



# Environmental Management Strategy

June 2018

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## 1 INTRODUCTION

Austar Coal Mine Pty Ltd (Austar), a subsidiary of Yancoal Australia Limited (Yancoal), operates the Austar Coal Mine, an underground coal mine located approximately 10 kilometres southwest of Cessnock in the Lower Hunter Valley in NSW (refer to **Figure 1**). The Austar Coal Mine incorporates the former Pelton, Ellalong, Cessnock No. 1 (Kalingo) and Bellbird South Collieries and includes coal extraction, handling, processing and rail and road transport facilities (refer to **Figure 1**).

The Austar Coal Mine Environmental Management Strategy (EMS) has been prepared in accordance with the requirements of Project Approval PA08\_0111 and Development Consent DA29/95.

PA08\_0111 was granted under section 75J of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 6 September 2009, and was most recently modified under section 75W of the EP&A Act in December 2013. PA08\_0111 relates primarily to the Stage 3 mining area. DA29/95 was granted under section 91 of the *Environmental Planning and Assessment Act* (EP&A Act) on 14 February 1996, and was most recently modified under section 75W of the EP&A Act on 25 August 2017. DA29/95 relates primarily to the Bellbird South mining area and operations.

The EMS takes into consideration the commitments stated in the Environmental Assessment, Environmental Impact Statement, Statement of Environmental Effects, various development consent conditions and license conditions. In addition, commitments outlined in Austar Coal Mine's environmental policy are also taken into account.

## 2 PURPOSE OF THE EMS

The purpose of the EMS is to:

- satisfy the relevant conditions under NSW Development Consent DA29/95 (as modified) and NSW Project Approval (08\_0111) (as modified);
- provide an overall framework for environmental management;
- identify key environmental aspects to be addressed in the strategy and supporting plans and procedures;
- establish procedures for reviewing progress and implementing corrective actions; and
- provide a framework for review and continual improvement.

The EMS establishes an environmental management framework for all mining and surface activities. It includes the development and management of environmental management plans, procedures and reporting requirements.

### 3 ENVIRONMENTAL MANAGEMENT STRATEGY OUTLINE

This document outlines the Environmental Management Strategy for Austar including organisational responsibilities, planning activities, procedures, processes, implementation and review. It is an integral component of the overall environmental management system for the Austar Mine Complex.

The subordinate plans and policies have been developed in consultation with relevant government agencies and departments, and are updated as required. Where relevant, some plans may address the requirements of both DA29/95 and PA08\_0111, and the approval of the Secretary is sought under both DA29/95 and PA08\_0111 for those plans. The general relationship of the EMS with other plans is shown in **Figure 1**.

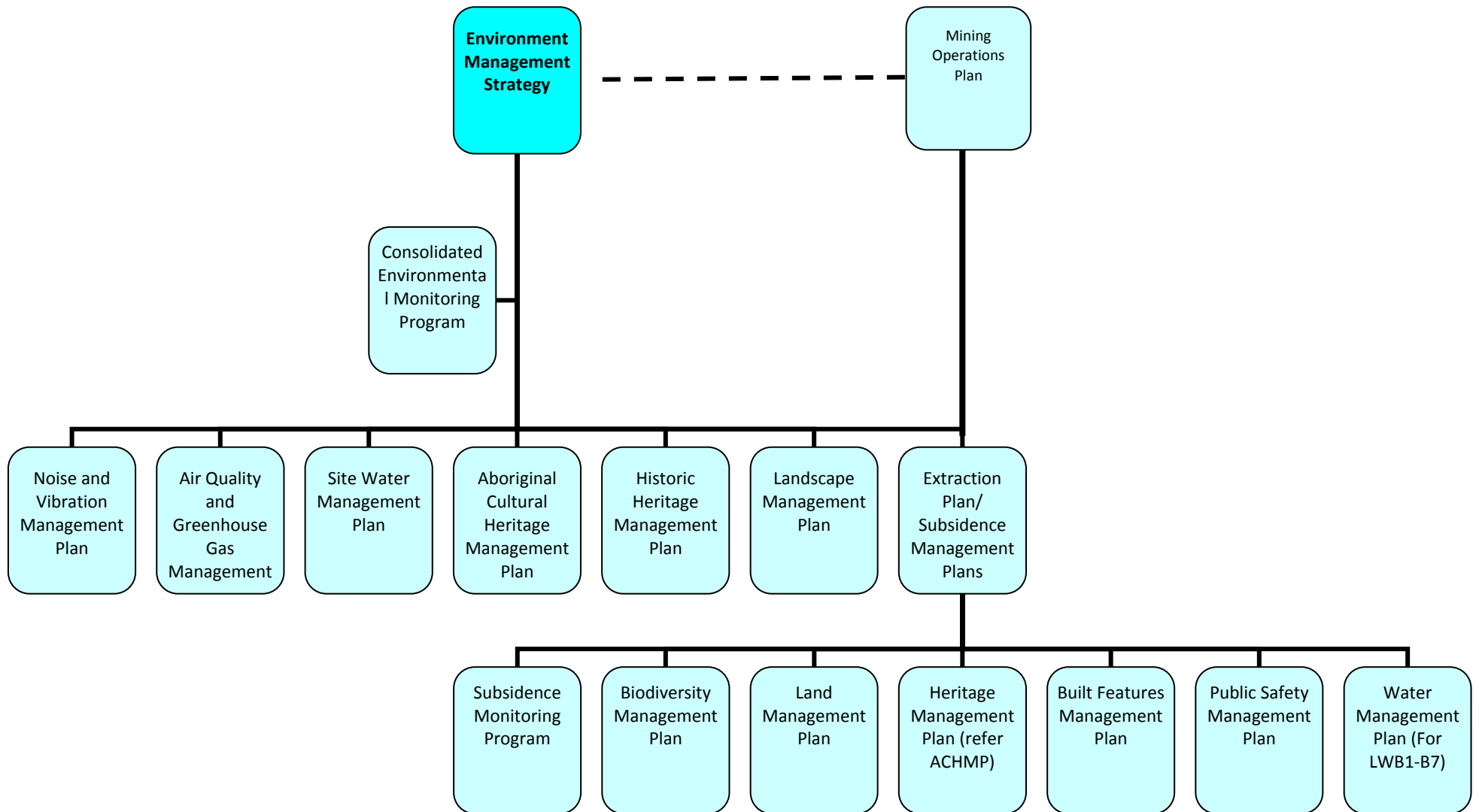
Copies of the various strategies, plans and programs required under the conditions of DA29/95 and PA08\_0111 have been included within this EMS as follows:

- Appendix D – Consolidated Environmental Monitoring Program;
- Appendix E – Landscape Management Plan;
- Appendix F – Site Water Management Plan;
- Appendix G – Noise and Vibration Management Plan;
- Appendix H – Air Quality and Greenhouse Gas Management Plan;
- Appendix I – Aboriginal Cultural Heritage Management Plan; and
- Appendix J – Historic Heritage Management Plan.

Extraction Plans, while part of the EMS structure, are provided as separate volumes of this EMS, rather than as Appendices as follows:

- Volume 2 of the EMS - The Austar Coal Mine Longwalls A7-A10 Extraction Plan;
- Volume 3 of the EMS - The Austar Coal Mine Longwalls B1-B3 Extraction Plan;
- Volume 4 of the EMS - The Austar Coal Mine Longwalls B4-B7 Extraction Plan.

A Shaft Construction Environmental Management Plan was prepared to manage impacts from construction activities at the Kitchener SIS under PA08\_0111 (as required by Condition 1, Schedule 4 of PA08\_0111). Shaft construction activities referred to in that plan were completed in 2013 and as such the Shaft Construction Environmental Management Plan is no longer applicable. Management of environmental aspects at the Kitchener SIS have been incorporated into the relevant management plans listed above.



**Figure 1 Environmental Management Strategy and Relationship with Other Plans**



## 4 ENVIRONMENTAL POLICY

Austar is committed to sustainable development throughout all components of the mining process including exploration, mining and processing of coal. The company's environmental policy states the intentions and principles for environmental performance across the operation and is reproduced in full in **Appendix A**.

Austar's environmental policy is one of the key drivers for the implementation and improvement of the environmental management system so that the mining operation's environmental performance is enhanced over time. The policy incorporates regular review and improvement to ensure the Environmental Management Strategy remains relevant to the operation and the various environmental requirements as they change over time.

## 5 PROJECT DESCRIPTION

### 5.1 OVERVIEW

Austar is an underground coal mine located approximately 10km south west of Cessnock in the Newcastle Coalfields of New South Wales (see **Figure 2**). The mine has worked the same leases under various names since 1916 including Pelton, Ellalong, Bellbird South, and Southland Collieries.

Yancoal Australia Pty Limited purchased the mine in December 2004 and renamed it Austar Coal Mine. Austar commenced mining operations in the Bellbird South mining area in April 2005 and introduced the Longwall Top Coal Caving (LTCC) technology in the Bellbird South mining area in September 2006. Conventional longwall mining in the Bellbird South mining area is undertaken in the Longwall B1 to B7 area.

In September 2009, PA08\_0111 was granted by the Minister for Planning which approved longwall mining using LTCC technology in the Stage 3 area. A modification to PA08\_0111 was granted in March 2012 to reorient the Stage 3 longwall panels. A further modification to PA08\_0111 was granted in December 2013 to extend longwalls A7 to A10 to the west by approximately 100m to 300m. The Stage 3 Project (as modified) includes longwall panels A7 to A19, and construction of a Surface Infrastructure Site with associated services to the south of Kitchener.

The Pelton CHPP is used for coal processing, coal transportation loading and mine water treatment. Coarse reject from the coal washing process is emplaced in approved emplacement areas at the CHPP site, or at the Aberdare Extended Emplacement Area.

**Figure 2** presents the location of the underground mining areas and surface infrastructure areas of the Austar Coal Mine Complex.

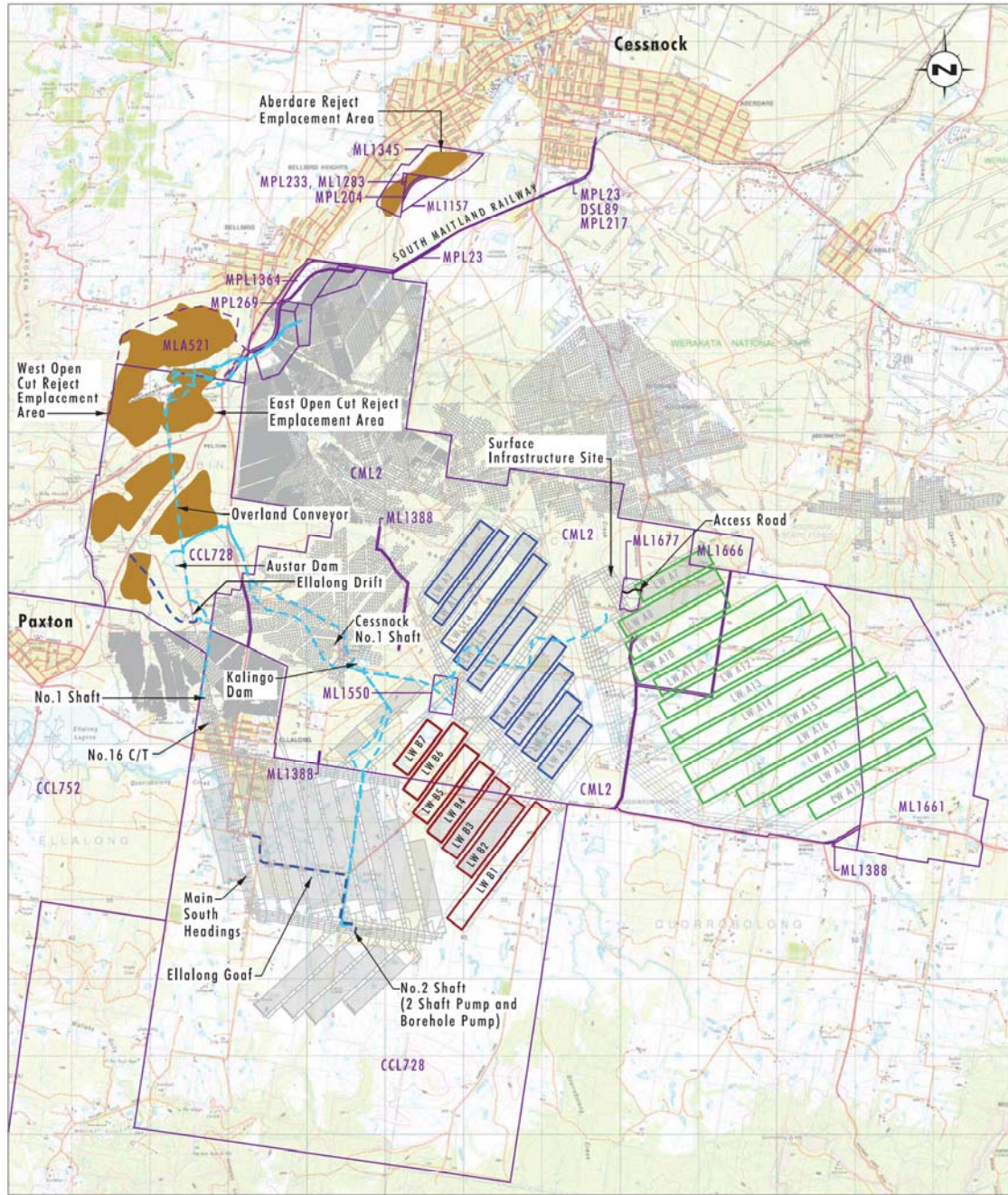


Image Source: LPI NSW (2009)  
Data Source: Austar Coal Mine (2017)

0 1 2 3 km  
1:70 000

- Legend**
- LWB1-B3 and LWB4-B7 Extraction Plan Longwall Panels (DA29/95)
  - Bellbird South, Stage 1, Stage 2 and Southland Longwall Panels (DA29/95)
  - Stage 3 Longwall Panels (PA08\_0111)
  - Approved Reject Emplacement Areas
  - Completed Underground Workings
  - Mining Lease Boundary
  - Mining Lease Application Boundary
  - Water Pipelines - Potable
  - Water Pipelines

**Austar Coal Mine Complex and Pipelines**

File Name (A4): R08/3900\_125.dgn  
20180301 15.23

**Figure 2 Austar Mine Complex**

## 5.2 THE APPROVED DEVELOPMENT

### 5.2.1 Bellbird South Mining Area and Operations

The Minister for Urban Affairs and Planning granted development approval in 1996 subject to certain conditions. The 1996 consent (DA29/95) permits mining in Consolidated Mining Lease 2 (CML2) with a production rate of up to three million tonnes of run of mine (ROM) coal per annum by conventional retreat longwall mining of the Greta seam with extraction height ranging from 3.5 to 4.5 metres.

The key activities approved under the 1996 consent include:

- mining of up to 3 million tonnes of coal per annum;
- transfer of the coal by underground conveyor to the surface;
- washing and preparation of coal;
- stockpiling of raw and washed coal;
- reject emplacement; and
- transport of product coal by rail (98%) and road (up to 60,000 tonnes) to the Port of Newcastle.

To allow for the introduction of LTCC technology, DA29/95 was modified under Section 96 (2) of the Environmental Planning and Assessment Act 1979 by the Minister of Planning dated 27 September 2006, and 5 June 2008. A minor modification under Section 96 (1A) for slightly longer and wider longwall panels in the Bellbird South Stage 2 mining area was approved on 28 May 2009. Stage 2 Extension Longwall A5a was approved by modifications to DA29/95 in December 2010 and April 2012. Bellbird South Longwalls B1 to B3 were approved by modification to DA29/95 in January 2016. Bellbird South Longwalls B4 to B7 were approved by modification to DA29/95 in August 2017.

Environmental impacts from the Bellbird South Mining Area and Operations are managed in accordance with the conditions of consent in the most recent Notice of Modification of DA29/95. A copy of the consolidated consent after DA29/95 MOD7 granted in August 2017 is provided in **Appendix B**.

### 5.2.2 Stage 3 Mining Area and Operations

The Austar Stage 3 PA08\_0111, was granted under section 75J of the EP&A Act on 6 September 2009. A modification to PA08\_0111 was granted under section 75W of the EP&A Act in March 2012. This modification approved reorientation of the Stage 3 longwall panels. A further modification to PA08\_0111 was granted in December 2013 to extend longwalls A7 to A10 to the west by approximately 100m to 300m. The Stage 3 Project (as modified) consists broadly of two components:

1. The longwall extraction of up to 6.5 metres of coal from longwall panels A7 to A19 within the Greta Coal Seam using LTCC technology. Up to 3.6 million tonnes per year of ROM are approved for extraction from Stage 3. Coal from the Stage 3 Project is approved to be handled and processed utilising existing infrastructure and facilities.

2. The construction and operation of a new Surface Infrastructure Site (SIS) and access road off Quorrobolong Road, south west of Kitchener. The approved SIS will include upcast and downcast ventilation shafts, main ventilation fan, bath house, workshop, electricity substation and distribution line, service boreholes, pipelines, telecommunications, offices and store. Access to longwalls in the Stage 3 area for men and materials will be via the proposed new SIS.

Relevant environmental impacts from the Stage 3 Mining Area and Operations are managed in accordance with PA08\_0111. A copy of the consolidated consent after PA08\_0111 MOD3 granted in December 2013 is provided in **Appendix C**.

## 6 STATUTORY OBLIGATIONS

### 6.1 KEY LEGISLATION

There are a range of legislative requirements and approvals needed in addition to those required to comply with the development consent and project approval granted under the *Environmental Planning and Assessment Act 1979*. These include requirements of Mining Leases, and of the Environment Protection Licence (EPL) that must be satisfied.

The NSW Acts that may be applicable to Austar Coal Mine include, but are not limited to, the:

- *Crown Lands Act 1989;*
- *Fisheries Management Act 1994;*
- *Heritage Act 1977;*
- *Mine Subsidence Compensation Act 1961;*
- *Mining Act 1992;*
- *National Parks and Wildlife Act 1974;*
- *Native Vegetation Act 2003;*
- *Protection of the Environment Operations Act 1997;*
- *Roads Act 1993;*
- *Threatened Species Conservation Act 1995;*
- *Water Act 1912;*
- *Water Management Act 2000;*
- *Work Health and Safety Act 2011; and*
- *Work Health and Safety (Mines) Act 2013.*

The individual Environmental Management Plans reference the relevant legislation and approvals where appropriate.

### 6.2 CONSENTS, LEASES AND LICENCES

The operation at Austar is regulated through various leases, licences, permits and approvals as set out below.

#### 6.2.1 Development Approval

The following development approvals apply to the Austar Coal Mine.

**Table 6-1 Development Approvals and Consents**

Consent Description	Date	Approval Authority	Approved Development
DA 74/75/79	4 December 1975	Cessnock City Council (CCC)	Development Consent for a coal mine at Ellalong. <ul style="list-style-type: none"> <li>• Approval for underground coal mining.</li> <li>• Construction of a new access drift, upcast shaft and ventilation shaft.</li> <li>• Expansion of the Pelton CHPP.</li> <li>• Conveyance of coal from the Ellalong pit top to the Pelton CHPP. Operation of the Pelton CHPP for the washing and handling of coal.</li> <li>• Water management systems.</li> <li>• Upgrade of the Pelton rail loading facility and railway spur.</li> <li>• Reject emplacement underground, company owned land, open cut areas adjoining Pelton and other abandoned mine sites.</li> </ul>
DA 118/680/93	8 October 1980	CCC	Downcast Ventilation Shaft and Man Access Shaft, Bathhouse and Offices at Ellalong Colliery.
DA 118/691/181	26 November 1992	CCC	Pelton Open Cut Coal Mine. <ul style="list-style-type: none"> <li>• Approval of an open cut coal mine adjoining Pelton Colliery up to 300,000 t of coal and underground mining of approximately 27,000 t of coal from a section of prior workings south of the proposed open cut.</li> </ul>
DA 118/691/181 (modification)	11 January 1993	CCC	Pelton Open Cut Coal Mine – Modification. <ul style="list-style-type: none"> <li>• Extension of open cut mining area.</li> <li>• Infrastructure and water management modifications.</li> </ul>
DA 118/691/229	7 January 1993	CCC	Pelton Coal Handling Preparation Plant – Raw Coal Handling Facility, Washed Coal Facility and Upgrading Water Management System. <ul style="list-style-type: none"> <li>• Upgrade and replacement of coal handling infrastructure such as surge bin, automatic stacking system, reclaim facilities and skyline conveyor.</li> <li>• Increase in stockpile capacity.</li> <li>• Upgrade to water management system.</li> <li>• Extension of the reclaim tunnel.</li> <li>• Construction of a mine water transfer pipeline from Ellalong Colliery to Pelton.</li> <li>• Provision of underground workings for emergency mine water disposal.</li> <li>• Upgrade of lime treatment plant.</li> </ul>

Consent Description	Date	Approval Authority	Approved Development
DA 118/693/42	26 November 1993	CCC	Extension of Pelton Open Cut Mine. <ul style="list-style-type: none"> <li>Extension of open cut mining area including emplacement of overburden in previously mined blocks and extension of the mine's water management system.</li> </ul>
DA 118/694/120	27 June 1994	CCC	Approves the extraction of longwall panels LW13 and LW14 as a minor extension to the Ellalong Colliery within CML2.
DA 118/694/152	7 July 1994	CCC	Relocatable Office and Temporary Bathhouse at Pelton Colliery.
DA 118/695/22	12 July 1995	CCC	Establishment of Overburden Stockpile at Pelton Colliery. <ul style="list-style-type: none"> <li>Establishment of an overburden stockpile for the Pelton Open Cut Operations.</li> </ul>
DA 118/695/81	12 July 1995	CCC	Additions for Bathhouse, Office and Car park at Ellalong Colliery. <ul style="list-style-type: none"> <li>Extension to the bathhouse at the Ellalong drift site.</li> <li>Extension of existing offices or construction of portable offices.</li> <li>Construction of a 4000 square metre car park.</li> </ul>
DA 8/1999/1658	18 February 2000	CCC	Relocation of Ventilation Facilities at Bellbird South Underground Mine. <ul style="list-style-type: none"> <li>Installation of a ventilation shaft and fan house.</li> <li>Upgrading of the existing access track to the site from the Pelton-Ellalong Road.</li> </ul>
DA 8/2002/655/1	16 October 2002	CCC	Compressor and Pump Enclosure Buildings at Ellalong Colliery.
DA 118/695/18	21 February 1995	CCC	Re-locatable Office at Pelton Colliery.
DA 29/95	14 February 1996	Minister for Urban Affairs and Planning	Ellalong Colliery Extension into Bellbird South. <ul style="list-style-type: none"> <li>Extension of underground mining activities into Bellbird South area (CML 2).</li> <li>Mine life of 21 years with a production of 3 Mtpa.</li> <li>Reject emplacement.</li> <li>Construction and operation of a new infrastructure site including new ventilation shaft and fan(s) (No. 2 Shaft) adjacent to Sandy Creek Road.</li> <li>Use of Pelton CHPP for washing and handling of coal.</li> <li>Provision of a maximum raw coal stockpile of 100,000 t.</li> <li>Reopening of disused Cessnock No. 1</li> </ul>



Consent Description	Date	Approval Authority	Approved Development
			<p>Colliery shafts for ventilation and access, or the sinking of new shafts, as required.</p> <ul style="list-style-type: none"> <li>Construction of various water management devices including sedimentation and clean water dams and drainage systems.</li> </ul>
DA 29/95 (modifications)	27 Sep 2006 (MOD 1)  8 Jun 2008 (MOD 2)  28 May 2009 (MOD 3)  7 Dec 2010 (MOD 4)  27 April 2012 (MOD 5)  29 Jan 2016 (MOD 6)  25 August 2017 (MOD 7)	Minister for Planning (or delegate)	<p>Extension of Underground Mining Activities into Bellbird South (Ellalong Colliery) – Modifications.</p> <ul style="list-style-type: none"> <li>Use of longwall top coal caving (LTCC) mining methods in longwall panels (A1 to A5).</li> <li>Installation of a larger capacity fan at the site approved for DA 8/1999/1658.</li> <li>Installation of a new downcast ventilation shaft.</li> <li>Installation of a new 10 MVA substation.</li> <li>Installation of a nitrogen inertisation plant with a 2,000 m<sup>3</sup> capacity.</li> <li>Provision of a diesel and emulsion fluid storage area and dispatch system.</li> <li>Installation of a tube bundle shed to house electronic monitoring equipment.</li> <li>Upgrade of the existing water treatment plant.</li> <li>Upgrade of water reticulation and pumps.</li> <li>Minor embankment stabilisation works at Kalingo Dam.</li> <li>Longer and wider panels A4 and A5.</li> <li>Extract one additional Longwall Panel A5a (LW A5a) using LTCC</li> <li>Extension of LTCC Longwall Panel A5a</li> <li>Extension to Bellbird South development consent area to include Longwall Panels LWB1 to LWB7</li> <li>Extension of consented activities to 14 Feb 2022.</li> </ul>
Project Approval 08_0111	6 Sep 2009	Minister for Planning	<p>Stage 3 Expansion Project - extension to longwall mining to an area east of existing operations.</p> <p>Key features:</p> <ul style="list-style-type: none"> <li>Longwall production from the Greta coal seam from panels A6 to A17 using longwall Top Coal Caving (LTCC) technology</li> <li>Construction of a new surface infrastructure site south west of Kitchener including ventilation shafts and fans, winders, bath house facilities, a workshop, electricity substation, store and offices. Construction of a new road and intersection at</li> </ul>

Consent Description	Date	Approval Authority	Approved Development
			Quorrobolong Road. <ul style="list-style-type: none"> <li>Coal will continue to be brought to the surface at Austar's existing surface facilities at Paxton. These facilities will continue to be used to take large mining equipment into and out of the mine.</li> <li>Continued use of Austar's existing water management, coal transport systems, coal preparation plant and rejects emplacement areas.</li> </ul>
Project Approval 08_0111 (Modifications)	4 May 2010 (MOD 1)	Delegate for Minister for Planning	<ul style="list-style-type: none"> <li>Minor change to wording regarding subsidence impact performance measures to built features in Table 1 of approval. The key performance indicator requires the project does not cause built features to go beyond safe, serviceable and repairable criteria, unless the landowner agrees in writing.</li> <li>Reorientation of the Stage 3 longwalls. Removal of longwall A6, and extraction of coal in longwalls A7 to A19, which are a reorientation of previously approved longwalls A7 to A17 to more closely align with the direction of principal stress. In addition, the chain pillar widths are increased from 45m to 55m to reduce roadway failure risks which in turn further minimises subsidence. The modification will enable more efficient and safer extraction of coal from the Stage 3 area.</li> <li>Extension of longwalls A7 to A10 to the west by approximately 100m and 300m</li> </ul>
	13 March 2012 (MOD 2)	Delegate for Minister for Planning	
	17 Dec 2013 (MOD 3)		
DA 8/2012/503/1	19 Dec 2012	CCC	<ul style="list-style-type: none"> <li>Extension of car parking area associated with Austar Coal Mine</li> </ul>

### 6.2.2 Mining Authorities

Details of the relevant mining authorities are summarised in **Table 6-2**.

**Table 6-2 Mining Leases**

Mining Title (Act)	Date Granted	Expiry Date	Area (Ha)	Surface	Depth Restriction
EL 6598 (1992)	13/07/2006	13/06/2021	7,370	Yes	Various
Dam Site Lease 89 (1901)	04/04/1908	04/04/2030	3.961	Yes	Surface to 15.24 metres
Mineral Lease No. 1157 (1906)	8/07/1949	08/07/2028	10.24	Yes	Surface to 15.24 metres

<b>Mining (Act)</b>	<b>Title</b>	<b>Date Granted</b>	<b>Expiry Date</b>	<b>Area (Ha)</b>	<b>Surface</b>	<b>Depth Restriction</b>
Mineral Lease No. 1283 (1906)		13/07/1961	13/07/2022	1.973	No (subsurface)	7.62 to 15.24 metres
Mining Purposes Lease No. 23 (1906)		17/05/1909	17/05/2030	2.421	Yes	Surface to 15.24 metres
Mining Purposes Lease No. 204 (1906)		03/02/1916	03/02/2039	1.2	Yes	Surface to 15.24 metres
Mining Purposes Lease No. 217 (1906)		12/04/1916	12/04/2039	0.6298	Yes	Surface to 15.24 metres
Mining Purposes Lease No. 233 (1906)		01/08/1916	01/08/2036	1.973	Yes	Surface to 7.62 metres
Mining Purposes Lease No. 269 (1906)		07/12/1917	07/12/2018	2.79	Yes	Surface to 6.1 metres below the level of the rails when laid
Mining Purposes Lease No. 1364 (1906)		28/10/1968	28/10/2029	0.4527	Yes	Surface to 15.24 metres
Consolidated Coal Lease No. 728 (1973)		10/10/1989	30/12/2023	3296.8	Various	Various
Consolidated Coal Lease No. 752 (1973)		23/05/1990	30/12/2023	3802	No (subsurface)	Various
Consolidated Mining Lease No. 2 (1992)		24/03/1993	15/05/2025	3388	Various	Various
Mining Lease No. 1345 (1992)		23/03/1995	30/12/2023	41.895	Yes	Surface to 900 metres
Mining Lease No. 1388 (1992)		02/04/1996	02/04/2038	15.12	No (subsurface)	30.48 metres to unlimited depth
Mining Lease No. 1550 (1992)		24/06/2004	23/06/2025	14.11	Yes	Surface to 20 metres
Mining Lease No. 1661 (1992)		22/11/2011	22/11/2032	469.32	No (subsurface)	20 to 900 metres
Mining Lease No. 1666 (1992)		25/01/2012	25/01/2033	34.13	No (subsurface)	30.48 to 900 metres
Mining Lease No. 1677 (1992)		23/08/2012	23/08/2033	9.16	Yes	Surface to 30.48 metres

### 6.2.3 Environment Protection Licence

Austar operates in accordance with Environmental Protection Licence 416 (EPL 416), issued on 5 April 2000 by the NSW Environment Protection Authority (EPA), under the authority of the *Protection of the Environment Operations Act 1997*.

### 6.2.4 Water Licences

Austar currently holds water licences for a number of monitoring and dewatering bores across the operation. Austar's current water licences issued under Part 5 of the *Water Act 1912* are provided in **Table 6-3**. Note all Part 5 Water Act licences are being transitioned to *Water Management Act 2000* licences and approvals.

**Table 6-3 Water Licences**

Licence Held	Licence Number	Validity of Licence	Purpose of Licence	Water Source and Extraction Limit
Bore Licence Certificate	20BL171361	17 May 2007 - Perpetuity	Monitoring Bore (AQD1077)	N/A
Bore Licence Certificate	20BL172524	20 Jul 2010 - Perpetuity	Monitoring Bore (NER1010)	N/A
Bore Licence Certificate	20BL172852	7 Jun 2011 - Perpetuity	Monitoring Bore (WBH1, WBH2, WBH3)	N/A
Bore Licence Certificate	20BL173843	1 Oct 2014 - Perpetuity	Monitoring Bore (BB1, BB2, BB3)	N/A
Bore Licence Certificate	20BL173878	8 Dec 2014 - Perpetuity	Monitoring Bore (MB01)	N/A
Bore Licence Certificate	20BL173891	19 Mar 2015 - Perpetuity	Monitoring Bore (MB02)	N/A
Water Access Licence	20AL210298 / WAL19181	Continuing	Unregulated River Water Licence	Hunter Unregulated and Alluvial Water Sources - Upper Wollombi Water Source - Congewai Creek Management Zone. 10 shares
Water Access Licence	20AL217003 / WAL41504	Continuing	Aquifer -Industrial dewatering 16CT pump station No 2 Shaft No 2 Shaft Borehole	Sydney Basin – North Coast Groundwater Source. North Coast Fractured and Porous Rock Groundwater Sources 2016. Extraction limit of 770ML in any 12 month period commencing 1 July

### 6.3 DEVELOPMENT CONSENT (DA29/95) – EMS REQUIREMENTS

The relevant conditions from the most recent Notice of Modification to DA29/95 that relate directly to the preparation and implementation of the EMS for the site are reproduced in **Table 6-4**. A copy of the consolidated consent after the August 2017 modification is provided in **Appendix B**.

**Table 6-4 Relevant Consent Conditions from Development Consent DA 29/95 (after MOD7)**

No	Condition	Relevant Section(s)
	<b>Environmental Management Strategy</b>	
Schedule 5 Condition 1	<p>The Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This Strategy must:</p> <ul style="list-style-type: none"> <li>(a) provide the strategic context for environmental management of the development;</li> <li>(b) identify the statutory requirements that apply to the development;</li> <li>(c) describe in general how the environmental performance of the development would be monitored and managed during the development;</li> <li>(d) describe the procedures that would be implemented to: <ul style="list-style-type: none"> <li>▪ keep the local community and relevant agencies informed about the operation and environmental performance of the development;</li> <li>▪ receive, handle, respond to, and record complaints;</li> <li>▪ resolve any disputes that may arise during the course of the development;</li> <li>▪ respond to any non-compliance;</li> <li>▪ manage any cumulative impacts;</li> <li>▪ respond to emergencies;</li> </ul> </li> <li>(e) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the development; and</li> <li>(f) include: <ul style="list-style-type: none"> <li>▪ references to any strategies, plans and programs approved under the conditions of this consent; and</li> <li>▪ a clear plan depicting all the monitoring to be carried out under the conditions of this consent.</li> </ul> </li> </ul> <p>The Applicant must implement the approved strategy as approved from time to time by the Secretary.</p>	<p>Whole document</p> <p>Section 6</p> <p>Sections 2, 3, 4</p> <p>Sections 10, 12</p> <p>Section 10</p> <p>Sections 10, 12</p> <p>Section 12</p> <p>Section 9</p> <p>Section 11</p> <p>Section 7</p> <p>Section 3, Appendices E-L, EMS Volumes 3 &amp; 4</p> <p>Section 12, Appendix D</p>

## 6.4 PROJECT APPROVAL 08\_0111 – EMS REQUIREMENTS

The relevant conditions of PA08\_0111 that relate directly to the preparation and implementation of the EMS are reproduced in **Table 6-5**. A full copy of PA08\_0111 is provided in **Appendix C**.

**Table 6-5 Relevant Consent Conditions from Stage 3 PA08\_0111 (after MOD3)**

No	Condition	Relevant Section(s)
	<b>Environmental Management Strategy</b>	
Schedule 7 Condition 1	<p>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:</p> <ul style="list-style-type: none"> <li>(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 the shaft construction referred to in condition 1 of schedule 4);</li> <li>(b) provide the strategic framework for environmental management of the mine complex;</li> <li>(c) identify the statutory approvals that apply to the mine complex;</li> <li>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the mine complex;</li> <li>(e) describe the procedures that would be implemented to:               <ul style="list-style-type: none"> <li>▪ keep the local community and relevant agencies informed about the operation and environmental performance of the mine complex;</li> <li>▪ receive, handle, respond to, and record complaints;</li> <li>▪ resolve any disputes that may arise during the course of the project;</li> <li>▪ respond to any non-compliance; and</li> <li>▪ respond to emergencies;</li> </ul> </li> <li>(f) include:               <ul style="list-style-type: none"> <li>▪ copies of the various strategies, plans and programs that are required under the conditions of this approval once they have been approved; and</li> <li>▪ a clear plan depicting all the monitoring to be carried out in relation to the mine complex.</li> </ul> </li> </ul>	<p>Whole document</p> <p>Section 6</p> <p>Section 7</p> <p>Sections 10, 12</p> <p>Section 10</p> <p>Sections 10, 12</p> <p>Section 12</p> <p>Section 11</p> <p>Section 3, Appendices, EMS Volume 2</p> <p>Section 12, Appendix D</p>

## **7 IMPLEMENTATION AND OPERATION**

### **7.1 ROLES AND RESPONSIBILITIES**

#### **7.1.1 Operations Manager**

The Austar Coal Mine Operations Manager is responsible for the overall environmental performance of the Austar Coal Mine. The Operations Manager will ensure that adequate resources are available to implement the Environmental Management Strategy at Austar Coal Mine.

#### **7.1.2 Environmental & Community Manager**

The Austar Coal Mine Environment & Community Manager is responsible for overseeing the environmental performance of the operation and compliance with the conditions of consent. This includes managing (including under delegation) aspects of the EMS including environmental monitoring, complaints handling, environmental training, environmental incident management and reporting, and regulatory reporting. The Environment & Community Manager reports directly to the Operations Manager.

#### **7.1.3 Staff and Employees**

All employees have a responsibility to manage operations in an environmentally responsible manner and report any incidents or take action to minimise the impacts from site operations. All employees are provided with environmental awareness training through a site induction process.

#### **7.1.4 Contractors**

All contractors have a responsibility to manage operations in an environmentally responsible manner and report any incidents or take action to minimise the impacts from site operations. All contractors are provided with environmental awareness training through a site induction process.

### **7.2 ENVIRONMENTAL AWARENESS TRAINING**

The EMS requires all employees receive an appropriate level of environmental awareness training. This training is designed to suit the various needs and levels. Training covers environmental legislation, due diligence, performance criteria, reporting requirements and emergency response procedures. All employees are made aware of the Company's Environmental Policy and the need to meet its obligations.

## 8 IDENTIFICATION AND MANAGEMENT OF ENVIRONMENTAL ASPECTS

As outlined in **Section 5.1**, mining at the site commenced in the early 1900s and has continued over time. **Figure 2** shows the locations of the key surface facilities and infrastructure. The site has developed over time and includes a range of surface facilities with varying levels of environmental impact. The key areas are identified and discussed in the following sections.

### 8.1 PIT TOP SURFACE FACILITIES

The Pit Top is situated at Paxton and includes the drift used for materials and man transport for the underground mining operation, offices, workshop, equipment storage and bathhouse. Coal clearance from the underground is performed by conveyor up the drift to a surface bin at the Pit Top prior to being conveyed by overland conveyor to the CHPP. Austar Dam receives mine dewatering and dirty surface water by over land flow, and also mine dewatering by pipeline from Kalingo Dam. Water from Austar Dam is conveyed by pipeline to the CHPP for treatment.

The Pit Top is primarily associated with underground activities which are undertaken on a 24 hours per day basis. The main environment issues that require management are fuel and oil containment and treatment systems, noise emissions, and surface water management.

### 8.2 COAL HANDLING AND PREPARATION PLANT

The coal handling and preparation plant (CHPP) includes the washery and associated conveyor system, raw and product coal stockpiles, water treatment, train loading facilities, tailings dams, and coarse reject emplacement areas. The washery operates 24 hours per day and generates air, noise and water emissions.

Rehabilitation works are ongoing and have concentrated on the filling, shaping and vegetation of the open cut voids, and the removal of tailings and coarse reject from the site. The CHPP manages Austar's surface reject emplacement procedures and spontaneous combustion management.

One of the principal long term issues at the washery site is water management from the potential for acid mine drainage, surface water management and water treatment and disposal from mine dewatering, dirty water streams and tailings. Noise is the other issue at the CHPP, with neighbouring residences potentially affected by noise generated at the site. These issues are being managed effectively and results are reported in the Annual Review Report and MOP approved by the DRG. A noise pollution reduction program (PRP) is in progress in consultation with the EPA.



### **8.3 REJECT EMPLACEMENT AREAS**

Austar has several approved reject emplacement areas (refer **Figure 2**). The Aberdare Reject Emplacement Area, East Open Cut void, and the West Open Cut void are the primary areas used for the emplacement of coarse reject produced at the washery. The main environmental factors relevant to the emplacement areas include the potential for acid mine drainage and associated water management, spontaneous combustion management, site security, and impacts on the surrounding neighbours which include dust, noise and visual amenity. The rehabilitation plan for the reject emplacement area and washery site are included in the MOP.

### **8.4 NO 1 SHAFT**

No 1 shaft is located to the south of the Pit Top within the township of Ellalong. The site was originally used for exhaust air and there was a history of noise complaints regarding the fans. With the completion of the No 3 Shaft, the No 1 Shaft is used for air intake and secondary egress from the mine. There are few environmental issues other than minor noise emissions when operating the man riding system.

### **8.5 NO 2 SHAFT**

Previously used as part of the Ellalong Mine for ventilation and mine access, this site currently is used for pumping water from the underground to the surface. A pipeline from the number 2 shaft facility conveys mine water to Kalingo Dam at the Kalingo Infrastructure Area. There are few environmental issues associated with the Number 2 shaft area.

### **8.6 KALINGO INFRASTRUCTURE AREA (NO 3 AND 4 SHAFTS, KALINGO DAM)**

The No 3 and 4 shafts provide ventilation and services (electricity, water, compressed air, and solcenic fluid), to the mining operation. Kalingo Dam receives mine dewatering from No. 2 shaft and from the Kitchener SIS by pipeline. A pipeline conveys water from Kalingo Dam to Austar Dam at the Pit Top surface facilities.

The main environmental issues associated with these shafts are potential noise impacts on surrounding neighbours and air quality. Significant work has been undertaken to address noise issues and noise monitoring is undertaken on a regular basis. Other potential issues include bulk solcenic fluid storage areas which are fully bunded and fenced, and water management at Kalingo Dam.

### **8.7 LONGWALL MINING AND SUBSIDENCE**

Subsidence assessments have been prepared for each of the Bellbird South and Stage 3 areas of the Austar Mine. Potential impacts assessed include impact to public or private property, flora and fauna, surface hydrology, and ground water.

All mining is conducted in accordance with the Extraction Plan / Subsidence Management Plan (SMP) approvals. Subsidence monitoring is undertaken in accordance with the relevant Subsidence

Monitoring Program. Reporting of subsidence monitoring against predictions is included in the Annual Review Report.

## **8.8 KITCHENER SURFACE INFRASTRUCTURE SITE**

The Kitchener SIS is located within Austar owned land surrounded by Werakata State Conservation Area, and is the site of the Stage 3 No. 5 upcast ventilation shaft, No. 6 downcast shaft and approved man-winder shafts, and new pit top facilities. The main environmental issues associated with the SIS are noise, air quality and erosion and sediment control.

## 9 CUMULATIVE IMPACTS

The coal handling and preparation plant (CHPP), Pit Top facilities and remote infrastructure sites are relatively remote from other industrial activities. The potential for cumulative impacts in regards to noise, air quality, visual amenity and traffic movements from other industries is therefore minor.

Land use surrounding the Pit Top, CHPP, and remote infrastructure sites include bushland, grazing, vineyards, residential, rural residential and small scale tourist accommodation. None of these land uses are considered to contribute significantly to cumulative impacts. There is an approved small quarry located immediately to the south of the washery. This operation could contribute to the noise and air quality environment.

In terms of underground operations, Austar Coal Mine is an extension of the former Ellalong mine and is surrounded by a number of historic inactive underground mine workings. Groundwater from these old workings flows into Austar Coal Mine and is handled by the water management system servicing the mine. As a result, potential cumulative groundwater impacts are managed as part of the Austar water management system. As the surrounding old underground mines are no longer operational, there are no other potential cumulative impacts from other underground mining operations in the area.

The area above the current Bellbird South and Stage 3 mining areas are mainly small rural holdings, and therefore have low potential to generate impacts that would be cumulative to underground mining operations.

## 10 COMMUNITY ISSUES

### 10.1 COMMUNITY INVOLVEMENT

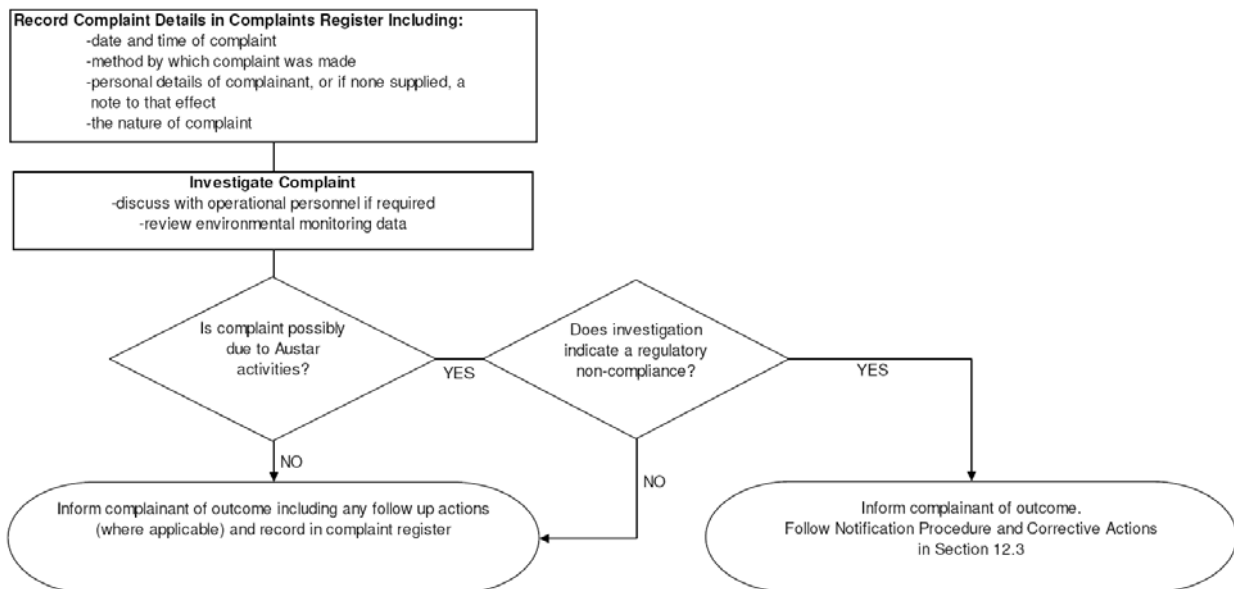
Austar is aware of its community obligations and the need to engage with various stakeholders. Austar endeavours to keep the local community informed of its operations, plans and environmental performance.

This will be achieved by one or more of the following activities:

- distribution of newsletters and updates;
- 24 hour telephone complaints line (1800 701 986);
- informal discussions with local residents as required;
- provision of relevant plans, reports and monitoring results on the Austar Coal Mine website; and
- effective operation of a Community Consultative Committee.

### 10.2 COMPLAINT PROTOCOL

Austar records all complaints made by the community in a complaints register. The Environment & Community Manager (or delegate) is responsible for handling, recording and investigating complaints, and initiating remedial actions as required. The flowchart below details the procedure for complaints handling.



Complaint records are kept for at least four years after the complaint was made and will be available to any authorised officer of the Environment Protection Authority (EPA) who may require details. Complaint records are also provided in the relevant Annual Review Report and are available on the Austar Coal Mine website.

## **11 INCIDENT RESPONSE**

### **11.1 INCIDENTS**

An incident is defined as a set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits or performance measures/criteria in Austar's approvals.

In the event that an incident which causes or threatens to cause material harm to the environment occurs, the incident will be managed in accordance with the Pollution Incident Response Management Plan (PIRMP) and in accordance with the protocol for industry notification of pollution incidents under Part 5.7 of the *Protection of the Environment Operations Act 1997*.

The reporting of incidents and/or breaches and/or exceedances of limits or performance measures/criteria will be conducted in accordance with Schedule 7 Condition 6 of PA08\_0111 and Schedule 5 Condition 4 of DA29/95. Austar will notify the Secretary of the DP&E and any other relevant agencies of any incident associated with the mine complex as soon as practicable after becoming aware of the incident.

Within seven days of the date of the incident, Austar will provide the Secretary of the DP&E and any relevant agencies with a detailed report on the incident. The report will:

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

#### **11.1.1 Notification to Surrounding Property Owners**

In the event there is an incident which poses a potential threat to surrounding property owners and occupiers, Austar will notify those likely to be affected as soon as practicable. Depending on the nature of the incident, this may be in conjunction with or undertaken by emergency services.

Where the property owner notification procedure is initiated by Austar Coal Mine, the Environment & Community Manager (or the person designated as fulfilling the responsibilities of the Environment & Community Manager) will endeavour to maintain a record of all property owners and occupiers contacted.

#### **11.1.2 Austar Coal Incident Report**

The Austar Coal Incident Reporting procedure will be undertaken for all environmental incidents.

## 12 MONITORING, REVIEW AND IMPROVEMENT

### 12.1 MONITORING

Environmental monitoring is used to check the performance of the operation against regulatory standards and planning initiatives. Records of all environmental monitoring and results are kept on site and made readily available.

In accordance with Section 66(6) of the POEO Act and Condition 9, Schedule 7 of PA08\_0111 the results from Austar's various monitoring programs are published on the Austar website: [www.austarcoalmine.com.au](http://www.austarcoalmine.com.au).

The type, location and frequency of monitoring take two separate forms. The first is statutory monitoring as required by EPA licences and approvals and the second is additional monitoring undertaken as part of specific projects or as part of compliance auditing.

Regular environmental monitoring is integral to the successful implementation of the environmental management strategy. 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 Environmental Monitoring Program (**Appendix D**) has been prepared in accordance with Schedule 7, Condition 1 (f) of PA08\_0111 and Schedule 5, Condition 2 of DA29/95 to provide a clear plan depicting the monitoring to be carried out in relation to the mine complex. This Program consolidates the monitoring requirements of the Environmental Management Plans in a central location.

### 12.2 ANALYSIS AND REPORTING PROCEDURES

The Environment & Community Manager (or delegate) will review all environmental monitoring results on a regular basis to ensure compliance with all statutory, legislative and approval requirements (project approval, development consents, EPL, mining approvals), and to identify where results or trends indicate a risk of future non-compliance to the development consent criteria or other approval conditions.

The results of environmental monitoring compared to approval requirements will be included in the Annual Review Report.

The Annual Review Report will also identify any trends and identify any non-conformance over the year as well as describing any actions currently implemented or planned to ensure compliance with the appropriate criteria. The Annual Review Report will be provided to the relevant authorities including the DPE, the DRG, the EPA and the Community Consultative Committee. It will also be placed on the Austar website along with a summary of environmental monitoring results.

The Annual Review Report is prepared in accordance with Schedule 5, Condition 5 of the Bellbird South DA29/95 development consent (as modified) and Schedule 7, Condition 3 of the Stage 3 PA08\_0111 (as modified).

The EPA will be provided with an annual licence return including statement of compliance, monitoring and summary of complaints.

Austar's compliance with development consent and licence conditions is assessed by a 3 yearly independent environmental audit, as required by both the Bellbird South and Stage 3 approvals. The most recent audit was completed in November 2017 and involved a review of all plans, including the EMS. The next Independent Environmental Audit is scheduled to be undertaken by 31 December 2020.

### **12.3 PROCEDURE FOR EXCEEDANCE OF CRITERIA OR THRESHOLD**

Should environmental monitoring show that the relevant criteria or threshold has been exceeded, the company will conduct an investigation into the potential sources and/or causes. The investigation will consider any plant operation or other factors that may have resulted in the exceedance. If the company is responsible for the exceedance further actions will be taken to address the matter.

Reporting on any exceedance of criteria or threshold is to be undertaken in accordance with **Section 11.1**.

#### **12.3.1 Additional Notification Requirements of Stage 3 PA08\_0111**

If the results of environmental monitoring required by PA08\_0111 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 Austar shall, within 2 weeks of obtaining the monitoring results, notify the Secretary of DPE, 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.

If the results of environmental monitoring required by PA08\_0111 identify that impacts generated by the project are greater than the relevant air quality impact assessment criteria, then Austar 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 above.

### **12.4 IMPLEMENTING CORRECTIVE ACTIONS**

Corrective and preventative actions will be implemented through the development of an action plan. The plan will provide details on the action required, time frame and responsibilities for completing the action. The implementation of the corrective and preventative actions will be reviewed internally and specific procedures developed for addressing non-conformances with the EMS or subordinate plans and strategies.

## 13 DOCUMENT CONTROL

Austar will ensure that EMS documentation is maintained, up to date and readily available to all authorised personnel. The following procedures ensure document control:

- Copies of the EMS document will be kept on-site with Austar’s electronic Document Control System, once printed the document will be considered “uncontrolled”;
- The document will be reviewed, and if necessary revised, when major changes occur or at milestones established in PA08\_0111 or DA29/95 (see **Section 14**) to ensure that it remains accurate and in accordance with all relevant standards;
- Austar personnel will be notified of the revision to the EMS; and
- The EMS will be clearly dated.



## 14 REVIEW AND CONTINUAL IMPROVEMENT

Operational activities will be subject to regular review to ensure conformance with commitments made in the EMS and subordinate plans and strategies.

In accordance with Schedule 5, Condition 8 of DA29/95 and Schedule 7, Condition 4 of PA08\_0111, the Environmental Management Strategy will be reviewed, and if necessary revised, within 3 months of:

- (a) the submission of an Annual Review Report under DA29/95 or PA08\_0111;
- (b) the submission of an incident report under PA08\_0111 condition 6 of schedule 7, or DA29/95 condition 4 of schedule 5;
- (c) the submission of an audit report under PA08\_0111 condition 7 of schedule 7 or DA29/95 condition 6 of schedule 5; or
- (d) any modification to the conditions of PA08\_0111 or DA29/95, (unless the conditions require otherwise).

Schedule 5, Condition 8A of DA29/95 also provides a mechanism for the updating of strategies, plans and programs at any time and on a staged basis.

New activities or changes to the operation that may result in environmental issues will be assessed to determine if changes are required to manage the impacts, and so if any revision to a particular subordinate plan is required.

The review process will include formalised procedures including independent audits, or consultation with relevant specialists where required.

Austar's compliance with the project approval, development consent and licence conditions is assessed by a 3 yearly independent environmental audit, as required by both the Bellbird South consent and Stage 3 project approval. The most recent audit was completed in November 2017 and involved a review of all plans, including the EMS. The next Independent Environmental Audit is scheduled to be undertaken by 31 December 2020.

Any revision of the EMS will be undertaken to the satisfaction of the Secretary of NSW Department of Planning and Environment.

# Appendix A

## **Austar Coal Mine Environment & Community Relations Policy**

## ENVIRONMENT & COMMUNITY RELATIONS POLICY

### OBJECTIVE

Austar Coal Mine Pty Ltd is committed to operating as an environmentally and socially responsible business. We strive to be a valued and respected member of the community in which we operate.

### STATEMENT

Austar accepts its responsibility to conduct its operations in a lawful and environmentally sound manner and to work in consultation with the community and other stakeholders.

To deliver on our objective, Austar Coal Mine Pty Ltd will endeavor to:

- Identify, assess and manage potential environmental aspects, impacts and community risks.
- Implement and validate an effective documented environment and community relations management system.
- Comply with applicable legislation and regulations, and deliver outcomes that meet or exceed our licenses and approvals.
- Foster positive relationships with regulatory agencies and community representatives.
- Strive for continual improvement in environmental management and performance and in the establishment of effective and sustainable community relationships.
- Periodically review our environmental policies and procedures to maintain their relevance.



*Brian Wesley 7/7/2016*

**Brian Wesley** | OPERATIONS MANAGER

# Appendix B

## **Bellbird South DA29/95 (MOD7) Consolidated Consent**

# Appendix C

## Stage 3 Project Approval 08\_08111 (MOD3) Consolidated Consent

# Appendix D

# Environmental Monitoring Program

# Appendix E

# Landscape Management Plan

# Appendix F

# Site Water Management Plan



# Appendix G

## Noise and Vibration Management Plan

# Appendix H

## Air Quality and Greenhouse Gas Management Plan

# Appendix I

## Aboriginal Cultural Heritage Management Plan

# Appendix J

# Historic Heritage Management Plan