



CHAPTER 1.0

Introduction



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT



1.0 INTRODUCTION

This chapter provides an introduction to Airly Mine, an overview of the Airly Mine Extension Project (the Project) and the associated approval process. The purpose and content of the Environmental Impact Statement (EIS) prepared in support of the development application for the Project is also presented.

1.1 Background

Airly Mine is an underground coal mine located in the Western Coalfields (Figure 1.1), within the Sydney Basin, approximately 40 kilometres (km) north-northwest of Lithgow and approximately 171 km northwest of Sydney. The Mine's current consent allows extraction of 1.8 million tonnes of coal per annum for supply to both domestic and international markets by rail. Centennial Airly Pty Limited (Centennial Airly) is the operator of Airly Mine and is a wholly owned subsidiary of Centennial Coal Company Pty Limited.

Airly Mine's development consent (DA 162/91) was granted on 14 April 1993 pursuant to Section 101 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). DA 162/91 remains in force and authorises the extraction of up to 1.8 Mpta of run-of-mine (ROM) coal within the existing mining lease area, Mining Lease (ML) 1331 (Figure 1.2). DA 162/91 allowed for a limited scale trial mine for a period of 12 months with transport of 300,000 tonnes of ROM coal by road to the Mount Piper Power Station.

Two subsequent modifications to DA 162/91 were approved and allowed an increased amount of trial mining coal throughput of up to 500,000 tonnes per annum for 2 years to be transported to Mount Piper Station by road (MOD 1), and for the construction and operation of a 66 kV power line to the pit top (MOD 2).

The main components of Airly Mine's existing operations are an underground mine and the surface facilities area or the "pit top". The underground part of the mine is accessed via the pit top. Mine access is off Glen Davis Road, approximately 3 km northeast of Capertee.

Schedule 2, Condition 2 of the development consent DA 162/91 conditions states:

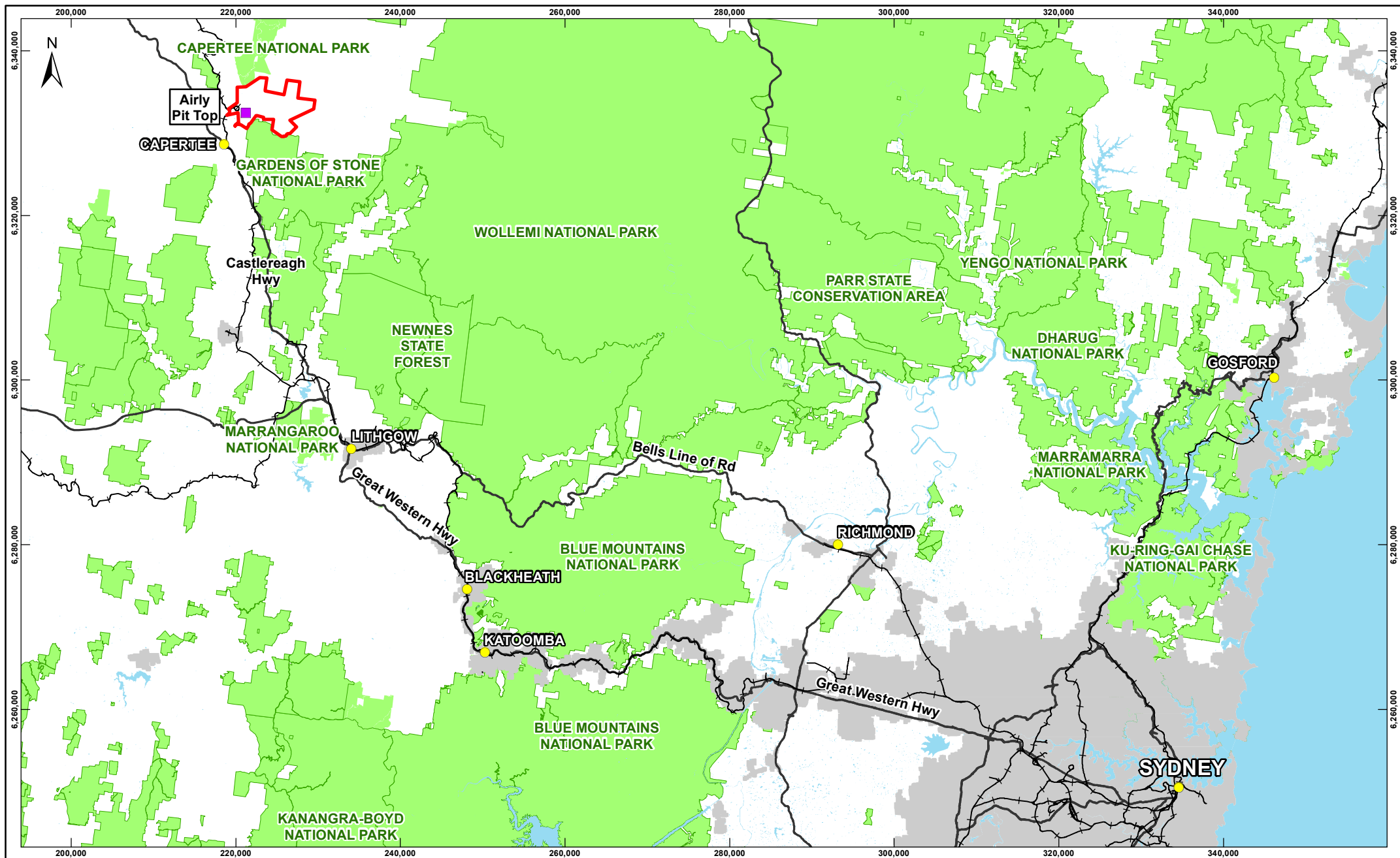
'The duration of this consent is limited to twenty-one (21) years from the granting of the Mining Lease.'

The relevant 'mine lease' being referred to in DA 162/91 is Mining Lease (ML) 1331, which was issued on 12 October 1993 and expires on 12 October 2014. Development consent is therefore required to ensure Airly Mine is approved for operations after 12 October 2014.

The Project is to be assessed as a State Significant Development (SSD) in accordance with Clause 8 and Schedule 1 (Item 5) of *State Environmental Planning Policy (State and Regional Development) 2011*. Centennial Airly Pty Limited, as the Applicant of the Project, is seeking approval of the Project in accordance with the provisions of Part 4 Division 4.1 of the EP&A Act.

Director General's Requirements (DGRs) from the NSW Department of Planning and Infrastructure (DP&I 2012) for the Project (SSD_5581) were initially issued on 6 November 2012. As the Project had the potential to impact on matters of environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), an EPBC Act referral was submitted to the Commonwealth Department of the Environment (the former Department of Sustainability, Environment, Water, Population and Communities (SEWPAC)) in December 2013 (EPBC Act referral 2013/7076). The Project was subsequently declared a controlled action on 24 December 2013 and DGRs re-issued on 4 February 2014 with Department of the Environment's requirements. The Project will be assessed under the bilateral agreement with New South Wales in accordance with Part 5 of the EPBC Act.

The Project Application Area comprises ML1331 and Authorisation A232 boundaries (Figure 1.3).



LEGEND	
	Project Application Area
	Town
	Rail
	Main Road
	Urban Area
	Waterbody
	State Forest / Reserve / Park

Coordinate System: GDA 1994 MGA Zone 56

CENTENNIAL AIRLY PTY. LTD.
 THIS DRAWING IS COPYRIGHT
 NO PART OF IT IN ANY FORM
 OR BY ANY MEANS (ELECTRONIC,
 MECHANICAL, MICRO-COPYING,
 PHOTOCOPYING OR OTHERWISE)
 BE REPRODUCED, STORED IN A
 RETRIEVAL SYSTEM OR TRANSMITTED
 WITHOUT PRIOR WRITTEN PERMISSION

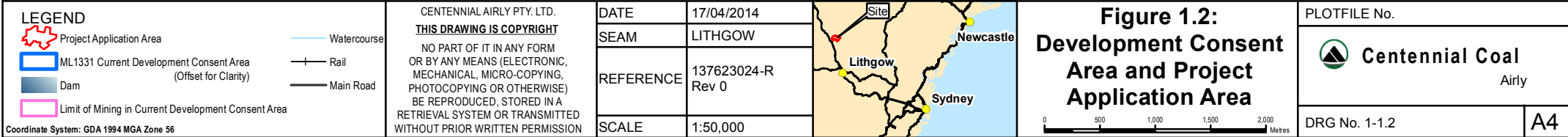
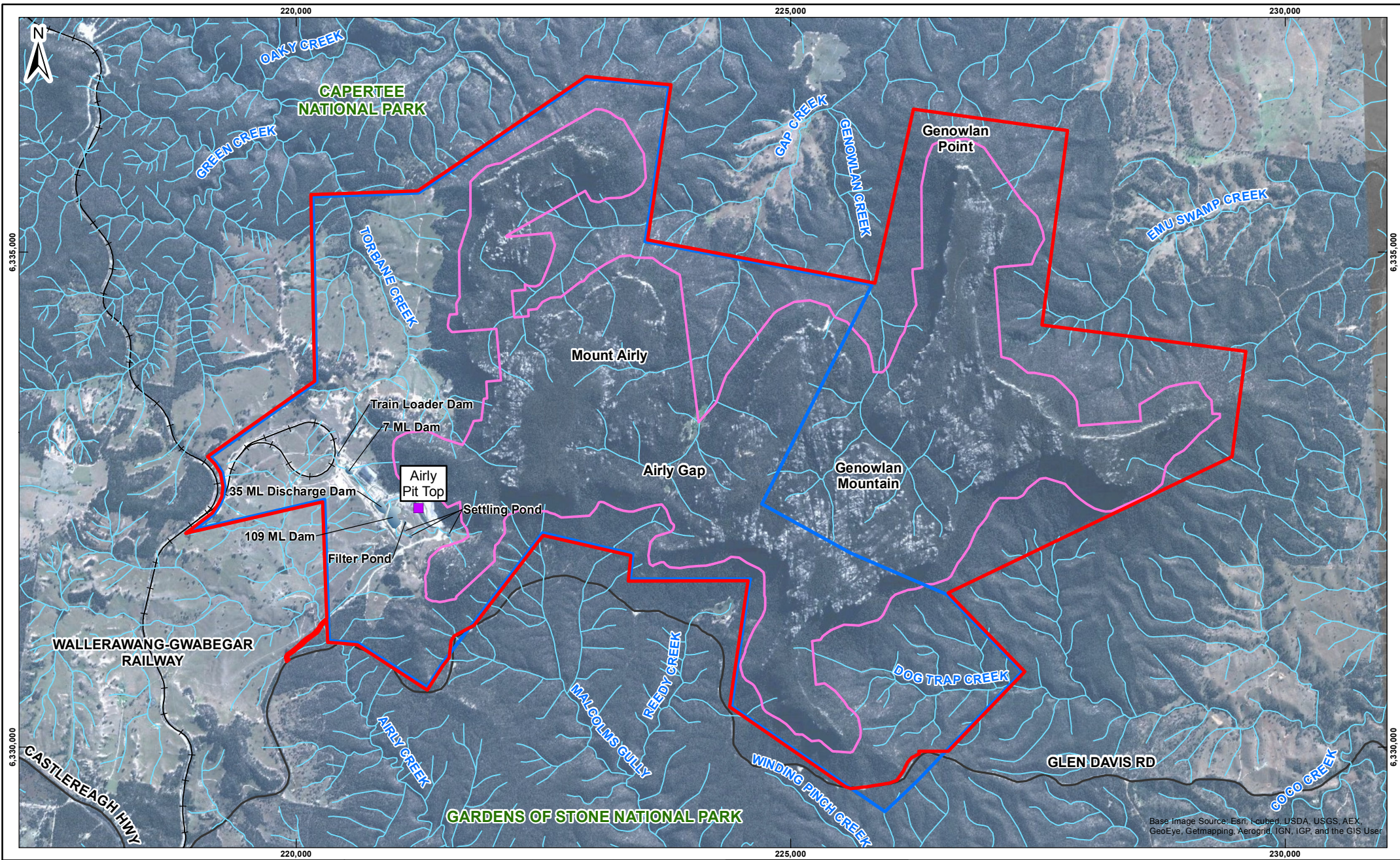
DATE	17/04/2014
SEAM	LITHGOW
REFERENCE	137623024-R Rev 0
SCALE	1:600,000

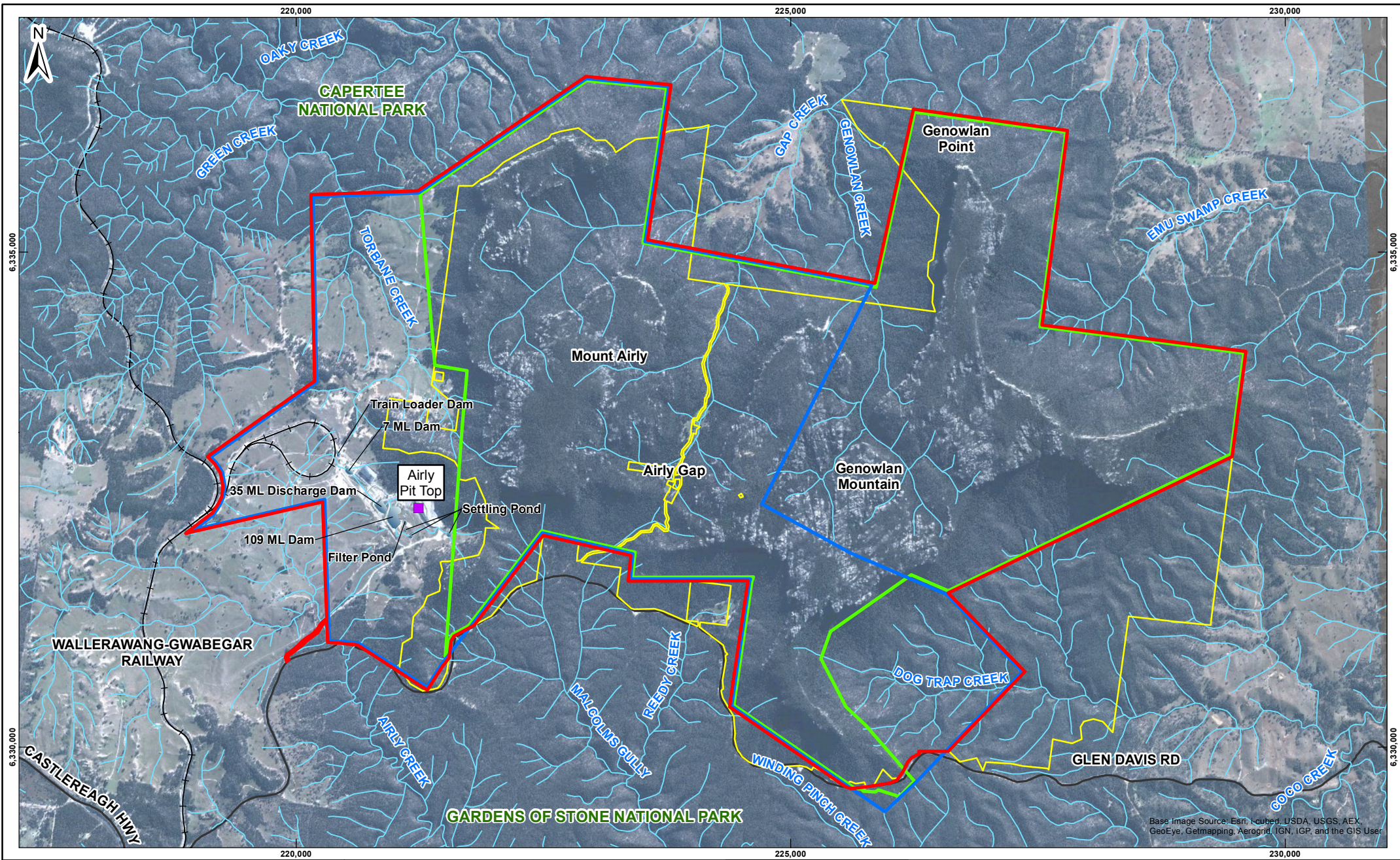


Figure 1.1:
Regional
Location Plan



PLOTFILE No.	Centennial Coal Airly	A4
DRG No. 1-1.1		





LEGEND

- | | |
|---|---|
|  Project Application Area |  Watercourse |
|  A232 Authorisation Boundary (Offset for Clarity) |  Rail |
|  ML1331 Current Lease Boundary (Offset for Clarity) |  Main Road |
|  Muggi Murum-ban State Conservation Area |  Dam |

Coordinate System: GDA 1994 MGA Zone 56

CENTENNIAL AIRLY PTY. LTD.

THIS DRAWING IS COPYRIGHT

NO PART OF IT IN ANY FORM
OR BY ANY MEANS (ELECTRONIC,
MECHANICAL, MICRO-COPYING,
PHOTOCOPYING OR OTHERWISE)
BE REPRODUCED, STORED IN A
RETRIEVAL SYSTEM OR TRANSMITTED
WITHOUT PRIOR WRITTEN PERMISSION

DATE 17/04/2014

SEAM LITHGOW

REFERENCE 137623024-R
Rev 0

SCALE 1:50,000



Figure 1.3:
Project Application Area
and Mining Tenements



PLOTFILE No.



Centennial Coal
Airly

DRG No. 1-1.3

A4



1.2 The Applicant

Centennial Airly Pty Limited (Centennial Airly) is the Applicant for the Project and is a wholly owned subsidiary of Centennial Coal Company Pty Limited (Centennial Coal). The postal address is:

Centennial Airly Pty Limited
Level 18
BT Tower, 1 Market St
Sydney NSW 2000.

1.3 The Applicant's Environmental Record

A checklist of details for Centennial Airly's environmental history is provided in Table 1.1.

Details of the Applicant's environmental policy and planning framework can be found on Centennial Coal's website, www.centennialcoal.com.au

Mr. Stephen John Burgess is the person making the application on behalf of Centennial Airly.

Table 1.1: Centennial Airly Pty Limited's Environmental Record

Question	Answer	Y/N
Does the party taking the action have a satisfactory record of responsible environmental management?	Centennial Airly values its role in sustainable development and manages all aspects of its activities with due consideration of environmental, economic and social benefits. Airly Mine is committed to its operations and to the continual improvement in health, safety, environment and community management and performance.	Y
Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application- ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?		N
If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?	Centennial Coal's Environment and Community Policy forms part of a broader Environmental Management Strategy. This Strategy has been developed to ensure that Centennial Coal's strategic outlook for environmental management is more clearly and concisely articulated. The Strategy includes objectives to assist Centennial Coal's operations in meeting the principles within the Environment and Community Policy. Underpinning the Strategy, Centennial Coal's Environmental Management System reflects the objectives and principles of the strategy and policy.	Y
Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?	Construction of a Rail Loop at the Airly Mine (2009/4838).	Y

1.4 Document Purpose

The EIS has been prepared by Golder Associates Pty Ltd on behalf of Centennial Airly to support a development application for the continuation of underground mining at Airly Mine beyond the current development consent (DA 162/91) expiry of 12 October 2014.



The EIS has been prepared in accordance with Clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*, as well as the DGRs for the Project, issued on 6 November and subsequently revised on 4 February 2014, and the Department of the Environment's Requirements in relation to referral EPBC 2013/7076, issued on 4 February 2014.

The EIS has been prepared using a risk-based assessment approach to identify and evaluate environmental, social and economic aspects relevant to the Project. This has been achieved through a process of ongoing consultation with stakeholders from government agencies, industry, and the surrounding community, risk assessments, robust specialist technical assessments, and mitigation and management measures.

The EIS is supported by a wide range of technical assessments (Section 1.5 and Chapter 10). The EIS and the technical impact assessments consider three separate scenarios: the approved operations (scenario 1), existing operations (scenario 2) and the proposed operations (scenario 3) as described below.

- **Existing Airly Mine Operations** (scenario 1) – considers the potential impacts of infrastructure and operations as constructed and undertaken to date, as described in Chapter 3.0.
- **Approved Airly Mine Operations** (scenario 2) – considers the potential impacts of infrastructure and operations approved in DA 162/91. The approved infrastructure and operations are described in Chapter 3.0.
- **Proposed Airly Mine Operations** (scenario 3) – considers the potential impacts of infrastructure and operations proposed in the Project, and as described in Chapter 4.0. This scenario includes both the construction and operational phases of the Project.

1.5 Document Structure

The EIS is provided in two volumes. Volume 1 sets out the Project in the context of the existing environment, planning considerations, key environmental issues, potential impacts, mitigation measures and residual impacts. It is informed by the technical assessments contained in Volume 2 and provides a concise summary of these assessments. Volume 2 provides the technical assessment reports in full.

The structure of the EIS is summarised in Table 1.2.

Table 1.2: Structure of the Environmental Impact Statement

Chapter	Description
Volume 1 EIS	
Preliminary	■ Statement of Validation ■ Executive Summary ■ Glossary of Terms ■ Acronyms
Chapter 1.0: Introduction	■ Discusses the background to the Project. ■ Introduces the Project and the Applicant. ■ Provides the document structure. ■ Overviews the approval process.
Chapter 2.0: Site Description	■ Describes the Project Application Area and surrounds, proposed and existing mining areas. ■ Identifies the main natural features and climatic conditions, land ownership and use in the vicinity of the Project Application Area.



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Chapter	Description
Chapter 3.0: Existing Operations	- Details the existing mine operations. - Identifies the relevant licences and approvals and mining processes. - Outlines the history and extent of the existing operations, the supporting surface infrastructure including coal handling and transport, and water management. - Environmental management procedures currently employed by Airly and current employment.
Chapter 4.0: Project Description	- Describes the Project and aspects of the existing mining operations that will continue. - Compares the Project with the existing operation and approved activities. - Provides an overview of mine closure and the nominated end land use.
Chapter 5.0: Planning Considerations	Discusses relevant local, State and Commonwealth planning considerations.
Chapter 6.0: Socio-Economic Analysis	- Discusses the social and economic assessment methodology. - Provides and analyses the findings of the social and economic costs and benefits of the Project.
Chapter 7.0: Stakeholder Engagement	- Discusses the engagement strategies of the existing operation and the Project. - Details the outcomes of consultation and how issues raised during consultation have been addressed in the EIS.
Chapter 8.0: Mine Design and Subsidence	- Discusses the development of the mine plan. - Describes the design philosophy and mine constraints that have influenced the existing mine layout and the Project mine design principles. - Discusses subsidence predictions and controls.
Chapter 9.0: Identification of Key Environmental Issues	Discusses the key environmental impacts and the risk rating for each environmental aspect resulting from risk assessments.
Chapter 10.0: Assessment and Management of Key Environmental Issues	- Assesses key environmental issues, the potential impact of the Project and the consequence of the relevant impact. - Describes the management measures proposed to mitigate and reduce environmental risk of the Project and/or offset any unavoidable impacts.
Chapter 11.0: Statement of Commitments	Provides a Statement of Commitments regarding the Project's construction, operation, maintenance, closure and rehabilitation.
Chapter 12.0: Justification and Conclusion	- Discusses justification of the Project with regard to environmental, social and economic considerations. - Provides an overall balance of impacts and benefits. - Sets out the alternatives considered. - Summarises how the objectives of Ecological Sustainable Development have been achieved.
References	Contains source references used throughout this EIS.
Volume 2 Appendices	
Appendix A	Director General's Requirements SSD_5581 and Department of the Environment Requirements
Appendix B	State Significant Development Application Form and Political Donations Disclosure Statement



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Chapter	Description
Appendix C	Schedule of Lands
Appendix D	Subsidence Predictions and Impact Assessment for Airly Mine, Golder Associates, July 2014 (
Appendix E	Groundwater Impact Assessment, GHD, August 2014
Appendix F	Surface Water Impact Assessment, GHD, July 2014
Appendix G	Aquatic Ecology and Stygofauna Assessment: Airly Mine Extension, Cardno Pty Ltd, August 2014
Appendix H	Flora and Fauna Impact Assessment, RPS, August 2014
Appendix I	Traffic & Rail Impact Assessment, Barnson, April 2014
Appendix J	Cultural Heritage Impact Assessment, RPS, August 2014
Appendix K	Noise Impact Assessment, SLR Consulting Australia Pty Ltd, March 2014
Appendix L	Air Quality and Greenhouse Gas Assessment, SLR Consulting Australia Pty Ltd, April 2014
Appendix M	Social Impact Assessment, James Marshall & Co, August 2014
Appendix N	Economic Assessment, Aigis Group, August 2014
Appendix O	Decommissioning and Rehabilitation Strategy , SLR Consulting Australia, July 2014
Appendix P	Visual Impact Assessment, Green Bean Design, August 2014
Appendix Q	Agricultural and Land Use Impact Assessment, SLR Consulting Australia, July 2014
Appendix R	Airly Mine Reject Emplacement Options Feasibility Study, April 2014
Appendix S	Reject Emplacement Area Concept Design Report, June 2013
	Reject Emplacement Area Concept Design
	Report Addendum - Response to EIS Adequacy Review, August 2014

1.6 Overview of the Project

The overall objective of the Project is to obtain approval for the continuation of mining at Airly Mine to produce coal from the Lithgow Seam. The Project will not significantly alter the nature of the existing operations at Airly Mine and will use existing and currently approved operations. Mining methods will vary from those currently approved in order to reduce subsidence impacts to not exceed 125 mm in previously unmined areas, and minimise further potential subsidence in areas where the historical New Hartley Shale Mine has already impacted the environment. . The Project will extend the mining operations to the east and build and operate new supporting infrastructure to complement existing facilities.

The Project will:

- in general, include all currently approved operations, facilities and infrastructure of Airly Mine
- continue to extract up to 1.8 Mtpa of ROM coal from the Lithgow seam underlying the Project Application Area using underground mining techniques
- extend the life of mine by 25 years from the date of consent (including rehabilitation)
- continue to extract coal using partial extraction methods within the ML1331, and extend the mining area to the east of the existing workings into the A232 area
- develop underground access roadways from the current mining area to the east to allow access to the proposed mining areas



- use various partial extraction mining methods that will manage subsidence not to exceed 125 mm in previously unmined areas and minimise further potential subsidence impacts in areas where the historical New Hartley Shale Mine has already impacted the environment
- continue to operate and maintain the existing ancillary surface infrastructure for mine access, underground ventilation, electricity, water, materials supply, and communications at the pit top, and upgrade this infrastructure as required for mining operations
- continue to handle ROM coal through a crushing and screening plant at the pit top for transfer to the existing and proposed stockpiles as required to meet market demands
- complete the construction of the coal handling and preparation plant (CHPP) through construction of a Coal Preparation Plant (CPP) and associated overland conveyors, required for the beneficiation of ROM coal
- use the existing and new overland conveyor systems for the transfer of ROM and product coal from the underground to the CPP and coal stockpiles prior to despatch to offsite locations
- construct a life of mine reject emplacement area (REA) for the co-disposal of reject materials from the CPP
- continue to use the existing water storage dams at the pit top to meet operational water demands
- construct an appropriately sized new water management dam for the proposed life of mine REA
- continue to manage non-production waste in accordance with the Airly Mine's Mining Operations plan 2013-2020
- despatch ROM and product coal off site using the existing rail load out facilities for the export and domestic markets
- continue exploration, predominantly borehole drilling, to further refine the existing geological model
- continue to undertake environmental monitoring
- review and update existing environmental management plans as required
- operate 24 hours per day and seven days per week for 52 weeks per year
- provide employment to a full time workforce of up to 135 full time employees and 20 contractors
- progressively rehabilitate exploration boreholes and disturbed areas at the pit top no longer required
- undertake life-of-mine rehabilitation at the pit top disturbance areas to create final landforms commensurate with the surrounding areas.

1.7 Director General's Requirements

The revised DGRs for the Project were provided by the Director General of the then NSW P&I on 4 February 2014 (NSW P&I (2014)). These included the requirements of the Commonwealth Minister of the Environment made in the decision (section 75 of the EPBC Act) pertaining to the Airly Mine Extension Project referral EPBC 2013/7076. Table 1.3 lists the DGRs and references the relevant chapter and/or section of the EIS where they have been addressed. Table 1.4 outlines the Commonwealth Department of the Environment's (DoE) Requirements.

The DGRs for the Project are provided in full in Appendix A.



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Table 1.3: Summary of Director General's Requirements SSD 5581

Requirements	EIS Chapter Reference
General Requirements The Environmental Impact Statement for the development must meet the form and content requirements in Clauses 6 and 7 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i> . In addition, the EIS must include:	
- A detailed description of the development, including: - need for the proposed development - likely staging of the development - including construction, operational stage/s and rehabilitation - likely interactions between the development and any approved and proposed mining operations, including detailed assessments of any required modifications to the approvals for these operations - likely interactions with other approved developments/projects at the site - plans of any proposed building works.	Chapter 3.0: Existing Operations Chapter 4.0: Project Description Chapter 10.0: Assessment and Management of Key Environmental Issues Chapter 12.0: Justification and Conclusion
Consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments.	Chapter 5.0: Planning Considerations
A risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment.	Chapter 9.0: Identification of Key Environmental Issues
- A detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: - a description of the existing environment, <u>using sufficient baseline data</u> - an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes - a description of the measures that would be implemented to avoid, minimise and, if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment.	Chapter 10.0: Assessment and Management of Key Environmental Issues
A consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.	Chapter 11.0: Statement of Commitments
- The EIS must be accompanied by a report from a qualified quantity surveyor providing: - a detailed calculation of the capital investment value (as defined in clause 3 of the <i>Environmental Planning and Assessment Regulation 2000</i>) of the proposal, including details of all the assumptions and components from which the calculation is derived - a close estimate of the jobs that will be created by the development during the construction and operational phases of the development - certification that the information provided is accurate at the date of preparation.	Provided with State Significant Development Application
Key Issues The EIS must address the following specific issues:	
Subsidence – including a detailed quantitative and qualitative assessment of the potential conventional and non-conventional subsidence impacts of the development that includes: - the identification of the natural and built features (both surface and sub-surface) within the area that could be affected by subsidence, and an assessment of the respective values of these - accurate predictions of the potential subsidence effects and impacts of the development, including a robust sensitivity analysis of these predictions	Chapter 8.0: Mine Design Chapter 10.0: Assessment and Management of Key Environmental Issues



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Requirements	EIS Chapter Reference
- a detailed assessment of the potential environmental consequences of these effects and impacts on both the natural and built environment, paying particular attention to those features that are considered to have significant economic, social, cultural or environmental values - consideration of potential cumulative impacts and consequences in those areas previously mined for oil shale - a detailed description of the measures to avoid, minimise, remediate and/or offset subsidence impacts and environmental consequences (including adaptive management and proposed performance measures).	
Water Resources – including: - detailed assessment of potential impacts on the quality and quantity of existing surface water and groundwater resources in accordance with the NSW Aquifer Interference Policy, including: - impacts on affected licensed water users and basic landholder rights - impacts on riparian, ecological, geomorphological and hydrological values of watercourses, including GDEs and environmental flows. - a detailed site water balance, including a description of site water demands, water disposal methods (inclusive of volume and frequency of any water discharges), water supply infrastructure and water storage structures - identification of any licensing requirements, including existing or future Environment Protection Licences (EPLs) or Pollution Reduction Programs (PRPs), and approvals under the <i>Water Act 1912</i> and/or <i>Water Management Act 2000</i> - demonstration that water for the construction and operation of the development can be obtained from an appropriately authorised and reliable supply in accordance with the operating rules of any relevant Water Sharing Plan (WSP) - a description of the measures proposed to ensure the development can operate in accordance with the requirements of any relevant WSP or water source embargo - a detailed description of the proposed water management system (including sewerage), water monitoring regime, beneficial water re-use program and all other proposed measures to mitigate surface water and groundwater impacts.	Section 10.1: Water Resources
Biodiversity – including: - accurate estimates of direct vegetation impacts, such as clearing and subsidence and indirect impacts such as 'edge effects' - a detailed assessment of potential impacts of the development on any terrestrial or aquatic threatened species or populations and their habitats, endangered ecological communities, groundwater dependent ecosystems, regionally significant remnant vegetation, or vegetation corridors - a detailed assessment of the impact of the project on the Mugii Murum-ban State Conservation Area (SCA), with reference to the issues identified in the Draft Plan of Management for the SCA and how subsidence monitoring is proposed to be undertaken with minimal impacts in the SCA - measures to avoid, reduce or mitigate impacts on biodiversity - an offset strategy, which is clearly quantified, to ensure that the development maintains or improves the terrestrial and aquatic biodiversity values of the region in the medium to long term.	Section 10.2: Ecology
Heritage – including: - an Aboriginal cultural heritage assessment (including both cultural and archaeological significance) which must: - demonstrate effective consultation with the Aboriginal community in determining and assessing impacts, and developing and selecting mitigation measures - outline any proposed impact mitigation and management measures (including an evaluation of the effectiveness and reliability of the measures).	Section 10.3: Heritage



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Requirements	EIS Chapter Reference
- an Historic heritage assessment (including archaeology) which must: - include a statement of heritage impact (including significance assessment) for any State significant or locally significant historic heritage items - outline any proposed mitigation and management measures (including an evaluation of the effectiveness and reliability of the measures).	
Air Quality – including a quantitative assessment of potential: - construction and operational impacts, with a particular focus on dust emissions including PM_{2.5} and PM₁₀ emissions and dust generation from coal transport - an investigation of methods to control dust lift-off from coal wagons - reasonable and feasible mitigation measures to minimise dust emissions, including evidence that there are no such other available measures - monitoring and best practice management measures, in particular real-time air quality monitoring.	Section 10.6: Air Quality Management
Consultation Requirements– During the preparation of the EIS, you must consult with relevant local, State and Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with the: - Commonwealth Department of Environment - Office of Environment and Heritage (including the National Parks and Wildlife Service and Heritage Branch) - Environment Protection Authority - Division of Resources and Energy within the Department of Trade and Investment, Regional Infrastructure and Services - Department of Primary Industries (including the NSW Office of Water, NSW Agriculture, Fisheries NSW and Catchments and Lands (Crown Lands Division)) - Roads and Maritime Services - NSW Health - Hawkesbury-Nepean Catchment Management Authority - Lithgow City Council - Delta Electricity - relevant Aboriginal stakeholders. - The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, justification should be provided.	Chapter 7.0: Stakeholder Engagement
Traffic & Transport – including: - an assessment of potential traffic impacts on the capacity, efficiency and safety of the road network - a description of the measures that would be implemented to maintain and/or improve the capacity, efficiency and safety of the road network in the surrounding area over the life of the development.	Section 10.4: Traffic and Transport
Land Resources – including a detailed assessment of impacts to: - soils and land capability (including erosion and land contamination) - landforms and topography, including ‘the Grotto’, cliffs, rock formations, steep slopes, etc. - land use, including agricultural, forestry, conservation and recreational use.	Section 10.8: Soils, Land Capability and Agricultural Suitability
Rehabilitation – including the proposed rehabilitation strategy for the site, having regard to the key principles in <i>Strategic Framework for Mine Closure</i>, including: - rehabilitation objectives, methodology, monitoring programs, performance	Section 10.9: Decommissioning and Rehabilitation Strategy



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Requirements	EIS Chapter Reference
- standards and proposed completion criteria - nominated final land use, having regard to any relevant strategic land use planning or resource management plans or policies - a conceptual final landform design, including a detailed figure depicting relevant site features - the potential for integrating this strategy with any other rehabilitation and/or offset strategies in the region.	
Greenhouse Gases – including: - a quantitative assessment of potential Scope 1, 2 and 3 greenhouse gas emissions - a qualitative assessment of the potential impacts of these emissions on the environment - an assessment of reasonable and feasible measures to minimise greenhouse gas emissions and ensure energy efficiency.	Section 10.7: Greenhouse Gas
Visual – including: - a detailed assessment of the potential visual impacts of the development on private landowners in the surrounding area as well as from key vantage points in the public domain in particular, those available to recreational users from State forests, State conservation areas and national parks - a detailed description of the measures that would be implemented to minimise the visual impacts of the development.	Section 10.10: Visual Amenity
Hazards – Paying particular attention to public safety, including bushfires.	Section 10.12: Hazards Management
Noise – including a quantitative assessment of potential: - construction, operational and off-site transport noise impacts - reasonable and feasible mitigation measures, including evidence that there are no such other available measures - monitoring and management measures, in particular real-time and attended noise monitoring.	Section 10.5: Noise Management
Waste – including: - accurate estimates of the quantity and nature of the potential waste streams of the development, including tailings and coarse reject - a tailings and coarse reject disposal strategy, including an adequate justification of the chosen strategy over other alternative disposal options, including underground stowage - a description of measures that would be implemented to minimise production of other waste, and ensure that that waste is appropriately managed.	Section 10.11 Waste Management
Social & Economic – including an assessment of the: - potential direct and indirect economic benefits of the development for local and regional communities and the State - potential impacts on local and regional communities, including: - any increased demand for local and regional infrastructure and services (such as housing, childcare, health, education and emergency services) - impacts on social amenity, particularly impacts on local residents of and other nearby landowners and residents. - a detailed description of the measures that would be implemented to minimise the adverse social and economic impacts of the development, including any infrastructure improvements or contributions and/or voluntary planning agreement or similar mechanism - a detailed assessment of the costs and benefits of the development as a whole,	Chapter 6.0: Socio-Economic Analysis



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Requirements	EIS Chapter Reference
and whether it would result in a net benefit for the NSW community.	
Plans and Documents	
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the <i>EP&A Regulation 2000</i>. These documents should be included as part of the EIS rather than as separate documents.	As relevant throughout the EIS

Table 1.4: Commonwealth Department of the Environment Requirements

Director General Requirements	EIS Chapter and Appendix Reference
General Information: - The background of the action, including: - the title of the action - the full name and postal address of the designated proponent - a clear outline of the objective of the action - the location of the action - the background to the development of the action - how the action related to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action - the current status of the action - the consequences of not proceeding with the action.	- Section 1.1 - Section 1.2 - Section 1.3 and Chapter 4.0 - Section 2.1 - Section 1.1 - Chapter 12.0 - Section 1.5 - Section 12.1
Description of the controlled action - A description of the action, including: - all the components of the action - the precise location (including coordinates) of any works to be undertaken, structures to be built or elements of the action that may have relevant impacts - how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts - the timing and duration of the works to be undertaken - to the extent reasonably practicable, a description of any feasible alternatives to the controlled action that have been identified through the assessment, and their likely impact, including: - if relevant, the alternative of taking no action - a comparative description of the impacts of each alternative on the matters protected by the controlling provision for the action - sufficient detail to clarify why any alternative is preferred to another. Short, medium and long- term advantages and disadvantages of the options should be discussed.	- to d) Chapter 4.0 - Chapter 12.0



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Director General Requirements	EIS Chapter and Appendix Reference
■ Description of the existing environment 3. A description of the existing environment of the proposal location and the surrounding areas that may be affected by the action, including but not limited to: a) a detailed description of the methodology, timing, effort and results of all targeted surveys undertaken for all relevant matters, undertaken using accepted methodology for targeting listed threatened species, ecological communities and their respective habitat, including but not limited to OEHS Survey and assessment guidelines (2009), and the Department of the Environment's species-specific survey guidelines for nationally threatened species, and a description of any limitations and constraints of the surveys undertaken. Please note that surveys should be undertaken within the site and in surrounding areas that may provide habitat for threatened species and ecological communities and that may be directly or indirectly impacted by the proposal b) a description of the nature, location and extent of all vegetation types occurring on-site and immediately adjacent to the site(s) that are likely to provide suitable habitat for threatened species and ecological communities c) a description and map of the nature, location and extent of likely suitable habitat, and the distribution, abundance and records for threatened species and ecological communities (including breeding, foraging, roosting habitat, habitat critical to the survival of the relevant species and ecological communities, movement corridors and migration paths) within the site and in surrounding areas that may be impacted by the proposal d) the regional distribution and abundance of suitable and potential habitat for threatened species and ecological communities surrounding the site e) a description of the habitat parameters for relevant areas that support listed threatened species and ecological communities, including but not limited to ecological, geological and hydrological conditions for these areas f) details of relevant baseline conditions to be used to assess the impacts of the action and the performance and effectiveness of proposed mitigation measures, including habitat parameters for relevant areas that support listed threatened species and ecological communities, or g) details of the monitoring programs to be implemented before, during and after construction to determine these baseline conditions and measure the effectiveness of proposed mitigation measures h) a description of the important water resources within the site and in surrounding areas, which is consistent with the most recent version of the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development's <i>Information Guidelines for Proposals Relating to the Development of Coal Seam Gas and Large Coal Mines where there is a Significant Impact on Water Resources</i> i) a description of water related assets that are dependent on any important water resources, including an estimation of the water requirements of those assets (i.e. regional water use) j) a description of World Heritage values and National Heritage values of the Greater Blue Mountains World Heritage property and National Heritage place, including but not limited to the riparian, stream/waterbody and aquatic flora and fauna values of Airly and Coco Creeks and The Capertee River.	a) Section 10.2.2 b) Section 10.2.3 c) Section 10.2.3 and 10.2.4 d) Section 10.2.3 and 10.2.4 e) Section 10.2.3 and 10.3.4 f) Section 10.2.2 and 10.2.3 g) Section 10.2.7 h) Section 10.1 i) Section 10.1 j) Section 10.1.5
■ Description of the relevant impacts of the controlled action 4. An assessment of all relevant impacts with reference to the EPBC Act Policy Statement 1.1 Significant Impact Guidelines Matters of National Environmental Significance (2009) and species specific guidelines as relevant at www.environment.gov.au/epbc/guidelines-policies.html that the controlled action has, will have or is likely to have. Information must include: a) a description of the relevant impacts of the action on matters of national environmental significance b) a detailed assessment of the nature and extent of the likely short term and long	Section 10.2.3, 10.2.4, 10.2.5, Section 10.3, Appendix H and Appendix F



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Director General Requirements	EIS Chapter and Appendix Reference
term relevant impacts c) a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible d) analysis of the significance of the relevant impacts e) any technical data and other information used or needed to make a detailed assessment of the relevant impacts. 5. A description of the relevant impacts on EPBC Act listed species or ecological communities should include, inter alia, direct, indirect, cumulative and facilitative impacts on the: f) population of the species at the site g) are of occupancy of the species h) habitat critical to the survival of the species i) breeding cycle of the population j) availability or quality of habitat for the species If the conclusion is made that a threatened species or ecological community present or likely to be present onsite will not be impacted by the proposed action, sufficient justification must be provided. 6. In addition to requirements 4 and 5, additional information about potential impacts to the <i>Pultenaea</i> sp. Genowlan Point should include a detailed description of the potential and likely hydrological and subsidence related changes that may occur as a result from the proposed action. Direct and indirect impacts must be included. Cumulative and facilitative impacts should also be included. Please include impacts to the: k) ecological, geological and hydrological conditions specific to habitat critical to the survival of the species (Genowlan Point Allocasuarina nana Heathland) l) quality or integrity of the <i>Pultenaea</i> sp. Genowlan Point population including, but not limited to, assisting invasive species that are harmful to the ecological community to become established m) abiotic (non-living) factors (such as water, nutrients or soil) necessary for the survival of the species. For example, subsidence related impacts (such as surface and subsurface cracking, slumping, tilt, and strain), altering groundwater levels, soil disturbance or substantial alteration of surface water drainage patterns (such as dewatering, pending). These impacts should be described for the construction, operational and decommissioning phases of the controlled action. 7. Where there is a potential habitat for EPBC Act listed species, surveys must be undertaken. These surveys must be timed appropriately and undertaken for a suitable period of time by a qualified person. A subsequent description of the relevant impacts on such EPBC Act listed species should include, inter alia, direct, indirect, cumulative and facilitative impacts on the: n) ecological and geological conditions specific to habitat critical to the survival of the species o) abiotic (non-living) factors (such as geological formations, water) necessary for	



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Director General Requirements	EIS Chapter and Appendix Reference
the survival of the species, for example subsidence related impacts to habitat, interference with maternity and other roosts, or substantial alteration of hydrology. These impacts should be described for the construction, operational and decommissioning phases of the controlled action. 8. An assessment of all relevant impacts to the World and Nationally listed Greater Blue Mountains World Heritage Area (GBMWA), including but not limited to riparian, stream/waterbody and aquatic flora and faunal values of Airly and Coco Creeks and The Capertee River inter alia. The assessment must include, but not be limited to: p) A detailed description of the potential and likely hydrological modification, including changes to water and sediment quality and quantity entering the heritage area, that may occur as a result of the proposed. Direct and indirect impact must be included. Cumulative and facilitative impacts should also be included q) A detailed assessment of any other potential and likely impacts on World and National Heritage 9. The documentation provided must include information addressing all relevant impacts on water resources and water related values. This must include, but not be limited to, potential impacts to Matters of National Environmental Significance. The information must be consistent with the most recent version of the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development's Information Guidelines for Proposals Relating to the Development of Coal Seam Gas and Large Coal Mines where there is a Significant Impact on Water Resources.	
■ Proposed avoidance, safeguards and mitigation measures 10. A description of feasible mitigation measures, changes to the action or procedures, which have been proposed by the proponent or suggested in public submissions, and which are intended to prevent or minimize relevant impacts on matters of national environmental significance. Information must include: a) description of how the action has been designed to avoid impacts to, threatened species and ecological communities, world and national heritage values and water resources b) a description of the mitigation measures that will be undertaken to prevent or minimise the relevant impacts of the action. These mitigation measures should be justified and based on best available practices c) an assessment of the expected and predicted effectiveness of the mitigation measures including the effect on abundance and condition of species, suitable habitat and ecological communities, world and national heritage values and water resources d) any statutory of policy basis for the mitigation measures e) the cost of the mitigation measures f) an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs (including any relevant thresholds for corrective actions) for the relevant impacts of the action. Include the person or agency responsible for implementing these programs and the effectiveness of all mitigation measure, including any provisions for independent environmental auditing g) the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program h) identification of mitigation measures proposed to be undertaken by State governments, local governments or the proponent i) any changes to the action which prevent relevant impacts on listed threatened species and communities.	Section 10.2.7



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Director General Requirements	EIS Chapter and Appendix Reference
■ Offsets Where impacts cannot be avoided or mitigated, an offset package to compensate for any predicted or potential residual significant impacts on matters of national environmental significance. Offsets should demonstrate consistency with the Commonwealth EPBC Act Environmental Offsets Policy (October 2012, or subsequent version). Available at www.environment.gov.au/epbc/publications/environmental-offsets-policy.html Information must include: - How the offset compensates for the residual impacts, when the offset will be delivered and how the offset will be managed - An assessment of the impact of the offsets on other matters of environmental, economic, or social significance - An analysis of cost, both financial and other, related to offsets, and - The information requirements provided at Appendix B of the DGRs	NA
■ Other approvals and conditions 11. Any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action. Information must include: - Details of any local or State government planning scheme, or plan or policy under any local or State government planning system that deals with the proposed action, including: - What environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy, and - How the scheme provides for the prevention, minimisation and management of any relevant impacts. - A description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the EPBC Act), including any conditions that apply to the action - A statement identifying any additional approval that is required - A description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.	Chapter 5.0
■ Economic and social matters 12. A description of the short-term and long-term social and economic implications and/or impacts of the Project. 13. A description of the capital investment and ongoing employment and economic value of the project.	Chapter 6.0
■ Environmental record of person proposing to take the action 14. Details of any proceeding under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against: - The proponent - For an action for which a person has applied for a permit, the person making the application. 15. Details of the proponent's environmental policy and planning framework.	Section 1.3
■ Information sources 16. For information given in an environment assessment, the draft must state: - The source of the information - How recent the information is - How the reliability of the information was tested, and - What uncertainties (if any) are in the information.	References
■ Consultation 17. Any consultation about the action, including: - Any consultation that has already taken place - Proposed consultation about relevant impacts of the actions, and - If there has been consultation about the proposed action – any documented	Chapter 7.0



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Director General Requirements	EIS Chapter and Appendix Reference
response to, or result of, the consultation. 18. Identification of affected parties, including a statement mentioning any communities that may be affected and a description of their views.	

Table 1.5 lists the relevant requirements of the Independent Expert Scientific Committee (IESC 2014) and where they are addressed in the EIS.

Table 1.5: Independent Expert Scientific Committee Checklist Table as Relevant to the Project

Background Data and Modelling	
Identification of the water related assets (aquatic ecosystems, terrestrial ecosystems, drinking water supply, irrigation water supply, surface infrastructure, industry, regional communities, hydrogeological units) including fauna, flora and species habitat surveys as they relate to the dependence on each identified water resource.	Appendix F Sections 1.6 and 3; Appendix E Sections 1.5 and 3; Appendix G Sections 4 and 5 Appendix H Sections 4 and 5 EIS Chapter 2.0
Identification of the hydrogeological unit to which GDEs are connected and an estimate of the ecological water requirements of GDEs. GDEs should be identified in accordance with the methodology outlined in Eamus et al, 2006. A functional methodology for determining the groundwater regime needed to maintain the health of groundwater-dependent vegetation, <i>Australian Journal of Botany</i> , 2006, 54: 97-114	Appendix E Section 3.7; Appendix H Section 3 EIS Chapter 2.0
A site-specific water balance complemented by a regional water balance that includes the lateral extent of influence of underground mining.	Appendix F Sub-appendices B and D
A description of the water resources of the site and region (including current standing water levels and any records of seasonal and historical annual variations in level, quality), including variation in rainfall, evaporation, groundwater and surface water quality and quantity. Includes hydrographs and logs and identifies the dates, locations, flow conditions and elevations of data points.	Appendix E Sections 3 and 4, Sub appendix B and C; Appendix F Sections 3.3, 4.6, 5.3, 5.6 and Sub-appendices B and C
Description of the hydrological regime, including drainage patterns, watercourse hydrographs, spatial and temporal and seasonal trends in streamflow and/or standing water levels, water quality data (including turbidity, acidity, salinity, organic chemistry, metals, metalloids, radionuclides, other potentially harmful chemicals), geomorphology of all watercourses.	Appendix E Sections 3 and 4, Sub appendix B and C; Appendix F Sections 3 and 5 and Sub-appendices B and C EIS Chapter 2.0
Description of existing flood regime including flood volumes, depth, duration, extent and velocity for a range of annual exceedance probabilities; maps identifying peak flood extent, depth and velocity	Not assessed based on site topography and very low predicted subsidence.
A description of the geology and hydrogeology at a local and regional level, including definition of the geological sequence, name of formations from youngest to oldest, surface geology and cross-sections.	Appendix E Section 3 and Sub-appendix B EIS Chapter 2.0
A description of the hydraulic characteristics (hydraulic connectivity and storage characteristics) for each hydrogeological unit.	Appendix E Section 3.5 and Sub-appendix B
A definition of any geological structures and outlines of the influence of the structures on groundwater, in particular groundwater flow and recharge.	Appendix E Section 3.4
The depth to hydrogeological units and standing water levels, hydro-chemical characteristics, potentiometric heads.	Appendix E Section 3.5 and 4
A description of the likely recharge sources for each hydrogeological unit, details of discharges from each hydrogeological unit, direction of groundwater flow and contours of groundwater elevations for all hydrogeological units; discharge pathways for the hydrogeological unit likely to be impacted.	Appendix E Section 3.5 and Sub-appendix B



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Assessment of the extent (frequency, volume and direction) of hydrological interactions between water sources, including surface-groundwater connectivity, inter-hydrogeological unit connectivity.	Appendix F Section 5.3, 6.4 and 6.10; Appendix E Section 3.5 and Sub-appendix B
Surface water assessment and model, including hydrology and water quality parameters.	Appendix F Section 4 and 5
Groundwater assessment and numeric model (calibrated to baseline conditions), including hydrology and water quality parameters: • Enables a probabilistic evaluation of potential future scenarios. • Includes the model conceptualisation of hydrogeological unit, key assumptions and limitations. • Represents each hydrogeological unit, storage, flow characteristics of each, linkages between each, existing recharge/discharge pathways of each hydrogeological unit and changes predicted to occur when the project commences. • Incorporates the various stages of the proposed project and predicts water level/pressure declines in each hydrogeological unit for the life of the project and beyond, including pre and post development water level or potentiometric surface contours for each hydrogeological unit. • Captures solute transport modelling. • Provides information on the time to maximum drawdown and the time for drawdown equilibrium to be reached. • Identifies the volumes predicted to be dewatered on an annual basis, with an indication of the proportion supplied from each hydrogeological unit. • Provides information on water level recovery rates and timeframes in each hydrogeological unit for the life of the project and beyond. • Considers a variety of boundary conditions across the model domain, including constant or general head, river cells or drains. • Includes a sensitivity analysis of boundary conditions and justification for the conditions applied. • Be undertaken in accordance with the Australian Groundwater Modelling Guidelines, and has been peer reviewed • Includes recommendations and a program to review and update the model as more information becomes available.	Appendix E Section 5 and 6 and Sub-appendix B
Relevant information to describe the existing state of water related ecosystems and processes at a regional scale.	EIS Section 10.2.3.2-4 ; Appendix G Sections 4 and 5
An assessment of the quality of and risks inherent in the data used in the background data and modelling.	Appendix F Sub-appendix B
Water and Salt Balance	
This section must include a site specific water balance and a site specific salt balance, complemented by a regional balance of both water and salt covering the larger area of potential impact.	Appendix F and Sub-appendix B and D
This should include the set of water and salt stores within the system boundary and the flow of water and salts between these stores. The assessment should include any change to the store or flow of water and salts as a result of the project.	Appendix F and Sub-appendix B and D
This section needs to include an assessment of the changes to any water storage or flow of water in the system as a result of the project, including changes to salt loads. The water balance needs to include consideration of water quality parameters and the water treatment options to be considered by the project.	Appendix F and Sub-appendix B and D
The assessment needs to include any changes to the hydrogeological unit storage properties and groundwater flows and pressures resulting from the depressurisation of the target coal measures as well as an estimation of the flow/exchange of water between overlying and/or underlying hydrogeological units and the target coal measure for all major hydrogeological units over the project area.	Appendix F and Sub-appendix B and D
The water balance must also identify water deficits and the proposed strategy to manage these.	Appendix F and Sub-appendix B and D



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

The water balance must include consideration of each hydrogeological unit recharge/discharge, surface water seepage/recharge, rainfall interception, evaporation and the interactions and flows between and within.	Appendix F and Sub-appendix B and D
Hydrogeological unit storage properties and groundwater flows, pressures relating for depressurization and/or dewatering.	Appendix F and Sub-appendix B and D
Water infiltration from surface storages.	
Estimate of flow of water between overlying and/or underlying hydrogeological units and the target coal measure(s).	Appendix F and Sub-appendix B and D
Waste water from the proposal, including proposed treatment, disposal, volumes and timing.	Appendix F and Sub-appendix B and D
Volumes and quality of water intended for injection.	Appendix F and Sub-appendix B and D
Volumes and quality used during mining and associated activities (eg processing).	Appendix F and Sub-appendix B and D
Volumes, quality and sources of water not available from within the water balance that must be imported from elsewhere.	Appendix F and Sub-appendix B and D
Existing interactions and flows that are part of the baseline water flows for the system.	Appendix F and Sub-appendix B and D
Estimates of water use in transpiration and predicted changes to vegetation water use as a result of the project.	Appendix F and Sub-appendix B and D
Assessment of the Impacts on Water Resources and Water-related Assets	
Consideration of the State based policies and guidelines developed by the Department of Planning, the Office of Environment and Heritage and the Office of Water.	Appendix E Section 2 and Appendix F Section 2 EIS Chapter 5.0 and Section 10.1
How the project will change both local and regional water balances.	Appendix F Sub-appendices B and D EIS Chapter 10.1
Predictions of subsidence and the effects from dewatering and depressurisation (including lateral effects) on surface topography, groundwater and water movement, and fracturing of confining layers.	Appendix D Sections 6 and 7 and Appendix E Section 6 and Sub-appendix B EIS Chapter 8.0 and 10.1
The hydrogeological units that will be directly impacted, including the coal seam.	Appendix E Sub-appendix B
The hydrogeological units that will be dewatered or indirectly impacted by dewatering in connected hydrogeological units.	Appendix E Sub-appendix B
The extent of impact on hydrological interactions between water sources, including surface/groundwater connectivity, inter- hydrogeological units connectivity.	Appendix F Section 6 and Appendix E Sub-appendix B
Impacts associated with surface water diversions (where relevant).	Appendix F Section 6; Appendix E Section 6
Assessment of direct and indirect impacts on water related assets, including ecological assets. .	Appendix F Section 6 EIS Sections 10.1 and 10.2
Impacts on the hydraulic properties of hydrogeological units including potential for physical transmission of water within and between formations, effects of depressurisation changes in storage and an estimate of the likely leakage.	Appendix E Sub-appendix B EIS Section 10.1
Estimates of the quantity and quality of operational discharges of water, including emergency discharges.	Appendix F Sub-appendix B EIS Section 10.1
Consideration of the impacts of water management infrastructure on the biodiversity assets (e.g. roads, pipelines, habitat fragmentation).	Appendix H Section 7.1 EIS Section 10.2
Assessment of the cumulative impact of the project with past, present and known future projects.	Appendix F Section 6 and Sub-appendix D EIS Section 10.1



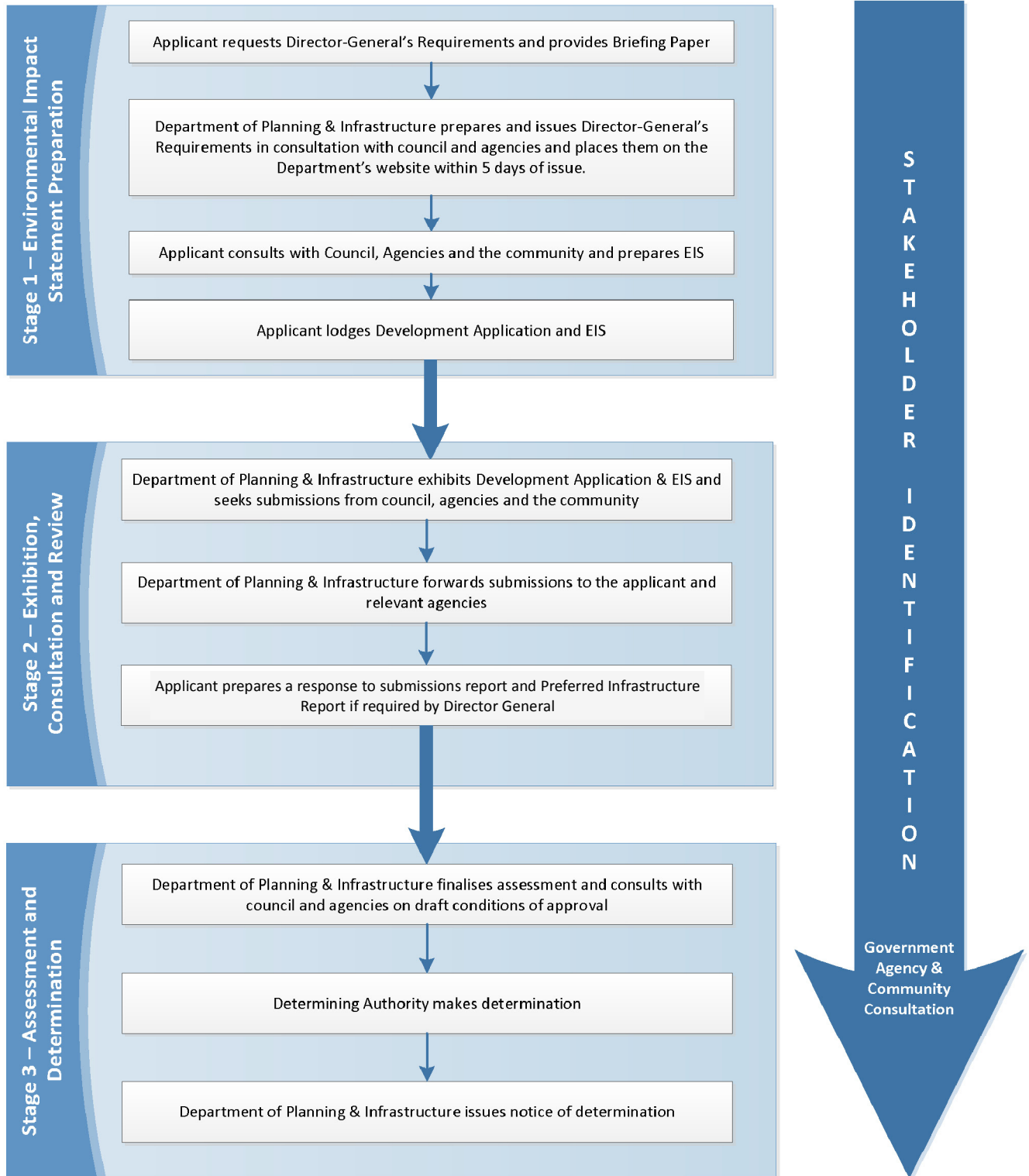
ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT

Assessment of long term impacts of post mining landforms	Appendix D Section 7; Appendix Q Section 4.2 EIS Section 10.8
Measures to avoid and minimize impacts to water resources and water related assets	Appendix E Section 7 and Appendix F Section 7 EIS Sections 8.0 and 10.1
Proposed mitigation measures for each identified impact.	Appendix E Section 7 and Appendix F Section 7 EIS Section 10.1
Assessment of Cumulative Impacts	
The cumulative impact assessment needs to consider all past, present and known future projects (including non-Centennial) and should be undertaken with regard to the regional water balance and hydrogeological modelling outcomes. The cumulative impact assessment should include:	Appendix E Section 6 and Appendix F Section 6.10 and Sub-appendix D EIS Section 10.1
Catchment and regional scale information	Appendix E Section 6 and Appendix F Section 6.10 and Sub-appendix D EIS Section 10.1
Total existing and planning licensed and extracted water for consumptive, industrial and agricultural purposes in the surface catchment and groundwater system	Appendix E Section 6 and Appendix F Section 6.9 and 6.10 and Sub-appendix D EIS Section 10.1
Existing water quality guidelines, targets, environmental flow objectives and requirements for the ecosystems of the surface and groundwater systems	Appendix E Section 6 and Appendix F Section 6.10 and Sub-appendix D EIS Section 10.1
The proportional increase in water resource use and impacts as a consequence of the proposal	Appendix E Section 6 and Appendix F Section 6.10 and Sub-appendix D EIS Section 10.1
The overall level of risk to water related assets that combine probability of occurrence with severity of impact of all past, present and known future projects	Appendix E Section 6 and Appendix F Section 6.10 and Sub-appendix D EIS Section 10.1

1.8 Approval Process and Indicative Timeline

The Project is to be assessed as a State Significant Development (SSD) in accordance with Clause 8 and Schedule 1 (Item 5) of *State Environmental Planning Policy (State and Regional Development) 2011*. This EIS has been prepared to accompany a development application by Centennial Airly for the Project in accordance with the provisions of Part 4 Division 4.1 of the EP&A Act and the DGRs issued by the then NSW P&I (formerly Department of Planning). Chapter 5.0 details the key aspects of the Project that trigger the requirement for State Significant Development approval under the EP&A Act.

The Project is a controlled action (EPBC 2013/7076) and will be assessed under the EPBC Act through the bilateral agreement with NSW, accrediting the EP&A Act (SSD process). The bilateral agreement between the Commonwealth of Australia and the State of New South Wales relating to environmental assessment (the bilateral agreement), allows the Commonwealth Minister for the Environment to rely on specified environmental impact assessment processes of the State of New South Wales in assessing actions under the EPBC Act. A summary of the SSD assessment pathway is provided in Figure 1.4.



CENTENNIAL AIRLY PTY. LTD.

THIS DRAWING IS COPYRIGHT

NO PART OF IT IN ANY FORM OR BY ANY MEANS (ELECTRONIC, MECHANICAL, MICRO-COPYING, PHOTOCOPYING OR OTHERWISE) BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM OR TRANSMITTED WITHOUT PRIOR WRITTEN PERMISSION

DATE	17/04/2014
SEAM	LITHGOW
REFERENCE	127623060-R Rev 0
SCALE	NOT TO SCALE

**Figure 1.4:
State Significant
Development
Assessment
and Approval Pathway**

PLOTFILE No.

Centennial Coal
Airly

DRG No. 1-1.4

A4



ENVIRONMENTAL IMPACT STATEMENT- AIRLY MINE EXTENSION PROJECT