



1 Introduction

1.1 The Project

The Proponent, BHP Billiton Mitsubishi Alliance Coal Operations Pty Ltd (BMA), proposes to develop a multi-seam open cut coal mine at Daunia, approximately 25 km east south-east of Moranbah and approximately 170 km south-west of Mackay, Queensland. The Daunia Project (the Project) includes a new coal mine and coal handling and processing infrastructure to produce 4 Million tonnes per annum (Mt/a) of semi hard coking coal and pulverized coal injection (PCI) coal for the export market over a life of approximately 21 years.

The Daunia deposit is located immediately to the east of the Norwich Park Branch railway line, to the south of the Peak Downs Highway and directly to the east of the existing Poitrel Mine, which is also managed by BMA. The location of the Project is shown in **Figure 1-1**. The Project layout is shown in **Figure 3-1**.

The Project will be an open cut coal mine using a conventional excavator and truck fleet. Mining activities will include clearing vegetation, topsoil stripping, removing overburden to in pit and out of pit spoil dumps, coal mining and progressive rehabilitation. Construction is expected to commence in 2009, with first coal in 2010.

1.2 The Proponent

The Project proponent is BHP Billiton Mitsubishi Alliance Coal Operations Pty Ltd (the Proponent) as manager and agent on behalf of the Central Queensland Coal Associates Joint Venture ("CQCA"). CQCA is an unincorporated joint venture between BHP Billiton (50%) and Mitsubishi Corp. (50%). Joint venture arrangements are regulated in accordance with the CQCA Joint Venture Agreement as amended most recently by Deed dated 28 June 2001 and a Strategic Alliance Agreement dated 28 June 2001 which created BMA.

Operations are managed by BMA on behalf of the CQCA Joint Venturers under a Management Agreement dated 28 June 2001. BMA has equal ownership and management of seven Central Queensland coal mines: Goonyella Riverside, Broadmeadow, Peak Downs, Saraji, Norwich Park, Gregory Crinum and Blackwater, and also manages the Hay Point coal terminal near Mackay, Queensland.

In addition, BMA manages the operations of BHP Mitsui Coal, which is owned by BHP Billiton (80%) and Mitsui and Co (20%). These operations include the South Walker Creek Mine and Poitrel Mine, which is immediately west of the Daunia Mine. BMA's operations provide significant benefits to the local communities, the broader Central Queensland region and to the Queensland economy as a whole. BMA is the largest employer in the region and plays a key role in the economic development of Central Queensland.

BMA's contribution during the 2008 financial year included:

- \$1,341 million spent on equipment, goods and services from Central Queensland regional business;
- \$1,131 million spent on equipment, goods and services from other Queensland business;
- \$1,007 million spent on equipment, goods and services from other Australian business;
- \$396 million paid in coal royalties to the Queensland Government;
- \$651 million in wages and salaries to employees;



- \$290 million paid to Queensland Rail in freight charges; and
- Over \$22 million spent in local townships and communities.

In addition, BMA employed

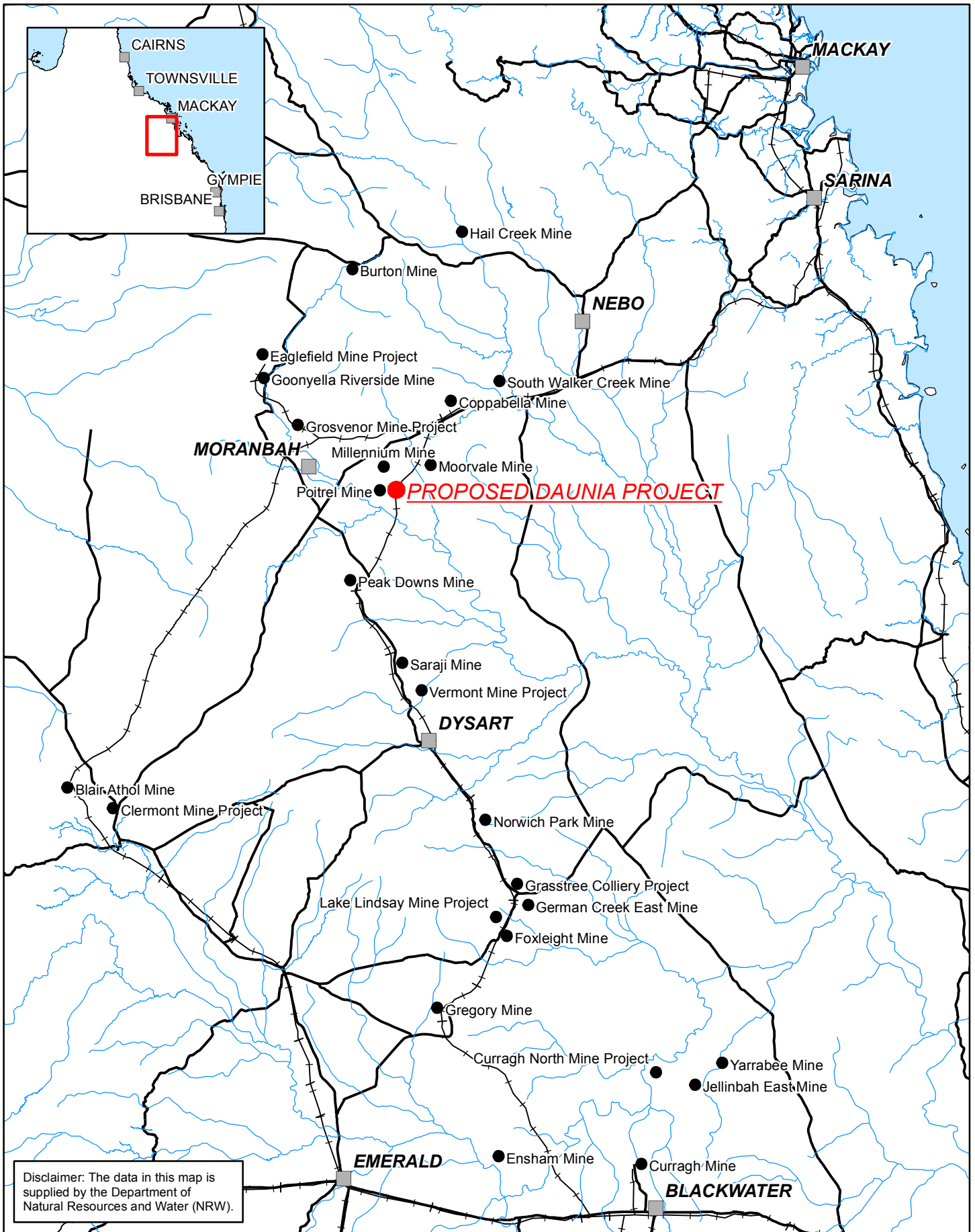
- 9,800 people directly (including contractors); and
- 186 apprentices and trainees.

The BHP Billiton Sustainable Development Policy sets out the Proponent's approach to managing health, safety, the environment and the community. The Proponent is committed to the principles of sustainable development, including the wellbeing of its employees and communities. The Proponent is also committed to developing, implementing and maintaining management systems for health, safety, environment and community that are consistent with best practices. This is embodied in BMA's Charter which states that BMA has "an overriding commitment to health, safety, environmental responsibility and sustainable development".

The commitment is given practical effect by BHP Billiton's Health, Safety, Environment and Community (HSEC) Management Standards, and the systems, procedures and operational protocols through which these standards are applied at a site level. Through these standards the Proponent seeks to achieve their stated company goal of "zero harm to people and the environment". All the BMA sites are certified to ISO14001. The Project will also seek to achieve certification to this standard in the early years of operation.

The BMA Coal Sustainability Report (BMA, 2007) outlines environmental management and community activities. This includes reporting on targets and environmental monitoring activities for land, water, air and community indicators.

Copies of the BHP Sustainable Development Policy, BMA's Charter and BHP Billiton's HSEC Management Standards are provided in **Appendix E.1** to **Appendix E.3**, respectively.



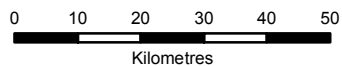
Disclaimer: The data in this map is supplied by the Department of Natural Resources and Water (NRW).

LEGEND

- Mines
- Towns
- + Railway
- Drainage
- Main Road



FIGURE 1-1
DAUNIA COAL MINE EIS
 PROJECT LOCATION



Scale 1:1,200,000 on A4

Projection: Australian Map Grid - Zone 55 (AGD84)



BHP Billiton Mitsubishi Alliance

1.3 Project Description

The key elements of the Project are outlined below.

- An open cut coal mine will be constructed on the granted Daunia Mining Lease (ML) 1781 generating up to 5.6 Mt/a of run-of-mine (ROM) coal to produce approximately 4 Mt/a of product coal for the export market.
- The product coal will be railed to the Hay Point and Dalrymple Bay coal terminals for distribution to international markets.
- Out of pit spoil dumps will be created to the east of the mining area on the granted Daunia East Mining Lease (ML 70115) and Daunia Mining Lease (ML 1781). Once there is sufficient space for in pit dumping, pits will be progressively backfilled with spoil (in pit spoil dumps).
- A mine water management system will be constructed that diverts clean water, captures and manages mine area runoff and pit water for reuse.
- Mine haul roads and an overpass across the Norwich Park Branch railway line, will connect open cut pits to a new Coal Handling and Preparation Plant (CHPP) on the granted Red Mountain Mining Lease (ML 70116).
- A conveyor will be constructed to transfer product coal from the CHPP to the train load out located on the granted Millennium Mining Lease (ML 70312).
- Power will be supplied via an overhead 66 kilovolt (kV) transmission line from the Millennium switchyard to the lease boundary adjacent to a proposed Daunia switchyard. A 66/11 kV transformer and an 11 kV electrical system will deliver power to the CHPP.
- Process waste comprising both coal rejects and dewatered tailings from the CHPP will be returned by truck and disposed of in the Project's spoil dumps.
- Process water will be supplied using a combination of reuse from sediment dams on the Project Site, and additional water supply from the Process Water Dam, which is supplied from the existing, Braeside water pipeline.
- The Project will be accessed via the existing access road into the Millennium Project and Poitrel Mine off the Peak Downs Highway and may also be accessed via Daunia Road during construction.
- The rail track to the Red Mountain rail loop will be upgraded to at least 12 Mt/a capacity.
- The Project will share some services with the Poitrel Mine, including: site offices, workshops, stores, magazine, communications, car parking and some other minor facilities.

BMA will contract the mining operation to a mining contractor and the construction of the CHPP to a construction contractor. It is also envisaged that a suitable contractor will be appointed to operate the CHPP. The Project will employ about 450 construction employees and about 300 operational employees. BMA will maintain a small management team to manage the contractors.

1.3.1 Relationships to other projects

The Project forms a component of the BMA Bowen Basin Coal Growth Project (“BMA BBCGP”). The BMA BBCGP involves the growth of BMA’s coal mining operations in the northern section of the Bowen Basin, near Moranbah, Queensland. The BMA BBCGP involves the production of an additional 20 Mt/a of coal products through the development of two new coal mining operations, including the Daunia Project (the subject of this Environmental Impact Statement) and a proposed mine known as Caval Ridge Mine. The BMA BBCGP also includes an expansion of the operating Goonyella Riverside Mine and the development of associated mine infrastructure for each of these operations. BMA is also considering the development of a new, larger capacity airport in the vicinity of Moranbah, to accommodate increased travel to and from the area. The key elements of the BMA BBCGP are summarised in **Table 1-1**. The locations of these BMA projects are shown in **Figure 1-2**.

Table 1-1 Key Elements of the BMA BBCGP

| Project Element | Tonnage Contribution (Mt/a) | Construction Commencement | First Coal | Workforce | |
|------------------------------------|-----------------------------|---------------------------|------------|--------------|--------------|
| | | | | Construction | Operation |
| Daunia Mine | 4 | 2009 | 2010 | 450 | 300 |
| Caval Ridge Mine | 5.5 [*] | 2009 | 2011 | 1,200 | 340 |
| Goonyella Riverside Mine Expansion | 8 | 2010/2011 | 2013 | 900 | 700 |
| Airport | N/A | 2010 | N/A | TBC | Minimal |
| Total | 20 Mt/a[*] | | | 2,550 | 1,340 |

Note: * An additional 2.5 Mt/a of coal will be produced by the Peak Downs Mine and will be processed through the Caval Ridge Mine Coal Handling and Preparation Plant (CHPP), giving the Caval Ridge CHPP a total product capacity of 8 Mt/a. The incremental 2.5 Mt/a from the Peak Downs Mine does not form part of the Caval Ridge Mine component of the BMA BBCGP as it is within the currently approved capacity of the mine.

The BMA BBCGP will mostly occur on existing mining leases, but new mining leases are required for both the Caval Ridge Mine and the Goonyella Riverside Mine Expansion. New and amended Environmental Authorities will be required for the BMA BBCGP elements. Coal will be exported via the existing Hay Point and/or Dalrymple Bay coal terminals, with potential to export via Abbot Point coal terminal following construction of the Northern Missing Link rail line.

An EIS will be completed for each element of the BMA BBCGP to address key environmental issues including: rehabilitation and land management, social impacts, water and groundwater, flora and fauna, air quality, greenhouse gas emissions, and noise. BMA is also aware that addressing the needs of community stakeholders is critical to this project. This EIS addresses the impacts associated with the Daunia Project. The Daunia Project is the first EIS to be prepared for the BMA BBCGP. Details of other BMA BBCGP components are still being finalised as part of design and impact assessment processes. An overview of the make up of the different project components is provided below.

1.3.1.1 Caval Ridge Mine

The Caval Ridge Mine will be located north of the existing Peak Downs Mine, 30km south of Moranbah, Queensland. The proposed mine includes the following proposed key elements:

- it is located in the northern section of the existing ML 1775;
- a new mining lease to the west of ML 1775 will be required for site infrastructure, temporary landforms and to maximise resource recovery from ML 1775;
- production up to approximately 5.5 Mt/a of coal products;
- a construction workforce of approximately 1,200 people, with an estimated operating workforce of 340 people;
- mining will be undertaken by dragline and truck and shovel;
- development of associated infrastructure including a new 8 Mt/a CHPP, a new connection to the power grid, and a new water pipeline connection; and
- an incremental 2.5 Mt/a from the existing Peak Downs Mine will be processed through the new CHPP. This incremental 2.5 Mt/a does not form part of the Caval Ridge Mine project as it is within the currently approved capacity of the Peak Downs Mine.

1.3.1.2 The Goonyella Riverside Mine Expansion

The Goonyella Riverside Mine Expansion is located within the existing Goonyella open cut and Broadmeadows underground mine, approximately 30 km north of Moranbah, Queensland. The Mine expansion includes the following proposed key components:

- the existing open cut mine will progress eastwards into Mineral Development Licence (MDL) 307 and to the south-west into EPC953;
- a new ML will be required to cover some of the areas proposed to be mined;
- the existing Broadmeadow Mine, which extracts the Goonyella Middle Seam, will be expanded eastwards into MDL 307 using either the conventional longwall mining practices currently being used for its operations within ML 1763 or see the introduction of Longwall Top Coal Caving technology once its feasibility is proven as a means to improve the levels of resource recovery compared to conventional longwall mining methods;
- production to increase from 16 Mt/a to 24 Mt/a of coal products;
- a construction workforce of approximately 900 people, with an estimated operating workforce of 700 people;
- open cut and underground mining will be undertaken using mining methods currently practiced at the site; and
- development of associated infrastructure including a new CHPP and a capacity upgrade to an existing CHPP to provide an additional 8 Mt/a of product, a new connection to the power grid, and a new water pipeline.

1.3.1.3 Relocation and Upgrade of Moranbah Airport

The Proponent is proposing a new airport in the Moranbah region which is suitable for larger capacity aircraft. Options relating to the scale, location and timing of a new airport will be addressed as options and alternatives in the EIS for the airport.

The current commercial airline servicing Moranbah provides direct flights 5 days per week. These services are categorised as Code B (generally less than 36 seats) aircraft under the current Civil Aviation Safety Authority guidelines.

The existing Moranbah airport is partially located within a ML and on land owned by BHP Coal Pty Ltd.

1.3.1.4 Associated Infrastructure

The scope of the BMA BBCGP also includes the following components, which will be addressed in the respective EISs.

- Land resources: there is likely to be a loss of agricultural land and an impact on landform and drainage patterns associated with the mine development. There is significant potential for soil erosion and sedimentation associated with mining activities and construction of associated infrastructure.
- Power: a new connection to power grid will be required, with the possibility of supplementary on-site diesel generation.
- Water: will be supplied from a range of sources including the Burdekin River (Burdekin to Moranbah Pipeline), Eungella Dam (Eungella Pipeline), Bingegang Weir and Braeside Bore Field, and on-site groundwater and surface water capture. Preliminary investigations show that the Daunia and Caval Ridge Mines are likely to require a total 2,400 ML/a, and the Goonyella Riverside expansion will require 4,000 ML/a. All water requirements can be met by the abovementioned sources and connections to existing water infrastructure.
- Road network: general access to the sites for material and workforce transportation will require new connections to the network, in particular the Peak Downs Highway.
- Rail infrastructure: the coal product for all BMA BBCGP elements will be transported to Hay Point and/or Dalrymple Bay Coal Terminals, with new onsite rail loops needed for connection to the Norwich Park Branch and Goonyella Rail System. An opportunity exists to transport some product coal from BMA operations (both current and proposed) to Abbot Point once the construction has been completed for the Northern Missing Link rail project. For the Goonyella Riverside expansion, a new rail connection to the Northern Missing Link (which is expected to commence construction during 2008-2009) will be required.
- Accommodation: a range of options need to be explored for housing the proposed workforce throughout the life of the mines, including accommodation village, rental of existing dwellings, purchase of new dwellings and construction of new dwellings.
- Community services: education, medical, emergency, childcare, recreation and other support services in the area, especially in the town of Moranbah, will be placed under considerable pressure by the changing nature of the additional construction and operational workforces. This may include an increasing proportion of fly-in / fly-out workers in the region. Depending upon the source of the Project's non-resident workforce, demand for these services may also be expected to be generated in central and north Queensland coastal centres such as Mackay.

- Wastewater: sewage from the proposed mine and proposed accommodation facilities will require disposal. Assessments of options for treatment at existing or expanded wastewater treatment plants will be conducted. An assessment of the proposed wastewater pipelines will also be undertaken.

BMA believes that there will be continued, strong demand for its products from India, China and other markets. In response to this demand, BMA is strengthening its growth options. BMA has identified quality coal reserves associated with the various projects that make up the BMA BBCGP. The BMA BBCGP is expected to contribute significantly to the State's economy and contribute directly to the employment of approximately 2,550 people during construction and approximately 1,340 during operation across all project elements. The BMA BBCGP will also contribute significantly to local and regional economies through direct and indirect employment and investment expenditure.

The cumulative impacts that result from the BMA BBCGP and the Daunia Mine are discussed further in **Section 20**.

1.3.2 Phased EIS Process

Table 1-1 shows the current planned timing of the BMA BBCGP elements for construction and first coal. In each case the EIS for the BMA BBCGP elements will be provided in advance of construction, allowing sufficient time for all regulatory processes to be completed and all required approvals to be in place. It is expected that this will result in EIS's for the other BMA BBCGP elements being provided as follows:

- Caval Ridge Mine: February-March 2008
- Goonyella Riverside Mine Expansion: July-August 2008
- Moranbah Airport: January-February 2010

1.4 The Environmental Impact Assessment Process

1.4.1 Methodology of the EIS

This EIS is structured as follows:

- **Section 1** provides an introduction, and summarises applicable legislation, approvals and objectives for the Project.
- **Section 2** provides an overview of the project need, the sustainability issues and alternatives considered for the Project.
- **Section 3** provides a detailed project description.
- **Sections 4 – 19** cover the various elements of the environment, describing the existing environment, addressing the potential impacts of the Project and the mitigation strategies proposed to limit the impacts to acceptable levels.
- **Section 20** summarises the cumulative impacts for the Project and the Bowen Basin Growth Project.
- **Section 21 and Appendix P** present a draft Environmental Management Plan (EM Plan) for the mine that describes management strategies to achieve acceptable environmental conditions and makes commitments about how impacts will be managed.
- Appendices with detail are provided along with additional sections of the EIS including the glossary, references and appendices.

1.4.2 Objectives of the EIS

The EIS has been prepared to inform decision makers, affected parties, interest groups and the public about potential environmental issues relating to the development and operation of the Project, and how these issues will be managed. The content of the EIS reflects issues identified in the Terms of Reference (ToR) issued by Department of Infrastructure and Planning (DIP).

This document will be made publicly available for comment, and submissions will be sought from individuals and organisations. After consideration of this EIS and submissions received, the DIP will review the Project to identify any uncertainties or omissions. A Supplementary Report may be prepared to cover any additional matters of concern and a final decision on the overall acceptability of the Project will be made on the basis of the information provided in the EIS, and if necessary, the Supplementary Report.

The Environmental Impact Assessment (EIA) process allows for community consultation and protects the environment by comprehensive consideration of potential impacts and management strategies. The DIP is responsible for coordinating the impact assessment process for this Project.

The objective of the EIA process is to ensure that all impacts, direct and indirect, particularly environmental, social and economic impacts are fully examined and addressed. The EIS aims to be a self-contained and comprehensive document that provides:

- for interested bodies and persons; a basis for understanding the Project, alternatives and preferred solutions, the existing environment that would be affected by the Project, the impacts that may occur, and the measures to be taken to mitigate all adverse impacts;
- for the DIP and the Advisory Bodies; a framework for assessing the impacts of the Project, in view of legislative and policy provisions; and
- for the Proponent; a definitive statement of measures or actions to be undertaken to mitigate any adverse impacts during and following the implementation of the Project. An Environmental Management Plan (EM Plan) is included in the EIS (**Appendix P**), describing potential impacts and environmental management strategies designed to meet agreed performance criteria.

This EIS aims to present sufficient detail to enable readers to judge the potential impacts of the Project on the environment and how those impacts might be managed. The EIS relates to the entire life of the Project including construction, operation, maintenance, and decommissioning even though this is at least 21 years away. The EIS enables reasonable economic and technically achievable conditions to be developed to reduce the social and environmental impacts of the Project to acceptable levels. The level of analysis and detail in the EIS reflects the level of significance of particular impacts.

1.5 Public Consultation Process and Submissions

Copies of the EIS will be submitted to the DIP. The DIP will distribute the EIS for public and Advisory Body review and comment. The EIS will be placed on public display at the offices of the Isaac Regional Council in Moranbah, and copies will be made available to interested persons. An electronic copy of the EIS is available for download from the internet. It is accessible through the DIP (<http://www.dip.qld.gov.au>) and BMA (<http://www.bmacoal.com>) websites.



1.5.1 Submissions

Any person, group or organisation can make a written submission about the EIS to the DIP. Such submissions do not have to relate to the whole of the EIS and may relate to any aspect. Persons making a submission do not have to be an expert in any of the issues assessed in the EIS.

EIS comments and submissions must be made in writing, signed and state the author's address. Submissions must be sent to the DIP within the comment period, as advertised in the public notice about the EIS.

All submissions, comments and enquiries regarding this EIS should be addressed to:

EIS Project Manager
BMA Bowen Basin Coal Growth Project
Significant Projects Coordination
Department of Infrastructure and Planning
PO Box 15009
CITY EAST QLD 4002
Tel: (07) 3224 2911 Fax: (07) 3225 8282
Email: bma_bowenbasincoal@dip.qld.gov.au

The DIP and Advisory Bodies will consider public submissions in making decisions in relation to the Project. The DIP will co-ordinate the consultation process between the Proponent and the Advisory Bodies and the public and collate and review all comments received on the EIS. The Proponent may then be required to prepare a Supplementary Report addressing the comments submitted by the Advisory Bodies and the public. At the conclusion of this process, the DIP will prepare an EIS Assessment Report on the EIS.

During the production of this EIS, members of the public and other interested parties were encouraged to participate in the planning process. Key information was distributed to the community through advertising, newsletters, fact sheets and static displays. Stakeholders and the community also interacted with the Project team through briefings, feedback forms, a community reference group and mobile displays, which travelled through the region. Over 750 people attended the mobile displays. The community's reaction to BMA's engagement process was generally positive and participants showed interest in the Project and BMA's overall growth. Community members emphasised the importance of their input in planning for further mine development and managing potential impacts. Responses from all parties have been collated and considered in the design of environmental and social plans and strategies.

1.6 Project Approvals

1.6.1 Relevant legislation and policy requirements

On 4 July 2008 the Coordinator-General (CG) declared the BMA Bowen Basin Coal Growth Project ("BMA BBCGP") a 'significant project' for which an Environmental Impact Statement (EIS) is required in accordance with Part 4 of the *State Development and Public Works Organisation Act 1971* (SDPWO Act). The ToR for the BMA BBCGP (**Appendix A**) sets out a phased process for assessing the environmental impacts of each element of the BMA BBCGP. The Daunia Project is the subject of this EIS, and is also the first element of the BMA BBCGP for which an EIS has been completed.



Accordingly, this EIS document has been drafted to satisfy the elements of the BMA BBCGP ToR published that are relevant to the Daunia Project.

The DIP will be responsible for the coordination of the EIA Process. The EIS will be on public display during November and December 2008.

At the end of the process, the CG will issue the 'Coordinator-General's Report' on the process and the environmental acceptability of the Project.

The Commonwealth Minister for the Environment (Department of Environment, Water, Heritage and the Arts or DEWHA) considered a referral assessment for the Daunia Coal Mine under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Commonwealth Minister determined on 22 September 2008 that the Daunia Project constitutes a 'controlled action' under Section 75 of the EPBC Act, as there is likely to be a significant impact on matters of 'national environmental significance'.

Key approvals required for the Project are summarised in **Table 1-2**.

Table 1-2 Key Approvals Required for the Project

| Legislation | Relevant Authority | Action/ Approval |
|--|--------------------|--|
| <i>Environment Protection and Biodiversity Conservation Act 1999</i> | DEWHA | Approval of the controlled action and EIS (under bilateral agreement) |
| <i>State Development and Public Works Organisation Act 1971</i> | DIP | Approval of the EIS |
| <i>Environment Protection Act 1994</i> | EPA | Approval of EM Plan and resulting Environmental Authority to operate the mine |
| <i>Vegetation Management Act 1999</i> | DNRW | Vegetation clearing |
| <i>Nature Conservation Act 1992</i> | EPA | Interference with species listed under the <i>Nature Conservation (Wildlife) Regulation 1994</i> |
| <i>Water Act 2000</i> | DNRW | Riverine Protection Permit to construct the haul road across New Chum Creek Licensing for bores constructed as part of the groundwater monitoring network |
| <i>Aboriginal Cultural Heritage Act 2003</i> | DNRW | Approval of Cultural Heritage Management Plan |

Note:

1. DEWHA – Department of Environment, Water, Heritage and the Arts
2. DIP - Department of Infrastructure and Planning
3. EPA - Environmental Protection Agency
4. DNRW - Department of Natural Resources and Water

The following Sections provide a summary of key legislation and policies relevant to the Project.

1.6.1.1 Environmental Protection Act 1994

Overview

The *Environmental Protection Act 1994* (EP Act), administered by the Queensland Environmental Protection Agency (EPA), was established "to protect Queensland's environment, while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends".

The EP Act uses a number of mechanisms to achieve its objectives. These include:

- granting of development permits for material change of use in relation to Environmentally Relevant Activities (ERAs);
- licensing or approving all ERAs;
- allowing for improvement through Environmental Management Programs (EMPs);
- issuing Environmental Protection Policies (EPPs);
- regulations; and
- creating a general environmental duty.

When deciding whether to grant or refuse an application for an environmental authority or deciding on the conditions of the authority, the Administering Authority must consider certain matters set out in the EP Act. One of those matters is the Standard Criteria as set out under the EP Act. The Standard Criteria includes addressing regulatory requirements, which is addressed in the following section. The Standard Criteria also include addressing the principles of Ecologically Sustainable Development as outlined in the National Strategy for Sustainable Development 1992. These issues are addressed in **Section 2.2**.

1.6.1.2 Environmentally Relevant Activities (ERAs)

ERAs are defined in the *Environmental Protection Regulations 1998* (EP Regulation) as those activities that have the potential to impact negatively on the environment. An Environmental Authority is required to carry out certain ERAs.

The Project requires an Environmental Authority (mining activities). The term “mining activities” is defined in Section 147 of the EP Act. This Project will involve the following types of mining activities defined in that section:

- mining under the *Mineral Resources Act 1989*;
- processing mined materials (i.e. coal);
- a number of activities directly associated with, or facilitating or supporting, the mining and processing activities (which, if they were not mining activities, would have been ERAs listed in the EP Regulation);
- rehabilitation / remediation; and
- actions taken to prevent environmental harm.

Under Section 201 of the EP Act, an EM Plan must be submitted to the administering authority with the application for an Environmental Authority (mining activities). The purpose of the EM Plan is to propose environmental protection commitments to help the administering authority prepare the draft environmental authority for the application. The EPA has prepared a Guideline (Number 8) for applicants about the format and content of an EM Plan. The EM Plan for the Project is presented in **Appendix P**.

In deciding whether to grant or refuse an application for an Environmental Authority or development permit the administering authority must consider (amongst other things) the Standard Criteria (as defined in Schedule 3 of the EP Act).

1.6.1.3 Environmental Protection Policies (EPPs)

EPPs are the means by which the State government declares and implements its objectives in relation to environmental protection – Section 25(1) of the EP Act. EPPs may include:

- background environmental quality standards;
- emissions standards; and
- monitoring procedures and requirements.

The EPPs provide a policy framework for the determination of appropriate conditions for development permits for material change of use and/or environmental authorities. EPPs are legally enforceable (EP Act Section 25(3)). Where relevant to particular environmental impacts, the matters required to be considered or procedures to be followed under the EPPs have been complied with in the preparation of this EIS.

The following EPPs have been released:

- Environmental Protection (Water) Policy 1997;
- Environmental Protection (Noise) Policy 1997;
- Environmental Protection (Air) Policy 1997; and
- Environmental Protection (Waste Management) Policy 2000.

1.6.1.4 Environmental Protection (Water) Policy 1997

The purpose of this policy is to achieve ecological sustainable development in relation to Queensland waters. It sets a framework for managing environmental impacts on water, the identification of environmental values and the guidelines needed to protect the water environment. The Australian and New Zealand Water Quality Guidelines (ANZECC 2000) are an example of guidelines which may be used to assess water quality in the existing environment and assist in the setting of environmental values and water quality objectives.

The Project will implement a water management system which will reuse water extensively on the site for dust suppression and processing in the CHPP. The Project will discharge water only rarely during the Project's life. The waste management hierarchy will be used to decide the preferred methods for dealing with waste waters – with preference to reuse, recycling, treatment and appropriate releases to land or surface waters only as a last resort.

1.6.1.5 Environmental Protection (Noise) Policy 1997

The purpose of this policy is to protect the quality of Queensland's acoustic environment. The EPP achieves this by:

- identifying environmental values that need to be protected;
- setting noise management goals;
- promoting good environmental management;
- educating the community about noise management; and
- implementing a flexible yet defined process for noise control.

The policy states that there is an acoustic quality objective to achieve an ambient level of 55 dB(A), or less for most of Queensland's population living in residential areas.

The construction and operation of the Project is not expected to exceed the noise level objectives given in the EPP (Noise) or EPA Guidelines. Modelling reported in the EIS indicates that no exceedances of noise will occur at any nearby sensitive receivers with the exception of the Olive Downs Homestead from around year 15. Mitigation measures are outlined in the EIS to minimise the impacts on this sensitive receiver.

Nearby residents will be warned when any planned atypical noise is likely to occur. A complaints register will be established and any complaints will be logged, necessary mitigation measures will be developed and implemented.

1.6.1.6 Environmental Protection (Air) Policy 1997

The purpose of this policy is to achieve the objectives of the EP Act in relation to Queensland's air environment by:

- identifying environmental values that need to be enhanced or protected;
- specifying air quality indicators and goals to protect environmental values; and
- providing a framework for:
 - making consistent and fair decisions about the management of the air environment; and
 - involving the community to achieve air quality goals that best protect Queensland's air environment.

No detrimental air contaminants are expected to be released into the atmosphere from the Project. Modelling reported in the EIS indicates that no degradation of air quality will occur at any nearby sensitive receivers. Deposited dust has the potential to generate some nuisance impacts at Olive Downs late in the mine life. Ongoing dust deposition monitoring (PM₁₀) will be undertaken to detect if the mine is generating potential nuisance impacts. Mitigation measures will be implemented to reduce the potential for air quality impacts at nearest sensitive receivers. A complaints register for dust contamination will be maintained. Should any complaints be registered, management strategies will be developed in accordance with the EPP for Air.

1.6.1.7 Environmental Protection (Waste Management) Policy 2000

The policy provides a strategic framework for managing waste in Queensland and provides the requirements for handling specific waste streams. The policy outlines the preferred waste management hierarchy and principles for achieving good waste management. The Waste EPP is based on principles of:

- polluter pays: all costs associated with waste management should be borne by the waste generator;
- user pays: all costs associated with the use of a resource should be included in the price of goods and services developed from that resource; and
- product stewardship: the producer or importer of a product should take all reasonable steps to minimise environmental harm from the production, use and disposal of the product.

The mitigation and management measures presented in the EIS conform with the principles of the policy.

1.6.1.8 Environmental Protection (Waste Management) Regulation 2000

The Waste Management Regulation includes:

- offences for littering, waste dumping, unlawful disposal of hypodermic needles and unlawful activities at waste facilities;
- a waste tracking system that tracks the movement of specific waste to ensure correct disposal;
- clinical and related waste management planning including segregation, storage and disposal;
- requirements for managing polychlorinated biphenyls; and
- design rules for waste equipment.

1.6.1.9 Dams Containing Hazardous Waste

Hazardous waste is defined in the '*Code of Environmental Compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste*' as "any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health". A dam contains hazardous waste if the contents exceed any of the criteria specified in an EPA Information Sheet entitled "*Determining dams containing hazardous waste*".

Dams containing hazardous waste must then be determined as either a 'low hazard dam' or a 'high hazard dam'. The differentiation is based on a range of factors including proximity to water supplies and dam surface area.

The holder of an Environmental Authority (mining activities) will be required to comply with specific conditions in the Environmental Authority and the requirements of the '*Code of Environmental Compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste*' if the operation includes a hazardous dam containing high hazard waste.

The dams that comprise the water management system at the Project will not constitute high hazard dams (there are no proposed tailings dams). However, it is likely that some will be classified as low hazard dams based on the quality of runoff water from disturbed areas. Therefore all designs and management of all sediment dams will comply with specific conditions that may be set out in the Environmental Authority governing low hazard dams.

1.6.1.10 General Environmental Duty

Section 319 of the EP Act establishes a duty for a person to take all reasonable and practicable measures to prevent or minimise environmental harm when carrying out an activity. The general environmental duty places a clear onus on operators of industrial sites to develop and implement measures for preventing or minimising environmental harm in relation to all activities, not just those classified as Environmentally Relevant Activities.

The EIS process seeks to ensure all environmental matters relating to the development are adequately addressed to minimise environmental harm.

1.6.1.11 Mineral Resources Act 1989

The *Mineral Resources Act 1989* provides for the assessment, development and use of mineral resources to the maximum extent practicable consistent with sound economic and land use management. The principal objectives of this Act include encouraging and facilitating mining of minerals and encouraging environmental responsibility in mining.

The Act also provides that the Governor in Council may grant a mining lease for all or any of the following purposes:

- (a) to mine the mineral or minerals specified in the lease and for all purposes necessary to effectually carry on that mining; and
- (b) such purposes, other than mining, as are specified in the mining lease and that are associated with, arising from or promoting the activity of mining.

The Act provides for the advertisement of an application for the grant of a mining lease, with a call for objections to the grant. At least 28 days is provided for the lodgement of objections. Valid objections may be heard in the Land Court. The Act also provides for the surrender of mining leases, and for the amendment of conditions of a mining lease.

No new Mining Leases are required for the Project.

1.6.1.12 Integrated Planning Act 1997

The purpose of the *Integrated Planning Act 1997* (IPA) is “to seek to achieve ecological sustainability by:

- coordinating and integrating planning at the local, regional and State levels;
- managing the process by which development occurs; and
- managing the effects of development on the environment (including managing the use of premises).

IPA establishes the framework for planning and development assessment in Queensland. The Act also established the Integrated Development Assessment System that calls up other related environmental and natural resource management legislation where appropriate.

There are no activities associated with the Project that fall under IPA jurisdiction. All activities will be carried on the Project mining leases. If required, BMA will submit Development Applications to the relevant local authority for any off lease activities requiring their approval. The Development Applications will be supported by this EIS and other information required to be provided with each application.

1.6.1.13 Water Act 2000

The *Water Act 2000* requires that a licence to take water be obtained if water is to be taken from sub-artesian aquifers (for other than stock or domestic purposes). The construction of groundwater bores is assessable development under Schedule 8 of the IPA. A licence is required under the *Water Act 2000* for works that interfere with the flow of water, such as a stream diversion.



Dams that are more than 8 m high and meet certain storage capacity criteria require a failure impact assessment under the *Water Act 2000*. If a dam has a category 1 or 2 failure impact rating, the dam is classified as a referable dam and is assessable development under Schedule 8 of the IPA.

There are no plans for any referable dams as part of the Project. Where necessary, BMA will apply for licenses for bores constructed for the groundwater monitoring network. The only water course, defined in the Act, that the Project interferes with is the haul road crossing of New Chum Creek. BMA has applied for a Riverine Protection Permit, under the Act to address this.

1.6.1.14 Aboriginal Cultural Heritage Act 2003

The *Aboriginal Cultural Heritage Act 2003* (ACH Act) aims to provide recognition and protection of Aboriginal and Torres Strait Islander cultural heritage.

Under the ACH Act, Aboriginal and Torres Strait Islander cultural heritage is protected through a duty of care for all persons to take reasonable and practical measures to avoid harming cultural heritage. Duty of care guidelines have been gazetted under the ACH Act, which sets out reasonable and practical measures for ensuring that the duty of care established under the ACH Act is met.

The ACH Act gives respect and empowerment to traditional owners to be directly involved in the assessment and management of their own cultural heritage. Traditional owners are able to register significant cultural heritage places, such as sacred sites, on a cultural heritage register administered by the Cultural Heritage Coordination Unit within the DNRW.

Major aspects of the ACH Act are:

- blanket protection of areas and objects of traditional and customary significance, as well as areas of archaeological significance;
- recognition of the key role of traditional owners in cultural heritage matters;
- establishment of practical and flexible processes to address cultural heritage in a timely and cost efficient manner;
- the replacement of cultural heritage permitting arrangements with the duty of care, the cultural heritage management planning process and other agreement based mechanisms; and
- increased penalties for harming Aboriginal and Torres Strait Islander cultural heritage.

The traditional owners Barada/Barna/Kabelbara/Yetimarala (BBKY) surveyed the Project Site in March-April 2008. No significant artefacts or sites were identified during this survey. However, BBKY will work with BMA to monitor major land disturbance activities to confirm this during construction. This will form part of the Cultural Heritage Management Plan (CHMP) that will be developed for the Project.

1.6.1.15 Queensland Heritage Act 1992

The *Queensland Heritage Act 1992* provides for the conservation and protection of places and items of historical and/or non-indigenous cultural heritage, i.e., all places that derive from the post-settlement history of Queensland. Under this Act, places and items must be entered into a Queensland Heritage Register in order to be protected. Substantial penalties may apply for damage to a place or items that has been entered

on the Register. At least one of the following criteria must be satisfied for entry onto the Register (Section 23 [1]):

- a) the place is important in demonstrating the evolution or pattern of Queensland's history;
- b) the place demonstrates rare, uncommon or endangered aspects of Queensland's heritage;
- c) the place has potential to yield information that will contribute to an understanding of Queensland's history;
- d) the place is important in demonstrating the principal characteristics of a particular class of cultural places;
- e) the place is important in exhibiting particular aesthetic characteristics valued by the community or a particular cultural group;
- f) the place is important in demonstrating a high degree of creative or technical achievement at a particular period;
- g) the place has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons; and
- h) the place has a special association with the life or work of a particular person, group or community of importance in Queensland's history.

The only European cultural heritage of significance on site is a grave site. BMA will discuss with any relatives, how the remains and the headstone should be removed. BMA propose that the remains will be reinterred at a nearby cemetery and that either the existing headstone or a new headstone will be placed with the remains.

1.6.1.16 Nature Conservation Act 1992

The *Nature Conservation Act 1992* and the *Nature Conservation (Wildlife) Regulation 1994* prohibit the taking or destruction, without authorisation, of certain listed flora and fauna species.

Species identified during the EIS relevant to this Act are discussed in **Section 8**.

1.6.1.17 Transport Infrastructure Act 1994

The *Transport Infrastructure Act 1994* (TIA) provides for the management of the national and State road network. A permit under the TIA is required to work in, or interfere with, a State-controlled road.

1.6.1.18 Forestry Act 1959

A permit to extract quarry material will be required under the *Forestry Act 1959* if such material is to be used during construction. A permit is not required, however, if material is extracted from a mining lease and used to construct roads on a mining lease. There is currently no requirement for quarrying activities off the Project Site mining leases.

1.6.1.19 Environmental Protection and Biodiversity Conservation Act 1999

The *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) prescribes the Commonwealth's role in environmental assessment, biodiversity conservation and the management of



protected areas. The Act identifies six matters of national environmental significance. The Act requires assessment and approval for any activity that has, or is likely to have, a significant impact on a matter of national environmental significance. Such an activity is deemed to be a 'Controlled Action'. It is an offence to undertake a 'Controlled Action' without the approval of the Commonwealth Minister for Environment and Heritage.

The Proponent referred the Project to the Commonwealth Department of Environment, Water, Heritage and the Arts (DEWHA) with a recommendation that the Project was a 'controlled action', because of its potential impact on a matter of 'national environmental significance'. On 22 September 2008 the DEWHA determined that the Project was a 'controlled action'; the controlling provisions being Section 18 and 18A, 'Listed threatened species and communities'.

As a consequence of this decision, the Project triggered the impact assessment provisions of the EPBC Act. The Commonwealth has accredited the EIS process under the EP Act, pursuant to Section 87(1)(a) of the EPBC Act. This will enable the EIS to meet the impact assessment requirements under both the Commonwealth and State legislation.

Therefore, this EIS satisfies the impact assessment requirements of all relevant State and Commonwealth statutes for this Project.

1.6.2 Planning processes and standards

The *Integrated Planning Act 1997* (IPA) establishes the framework for planning and development assessment in Queensland. Schedule 9 of IPA exempts activities authorised under the *Mineral Resources Act 1989* and all aspects of development for a mining activity to which an environmental authority (mining activities) under the *Environmental Protection Act 1994* from assessment against a planning scheme.

Regardless of the exemptions of the mining activities from IPA, an assessment of the Project has been undertaken against the State Planning Policies and the Whitsunday Hinterland and Mackay (WHAM) Regional Plan. Also considered are the Shire of Broadsound Planning Scheme 2005 and the Shire of Nebo Planning Scheme 2000. Although the Project is predominantly located in the former Broadsound Shire area, a small part of the lease and mining areas are located in the former Nebo Shire area. An assessment of the Project against the provisions of these policies, plans and schemes is provided in the following sections to identify relevant land use planning issues.

1.6.2.1 State Planning Policies

State Planning Policies (SPP) are statutory planning instruments that relate to matters of State interest. These policies must be considered in the assessment of relevant development applications lodged under IPA. They are addressed in **Table 1-3**.

Table 1-3 State Planning Policies

| State Planning Policy | Response |
|---|--|
| SPP 1/03 Guideline: Mitigating the Adverse Impacts of Flood, Bushfire and Landslide | This SPP aims to minimise the potential adverse impacts of flood, bushfire and landslide on people, property, economic activity and the environment. Hazards and risks are addressed in Section 19 . Management of surface water is addressed in Section 6 . |

| State Planning Policy | Response |
|--|---|
| SPP 1/02 Development in the Vicinity of Certain Airports and Aviation Facilities | This SPP sets out broad principles for protecting airports and aviation facilities considered essential for the State's transport infrastructure or the national defence system. There no airports located in close proximity to the mining lease area. |
| SPP 2/02 Planning and Management of Coastal Development Involving Acid Sulphate Soils | This SPP applies to coastal areas of Queensland. As the land involved in the Project is not coastal land this SPP will not apply. |
| SPP 1/97 Conservation of Koalas in the Koala Coast | This SPP addresses the conservation of koalas in a defined area of South-East Queensland. This SPP does not relate to the Project Site. |
| SPP 1/92 Development and the conservation of Good Quality Agricultural Land | This SPP seeks to protect good quality agricultural land from subdivision into uneconomic units and to minimise the potential for land use conflicts between agricultural and non-agricultural land uses. A provision for 'over-riding need in terms of public benefit' exists within the policy and is applicable for the proposed development. The project will generate employment (up to about 350 jobs). The coal produced from the mine will also increase Queensland's export earnings. This EIS addresses the potential impact of the Project on the protection of good quality agricultural land in Section 4 . |
| State Coastal Management Plan – Queensland's Coastal Policy 2001 (Has effect of a SPP) | The State Coastal Management Plan seeks to protect and manage Queensland's coastal resources and processes, and applies within the coastal zone. Isaac Regional Council, and the former Broadsound and Nebo Shire areas, are local government areas that either include coastlines or have catchments flowing to the coast. While the Project Site would not include coastal resources, the water quality of waterways flowing to the coast is relevant to coastal resources and coastal processes. This EIS addresses the potential impact of the Project on water quality in Section 6 . |
| SPP 1/07 Housing and Residential Development | This SPP seeks to ensure that large, higher growth local governments identify their community's housing needs. This SPP is not directly relevant to the Project. |
| SPP 2/07 Protection of Extractive Resources | This SPP identifies extractive resources of State or regional significance to ensure their protection from development. This SPP is not relevant to the Project. |

1.6.2.2 Regional Planning Provisions

1.6.2.3 WHAM 2015 Regional Plan

The Whitsunday Hinterland and Mackay (WHAM) Regional Plan was endorsed by the State Government in early 2005. The region covers the former local government areas of Bowen, Whitsunday, Mackay, Sarina, Mirani, Nebo, Broadsound and Belyando. The WHAM Regional Plan is a non-strategic planning document that provides a framework for guiding the development and management of the region over the next 15-20 years. The plan assists government, industry and community planning and development decision-making.

The regional plan relies on voluntary implementation and cooperation by state and local government, in cooperation with business, industry and the community. It lists regional issues, goals and strategies and contains a regional structure plan.

The vision for the region is “*The WHAM Region is distinguished as a unique and vibrant region in its own right, blessed with beauty and natural and human wealth that provides the greatest possible long term social, economic and environmental benefit for residents, visitors and future generations.*” Supporting the vision is an integrated suite of outcomes that detail more specific desired future outcomes for the region. The themes for the outcomes are:

- regional identity, leadership and management;
- environment and natural resources;
- economic development;
- social infrastructure;
- settlement pattern;
- infrastructure; and
- transport.

Table 1-4 addresses the relevant WHAM Goals and provides a response in relation to the Project.

Table 1-4 WHAM Goals and Responses

| WHAM Goal | Response |
|--|--|
| <p>Regional Identity, Leadership and Management This goal relates to establishing a recognisable regional identity, improving collaborative planning and management, building leadership capacity and securing investment and resourcing.</p> | <p>Most of these requirements are unaffected by the proposed development. The mine represents a substantial investment in the region.</p> |
| <p>Environment and Natural Resources This goal encompasses conserving biodiversity, preserving scenic beauty, sustainable natural resource use, sustainable land and mineral use, water and floodplain management. It also addresses natural disaster management and climate change.</p> | <p>The impacts on terrestrial ecology are assessed in Section 8. The visual impacts are assessed in Section 4. The flooding impacts and water management are assessed in Section 6. Natural disaster management is addressed in Section 19. Climate change is addressed in Section 11. An environmental management plan (EM Plan) has been prepared for the development and is included as Appendix P. Rehabilitation at the end of the mine’s life will return the site to a mosaic of self sustaining vegetation communities and grazing land using appropriate native tree, shrub and grass species, and improved pasture species as appropriate.</p> |
| <p>Economic Development The economic goals seek to achieve a diverse and sustainable regional economy supported by adequate infrastructure with integrated marketing, promotion and economic development.</p> | <p>The proposed development will help strengthen the economic value of the existing mining industry and help maintain and enhance employment and investment in the area. Economic impacts are assessed in Section 18.</p> |
| <p>Social Infrastructure The social infrastructure goals seek to improve community involvement, social infrastructure and the social environment, ensure assessment of social impacts, promoting and facilitating the development of diverse cultures, and recognising and protecting indigenous and non-indigenous cultural heritage, and Native Title rights.</p> | <p>Social impacts of the proposal are discussed in Section 17. Indigenous and non-indigenous cultural heritage management is discussed in Section 15. Native Title is addressed in Section 4.</p> |

| WHAM Goal | Response |
|---|---|
| <p>Settlement Pattern The settlement pattern goals relate to a regional approach to urban centres, urban form and structure, urban character and design, housing affordability and development of rural communities.</p> | <p>The proposed development will help maintain and enhance employment in the region, especially in the townships of Nebo, Coppabella and Moranbah.</p> |
| <p>Infrastructure The infrastructure goals seek to ensure a coordinated, efficient and cost effective approach to infrastructure provision including water, sewerage, waste, energy and communication.</p> | <p>The Project supports a coordinated approach to the provision of relevant infrastructure in the region.</p> |
| <p>Transport The transport goals seek to ensure an integrated approach to the provision of transport networks including road, rail, air and water.</p> | <p>The Project will utilise existing transport infrastructure on the Peak Downs Highway. Coal from the mine will be transported to the Port using existing rail facilities. This provides efficient use of existing infrastructure. Transport and infrastructure is found in Section 13.</p> |

The WHAM Regional Plan identifies coal mining as a major economic activity in the Bowen Basin, stating that accessibility to the region's coal reserves should be maintained. Moranbah is identified as a Sub-Regional Centre, Coppabella is identified as a Village and Nebo is identified as a Town. The employment generated from the Project will help consolidate this role for these towns.

The plan also states that the region's agricultural land needs to be protected. Dry land agriculture is identified as a major industry within the area. The proposed development will result in the loss of land for agriculture. However the impact of this on the intent of the WHAM Regional Plan is considered minor, given the relatively small area affected by the Project, compared with the area of good quality agricultural land in the region.

1.6.2.4 Local Council Planning Schemes

The local authority amalgamations in March 2008 combined Nebo, Broadsound and Belyando Shires into the Isaac Regional Council. The planning schemes associated with the former Shires are yet to be amended or amalgamated.

Broadsound Shire Planning Scheme

The Broadsound Shire Planning Scheme (Broadsound Plan) was adopted in 2005 and does not apply to the Project's mining leases. The Broadsound Plan does apply to new developments in the former Broadsound Shire area that are not on the mining leases. The Plan has incorporated the relevant SPPs in relation to good quality agricultural land, aviation facilities, acid sulphate soils, bushfire and landslide and coastal management.

The mining lease area in Broadsound Shire is identified as mostly low risk of bushfire hazard with some areas of medium risk. Hazards and risks are identified in **Section 19**.

The site is identified as rural land with attributes relating to good quality agricultural land (southern part of site, coal resources and key resource area. The Project is consistent with the coal resource and key resource area attributes. Impacts on good quality agricultural land are addressed in detail in **Section 4**.



Nebo Shire Planning Scheme

The Nebo Shire Planning Scheme does not apply to the Project's mining leases. The Planning Scheme does apply to new developments in Nebo Shire that are not on the mining leases. The Planning Scheme for the Shire of Nebo was adopted in February 2008. This Planning Scheme has incorporated SPPs in relation to good quality agricultural land and bushfire and landslide hazards.

Only a small part of the Project lies within the former Nebo Shire area and therefore any impacts would be minimal.