

Dear Hemantha

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