Peabody ENERGY

SECTION 6

PLANNING FRAMEWORK AND PROJECT JUSTIFICATION

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6 PLANNING FRAMEWORK AND PROJECT JUSTIFICATION

This section outlines the requirements and application of Commonwealth and State legislation as well as state environmental planning policies (SEPPs), LEPs and relevant strategic planning documents to the Project. The Project will be assessed in accordance with the framework established by the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act), the NSW *Environmental Planning and Assessment Regulation, 2000* (EP&A Regulation) and the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act).

This section also provides a description of the need for and objectives of the Project and a justification of the carrying out of the Project in the manner proposed.

6.1 EXISTING APPROVALS AND REGULATORY CONTROLS

A general description of the approvals history of the Wilpinjong Coal Mine is provided in Section 2.2.

Key approvals and documentation pertaining to the existing Wilpinjong Coal Mine include:

- Project Approval 05-0021 approved by the NSW Minister for Planning in February 2006, as amended by subsequent modifications (Section 2.2).
- ML 1573 issued under the NSW *Mining Act, 1992* (Figure 1-4).
- EPL 12425 issued by the EPA under the NSW *Protection of the Environment Operations Act, 1997* (PoEO Act).
- Wilpinjong Coal Mine MOP approved by the DRE for the period 30 April 2014 to 29 April 2019 (as amended in November 2014) under the conditions of ML 1573.
- Various licences for the extraction of groundwater issued under Part 5 of the NSW *Water Act, 1912* by the DPI Water (Attachment 6).
- Various groundwater licences for monitoring bores issued under Part 5 of the NSW *Water Act, 1912* by the DPI Water (Attachment 6).
- WAL 21499 under the NSW *Water Management Act, 2000* for extraction within the alluvial aquifer in the Wollar Creek Water Source (Attachment 6).
- Mining and occupational health and safety related approvals granted by the DRE and WorkCover NSW (including Explosives Licence number XSTR200024).
- NSW *Radiation Control Act, 1990* Registration, licence number 5061384.
- EL 6169 and EL 7091 issued under the NSW *Mining Act, 1992*.

A register of current licences, permits and approvals is maintained on-site by WCPL, and a summary of current approvals is presented in the Annual Review that is available at the Peabody Energy website domain:

http://www.peabodyenergy.com/content/427/Australia-Mining/New-South-Wales/Wilpinjong-Mine/Approvals-Plans-and-Reports-Wilpinjong-Mine

Existing environmental management, monitoring, mitigation and reporting measures that are implemented in accordance with the existing Wilpinjong Coal Mine approvals are described in Sections 4 and 7, where relevant.

Peabody Energy undertakes exploration activities in the surrounding area in accordance with relevant exploration tenements (listed above) and associated approvals from the DRE.

6.2 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

The EP&A Act and EP&A Regulation set the framework for planning and environmental assessment in NSW. Approval for the Project will be sought under the State Significant Development provisions (Division 4.1) of Part 4 of the EP&A Act.

Consideration of the Project against the objects of the EP&A Act is provided in Section 6.7.5.

6.2.1 Permissibility and Requirement for Development Consent

The Development Application area is located within the Mid-Western Regional LGA, which is covered by the *Mid-Western Regional Local Environmental Plan 2012* (Mid-Western Regional LEP).

The Development Application area includes land zoned under the Mid-Western Regional LEP as (Figure 6-1):

- E3 – Environmental Management.
- R5 – Large Lot Residential.
- RU1 – Primary Production.
- SP2 – Infrastructure.

Open cut mining is permissible with consent in zones E3 and RU1. In respect of zones R5 and SP2, the effect of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (Mining SEPP) is that notwithstanding any prohibition contained in the land use tables of the Mid-Western Regional LEP for these zones, development for the purpose of open cut mining may be carried out with development consent (Attachment 5).

The Project includes the relocation of the TransGrid Wollar to Wellington 330 kV ETL (Section 2.6.3).

The *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP) provides that development for the purpose of an electricity transmission network may be carried out by or on behalf of an electricity supply authority (TransGrid) without consent.

Section 89E(4) of the EP&A Act provides:

> *(4) If part of a single proposed development that is State significant development requires development consent to be carried out and the other part may be carried out without development consent:*
>
> *(a) Part 5 does not apply to that other part of the proposed development, and*
>
> *(b) that other part of the proposed development is taken to be development that may not be carried out except with development consent.*

Therefore, the relocation of the TransGrid Wollar to Wellington 330 kV ETL may form part of the Development Application under the State Significant Development provisions (Division 4.1) under Part 4 of the EP&A Act and does not require separate assessment under Part 5 of the EP&A Act.

6.2.2 Application of State Significant Development (Division 4.1) of Part 4 of the Environmental Planning and Assessment Act, 1979

Development Consent for the Project will be sought under the State Significant Development provisions (Division 4.1) under Part 4 of the EP&A Act. It is proposed to surrender the existing Wilpinjong Coal Mine Project Approval 05-0021 if the Project is approved with conditions satisfactory to the Proponent.

Under section 89C of the EP&A Act a class of development such as mining may be declared as State Significant Development.

Clause 8 of the *State Environmental Planning Policy (State and Regional Development) 2011* (State and Regional Development SEPP) provides that the development is declared to be State Significant Development for the purposes of the EP&A Act if:

- the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the EP&A Act; and
- the development is specified in Schedule 1 or 2.

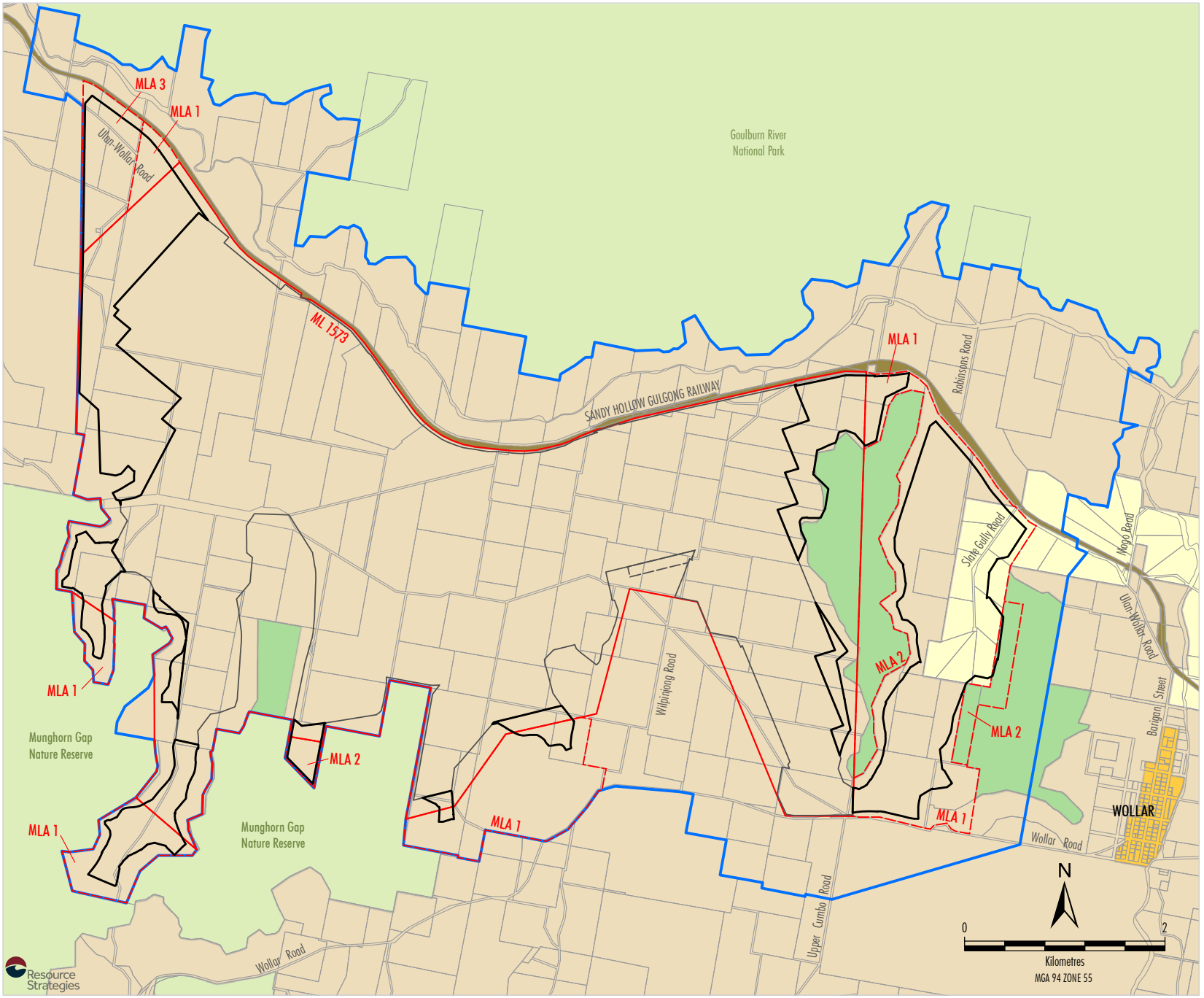
Pursuant to clause 7 of the Mining SEPP the Project is permissible with development consent under Part 4 of the EP&A Act.

Clause 5 of Schedule 1 of the State and Regional Development SEPP states:

> ***5 Mining***
>
> *(1) Development for the purpose of mining that:*
>
> *(a) is coal or mineral sands mining …*

The Project is development for the purpose of coal mining (Section 2) and therefore is State Significant Development for the purposes of the EP&A Act.

In accordance with section 89D of the EP&A Act, the NSW Minister for Planning (the Minister) is the consent authority for the Project.



LEGEND

- Development Application Area
- Mining Lease Boundary
- Mining Lease Application Boundary
- Approved/Existing Open Cut and Contained Infrastructure Area
- Relocated Block Bank and Cumbo Creek Disturbance Area
- Proposed Open Cut Extension Area

Land Zoning

- E1 National Parks and Nature Reserve
- E3 Environmental Management
- R5 Large Lot Residential
- RU1 Primary Production
- RU5 Village
- SP2 Infrastructure

Source: WCPL (2015); NSW Dept of Industry (2015); NSW Land & Property Information (2015)

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Relevant Mid-Western Regional LEP Zoning

Figure 6-1

6.2.3 Approvals and Authorisations that are not Required for State Significant Development

Section 89J(1) of the EP&A Act outlines the authorisations that are not required for a State Significant Development consented under Division 4.1 of Part 4. These authorisations are those ordinarily required under the following NSW legislative provisions:

- The concurrence under Part 3 of the *Coastal Protection Act, 1979* of the Minister administering that Part of that Act.
- A permit under section 201, 205 or 219 of the NSW *Fisheries Management Act, 1914* (FM Act).
- Division 8 of Part 6, an approval under Part 4, or an excavation permit under section 139 of the *Heritage Act, 1977*.
- An Aboriginal heritage impact permit under section 90 of the *National Parks and Wildlife Act, 1974* (NPW Act).
- An authorisation referred to in section 12 of the *Native Vegetation Act, 2003* (or under any Act repealed by that Act) to clear native vegetation or State protected land.
- A bushfire safety authority under section 100B of the *Rural Fires Act, 1997*.
- A water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the *Water Management Act, 2000*.

6.2.4 Other Approvals and Legislation that must be Applied Consistently for State Significant Development

Section 89K of the EP&A Act outlines the authorisations that cannot be refused if they are necessary for the carrying out of an approved State Significant Development under Division 4.1, and provides that those authorisations are to be substantially consistent with the Division 4.1 development consent.

These authorisations are of the following kind:

- An aquaculture permit under section 144 of the FM Act.
- An approval under section 15 of the *Mine Subsidence Compensation Act, 1961*.
- A mining lease under the *Mining Act, 1992*.
- A production lease under the *Petroleum (Onshore) Act, 1991*.
- An EPL under Chapter 3 of the PoEO Act (for any of the purposes referred to in section 43 of that Act).
- A consent under section 138 of the *Roads Act, 1993*.
- A licence under the *Pipelines Act, 1967*.

6.2.5 Environmental Impact Statement Required for State Significant Development

Section 78A(8A) of the EP&A Act specifies that a Development Application for State Significant Development is to be accompanied by an EIS prepared by or on behalf of the applicant in the form prescribed by the regulations.

Clause 6 of Schedule 2 of the EP&A Regulation describes the required form of an EIS:

> *An environmental impact statement must contain the following information:*
>
> *(a) the name, address and professional qualifications of the person by whom the statement is prepared,*
>
> *(b) the name and address of the responsible person,*
>
> *(c) the address of the land:*
>
> *(i) in respect of which the development application is to be made, or*
>
> *(ii) on which the activity or infrastructure to which the statement relates is to be carried out,*
>
> *(d) a description of the development, activity or infrastructure to which the statement relates,*
>
> *(e) an assessment by the person by whom the statement is prepared of the environmental impact of the development, activity or infrastructure to which the statement relates, dealing with the matters referred to in this Schedule,*

(f) a declaration by the person by whom the statement is prepared to the effect that:

(i) the statement has been prepared in accordance with this Schedule, and

(ii) the statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and

(iii) that the information contained in the statement is neither false nor misleading.

This EIS contains the information outlined above, including the address of relevant lands (Attachment 3) and the name, address, professional qualifications and declaration of the person by whom the EIS has been prepared in consideration of the requirements of Schedule 2 of the EP&A Regulation (refer inside front cover of Volume 1).

Clause 7 of Schedule 2 of the EP&A Regulation describes the required content of an EIS. Table 1-3 provides a reconciliation of each requirement in subclause (1) and the relevant section of this EIS where the information is provided.

Subclause (2) of clause 7 of Schedule 2 of the EP&A Regulation indicates that the requirements set out in subclause (1) (Table 1-3) are subject to the environmental assessment requirements that relate to the EIS.

The Project SEARs that set out the environmental assessment requirements in accordance with clause 3 of Schedule 2 of the EP&A Regulation are provided in Attachment 1 and summarised in Table 1-2.

6.2.6 Documents to Accompany Development Application

Subclauses 2(1) to 2(3) of Schedule 1 of the EP&A Regulation describe documentation that is required to accompany a Development Application. This EIS satisfies relevant documentation requirements outlined by these subclauses.

Clause 50A of the EP&A Regulation requires that for 'mining and petroleum development' (within the meaning of Part 4AA of the Mining SEPP) that is on land shown on the Strategic Agricultural Land Map (or on any other land that is the subject of a site verification certificate and not located on mapped critical industry cluster land), the Development Application must be accompanied by either a current Gateway Certificate or a Site Verification Certificate that certifies that the land on which the proposed development is to be carried out is not Biophysical Strategic Agricultural Land.

The Project is not located on mapped critical industry cluster land under the Mining SEPP. A Site Verification Certificate was issued by the Secretary of the DP&E on 17 October 2014 verifying that the open cut extensions associated with the Project are not located on Biophysical Strategic Agricultural Land and is provided in Attachment 10.

6.2.7 Public Notification of the Development Application

In accordance with clause 49(1) of the EP&A Regulation, a Development Application may be made by the owner of the land to which the Development Application relates, or by any other person, with the consent in writing of the owner of that land. Alternatively, clause 49(2) of the EP&A Regulation provides:

Subclause (1) (b) does not require the consent in writing of the owner of the land for a development application made by a public authority or for a development application for public notification development if the applicant instead gives notice of the application:

(a) by written notice to the owner of the land before the application is made, or

(b) by advertisement published in a newspaper circulating in the area in which the development is to be carried out no later than 14 days after the application is made.

The Project is public notification development as it falls within clause 5 of Schedule 1 of the State and Regional Development SEPP (Section 6.2.2), and therefore the Development Application will be notified in accordance with clause 49(2)(b) of the EP&A Regulation.

Clauses 49(3) and 49(4) of the EP&A Regulation provide:

> *(3) Despite subclause (1), a development application made by a lessee of Crown land may only be made with the consent in writing given by or on behalf of the Crown.*
>
> *…*
>
> *(4) Subclause (3) does not require the consent of the Crown if the development application is for State significant development made by a public authority or public notification development.*

Although WCPL holds special leases for several portions of Crown land within the Development Application area, given that the Project is a public notification development, the consent of the Crown is not required for the Development Application.

Clause 49(3A) of the EP&A Regulation provides:

> *(3A) Despite subclause (1), a development application made in respect of land owned by a Local Aboriginal Land Council may be made by a person referred to in that subclause only with the consent of the New South Wales Aboriginal Land Council.*

Searches have identified that there are no Aboriginal land claims that have been determined over the Project Development Application area.

6.2.8 Division 6 Development Contributions

Planning Agreements

Subdivision 2, section 93F of the EP&A Act describes voluntary planning agreements that may be entered into between a planning authority and a proponent/developer (including a proponent who has made, or proposes to make a Development Application) under which the developer is required to dedicate land free of cost, pay a monetary contribution, or provide any other material public benefit, or any combination of them, to be used for or applied towards a public purpose.

Section 93F(2) indicates that a public purpose includes any of the following:

- the provision of (or the recoupment of the cost of providing) public amenities or public services, affordable housing, transport or other infrastructure relating to land;
- the funding of recurrent expenditure relating to the provision of: public amenities or public services; affordable housing or transport; or other infrastructure;
- the monitoring of the planning impacts of development; and
- the conservation or enhancement of the natural environment.

WCPL already makes community infrastructure contributions to the MWRC in accordance with the Wilpinjong Coal Mine Planning Agreements and Project Approval 05-0021.

It is expected that, as with other recent major coal mining projects in NSW, a voluntary planning agreement would either be negotiated prior to determination of the Project, or would be required by the Project Development Consent. Any such planning agreement would be negotiated between WCPL and the MWRC.

WCPL has commenced negotiations on the Project Voluntary Planning Agreement with the MWRC (in consideration of relevant guidance material published by the NSW Government) (Section 3.1.3).

Under section 93I of the EP&A Act, the Minister (or delegate) can only impose a condition of consent requiring a planning agreement to be entered into if it is in the terms of an offer made by the applicant, in connection with the Development Application.

Local Infrastructure Contributions

Subject to any exclusions or inclusions with respect to section 94 of the EP&A Act in any Project voluntary planning agreement (refer discussion above), the Minister may grant development consent to the Project subject to a condition requiring contributions under either section 94 or section 94A of the EP&A Act.

Contributions under section 94 can only be required in circumstances where the development will or is likely to require the provision of, or increase the demand for, public amenities or services within the area.

For the Project, the Minister (or delegate) may impose a condition under section 94 or section 94A that is not authorised by or determined in accordance with an applicable contributions plan, as long as the consent authority has regard to any relevant contributions plan (as provided by section 94B[2]).

The Project Development Application area is located wholly within the Mid-Western Regional LGA. The MWRC has a *Section 94 Development Contributions Plan 2005 - 2021* (Andrews Neil Pty Ltd, 2014) and a *Section 94A Development Contributions Plan 2005 - 2021* (Andrews Neil Pty Ltd, 2009) that may be of relevance to the consent authority's consideration of contributions.

6.3 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT, 1999

The EPBC Act defines proposals that are likely to have a significant impact on a matter of national environmental significance as a 'controlled action'. Proposals that are, or may be, a controlled action are required to be referred to the Commonwealth Minister for the Environment for a determination as to whether or not the action is a controlled action.

Matters of national environmental significance include:

- world heritage properties;
- wetlands listed under the Ramsar Convention;
- listed threatened species and ecological communities;
- listed migratory species protected under international agreements;
- nuclear actions;
- the Commonwealth marine environment;
- national heritage places; and
- water resources, in relation to coal seam gas development and large coal mining developments.

The Wilpinjong Coal Project was referred to the Department of Environment in 2005, and was determined as 'not a controlled action' (EPBC 2005/2309).

The proposed action to extend open cut coal mining and processing operations at the Wilpinjong Coal Mine was referred to the Commonwealth Minister in February 2015 (EPBC 2015/7431).

A delegate of the Commonwealth Minister determined on 12 March 2015 that the proposed action is a 'controlled action' for the purposes of the EPBC Act due to potential impacts on the following controlling provisions under Part 3 of Chapter 2 of the EPBC Act:

- listed threatened species and communities (sections 18 and 18A); and
- a water resource, in relation to coal seam gas development and large coal mining developments (sections 24D and 24E).

The delegate of the Commonwealth Minister also determined on 12 March 2015 that the proposed action is to be assessed under the assessment bilateral agreement with the NSW Government.

The Commonwealth of Australia and the State of NSW governments signed a bilateral agreement (Bilateral Agreement) in February 2015 which accredits the NSW assessment regime under Part 4 of the EP&A Act for assessment purposes under the EPBC Act.

Clause 3.2 of Schedule 1 of the Bilateral Agreement states:

> ***3.2 Guidelines or Directions***
>
> *…*
>
> *(b) In addition to standard guidelines and directions, the NSW Minister, the Secretary, the consent authority or the determining authority must issue guidelines to proponents of controlled actions that are design to ensure that material prepared by the proponent as part of the assessment:*
>
> *(i) contains an assessment of all impacts that the action has, will have or is likely to have on each matter protected by a provision of Part 3 of the EPBC Act;*
>
> *(ii) contains enough information about the controlled action and its relevant impacts to allow the Commonwealth Minister to make an informed decision whether or not to approve the controlled action under the EPBC Act; and*
>
> *(iii) addresses the matters outlined in Schedule 4 of the Environment Protection and Biodiversity Conservation Regulations 2000 (Cth).*

The SEARs for the Project were issued on 9 December 2014 and 22 June 2015 (Attachment 1). Attachment 2 of the SEARs requires information about the controlled action and its relevant impacts, and the matters outlined in Schedule 4 of the Commonwealth *Environment Protection and Biodiversity Conservation Regulations, 2000* to be addressed in this EIS.

A summary of the SEARs is provided in Table 1-2, as well as the relevant section of the EIS where the SEARs are addressed.

In addition, a summary and index indicating where the supplementary SEARs have been addressed in the EIS is provided in Attachment 2.

The Project will be assessed in accordance with the Bilateral Agreement and will require approval under both the EP&A Act and the EPBC Act.

Consideration of the Project against the objects of the EPBC Act is provided in Section 6.7.6.

6.4 OTHER APPLICABLE STATUTORY APPROVALS

The following approvals must be obtained before the Project may commence:

- Development Consent issued under the EP&A Act, and any relevant secondary approvals under the Development Consent conditions (e.g. management plans) (Section 6.2);
- approval of the action (EPBC 2015/7431) under sections 130(1) and 133 of the EPBC Act, and any relevant secondary approvals under the approval conditions (e.g. management plans) (Section 6.3);
- additional mining lease(s) issued under the NSW *Mining Act, 1992*, and any relevant secondary approvals under the mining lease conditions (e.g. MOP) (Section 6.4.1);
- variation of EPL 12425 under the PoEO Act (Section 6.4.1); and
- water licences under the NSW *Water Act, 1912* and the NSW *Water Management Act, 2000* for groundwater and surface water extraction, where applicable (Attachment 6).

6.4.1 NSW Approvals

The following NSW Acts may be applicable to the Project:

- *Aboriginal Land Rights Act, 1983;*
- *Contaminated Land Management Act, 1997;*
- *Crown Lands Act, 1989;*
- *Dams Safety Act, 1978;*
- *Dangerous Goods (Road and Rail Transport) Act, 2008;*
- *Electricity Supply Act, 1995;*
- FM Act*;*
- *Heritage Act, 1977;*
- *Mining Act, 1992;*
- NPW Act;
- *Native Title (New South Wales) Act, 1994;*
- *Native Vegetation Act, 2003;*
- *Noxious Weeds Act, 1993;*
- *Petroleum (Onshore) Act, 1991;*
- *Pipelines Act, 1967;*
- PoEO Act;
- *Roads Act, 1993;*
- *Threatened Species Conservation Act, 1995* (TSC Act);
- *Water Act, 1912;*
- *Water Management Act, 2000;*
- *Work Health and Safety Act, 2011;* and
- *Work Health and Safety (Mines) Act, 2013.*

Relevant licences or approvals required under these Acts would be obtained for the Project as required.

Additional detail on the likely Project requirements under the *Mining Act, 1992*, *Crown Lands Act, 1989*, PoEO Act, *Roads Act, 1993*, *Water Management Act, 2000*, *Water Act, 1912*, *Dams Safety Act, 1978* and NPW Act are provided in the sub-sections below.

Mining Act, 1992

The objects of the *Mining Act, 1992* are to encourage and facilitate the discovery and development of mineral resources in NSW, having regard to the need to encourage ESD.

Mining Tenements

WCPL is the applicant for the Development Application for the Project.

WCPL is also the holder of ML 1573, EL 6169 and EL 7091 for Group 9 minerals (Coal) over all relevant land where mining for coal is proposed to be carried out for the Project. Therefore, there is no impediment under section 380AA of the *Mining Act, 1992* to WCPL making the Development Application.

WCPL has lodged MLA 510 (shown as 'MLA 1 on Figure 6-1) and MLA 515 (shown as 'MLA 2' on Figure 6-1) over portions of the Project open cut extension and infrastructure areas. WCPL will lodge other mining lease application(s) separately with the DRE (within the NSW Department of Industry) for the remaining relevant portions of the Project.

Under section 89K(1)(c) of the EP&A Act, if the Project is approved as State Significant Development, mining leases granted under the *Mining Act, 1992* that are required for carrying out the Project cannot be refused and are to be substantially consistent with any Development Consent granted under Division 4.1 of Part 4 of the EP&A Act.

Mining Operations Plan

Under the *Mining Act, 1992*, environmental protection and rehabilitation are regulated by conditions included in all mining leases, including requirements for the submission of a MOP prior to the commencement of operations, and subsequent AEMRs (submitted with Annual Reviews).

All mining operations must be carried out in accordance with the MOP which has been prepared to the satisfaction of DRE. The MOP describes site activities and the progress toward environmental and rehabilitation outcomes required under mining lease conditions and development consent conditions under the EP&A Act and other approvals.

The MOP, together with environmental conditions of other approvals, forms the basis for ongoing adaptive management of mining operations and their environmental impacts (DoP, 2008). The MOP must apply best available practice and technology to mine operations and include strategies to control identified environmental risks (DoP, 2008).

Crown Lands Act, 1989

The *Crown Lands Act, 1989* aims to ensure that Crown land is managed for the benefit of the people of NSW including environmental protection, conservation of natural resources, public use and enjoyment of such land.

For all relevant Crown land directly affected by the Project, WCPL would enter into necessary leases or licences under the *Crown Lands Act, 1989* and/or reach agreements under section 265 of the *Mining Act, 1992* to allow Project mining activities to occur.

Protection of the Environment Operations Act, 1997

The PoEO Act and the NSW *Protection of the Environment Operations (General) Regulation, 2009* set out the general obligations for environmental protection for development in NSW, which is regulated by the EPA.

The Wilpinjong Coal Mine currently operates under EPL 12425 granted under the PoEO Act. The EPL contains conditions which relate to emission and discharge limits, environmental monitoring and reporting.

Approval of the Project would necessitate a variation of EPL 12425, such as an extension to the area of the premises and updates to monitoring sites.

Roads Act, 1993

The *Roads Act, 1993* applies to public roads in NSW, and is administered by the RMS or local council, depending on the type of road. Works or structures that disturb the surface of a public road or connect a road to a classified road require consent under section 138 of the *Roads Act, 1993*.

If the Project is approved, WCPL would apply to the relevant roads authority for the necessary consents under section 138 of the *Roads Act, 1993* associated with road relocations and development of new mine access road intersections with Ulan-Wollar Road.

Under section 89K(1)(f) of the EP&A Act, if the Project is approved as State Significant Development, consent under section 138 of the *Roads Act, 1993* that is required for the Project cannot be refused and is to be substantially consistent with any Development Consent granted under Division 4.1 of Part 4 of the EP&A Act.

It would also be necessary to close public access to Slate Gully Road and purchase the underlying land from the MWRC in accordance with the requirements of the *Roads Act, 1993*.

Detailed design for any road relocations would be undertaken in accordance with Austroads Guide to Road Design and to the satisfaction of the MWRC.

Water Management Act, 2000 and Water Act, 1912

Consideration of the Project against the water management principles and access licence dealing principles under the *Water Management Act, 2000*, and a discussion of the access licences required for each water source associated with the Project are provided in Attachment 6. Appropriate licences under the *Water Management Act, 2000* and *Water Act, 1912* would be sought and obtained for the Project in consultation with DPI Water.

Approval requirements for water use and water management works are also described in Attachment 6.

Dams Safety Act, 1978

The Dams Safety Committee is established under the NSW *Dams Safety Act, 1978* and is an organisation that regulates prescribed dams in NSW and is responsible for administering the *Dams Safety Act, 1978*.

A number of tailings dams at the Wilpinjong Coal Mine (TD2 and TD6) are 'prescribed dams' under the *Dams Safety Act, 1978*. There are no changes to prescribed dams proposed as part of the Project and none of the Project open cut extension areas are within the existing prescribed dam 'notification areas' (i.e. Wilpinjong A and Wilpinjong B).

The *Dams Safety Act, 2015* was assented on 28 September 2015. The *Dams Safety Act, 2015*, once fully implemented, will replace the *Dams Safety Act, 1978* and encourage the application of risk management and the principles of cost benefit analysis in relation to dam safety.

WCPL would comply with its design, construction, operation and maintenance requirements under the *Dams Safety Act, 1978* and/or *Dams Safety Act, 2015* as required over the life of the Project.

National Parks and Wildlife Act, 1974

In accordance with Project Approval 05-0021, the ECAs for the Wilpinjong Coal Mine have been reserved through a conservation agreement under Division 12 of Part 4 of the NPW Act.

Two of the ECAs (i.e. ECA-A and ECA-B) would need to be modified slightly to accommodate the proposed relocation of the TransGrid Wollar to Wellington 330 kV ETL (i.e. short sections of ETL easement through these areas would be required and some clearing and land disturbance would be required for ETL construction within the easement).

Compensatory ECAs would be identified for these easements so the total area of the Wilpinjong Coal Mine ECAs would be maintained in accordance with the existing Project Approval 05-0021.

WCPL would consult with the OEH to reach agreement on a variation to the Voluntary Conservation Agreement under section 69D of the NPW Act to amend the boundaries of ECA-A and ECA-B.

6.4.2 Commonwealth Approvals

The relevance of the EPBC Act to the Project is described in Section 6.3.

The relevance of the Commonwealth *National Greenhouse and Energy Reporting Act, 2007* (NGER Act) and the Commonwealth *Native Title Act, 1993* to the Project are described in the sub-sections below.

National Greenhouse and Energy Reporting Act, 2007

The NGER Act introduced a single national reporting framework for the reporting and dissemination of corporations' greenhouse gas emissions and energy use. The NGER Act makes registration and reporting mandatory for corporations whose energy production, energy use or greenhouse gas emissions meet specified thresholds.

Section 3 of the NGER Act defines the object of the Act:

> *The object of this Act is to introduce a single national reporting framework for the reporting and dissemination of information related to greenhouse gas emissions, greenhouse gas projects, energy consumption and energy production of corporations to:*
>
> *(b) inform government policy formulation and the Australian public; and*
>
> *(2) meet Australia's international reporting obligations; and*
>
> *(3) assist Commonwealth, State and Territory government programs and activities; and*
>
> *(4) avoid the duplication of similar reporting requirements in the States and Territories.*

Peabody Energy triggers the threshold for reporting under the NGER Act, and reports energy use and greenhouse gas emissions from its enterprises, including the Wilpinjong Coal Mine.

Native Title Act, 1993

The *Native Title Act, 1993* provides for the recognition and protection of Native Title rights in Australia.

The *Native Title Act, 1993* provides a mechanism to determine whether Native Title exists and what the rights and interests are that comprise that Native Title. The process is designed to ensure that Indigenous people who claim to have an interest in a parcel of land have the opportunity to express this interest formally, and to negotiate with the Government and the applicant about the proposed grant or renewal of a mining tenement, or consent to access Native Title land.

The *Mining Act, 1992* must be administered in accordance with the *Native Title Act, 1993*. The primary effect of the *Native Title Act, 1993* on exploration and mining approvals is to provide Native Title parties with 'Rights to Negotiate' about the grant and some renewals by Governments of exploration and mining titles.

The *Native Title Act, 1993*, where applicable, would be complied with in relation to the granting and renewal of any necessary mining tenements for the Project.

6.5 ENVIRONMENTAL PLANNING INSTRUMENTS

6.5.1 State Environmental Planning Policies

The following SEPPs are potentially relevant to the Project:

- State and Regional Development SEPP;
- Mining SEPP;
- *State Environmental Planning Policy No 33 – Hazardous and Offensive Development* (SEPP 33);
- *State Environmental Planning Policy No 44 – Koala Habitat Protection* (SEPP 44);
- *State Environmental Planning Policy No 55 – Remediation of Land* (SEPP 55); and
- Infrastructure SEPP.

A discussion of the relevant SEPPs is provided in Attachment 5.

6.5.2 Mid-Western Regional Local Environmental Plan 2012

As described in Section 6.2.1, the Development Application area is located within the Mid-Western Regional LGA, which is covered by the Mid-Western Regional LEP.

Clause 1.2 of the Mid-Western Regional LEP outlines the general aims of the LEP. Those aims relevant to the Project include:

> *(5) The particular aims of this Plan are as follows:*
>
> *…*
>
> *(b) to encourage the proper management, development and conservation of resources within Mid-Western Regional by protecting, enhancing and conserving:*
>
> *(i) land of significance to agricultural production, and*
>
> *(ii) soil, water, minerals and other natural resources, and*
>
> *(iii) native plants and animals, and*
>
> *(iv) places and buildings of heritage significance, and*
>
> *(v) scenic values,*

(c) *to provide a secure future for agriculture through the protection of agricultural land capability and by maximising opportunities for sustainable rural and primary production pursuits,*

(d) *to foster a sustainable and vibrant economy that supports and celebrates the Mid-Western Regional's rural, natural and heritage attributes,*

…

(g) *to promote development that minimises the impact of salinity on infrastructure, buildings and the landscape.*

The Project is generally consistent with the aims of the Mid-Western Regional LEP as:

- The Project would be developed in a manner that would minimise and mitigate potential impacts on natural resources (including soil and water), rural and agricultural lands and areas of Aboriginal and non-Aboriginal heritage significance (Sections 4 and 7).
- Potential impacts of the Project on native threatened species, populations and ecological communities have been considered, and a biodiversity offset strategy for the Project has been developed (Section 4.9 and 7).
- The Project incorporates relevant ESD considerations (Section 6.7.4).
- Mining operations and nearby agricultural enterprises have co-existed since the commencement of operations at the Wilpinjong Coal Mine and this would continue for the Project.
- Mine landforms would be progressively rehabilitated, including areas to be rehabilitated to pasture and therefore potentially being available for agriculture in the medium/long-term (Section 5).
- The Project would facilitate continued employment opportunities and expenditure in the region (Section 4.16).
- The Project incorporates erosion and sediment control measures to mitigate salinity impacts on downstream watercourses (Section 4.8).

Further discussion on the Mid-Western Regional LEP, including permissibility and special provisions is provided in Attachment 5.

6.6 STRATEGIC PLANNING DOCUMENTS

Consideration of strategic planning documents is provided in Attachment 5.

6.7 PROJECT JUSTIFICATION AND SIGNIFICANCE OF RESOURCE

In accordance with the SEARs (Attachment 1), a description of the need for and objectives of the Project and a justification of the carrying out of the Project in the manner proposed is provided below. This is provided having regard to biophysical, economic and social considerations, including consideration of alternatives, the principles of ESD and the consistency of the Project with the objects of the EP&A Act.

The following sub-sections also address requirements for assessment under the EPBC Act, including consideration of feasible alternatives, the principles of ESD and consistency of the Project with the objects of the EPBC Act.

6.7.1 Need for and Objectives of the Project

The Project provides for the continuation and extension of open cut coal mining and processing activities at the Wilpinjong Coal Mine to 2033 as described in Sections 1 and 2. Without the Project, production starts to decline in 2017 resulting in a reduction of workforce and the closure of Wilpinjong Coal Mine in 2026. The continued development of coal resources in close proximity to WCPL's existing CHPP and other supporting facilities maximises the use of existing infrastructure and associated returns on existing financial investments.

At full development, the peak Project operational workforce would be in the order of 625 on-site personnel, including a mixture of direct WCPL employees and on-site contractor's personnel (including continuation of employment for members of the existing Wilpinjong Coal Mine workforce).

Additional construction workforces of up to approximately 100 people would also be required in the first 18 months of the Project, with up to 40 people required for construction activities at other key periods in the Project life (Section 2.17).

The Project would include the implementation of mitigation measures and management (including performance monitoring) to minimise potential impacts on the environment and community (Section 4). A summary of the Project environmental mitigation, management, monitoring and reporting measures is provided in Section 7.

The Project would involve the production of up to approximately 16 Mtpa of ROM coal and approximately 95 Mt of additional ROM coal extracted over the life of the Project in comparison to the approved Wilpinjong Coal Mine. Based on the planned maximum production rate and processing of ROM coal mined, the total product coal required for rail transport would be up to approximately 13 Mtpa (Section 2.9).

The Wilpinjong Coal Mine produces a range of domestic and export thermal coals with varying ash contents to meet product specifications and this would continue for the Project. Based on anticipated coal production volumes, the current domestic coal supply contract with AGL is expected to be completed by approximately 2026. The Project would facilitate additional coal production and associated revenue for WCPL and royalties to the State of NSW.

An Economic Assessment has been completed for the Project by Deloitte Access Economics (Appendix M). The Economic Assessment considered the economic efficiency of the Project by conducting a benefit cost analysis. The Project is estimated to have a positive net benefit and hence is desirable and justified from an economic efficiency perspective, including consideration of a range of potential environmental externality costs (e.g. operational noise and air quality impacts).

The benefit cost analysis in Appendix M indicates a net benefit of approximately $735M would be foregone if the Project is not implemented.

For two of the key inputs used to calculate this net benefit, Deloitte Access Economics adopted Consensus Economics coal price forecasts and an econometric method to determine future Wilpinjong Coal Mine operating costs. The adopted econometric method resulted in higher operating costs being conservatively adopted for the Economic Assessment in comparison to comparative projections by WCPL.

Notwithstanding this inherent conservatism, Deloitte Access Economics also conducted sensitivity analyses for a range of parameters which indicated that the Project net benefit would remain positive for all the sensitivity scenarios analysed, including lower future coal prices.

Further, Project coal production would contribute to NSW export income, State royalties and State and Commonwealth tax revenue, as well as contributing to electricity supply in Australia and other countries that purchase Project coal. The Project would also result in the continued payment of developer contributions to the MWRC and community sponsorships by WCPL in the region.

The Economic Assessment (Appendix M) indicates that operation of the Project is likely to result in a peak of approximately 214 additional direct and indirect jobs in the broader region[1], and approximately 278 additional direct and indirect jobs in NSW. The Economic Assessment (Appendix M) also provides an estimate of capital expenditure and State royalty contributions.

The Project would make contributions to regional and NSW output or business sales and household income (Section 4.16).

6.7.2 Environmental Record of the Proponent

In accordance with requirements in the SEARs pertaining to assessment under the EPBC Act (Attachment 2), a summary of the environmental record of the applicant and its parent company is provided below.

The Wilpinjong Coal Mine is owned and operated by WCPL, a wholly owned subsidiary of Peabody Energy. The Project would be undertaken in accordance with the Wilpinjong Coal Mine Environmental Management Strategy (Section 2.1.9) and Peabody Energy's values as articulated in its Mission Statement:

- ***Safety****: We commit to safety and health as a way of life.*
- ***Customer Focus****: We provide customers with quality products and excellent service.*
- ***Leadership****: We have the courage to lead, and do so through inspiration, innovation, collaboration and execution.*

[1] The region includes the Bathurst Regional, Lithgow, Mid-Western Regional, Singleton and Upper Hunter LGAs.

- ***People**: We offer an inclusive work environment and engage, recognize and develop employees.*
- ***Excellence**: We are accountable for our own success. We operate cost-competitive mines by applying continuous improvement and technology-driven solutions.*
- ***Integrity**: We act in an honest and ethical manner.*
- ***Sustainability**: We take responsibility for the environment, benefit our communities and restore the land for generations that follow.*

These values are also outlined in Peabody Energy's annual Corporate and Social Responsibility Report (CSR Report). The CSR Report provides further information on Peabody Energy's environmental responsibility and performance and comprises the following components:

- Environmental compliance and oversight.
- Annual environmental achievements.
- Land restoration and bond release.
- Greenhouse gas intensity and energy efficiency.
- Global reporting initiative.
- Recycling and waste management.
- Water use and management.
- Objectives for the following year.

The annual CSR Report can be accessed via the following link:

http://www.peabodyenergy.com/content/152/environmental-responsibility

WCPL has a strong record of compliance with its environmental obligations for the Wilpinjong Coal Mine under Project Approval 05-0021 (as modified). WCPL has established and is committed to continuing open and constructive dialogue with the local community and stakeholders regarding environmental management as part of its operations.

Environmental management and monitoring associated with the approved Wilpinjong Coal Mine is summarised in Section 2.1.9. WCPL's AEMRs and monthly EPL reports are available at the Peabody Energy website domain (Section 6.1).

The environmental monitoring program results over recent years show that WCPL's Wilpinjong Coal Mine Environmental Management Strategy provides effective management of potential impacts from the operations.

6.7.3 Consideration of Climate Change Projections for Australia and NSW

Consideration of the potential implications of climate change involves complex interactions between climatic, biophysical, social, economic, institutional and technological processes.

The weight of scientific opinion supports the proposition that the world is warming due to the release of emissions of carbon dioxide and other greenhouse gases from human activities including industrial processes, fossil fuel combustion, and changes in land use, such as deforestation (Pew Centre on Global Climate Change, undated).

Although understanding of climate change has improved markedly over the past several decades, climate change projections are still subject to uncertainties such as (CSIRO, 2015):

- *scenario uncertainty, due to the uncertain future emissions and concentrations of greenhouse gases and aerosols;*
- *response uncertainty, resulting from limitations in our understanding of the climate system and its representation in climate models; and*
- *natural variability uncertainty, the uncertainty stemming from unperturbed variability in the climate system.*

The following sources for climate change projections have been considered for the Project:

- Climate Change in Australia, produced by CSIRO and the BoM.
- The NSW and Australian Capital Territory (ACT) Regional Climate Modelling (NARCliM) Project, a research partnership between the NSW and ACT governments and the Climate Change Research Centre at the University of NSW.

The Climate Change in Australia report presents climate change projections for Australia. The NARCliM Project presents climate change projections for NSW and ACT only.

Climate Change Projections for Australia

In Australia, the climate is projected to become warmer and drier. By 2030, warming (for mid-range global emission scenarios) is projected to be about 0.6 to 1.3°C over most of Australia, with slightly less warming in some coastal areas, and slightly more warming inland (CSIRO, 2015). By 2090, annual average temperatures are projected to increase by 0.6 to 5.1°C with spatial variations similar to those for 2030 (CSIRO, 2015) depending on the emission scenarios examined. Substantial increases in the frequency of days over 35°C, fewer frosts and increased evaporation are likely (CSIRO, 2015).

Sea level is projected to rise by 26 to 82 cm by 2100, as a result of global warming (CSIRO, 2015). Sea-level rise will have impacts on soft sediment shorelines and intertidal ecosystems, which will be especially vulnerable to change with additional impacts from extreme events.

Climate change may result in changes to rainfall patterns, runoff patterns and river flow. High global emission scenario projections for annual average rainfall in 'Eastern Australia' for 2030 and 2090, relative to 1995 are presented in Table 6-1.

Table 6-1
Climate Change Projections for Eastern Australia – Percentage Change in Rainfall

Period	2030	2090	
	RCP4.5	RCP4.5	RCP8.5
Summer	-2.0	-2.0	4.0
Autumn	-4.0	-7.0	-8.0
Winter	-3.0	-10.0	-16.0
Spring	-2.0	-10.0	-16.0
Annual	-1	-7.0	-10.0

Source: After CSIRO (2015).

RCP4.5: Emissions scenario assuming a slow reduction in emissions that stabilises CO_2 concentration at about 540 parts per million (ppm) by 2100.

RCP8.5: Emissions scenario assuming an increase in emissions leading to a CO_2 concentration of about 940 ppm by 2100.

Climate Change Projections in NSW

The Project is located within the Central West Region of the NARCliM Project domain.

Mean temperatures in the Central West Region are projected to rise by 0.7ºC by 2030 and 2.1ºC by 2090. The increases are occurring across the region with the greatest increase during summer (NARCliM, 2015).

Changes to annual rainfall are predicted to vary across the Central West Region and are presented in Table 6-2.

Table 6-2
Climate Change Projections for the Central West Region, NSW – Percentage Change in Rainfall

Period	2020-2039	2060-2079
Summer	-1.1	+13.2
Autumn	+14.7	+13.5
Winter	-4.2	+5.4
Spring	-7.6	-5.8
Annual	+0.2	+7.6

Source: After NARCliM (2015).

The NARCliM (2015) and CSIRO (2015) rainfall projections are quite variable, particularly for the 2080/2090 forecast. As shown in Table 6-1, CSIRO (2015) are projecting a drier climate, whereas Table 6-2 indicates that NARCliM (2015) are projecting a generally wetter climate.

The potential implications of climate change on local groundwater and surface water resources are considered in Appendices C and D, respectively.

6.7.4 Ecologically Sustainable Development Considerations

Background

The concept of sustainable development came to prominence at the World Commission on Environment and Development (1987), in the report titled *Our Common Future*, which defined sustainable development as:

> *Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*

In recognition of the importance of sustainable development, the Commonwealth Government developed a *National Strategy for Ecologically Sustainable Development* (NSESD) (Commonwealth of Australia, 1992) that defines ESD as:

> *using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.*

The NSESD was developed with the following core objectives:

- enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;
- provide for equity within and between generations; and
- protect biological diversity and maintain essential processes and life support systems.

In addition, the NSESD contains the following goal:

> *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.*

In accordance with the core objectives and a view to achieving this goal, the NSESD presents private enterprise in Australia with the following role:

> *Private enterprise in Australia has a critical role to play in supporting the concept of ESD while taking decisions and actions which are aimed at helping to achieve the goal of this Strategy.*

As described in Section 6.4, the Project will require approval under both the EP&A Act and the EPBC Act.

In deciding whether or not to approve the Project, the Commonwealth Minister must take into account the principles of ESD pursuant to section 136(2) of the EPBC Act. The relevant definition of the principles of ESD is provided in section 3A of the EPBC Act.

Clause 7(4) of Schedule 2 of the EP&A Regulation provides a definition of ESD relevant to the preparation of an EIS. Section 6(2) of the NSW *Protection of the Environment Administration Act, 1991* also provides the same definition. The principles of ESD as outlined in section 3A of the EPBC Act and clause 7(4) of Schedule 2 of the EP&A Regulation are presented and compared in Table 6-3.

The design, planning and assessment of the Project has been carried out applying the principles of ESD, through:

- incorporation of risk assessment and analysis at various stages in the Project design, environmental assessment and decision-making;
- adoption of high standards for environmental and occupational health and safety performance;
- consultation with regulatory and community stakeholders;
- assessment of potential greenhouse gas emissions associated with the Project;
- optimisation of the economic benefits to the community arising from the development of the Project; and
- the Project design takes into account biophysical considerations, including the principles of ESD as defined in section 3A of the EPBC Act and clause 7(4) of Schedule 2 of the EP&A Regulation.

In addition, it can be demonstrated that the Project can be undertaken in accordance with ESD principles through the application of measures to avoid, mitigate and offset the potential environmental impacts of the Project, and adaptive management would be implemented.

The following sub-sections describe the consideration and application of the principles of ESD to the Project.

Precautionary Principle

Environmental assessment involves predicting what the environmental outcomes of a development are likely to be. The precautionary principle reinforces the need to take risk and uncertainty into account, especially in relation to threats of irreversible environmental damage.

Table 6-3
Principles of Ecologically Sustainable Development – EPBC Act and EP&A Regulation

Section 3A of the EPBC Act	Clause 7(4) of Schedule 2 of the EP&A Regulation
(a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;	-
(b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;	*(a) the precautionary principle, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:* *(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and* *(ii) an assessment of the risk-weighted consequences of various options,*
(c) the principle of inter-generational equity—that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;	*(b) inter-generational equity, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,*
(d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;	*(c) conservation of biological diversity and ecological integrity, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,*
(e) improved valuation, pricing and incentive mechanisms should be promoted.	*(d) improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services, such as:* *(i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,* *(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,* *(iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*

An Environmental Risk Assessment (Appendix P) and a Preliminary Hazard Analysis (Appendix Q) were conducted to identify Project related risks and develop appropriate mitigation measures and strategies.

The Environmental Risk Assessment (Appendix P) considers potential environmental impacts associated with the Project, including long-term effects. In addition, long-term risks are considered by the specialist studies conducted in support of this EIS (Section 1.3). Findings of these specialist assessments are presented in Section 4 and relevant appendices.

Measures designed to avoid, mitigate and offset potential environmental impacts arising from the Project are also described in Sections 4 and 7.

The Preliminary Hazard Analysis (Appendix Q) considers off-site risks to people, property and the environment (in the presence of controls) arising from atypical and abnormal hazardous events and conditions (i.e. equipment failure, operator error and external events) from fixed installations. The Preliminary Hazard Analysis does not consider those risks that are not atypical or abnormal (e.g. long-term effects of typical dust emissions) or those risks to WCPL employees or Peabody Energy-owned property.

The specialist assessments, Environmental Risk Assessment and Preliminary Hazard Analysis have evaluated the potential for harm to the environment associated with development of the Project.

Assessment of potential short, medium and long-term impacts of the Project have been carried out during the preparation of this EIS on aspects of (but not limited to) noise and blasting, air quality (including greenhouse gas emissions), groundwater and surface water, terrestrial and aquatic ecology, Aboriginal and historic heritage, agricultural land uses, road transport, visual character, social and community infrastructure and economics.

Minimal uncertainty regarding the information used in these specialist assessments is expected given:

- the period of operational experience and number of site-based surveys and assessments conducted at the Wilpinjong Coal Mine;
- the comprehensive nature of the assessments; and
- the consultation process conducted with key stakeholders (Section 3).

A range of measures have been adopted as components of the Project design to minimise the potential for serious and/or irreversible damage to the environment, including operational controls (e.g. the standing down of some mobile equipment during adverse weather conditions) and physical controls (e.g. the use of water trucks for dust suppression along haul roads), the development of environmental management and monitoring programmes and biodiversity offsets (Section 4). Where residual risks are identified, contingency controls have also been considered (Section 4).

The Project would achieve the relevant noise and air quality criteria in the Development Consent through an adaptive management approach using real-time monitoring and management systems (Sections 4.3 and 4.4).

The implementation of an adaptive management approach is consistent with the precautionary principle as described by Chief Justice Preston in *Newcastle & Hunter Valley Speleological Society Inc v Upper Hunter Shire Council and Stoneco Pty Limited* [2010] NSW Land and Environment Court 48 at [184]:

> *…In adaptive management the goal to be achieved is set, so there is no uncertainty as to the outcome and conditions requiring adaptive management do not lack certainty, but rather they establish a regime which would permit changes, within defined parameters, to the way the outcome is achieved.*

In addition, for key Project environmental assessment studies (e.g. Noise and Blasting Assessment [Appendix A]), peer review by recognised experts was undertaken (Attachment 4).

Social Equity

Social equity is defined by inter-generational and intra-generational equity. Inter-generational equity is the concept that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations, while intra-generational equity is applied within the same generation.

The principles of social equity are addressed through:

- assessment of the social and economic impacts of the Project, including the distribution of impacts between stakeholders and consideration of the potential economic costs of climate change (Appendices N and M, respectively);
- management measures to be implemented in relation to the potential impacts of the Project on water resources, heritage, land resources, agriculture, noise and blasting, air quality, ecology, transport, hazards and risks, greenhouse gas emissions, visual character, economics and social impacts (Section 4);
- implementation of environmental management and monitoring programmes (Section 4) to minimise potential environmental impacts (which include environmental management and monitoring programmes covering the Project life);
- implementation of biodiversity offsets during the life of the Project to compensate for potential localised impacts that have been identified for the development (Sections 4.9 and 7); and
- WCPL would make continued contributions to the MWRC and the local community through rates and infrastructure contributions and ongoing support for community initiatives (Section 3.2).

The Project would benefit current and future generations through the maintenance and expansion of Wilpinjong Coal Mine employment. It would also provide significant stimulus to local and regional economies and provide NSW export earnings and royalties, thus contributing to future generations through social welfare, amenity and infrastructure.

The Project incorporates a range of operational controls (e.g. the standing down of some mobile equipment during adverse weather conditions) and physical controls (e.g. the use of water trucks for dust suppression along haul roads), and environmental management and mitigation measures (e.g. biodiversity offsets, land acquisition) to minimise potential impacts on the environment and the costs of these measures would be met by WCPL.

Where relevant, these costs have been included in the economic assessment, therefore, the potential benefits to current and future generations have been calculated in the context of the mitigated Project.

Conservation of Biological Diversity and Ecological Integrity

Biological diversity or 'biodiversity' is considered to be the number, relative abundance, and genetic diversity of organisms from all habitats (including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are a part) and includes diversity within species and between species as well as diversity of ecosystems (Lindenmayer and Burgman, 2005).

For the purposes of this EIS, ecological integrity has been considered in terms of ecological health and ecological values.

The majority of the Project is situated in a wide valley floor between hills and escarpments of the Goulburn River National Park to the north and Munghorn Gap Nature Reserve to the south (Section 4.9).

The Project open cut extension and infrastructure areas are located in a largely agricultural landscape, with the majority of the area comprising improved pasture (Appendix E). The Project also includes areas of woodland/forest primarily occurring at the edges of wider cleared land and shrubby regeneration of areas that have previously been cleared (Appendix E).

Surveys conducted for the Project have identified threatened ecological communities and habitat suitable for threatened flora and fauna species. Detailed results from recent terrestrial flora and fauna and aquatic ecology surveys are outlined in Appendices E and F.

The environmental assessment in Section 4.9 (and Appendices E and F) describes the potential impacts of the Project on local and regional ecology.

In accordance with ESD principles, the Project addresses the conservation of biodiversity and ecological integrity by proposing an environmental management framework designed to conserve ecological values, where practicable, after consideration of potential Project impacts as described in the sub-sections below.

Greenhouse Gas Emissions and Biological Diversity and Ecological Integrity

Many natural ecosystems are considered to be vulnerable to climate change. Patterns of temperature and precipitation are key factors affecting the distribution and abundance of species (Preston and Jones, 2005). Projected changes in climate will have diverse ecological implications. Habitat for some species will expand, contract and/or shift with the changing climate, resulting in habitat losses or gains, which could prove challenging, particularly for species that are threatened.

Anthropogenic Climate Change is listed as a key threatening process under the TSC Act, and *Loss of terrestrial climatic habitat caused by anthropogenic emissions of greenhouse gases* is listed as a key threatening process under the EPBC Act.

In making its final determination to list anthropogenic climate change as a key threatening process, the NSW Scientific Committee (2000) found that:

1. The distribution of most species, populations and communities is determined, at least at some spatial scale, by climate.
2. Climate change has occurred throughout geological history and has been a major driving force for evolution.
3. There is evidence that modification of the environment by humans may result in future climate change. Such anthropogenic change to climate may occur at a faster rate than has previously occurred naturally. Climate change may involve both changes in average conditions and changes to the frequency of occurrence of extreme events.
4. Response of organisms to future climate change (however caused) is likely to differ from that in the past, because it will occur in a highly modified landscape in which the distribution of natural communities is highly modified. This may limit the ability of organisms to survive climate change through dispersal (Brasher and Pittock, 1998; Australian Greenhouse Office, 1998). Species at risk include those with long generations, poor mobility, narrow ranges, specific host relationships, isolated and specialised species and those with large home ranges (Hughes and Westoby, 1994). Pest species may also be advantaged by climate change.

A greenhouse gas assessment was undertaken by Todoroski Air Sciences for the Project (Appendix B). Section 4.18 provides a description of the potential greenhouse gas emissions of the Project in accordance with the SEARs (Attachment 1).

Valuation of potential impacts of greenhouse gas emissions has been incorporated in the Economic Assessment (Appendix M) for the Project.

The potential implications of climate change on local groundwater and surface water resources are addressed in Appendices C and D, respectively.

Measures to Maintain or Improve the Biodiversity Values of the Surrounding Region

A range of impact avoidance, mitigation and offset measures would be implemented for the Project to maintain or improve the biodiversity values of the surrounding region in the medium to long-term, as described below.

Sections 4.9, 5 and 7 summarise a number of Project measures that would assist in maintaining the biodiversity of the region. These measures comprise a combination of securing the long-term viability of existing vegetation communities (i.e. the Project biodiversity offset areas) and rehabilitation of mine landforms.

An Offset Strategy has been developed to address the potential residual impacts on biodiversity values associated with the Project, such that biodiversity values of the region are maintained or improved in the medium to long-term (as detailed in Sections 4.9 and 7 and Appendix E).

Section 5 presents WCPL's rehabilitation strategy for the Project. The disturbance areas associated with the Project would be progressively rehabilitated and revegetated with species characteristic of native woodland/open forest and pasture with scattered trees (Figure 5-1).

An objective of the rehabilitation programme is to restore ecosystem function to land affected by the mine development including maintaining or establishing self-sustaining ecosystems.

Terrestrial flora, fauna and aquatic ecology management measures including the biodiversity offsets and the Biodiversity Management Plan are described in Section 4.9.

Valuation

One of the common broad underlying goals or concepts of sustainability is economic efficiency, including improved valuation of the environment. Resources should be carefully managed to maximise the welfare of society, both now and for future generations.

In the past, some natural resources have been misconstrued as being free or underpriced, leading to their wasteful use and consequent degradation. Consideration of economic efficiency, with improved valuation of the environment, aims to overcome the underpricing of natural resources and has the effect of integrating economic and environmental considerations in decision making, as required by ESD.

While historically, environmental costs have been considered to be external to Project development costs, improved valuation and pricing methods attempt to internalise environmental costs and include them within Project costing.

The Economic Assessment (Appendix M) undertakes an analysis of the Project and incorporates environmental values via direct valuation where available (e.g. greenhouse gas costs and Project impacts on agricultural values). Furthermore, wherever possible, direct environmental effects of the Project are internalised through the adoption and funding of mitigation measures by WCPL to mitigate and offset potential environmental impacts (e.g. biodiversity offsets and operational noise management costs). The above is presented in a cost benefit analysis, which evaluates the relative costs and benefits of the Project to society from an economic perspective.

The cost benefit analysis in Appendix M indicates a net benefit of approximately $735M would be foregone if the Project is not implemented.

In addition, Deloitte Access Economics has completed a disaggregation of the cost benefit analysis to examine potential benefits and costs at a regional level. This analysis differs from the central Project cost benefit analysis based on a regional distribution of externalities and some costs incurred by WCPL are treated as a benefit for particular regions. This further regional analysis indicates that a net benefit of approximately $264M to the Mid-Western Regional LGA and a net benefit of approximately $874M to NSW would be forgone if the Project is not implemented (Appendix M).

6.7.5 Consideration of the Project against the Objects of the Environmental Planning and Assessment Act, 1979

Section 5 of the EP&A Act describes the objects of the EP&A Act as follows:

(a) to encourage:

(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,

(ii) the promotion and co-ordination of the orderly and economic use and development of land,

(iii) the protection, provision and co-ordination of communication and utility services,

(iv) the provision of land for public purposes,

(v) the provision and co-ordination of community services and facilities, and

(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and

(vii) ecologically sustainable development, and

(viii) the provision and maintenance of affordable housing, and

(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and

(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.

The Project is considered to be generally consistent with the objects of the EP&A Act, because it is a Project which:

- incorporates:
  - measures for the management and conservation of natural and artificial resources including water, agricultural land and natural areas (Section 4);

- development of the State's mineral resources (i.e. coal resources) within WCPL's mining and exploration tenements (Section 2);
- measures to minimise potential amenity impacts associated with noise, blasting, air quality and visual impacts on surrounding land uses (Sections 4.3, 4.4, 4.5 and 4.15); and
- significant continued employment and other socio-economic benefits to the community (Sections 4.16, 4.17 and 6.7.8);

- would extend the life of the Wilpinjong Coal Mine for a further seven years and includes the economic use and development of land;
- would support the ongoing provision of community services and facilities through significant contributions to State royalties, State taxes, Commonwealth tax revenue and any applicable contributions to local council (Appendix M and Section 6.2.8);
- incorporates a range of measures for the protection of the environment, including the protection of native plants and animals, threatened species, and their habitats (Sections 4.9 and 7);
- incorporates relevant ESD considerations (Section 6.7.4) through:
  - incorporation of risk assessment and analysis at various stages in the Project design and environmental assessment and within decision-making processes;
  - implementation of an adaptive management approach by implementing real-time noise and air quality controls;
  - adoption of high standards for environmental and occupational health and safety performance; and
  - assessment of potential greenhouse gas emissions associated with the Wilpinjong Coal Mine and the Project;
- is a State Significant Development Project that would be determined by the Minister (or delegate) (Section 6.2.2), however, consultation with other levels of government and a range of stakeholders has been undertaken and issues raised have been considered and addressed where relevant (Section 3.1); and
- includes public involvement and participation through the Project EIS consultation program (Section 3.1), the public exhibition of the EIS document and DP&E assessment of the Project in accordance with the requirements of the EP&A Act.

Sections 5A to 5C of the EP&A Act provide additional requirements in relation to threatened species, populations or ecological communities and their habitats, as well requiring the consent authority to have regard for the register of critical habitat.

Consideration of these matters is provided in Appendices E and F and summarised in Section 4.9.

6.7.6 Consideration of the Project against the Objects of the Environment Protection and Biodiversity Conservation Act, 1999

Section 3 of the EPBC Act describes the objects of the EPBC Act as follows:

(1) The objects of this Act are:

(a) to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance; and

(b) to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources; and

(c) to promote the conservation of biodiversity; and

(ca) to provide for the protection and conservation of heritage; and

(d) to promote a co-operative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples; and

(e) to assist in the co-operative implementation of Australia's international environmental responsibilities; and

(f) to recognise the role of indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and

(g) to promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge.

The Project is considered to be generally consistent with the objects of the EPBC Act, because it is a Project which:

- incorporates a range of measures for the protection of the environment, including listed threatened species and ecological communities, water resources and heritage (Section 4);
- incorporates relevant ESD considerations (Section 6.7.4);
- includes a proposal for offset of unavoidable impacts on biodiversity and other compensatory measures (Sections 4.9, 5 and 7);
- includes the involvement and participation of the community, landholders and indigenous people through the Project EIS consultation program (Section 3.1), the public exhibition of the EIS document and DP&E assessment of the Project in accordance with the requirements of the EP&A Act;
- would not result in a significant impact on migratory species protected under international agreements; and
- includes the involvement of RAPs throughout the life of the Project through the Heritage Management Plan.

6.7.7 Consideration of Project Alternatives

A number of alternatives to the Project assessed in this EIS were considered by WCPL in the development of the Project description, including further consideration of alternatives following lodgement of the Project Description and Preliminary Assessment in November 2014.

An analysis of the feasible alternatives to the Project considered by WCPL is provided below, in accordance with clause 7 of Schedule 2 of the EP&A Regulation (Table 1-3) and requirements pertaining to assessment under the EPBC Act (Attachment 2).

Project Location

The State of NSW has procedures for the allocation of exploration tenements for coal, which determines where exploration licences are granted.

The presence of coal seams able to be economically mined in the vicinity of the Wilpinjong Coal Mine and within WCPL's mining and exploration tenements determines the location of the Project. The DRE has acknowledged that the Project represents a responsible utilisation of NSW's valuable coal resources (Attachment 11).

The Project involves extensions to the existing open cuts and the development of a new open cut for extraction of coal from the Ulan Coal Seam and Moolarben Coal Member in the vicinity of the existing Wilpinjong Coal Mine.

The continued development of coal resources in close proximity to WCPL's existing CHPP and other supporting facilities maximises the use of existing infrastructure and associated returns on existing financial investments.

It also provides new mining areas that are largely contiguous with approved mining areas, thereby potentially minimising potential new disturbance areas.

Mining Operations

The relative scale, rate and nature of a mining operation is determined by the optimum resource recovery and production rate that maximises value to the proponent and demonstrates ongoing viability in consideration of mine planning constraints.

Mine planning is a structured process that takes into account the range of key variables that may influence a potential mining operation and its viability. Aspects considered in the mine planning process include safety, resource recovery, potential environmental impacts (e.g. noise, air quality, water), community issues, risks to the operation, mining methods and rates, equipment requirements, infrastructure capacity, development timeframes and economics (i.e. capital and operating costs).

Key alternatives with respect to the proposed mining operations are provided below.

Mining Method

Coal reserves are typically mined in one of two ways:

- underground methods (whereby the coal is accessed via a small surface opening leading to sub-surface excavations by which the coal is extracted); or

- open cut methods (whereby mining occurs from the surface downwards to progressively expose and extract the coal).

The shallow coal seams relative to the land surface and the relatively low strip ratios at the Wilpinjong Coal Mine means that the coal resource within the Project open cut extension areas is highly amenable to open cut mining methods and not well suited to underground methods.

It was therefore determined by WCPL that the Project would continue the open cut mining methods at the existing Wilpinjong Coal Mine to recover approximately 168 Mt of ROM coal over the life of the Project (i.e. from 2017), of which approximately 95 Mt would be associated with the proposed open cut extension areas (Section 2.3).

Project Extent and Scale

The Project open cut extension areas are estimated to provide access to approximately 95 Mt of additional ROM coal. Resource definition and mine planning conducted by WCPL to date indicates that this is the optimum extent of the Project open cut extension areas within WCPL's existing mining and exploration tenements.

In determining the proposed Project extent, WCPL has considered the proximity of the proposed open cut extension areas to the Munghorn Gap Nature Reserve.

WCPL evaluated the option of applying a nominal setback distance from the Munghorn Gap Nature Reserve to the Project open cut extension areas, or applying economic criteria to the open cut limits (e.g. strip ratio) within WCPL's exploration tenements (in places the tenement boundaries adjoin the Munghorn Gap Nature Reserve).

The proposed Project open cut extension areas maximise the recovery of economically viable coal resources. Using this approach, the proximity of the open cut extension areas to the Munghorn Gap Nature Reserve is generally consistent with the proximity of the approved Wilpinjong Coal Mine to the Munghorn Gap Nature Reserve. Given the approved Wilpinjong Coal Mine successfully operates in close proximity to the Munghorn Gap Nature Reserve (Figure 1-3), the economic open cut limits were therefore adopted for the Project.

Consideration of potential impacts on the Munghorn Gap Nature Reserve associated with the open cut extension areas are provided in Section 4.

Mining and Processing Rates

WCPL has considered employing a range of mining and processing rates for the Project.

This included consideration of higher rates of ROM coal production than are currently permitted (i.e. greater than 16 Mtpa). However, this would require additional increases in mobile equipment (i.e. above the additional mobile equipment required for the Project). It would also be expected to trigger further upgrades to materials handling and/or coal processing infrastructure, increase average daily rail movements off-site, and reduce the life of the Project.

WCPL concluded that there would not be an appropriate return on capital associated with the purchase of mobile equipment and upgrades to infrastructure required to achieve higher rates of ROM coal production.

In consideration of existing coal handling and processing facilities, coal quality and the physical locations of the open cut extension areas, WCPL has opted to continue to target ROM coal production of 16 Mtpa, consistent with the approved operation), and up to approximately 13 Mtpa of product coal would be railed off-site.

The Wilpinjong Coal Mine produces a range of domestic and export thermal coals with varying ash contents to meet product specifications and this would continue for the Project.

Given the existing Wilpinjong Coal Mine CHPP is available to process ROM coal produced from the Project open cuts, no further consideration of coal processing alternatives is required.

No major upgrades to the CHPP and coal handling fixed infrastructure would be required for the Project apart from the additional satellite ROM pads (Section 2.6.5).

Minimising the Additional Surface Development Area

WCPL has evaluated the relative costs and environmental benefits of a number of alternative mechanisms to reduce the potential additional disturbance areas associated with the Project.

The mine design minimises additional land disturbance and associated impacts on agricultural land, flora, fauna and associated habitats (including threatened species and communities listed under the EPBC Act) (Sections 4.9 and 4.12) including by:

- continued use of the existing infrastructure and services at the Wilpinjong Coal Mine for the life of the Project, with only the necessary infrastructure additions, upgrades and maintenance works;
- progressive backfilling of open cuts to minimise the overall mine footprint (i.e. to generally avoid out-of-pit emplacement);
- transporting waste rock material from the commencement of Pit 8 to other active open cut pits to avoid the need for an out-of-pit waste rock emplacement in Slate Gully;
- realignment of the TransGrid Wollar to Wellington 330 kV ETL over the backfilled mine void in Pit 4 of the Wilpinjong Coal Mine; and
- continued use of in-pit mine voids for operational water storage to avoid the need for additional specifically constructed storages outside the open cuts.

Further discussion on the sequencing of the Project open cuts and backfilling of mine voids is provided in Section 2.

Final Voids

Final voids are generally left at the conclusion of open cut mining with the size of these voids dictated by the depth of the open cut, the extent of backfilling that is undertaken and the mining sequence.

At the cessation of the approved Wilpinjong Coal Mine two final voids will remain in Pits 3 and 6. As a component of the Project, these approved final voids would be backfilled as part of waste rock emplacement during the advance of the mine into the open cut extension areas.

The Project would involve mining in eight open cut areas, and WCPL has evaluated a number of alternatives with respect to the number and size of final voids left at the cessation of operations.

Following WCPL's evaluation, potential final voids located at the southern end of Pit 5 (east and west arms) were rejected on the basis of the proximity to the Munghorn Gap Nature Reserve. It is proposed that final voids would remain in the southern end of Pit 8, the north-west corner of Pit 6, and in Pit 2 (Pit 2 West Dam) (Section 5.3.12).

WCPL has considered the option of altering material handling to achieve only two final voids at the Wilpinjong Coal Mine (i.e. backfilling the Pit 8 final void). However, preliminary investigations by WCPL suggest this would add significantly to operating costs. These costs were not considered by WCPL to be reasonable as the void's more elevated location in the south of Pit 8 (Figure 5-3) suggests it would have relatively limited environmental implications (e.g. it would frequently be dry and is not expected to form a long-term groundwater sink [Section 4.7.2] and a visual bund would screen potential views from Wollar Road [Section 4.15.3]).

The surface catchment of the final voids would be reduced as far as is reasonable and feasible. This would be achieved by progressively backfilling mine voids to approximate the natural surface and the use of up-catchment diversions and contour drains around the perimeter of the final voids (Section 5.3.12).

WCPL has also commenced consultation with Moolarben Coal Complex with respect to the potential to mine barrier coal between the Moolarben Coal Complex Open Cut 4 final void and the Project Pit 6 final void in the future (Section 3.1.6). If this was to occur (subject to separate environmental assessment and approval) it is anticipated that there would be some final void rationalisation between the two mining operations (e.g. combine the approved Moolarben Coal Complex Open Cut 4 final void and the proposed Pit 6 final void).

ROM Coal Transport from Pit Extensions

The Project includes a number of extensions that would lengthen potential coal haulage distances between the open cut extension areas and the CHPP and central ROM coal stockpiles (e.g. in the south of Pit 5, west of Pit 6 and central Pit 8).

In developing the Project description, WCPL conducted evaluation of a range of potential alternatives for the transport and handling of ROM coal from these areas.

Alternatives considered included:

- coal slurry pipeline from Pit 8;
- conveyor from Pit 8;
- tipper road-trains;
- Haulmax 3900 series haul trucks;
- continued use of Cat 789 haul trucks; and
- use of a combination of Cat 789 haul trucks and satellite ROM pads.

Aspects that were relevant to the selection of the adopted alternative included:

- environmental implications (e.g. air and noise emissions);
- flexibility;
- capital costs;
- operational costs;
- interaction with the remainder of mining operations (e.g. haul trucks and road trains);
- potential modifications required at the CHPP and coal stockpiles;
- haulage management techniques; and
- water demand.

Based on the evaluation of the above aspects WCPL proposes to continue to utilise the current Cat 789 haul trucks, but these would be supplemented with satellite ROM pads in Pits 3, 7 and 8 (relocated with mining activities) and in Pit 5. This approach could be adopted and the Project would result in only negligible increases in noise at the nearest privately-owned dwellings with the implementation of reasonable and feasible noise controls (Section 4.3).

The addition of the satellite ROM pads (Figures 2-8 to 2-12) provides additional flexibility to the mining operations.

Satellite Mine Infrastructure Areas in Pit Extensions

While the existing operation already uses mobile crib huts and in-pit facilities to maximise efficiency, the workforce are still currently required to commence and finish their shifts in the central mine infrastructure area as this is the location of the login, bathhouses and assembly areas.

Similar to the increasing coal haulage distances, some of the Project open cut extension areas would see the mine workforce at times travelling longer distances from the central mine facilities area at the start and finish of their shifts, plus increased travel distances for mobile equipment to basic workshop facilities.

While maintaining and/or expanding the existing facilities was considered, a preferred alternative with satellite mine infrastructure areas being established in Pit 8 and Pit 5 and associated links to the public road network were identified. These facilities are described in Section 2.6.6 and would be located within the open cut limits and would therefore result in no additional land disturbance (minimising potential impacts on threatened species and ecological communities).

As described in Section 2.6.6, two additional access roads would be developed to facilitate access to the new mine infrastructure areas; one off Ulan-Wollar Road to access infrastructure in Pit 8, and one off the existing mine access road[2] to access Pit 5 infrastructure.

Noise Management

WCPL has previously committed to maintaining operational noise levels in the Village of Wollar to the Project-specific noise level, through the implementation of the Noise Management Plan. However, the development of Pit 8 would reduce the distance from the mine to remaining private landholders located east of the Wilpinjong Coal Mine.

Preliminary noise modelling indicated that in the absence of additional noise mitigation measures, Project intrusive noise levels at the nearest privately-owned dwellings could, with adverse meteorological conditions coincident with peak operations in Pit 8, range up to 7 dBA above the Project-specific noise levels (i.e. 42 dBA) (Section 4.3.2).

[2] This access road could alternatively be constructed directly off Ulan-Wollar Road to the west of the existing mine access road intersection, in consultation with the MWRC.

Modelling and evaluation of a range of potential noise mitigation options, estimated capital and operating costs of mitigation (based on consultation with machinery suppliers and other mining operations) and impacts on related Project metrics was undertaken. From this it was identified by WCPL that an appreciable Project noise reduction of up to 5 dBA (e.g. from 42 dBA to 37 dBA) could be reasonably achieved at the nearest privately-owned dwellings, *albeit* at significant capital and operating cost to WCPL (i.e. estimated at approximately $14M over the life of the Project). This substantial noise reduction could be achieved at approximately 25% of the estimated comparative capital and operational costs to WCPL that would be incurred to achieve a noise reduction target of up to 7 dBA (e.g. from 42 dBA to 35 dBA) at the nearest privately-owned dwellings (i.e. estimated at approximately $56M over the life of the Project).

WCPL therefore concluded that the significant additional cost of noise mitigation to achieve a noise reduction target of up to 7 dBA, for a very marginal gain in environmental outcome at the nearest privately-owned receivers (i.e. a difference of 2 dBA in the predicted noise level would not be discernible to the average listener), would not be reasonable.

WCPL would continue to validate the noise model predictions with attended and unattended noise monitoring as mining progresses south in Pit 8 before selecting the most cost-effective mitigation strategy to achieve the outcome of compliance with consent conditions relevant to operational requirements and priorities at the time.

Further description of the identification of Project reasonable and feasible noise management measures is provided in Section 4.3.2 and Appendix A.

Extent of Pit 8

WCPL considered developing Pit 8 without realigning the TransGrid Wollar to Wellington 330 kV ETL. However, due to the existing ETL alignment being located along the full length of the proposed Pit 8 (Figure 1-3), if not relocated (Figure 1-4) the ETL would sterilise a significant proportion of the open cut coal resource in Pit 8. The current alignment of the ETL would also increase mining costs associated with blast management and access restrictions while mining adjacent to the ETL. Therefore, the value of the additional Project coal recovered from Pit 8 if the ETL is relocated far outweighs the capital cost of relocating the ETL.

WCPL also considered the potential mine sequencing and economic cost implications of avoiding the rocky hill in Pit 8 that has cultural values and hosts a number of Aboriginal heritage sites including a rock shelter with artefacts and art (WCP578) and a rock shelter with artefacts and ochre quarry (WCP579) (both of high local archaeological significance) (Section 4.10.2).

WCPL's review concluded that not mining the rocky hill and leaving a nominal 200 m buffer zone around the feature would sterilise a significant area of coal in Pit 8, and adversely impact mine sequencing and mining costs. If the rocky hill and the associated archaeological sites were not mined, WCPL has estimated that revenue would be reduced by approximately $127M (and Pit 8 mining costs would also be increased). The state of NSW would also forego coal royalties associated with the coal that would be sterilised, which are estimated at approximately $10M, should this occur.

While they have not been subject to the same level of systematic heritage survey, the nearby Munghorn Gap Nature Reserve and Goulburn River National Park include many comparable environmental contexts. It is therefore inferred that similar heritage evidence to that identified within the Project investigation area (including the rocky hill in Pit 8) will occur in these extensive nearby reserved areas (Appendix G).

A range of Project heritage mitigation measures have been identified and would be applied to address the proposed disturbance of the identified high local archaeological significance sites at the rocky hill in consultation with the RAPs (Section 4.10.3). Southeast Archaeology concluded that, with the application of these measures, the impacts of the Project on Aboriginal heritage would be low within a local context and very low within a regional context (Appendix G). WCPL therefore determined that the preferred design for Pit 8 would proceed.

Relocation Alignment of the TransGrid Wollar to Wellington 330 kV ETL

A number of alternative relocation routes were considered for the TransGrid Wollar to Wellington 330 kV ETL relocation. The proposed realignment was selected as it reduces the total length of the ETL and minimises disturbance to remnant native vegetation and agricultural land by traversing the backfilled Wilpinjong Coal Mine waste rock emplacement.

Short sections of the proposed realignment would traverse parts of two of the existing ECAs and would require the excision of approximately 3 ha from the existing voluntary conservation agreement (i.e. from ECA-A and ECA-B). However, WCPL is consulting with OEH in relation to a potential amendment to the voluntary conservation agreement to add an equivalent area so the total area of the existing ECAs (480 ha) would be maintained.

Final Land Use

The current revegetation strategy of the Wilpinjong Coal Mine recognises the alternative land uses that exist in the region, with the aim of establishing the potential for both sustainable agriculture and the continuity of woodland vegetation.

In considering the potential final land use of the Project open cut extension areas, WCPL has considered rehabilitating all of these areas to woodland vegetation, or to a combination of woodland vegetation and pastoral areas.

Based on consultation with stakeholders and review of the topographic features of the proposed final landform (Section 5), WCPL has elected to continue to target a combination of sustainable agriculture and the continuity of woodland vegetation.

No Project

Consideration of the potential consequences of not proceeding with the development of the Project is provided in Section 6.7.8.

6.7.8 Consideration of the Consequences of not Carrying out the Project

Were the Project not to proceed, the following consequences are inferred:

- approximately 550 existing employment opportunities would be discontinued following completion of currently approved mining at the Wilpinjong Coal Mine and the associated flow-on effects would be lost;
- a peak of up to 100 direct construction and an additional 75 direct operational phase employment opportunities and associated flow-on effects would not be created;
- a net benefit of approximately $735M would be foregone (Appendix M);
- tax revenue from the Project would not be generated (Appendix M);
- royalties to the State of NSW would not be generated (Appendix M);
- the potential environmental and social impacts described in this EIS for the Project would not occur;
- there would be economic and social impacts on the regional towns of Mudgee and Gulgong associated with loss of employment opportunities;
- the coal resource would remain available to be extracted by other means, however, the efficiencies associated with access to existing Wilpinjong Coal Mine infrastructure may be lost; and
- the Project biodiversity offsets and other revegetation areas would not be established.