ENVIRONMENTAL ASSESSMENT

Duralie Extension Project

SECTION 6
PLANNING FRAMEWORK AND PROJECT JUSTIFICATION

GLOUCESTER COAL

ResourceStrategies

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6 PLANNING FRAMEWORK AND PROJECT JUSTIFICATION

This section outlines the statutory requirements relevant to the assessment of the Project. It also provides a discussion and justification for the Project on economic, social and environmental grounds when considered against the objects of the EP&A Act.

The Project Application would be assessed in accordance with the framework established by the EP&A Act and the EP&A Regulation.

6.1 EXISTING APPROVALS AND REGULATORY CONTROLS

A general description of the approvals history of the DCM is provided in Section 2.2.

Activities at the DCM are covered by a range of approvals, licences and permits. Where relevant these approvals, licences and permits are described in this EA. Key approvals and documentation pertaining to the approved DCM include:

- ML 1427 issued under Part 5 of the *Mining Act, 1992* and approved by the NSW Minister for Mineral Resources in April 1998;
- Development Consent (DA 168/99) issued under Part 4 of the EP&A Act and approved by the NSW Minister for Urban Affairs and Planning in February 1999 (as modified by subsequent Development Consent modifications);
- EPL 11701 issued under Part 3 of the NSW *Protection of the Environment Operations Act, 1997* (PoEO Act) by the EPA in September 2002 (as modified by subsequent licence variations);
- Groundwater Licence – Duralie Coal Open Cut (20BL168404) issued under Part 5 of the *Water Act, 1912* by the DLWC in September 2002 (renewed September 2007);
- approval of the MOP by the NSW Department of Mineral Resources in February 2003; and
- Water Supply Works Approval (20WA202053) under the *Water Management Act, 2000* issued by the DWE on 15 May 2009 for the Coal Shaft Creek Diversion and various on-site water management structures[1].

A detailed register of current licences, permits and approvals is maintained on-site by DCPL and a summary of current approvals is presented annually in the AEMR.

Existing environmental management, monitoring and mitigation measures that are implemented within the DCM approval framework are described, where relevant, in Section 4.

The ARTC controls and operates the North Coast Railway. Noise emissions from the railway are regulated via ARTC's EPL 3142.

6.2 RELATED STRATFORD COAL MINE APPROVALS

The SCM is owned and operated by SCPL a wholly owned subsidiary company of GCL. The SCM operates under Development Consent DA 23-98/99 issued by the NSW Minister for Urban Affairs and Planning in February 1999 (as modified by subsequent Development Consent modifications).

DA 23-98/99 currently limits the hours of receipt of ROM coal trains from the DCM to between 7.00 am and 10.00 pm and has an upper limit on the rail transport of product coal from the SCM (including coal produced by the Bowens Road North mining operations) of 2.3 Mtpa.

Alteration of the hours of SCM receipt of DCM ROM coal trains, processing of additional DCM coal in the SCM CHPP, emplacement of DCM coal rejects at the SCM and increased product coal train movements from SCM to market, would be subject to separate environmental assessment and approval for which SCPL would be the proponent. This EA does not seek approval for any modification to the approved SCM.

[1] This approval replaced the previous *Water Act, 1912* Licence 20SL060324 for these structures.

6.3 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

6.3.1 Overview

As described in Section 1.1.1, this EA has been prepared to accompany the Project Application, in accordance with Part 3A of the EP&A Act.

Part 3A of the EP&A Act provides an approval process that is tailored to major projects.

Section 75B(1) of the EP&A Act defines projects to which Part 3A applies:

> *This Part applies to the carrying out of development that is declared under this section to be a project to which this Part applies:*
>
> *(a) by a State environmental planning policy, or*
>
> *(b) by order of the Minister published in the Gazette (including by an order that amends such a policy)…*

Schedule 1 of the *State Environmental Planning Policy (Major Projects) 2005 (*Major Projects SEPP) describes development that is declared to be a project to which Part 3A of the EP&A Act applies. The Project is considered to be a project to which Part 3A of the EP&A Act applies under Schedule 1, Group 2 (*Mining, petroleum production, extractive industries and related industries*) of the Major Projects SEPP.

Clause 5 of Schedule 1 (Group 2) provides:

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

On 27 October 2008, the Director-General of the DoP, under delegation from the NSW Minister for Planning (the Minister), formed the opinion that the Project is of a kind that meets the description in the Major Projects SEPP (set out above), and pursuant to clause 6(1) of the Major Projects SEPP, declared the Project to be a project to which Part 3A of the EP&A Act applies. In accordance with section 75D(1) of the EP&A Act, the Minister is the approval authority for the Project.

6.3.2 Application of Other Provisions of the Environmental Planning and Assessment Act, 1979

Section 75R of the EP&A Act outlines the applicability of other provisions of the EP&A Act relevant to the assessment and approval of a project under Part 3A:

- Parts 4 and 5 of the EP&A Act do not, except as provided by Part 3A, apply to a project approved under Part 3A, including the declaration of a project as a project to which Part 3A applies, and any approval or other requirement under Part 3A for the project.
- Part 3 of the EP&A Act and State Environmental Planning Policies (SEPPs) apply to the declaration of a project as a project to which Part 3A applies and the carrying out of a project to which Part 3A applies.
- Non-SEPP Environmental Planning Instruments (EPIs) (e.g. Local Environment Plans [LEPs] and Regional Environmental Plans) do not apply to a project approved under Part 3A.

Notwithstanding the above, under section 75J(3), the provisions of any EPIs that would ordinarily apply to the Project if it were not to be assessed under Part 3A, may be taken into account by the Minister in deciding whether or not to approve the carrying out of the Project.

Divisions 6 (Contributions) (Section 6.3.5) and 6A (Affordable Housing Contributions) of Part 4 of the EP&A Act also apply to a project to which Part 3A applies.

6.3.3 Other Approvals and Legislation that must be Applied Consistently to Part 3A Projects

Section 75V(1) of the EP&A Act outlines the authorisations that cannot be refused if they are necessary for the carrying out of a project approved under Part 3A and those authorisations must be substantially consistent with the Part 3A approval.

These authorisations are those required under the following legislative provisions:

- section 144 of the FM Act;
- section 15 of the *Mine Subsidence Compensation Act, 1961*;
- mining lease under the *Mining Act, 1992*;
- production lease under the *Petroleum (Onshore) Act, 1991*;
- EPL under Chapter 3 of the PoEO Act;
- section 138 of the *Roads Act, 1993*; and
- a licence under the *Pipelines Act, 1967.*

6.3.4 Other Approvals and Legislation that do not apply to Approved Part 3A Projects

Sections 75U(1) and (2) of the EP&A Act outline the authorisations that are not required for a project approved under Part 3A. These authorisations are those ordinarily required under the following legislative provisions:

- Part 3 of the *Coastal Protection Act, 1979*;
- sections 201, 205 and 219 of the FM Act;
- Division 8 of Part 6, Part 4 and section 139 of the *Heritage Act, 1977*;
- sections 87 and 90 of the *National Parks and Wildlife Act, 1974*;
- section 12 of the *Native Vegetation Act, 2003;*
- Part 3A of the *Rivers and Foreshores Improvement Act, 1948*;
- section 100B of the *Rural Fires Act, 1997*; and
- sections 89, 90 and 91 of the *Water Management Act, 2000*.

6.3.5 Section 94 Contributions

The Project is located in the Great Lakes LGA within the area of the *Great Lakes Wide Development Contributions Plan* (GLC, 2007) (the Contributions Plan). The Contributions Plan came into force in January 2000 and applies to all land within the Great Lakes LGA. Under the Contributions Plan, developers are required to make financial contributions towards library stock, a council headquarters building, section 94 administration, rural fire fighting facilities and road haulage related road maintenance costs where relevant.

GLC also has two additional section 94 contributions plans that are also potentially applicable to development in the general Project area:

- *Open Space Rural Districts Development Contributions Plan* (GLC, 2009b); and
- *Great Lakes Council Section 94 Contributions Plan: Rural Roads - Buladelah and Stroud* (GLC, 2003).

The Project will be assessed under Part 3A of the EP&A Act. However, due to the operation of section 75R(4) of the EP&A Act, the Minister may grant approval to the Project subject to a condition requiring contributions under either or both of section 94 and section 94A of the EP&A Act.

In addition, section 94B(2) provides that where the consent authority is not a council (as is the case for the Project), the consent authority may impose a condition under sections 94 or 94A that is not authorised by or determined in accordance with an applicable contributions plan, as long as the consent authority has regard to the contributions plan that applies to the whole or any part of the area in which the development is to be carried out.

Section 94C allows 'cross-boundary' contributions to be imposed under sections 94 or 94A for the benefit (or partly for the benefit) of an area adjoining the LGA in which the development is carried out. The Gloucester Shire LGA adjoins the Great Lakes LGA. GSC has two section 94 contributions plans that are potentially applicable to the Project pursuant to section 94C:

- *S94A Development Contributions Levy Plan 2006* (GSC, 2006); and
- *Gloucester Shire Council Section 94 Development Contributions for All Development Applications and Complying Developments Plan 2008*. Revised July 2009 (GSC, 2009).

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.

6.4 OTHER STATUTORY APPROVALS

6.4.1 NSW Approvals

The following NSW Acts may be applicable to the Project:

- CLM Act;
- *Dangerous Goods Act, 1975*;
- *Mining Act, 1992*;
- *National Parks and Wildlife Act, 1974;*
- *Noxious Weeds Act, 1993*;
- *Road and Rail Transport (Dangerous Goods) Act, 1997*;
- *Roads Act, 1993*;
- PoEO Act;
- TSC Act;
- *Coal Mine Health and Safety Act, 2002*;
- *Crown Lands Act, 1989*;
- *Dams Safety Act, 1978*;
- FM Act;
- *Water Act, 1912*;
- *Water Management Act, 2000*; and
- *Petroleum (Onshore) Act, 1991.*

Applications for licences and permits required under these Acts which are relevant to the Project would be submitted to the relevant government agencies as required.

Under the *Petroleum (Onshore) Act, 1991* AGL holds PEL No. 285 that extends over an area of approximately 1,600 km^2 and extends from north of Gloucester to the south of Stroud and includes the general DCM area. AGL is the proponent of the proposed Gloucester Coal Seam Gas Project that would potentially include a range of proposed activities within PEL No. 285 including gas field development, a central processing facility located at Stratford, and a pipeline to Hexham.

A project application was lodged in August 2008 for the Gloucester Coal Seam Gas Project, however at the time of lodgement, this project was being assessed by regulators and had not been approved. GCL will continue to consult with AGL during the life of the Project to minimise potential cumulative environmental impacts and resolve operational issues that may arise due to the proximity of DCPL's mining operations and AGL's gas exploration and development activities.

Additional detail on the likely Project requirements under the NSW *Mining Act, 1992, Water Management Act, 2000*, *Water Act, 1912* and *Roads Act, 1993* are provided in the sub-sections below.

Mining Act, 1992

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 a subsequent AEMR.

Collectively, the MOP and AEMR constitute the *Guidelines to the Mining, Rehabilitation and Environmental Management Process* (MREMP Guidelines) (DPI-MR, 2006) which has been developed by DII-Minerals & Energy.

The MREMP is a framework that aims to facilitate the development of mining in NSW in a safe manner such that operations are safe, the environment is protected, the resources are efficiently extracted and rehabilitation achieves a stable, satisfactory outcome (DPI-MR, 2006). The structure and content of the Project MOP and AEMR would continue to be developed in accordance with the MREMP Guidelines (DPI-MR, 2006) and through consultation with various regulatory and advisory agencies including DII-Minerals & Energy, DECCW, DoP and GLC.

As Project rehabilitation and remediation activities would be undertaken progressively, the MREMP would be used throughout the Project life to both plan and track the performance of these activities as they are carried out. DII-Minerals & Energy maintain discretion to review the rehabilitation security held for the DCM.

Mining Operations Plan

The MOP would provide information in regard to the mining, processing and rehabilitation operations, relevant lease and development conditions, licences and other approvals.

The MOP would also describe:

- area(s) to be disturbed;
- mining, rehabilitation and remediation method(s) to be used and their sequence;
- existing infrastructure;
- progressive rehabilitation schedules;
- areas of particular environmental sensitivity;

- land and water management systems; and
- resource recovery.

The MOP would be revised periodically as well as prior to any significant alteration to Project operations.

Annual Environment Management Report

An AEMR would be prepared to address the reporting of the status of approvals, leases, licences and environmental risk management and environmental control strategies.

For the preceding 12 month period, the AEMR would provide a summary of community relations and liaison, mine development and rehabilitation in relation to the MOP. Project environmental performance in relation to the collective conditions of approvals, leases and licences for the previous 12 month period would also be reported.

The AEMR would also include a review detailing proposed improvements in relation to environmental monitoring and management systems and environmental performance and would specify environmental and rehabilitation targets to be achieved during the ensuing 12 month period.

Water Management Act, 2000

Under the *Water Management Act, 2000,* the *Water Sharing Plan for the Karuah River Water Source, 2003* (the Water Sharing Plan), commenced on 1 July 2004. The Mammy Johnsons River and its tributaries fall within Management Zone 4 of the Water Sharing Plan.

Clause 5 of the Water Sharing Plan provides that the plan applies to the following waters:

> *(1) The waters of this water source include all water occurring on the land surface … including, but not limited to:*
> *(a) all rivers in this water source …*
> *…*
>
> *(2) The waters of this water source exclude all water contained within aquifers underlying this water source.*
>
> *…*

As clause 5 of the Water Sharing Plan excludes aquifers from the Karuah River Water Source and because no separate water sharing plan applicable to those aquifers has commenced, the *Water Management Act, 1912* remains the relevant Act for approval of groundwater extractions in the DCM area (refer discussion below).

DCM has an existing Water Supply Works Approval (20WA202053) under the *Water Management Act, 2000* for the Coal Shaft Creek Diversion and various on-site water management structures.

The Project would include the capture, storage and use of surface runoff from Project operational areas, development of dams, drains and diversion structures. The use of surface runoff in these structures would be undertaken in accordance with the harvestable rights order published in the Government Gazette on 1 July 2004 pursuant to section 54 of the *Water Management Act, 2000*. As such, no access licence would be required for the use of this surface runoff.

Section 75U(1) of the EP&A Act provides that water use approvals under section 89, water management work approvals under section 90, or activity approvals under section 91 of the *Water Management Act, 2000* are not required for an approved Part 3A Project (Section 6.3.4).

The approval requirements of the *Water Management Act, 2000* that would normally apply before the associated water management structures could be constructed or used, therefore do not apply to the Project.

Notwithstanding, a detailed assessment of the potential impacts of the Project on surface water resources including the relevant waters of the Karuah River Water Source has been conducted for the EA and is detailed in Appendix A and Section 4.4.

Water Act, 1912

DCPL holds an existing Groundwater Licence issued under Part 5 of the *Water Act, 1912* (20BL168404) that allows for up to 300 ML of groundwater to be extracted in any 12 month period at the DCM open pit

A new Groundwater Licence under Part 5 of the *Water Act, 1912* may be required from NOW to permit the extraction of additional groundwater that reports to the Project open pits.

Pursuant to section 113A of the *Water Act, 1912* an embargo on any further applications for sub-surface water licences under Part 5 of the *Water Act, 1912* was declared on 11 April 2008 for the *Coastal Floodplain Alluvial Groundwater Sources and Highly Connected Alluvial Groundwater Sources of Coastal Catchments – Regional NSW* (the alluvial aquifer embargo). This area includes the Project.

The alluvial aquifer embargo relevantly pertains to:

> *All the groundwater found in alluvial aquifers located upstream of the tidal limit, and within 500 meters of a 3rd order stream or greater…*

It is noted that there are mapped alluvial sediments along Mammy Johnsons River to the east of the Project, however, there are no mapped alluvial sediments in the proposed Project open pit extension areas (Figure 2-2).

A detailed assessment of the potential impacts of the Project on groundwater resources has been conducted for the EA and is detailed in Appendix B and Section 4.3. Based on the hydrogeological assessment of the potential impacts of the Project, it is considered unlikely that the excavation associated with the Project would cause groundwater inflow into the pits from any alluvial aquifer which is located within 500 m of Mammy Johnsons River. On this basis it is unlikely that DCPL would need to apply for a dewatering licence which is subject to the alluvial aquifer embargo.

The section 113A order which created the alluvial aquifer embargo states that the embargo does not apply to:

> *9. Bores related to a development proposal under Part 3A of the Environmental Planning & Assessment Act 1979 that the Department has provided requirements for a licence under Part 5 of the Water Act, 1912 in the referral process and the application satisfies the Department's requirements*.

DCPL will consult with NOW in relation to its review of Appendix B. If NOW is of the opinion that groundwater may report to the Project pits from alluvial aquifers which are located within 500 m of Mammy Johnsons River, DCPL will liaise with NOW to ensure that any necessary dewatering licence is procured pursuant to exemption 9 under the embargo.

A detailed assessment of the potential impacts of the Project on groundwater resources has been conducted for the EA and is detailed in Appendix B and Section 4.3.

Roads Act, 1993

The entire length of Cheerup Road and approximately 1 km of Durallie Road (within MLA 1) would be closed to the public (Figure 2-4) to allow Project mining and ancillary development to be conducted in these road reserves.

DCPL has consulted with GLC with respect to the proposed road closures (Section 3.1.4).

Under the *Roads Act, 1993* the road closure process would include the following key steps:

- application is made for the road closure;
- public notice of the proposed road closure is provided in a local newspaper and the public has an opportunity to make submissions;
- public submissions are considered by the Minister; and
- the Minister's decision is provided in the government gazette.

As described in section 38(1) of the *Roads Act, 1993* once the public notice of a road closure has been published in the government gazette, the road ceases to be a public road and the rights of passage and access that previously existed in relation to the road are extinguished.

As described in section 38(2) of the *Roads Act, 1993* the land comprising a former road:

> *…*
>
> *(b) in the case of a public road that was previously vested in a council (other than a public road in respect of which no construction has ever taken place), remains vested in the council, and*
>
> *(c) in any other case, becomes (or, if previously vested in the Crown, remains) vested in the Crown as Crown land.*

On closure of the two sections of road, DCPL intends to purchase the former roads from GLC (or the Crown).

6.4.2 Commonwealth Approvals

The relevance of the EPBC Act to the Project is described in Section 6.6.

The NGER Act would be applicable to the Project. The relevance of this act is described in Section 4.7.

The CPRS may be enacted in the future by the Commonwealth Government would also be applicable to the Project. The relevance of the CPRS is also described in Section 4.7.

6.5 ENVIRONMENTAL PLANNING INSTRUMENTS

6.5.1 Local Environmental Plans

The Project Application area is wholly situated within the Great Lakes LGA.

Transport movements associated with the Project include the increased rail transport of DCM ROM coal to SCM. The SCM and a portion of the ROM coal rail haulage route are located in the Gloucester LGA. Any necessary changes to SCM approvals would be subject to separate environmental assessment and approval (Section 6.2).

Great Lakes LEP

Part 4 of the EP&A Act does not apply to a project approved under Part 3A of the EP&A Act (including the declaration of a project as a project to which Part 3A applies, and any approval or other requirement under Part 3A for the Project). Accordingly, references throughout the Great Lakes LEP to a "consent authority" for the purposes of assessment of development under Part 4 of the EP&A Act are not applicable to a project to which Part 3A applies.

Notwithstanding, certain clauses of the Great Lakes LEP that would ordinarily be applicable, but for the Project being assessed under Part 3A, may be taken into account by the Minister in deciding whether or not to approve the carrying out of the Project. Therefore, relevant clauses of the Great Lakes LEP are discussed below.

Clause 2 of the Great Lakes LEP outlines the aims and objectives of the LEP. Those objectives potentially relevant to the Project include:

> *…*
>
> *(c) to protect environmentally sensitive areas and the heritage of the area, and*
>
> *(d) to improve opportunities for ecologically sustainable development, and*
>
> *…*

The Project is consistent with these objectives of the Great Lakes LEP, in that it would be developed in a manner that would minimise potential impacts on environmentally sensitive areas and heritage, and would be developed in accordance with ESD principles (Section 6.8.2).

Pursuant to clause 8O(1) of the EP&A Regulation, a project to which Part 3A of the EP&A Act applies (other than a critical infrastructure project) may not be given project approval if that project, or any part of that project, is not the subject of an authorisation or requirement under section 75M of the EP&A Act to apply for approval of a concept plan and would be prohibited by an EPI if Part 3A of the EP&A Act did not apply.

Clause 8 of the Great Lakes LEP sets out the zone objectives and the development control table that is relevant in determining whether the Project, or any part of the Project, is prohibited by the Great Lakes LEP in any of the Project land.

Clause 8(3) of the Great Lakes LEP relevantly provides:

> *The Council must not grant consent for development on land within a zone unless it has taken into consideration the aims of this plan and is satisfied that the development is consistent with at least one or more of the objectives of the zone within which the development is proposed to be undertaken.*

The Project Application area is located within an area zoned 1(a) (Rural Zone) under the Great Lakes LEP. The objectives of this zone are to restrict development to those uses which are unlikely to:

> *(a) prejudice in a significant manner the agricultural production potential of land within the zone, and*
>
> *(b) generate significant additional traffic, or create or increase a condition of ribbon development on any road, relative to the capacity and safety of the road, and*
>
> *(c) have an adverse impact on the area's water resources, and*
>
> *(d) create unreasonable or uneconomic demands for the provision or extension of public amenities or services.*

The Minister may, pursuant to section 75J(3), take into account the zone objectives.

The Project would not significantly prejudice agricultural production of lands zoned 1(a) in the wider Great Lakes LGA. Nor would the Project generate significant additional traffic or result in any road capacity or road safety thresholds being exceeded (Section 4.13.2 and Appendix H).

The potential impacts of the Project on water resources has been considered in the surface water and groundwater assessments (Appendices A and B, respectively) and potential impacts can be managed with the implementation of suitable on-site management measures such that off-site impacts would be negligible (Sections 4.3.3 and 4.4.3).

Consideration of the potential impacts of the Project on demand for community infrastructure/services has been considered in the Socio-Economic Assessment and no significant additional demands were identified (Section 4.14.2 and Appendix G).

Under clause 8 of the Great Lakes LEP "mines" are permissible on lands zoned Zone 1(a) (General Rural) with Development Consent as mining use is not listed as being a prohibited use in the zoning table.

Accordingly the Minister can be satisfied as to these matters.

Part 3 of the Great Lakes LEP provides a number of special provisions of potential relevance to the Project, including the following:

11 Land form modification

Objective of Provision

To control soil erosion, sedimentation and drainage impacts associated with land form modification.

Land form modification

(1) Despite any other provision of this plan, filling or excavation of land (except as specified in subclause (2)) is permitted only with the consent of the Council.

(2) Filling or excavation of land may be carried out without the consent of the Council but only where the development will, in the opinion of the Council, not significantly affect the natural and existing built environment.

The Project would include both excavation of land and filling of land associated with the open pits and waste rock emplacements. As described in Section 4.4.3, erosion and sediment control measures would be implemented for Project earthmoving activities and mine landforms. The design of the Project water management structures and water management measures (e.g. on-site irrigation) has been undertaken to minimise potential impacts on the natural environment.

Accordingly the Minister can be satisfied as to these matters.

12 Services

Objective of Provision

To ensure that all development has adequate water and sewerage services.

Services

The Council must not grant consent to the carrying out of development on any land unless:

(a) an adequate water supply and facilities for the removal of sewage and for the drainage of the land are available to the land, or

(b) arrangements satisfactory to the Council have been made for the provision of that supply and those facilities.

The Project would include the continued use of the licensed sewage treatment facilities at the DCM and the Project water supply would continue to be provided by pit inflows and incident rainfall. Section 2.8 provides an overview of the upgrades that would be required to DCM water management infrastructure over the life of the Project.

Accordingly the Minister can be satisfied as to these matters.

21 Heritage

Objective of Provision

To provide for continuity with the past by conserving the heritage of the Great Lakes area.

Consent for heritage items and conservation area

(1) The consent of the Council is required to carry out the following development:

(a) demolishing, defacing or damaging a heritage item or a building, work, relic, tree or place within a heritage conservation area,

(b) altering a heritage item or a building, work, relic, tree or place within a heritage conservation area by making structural changes to its exterior,

(c) altering a heritage item or a building, work, relic, tree or place within a heritage conservation area by making non-structural changes to the detail, fabric, finish or appearance of its exterior, except changes resulting from any maintenance necessary for its ongoing protective care which does not adversely affect its heritage significance,

(d) moving a heritage item or a building, work, relic, tree or place within a heritage conservation area, or excavating land for the purpose of discovering or moving a relic that is a heritage item or within such an area,

(e) erecting a building on, or subdividing, land on which such a heritage item is located or which is within a heritage conservation area.

(2) Development consent is not required by this clause if the Council is of the opinion that the proposed development would not adversely affect the heritage significance of the heritage item or heritage conservation area.

(3) When determining a development application required by this clause, the Council must take into consideration the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area.

(4) (Repealed)

Development in the vicinity of heritage items, heritage conservation areas, archaeological sites or potential archaeological sites

(5) The Council must take into consideration the likely effect of proposed development on the heritage significance of a heritage item and its setting, and on the heritage significance of a heritage conservation area, archaeological site or potential archaeological site, when determining an application for consent to carry out development on land in its vicinity.

Note. The website of the Heritage Branch of the Department of Planning has publications that provide guidance on assessing the impact of proposed development on the heritage significance of items (for example, Statements of Heritage Impact).

Notice of certain heritage development applications

(6) Sections 84, 85, 86, 87 (1) and 90 of the Act (which provide for the giving of notice, and for the making and consideration of submissions, about proposed development) apply to the demolishing, defacing or damaging of a heritage item or a building, work, relic, tree or place within a heritage conservation area (and to the use of a building or land referred to in subclause (9) or (10) for a purpose which, but for that subclause, would be prohibited by this plan) in the same way as those provisions apply to designated development.

Development of known or potential archaeological sites

(7) The Council may grant consent to the carrying out of development on an archaeological site that has Aboriginal heritage significance (such as a site that is the location of an Aboriginal place or relic within the meaning of the National Parks and Wildlife Act 1974) or a potential archaeological site that is reasonably likely to have Aboriginal heritage significance only if:

(a) it has considered an assessment of how the proposed development would affect the conservation of the site and any relic known or reasonably likely to be located at the site prepared in accordance with any guidelines for the time being notified to it by the Director-General of National Parks and Wildlife, and

(b) except where the proposed development is integrated development, it has notified the local Aboriginal communities (in such as it thinks appropriate) of the development application and taken into consideration any comments received in response within 21 days after the notice was sent, and

(c) it is satisfied that any necessary consent or permission under the National Parks and Wildlife Act 1974 has been granted.

(8) The Council may grant consent to the carrying out of development on an archaeological site that has non-Aboriginal heritage significance or a potential archaeological site that is reasonably likely to have non-Aboriginal heritage significance only if:

(a) it has considered an assessment of how the proposed development would affect the conservation of the site and any relic known or reasonably likely to be located at the site prepared in accordance with any guidelines for the time being notified to it by the Heritage Council, and

(b (Repealed)

(c) it is satisfied that any necessary excavation permit required by the Heritage Act 1977 has been granted.

Aboriginal and non-Aboriginal heritage assessments have been undertaken for the Project (Appendices J and K, respectively). The findings of these assessments and Project heritage management measures are provided in Sections 4.11 and 4.12, respectively. Accordingly the Minister can be satisfied as to these matters.

Rail Haulage

Schedule 1 of the Great Lakes LEP provides a list of development that does not require consent. Clause 1 indicates that railway undertakings do not require consent including:

> *(a) any development required in connection with the movement of traffic by rail…*

The Project haulage of ROM coal to SCM would be undertaken by a third party contractor on the North Coast Railway which is leased and managed by ARTC in accordance with ARTC approvals.

6.5.2 State Environmental Planning Policies

State Environmental Planning Policy (Major Projects) 2005

Clause 2 of the Major Projects SEPP outlines a number of aims of the SEPP, the following being relevant to the Project:

> *(a) to identify development to which the development assessment and approval process under Part 3A of the Act applies,*
>
> *…*

On the 27 October 2008, the Director-General, as delegate of the Minister, formed the opinion that the Project is of a kind that meets the description in Schedule 1 to the Major Projects SEPP, and pursuant to clause 6(1) of the Major Projects SEPP, declared the Project to be a project to which Part 3A of the EP&A Act applies.

State Environmental Planning Policy No. 33 (Hazardous and Offensive Development)

*State Environmental Planning Policy No. 33 (Hazardous and Offensive Development) (*SEPP 33) applies to the entire State.

Clause 2 sets out the aims of SEPP 33, the following being relevant to the Project:

> *(a) to amend the definitions of hazardous and offensive industries where used in environmental planning instruments, and*
>
> *…*
>
> *(d) to ensure that in determining whether a development is a hazardous or offensive industry, any measures proposed to be employed to reduce the impact of the development are taken into account, and*
>
> *(e) to ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimise any adverse impact, and*
>
> *…*

For development for the purposes of a potentially hazardous industry or a potentially offensive industry, clause 12 of SEPP 33 requires a PHA to be prepared in accordance with the current circulars or guidelines published by the DoP. Clause 13 of SEPP 33 requires the approval authority, in considering an application to carry out development for the purposes of a potentially hazardous or a potentially offensive industry, to consider:

> *(a) current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development, and*
>
> *(b) whether any public authority should be consulted concerning any environmental and land use safety requirements with which the development should comply, and*
>
> *(c) in the case of development for the purpose of a potentially hazardous industry – a preliminary hazard analysis prepared by or on behalf of the applicant, and*
>
> *(d) any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application (including any feasible alternatives for the location of the development and the reasons for choosing the location the subject of the application), and*
>
> *(e) any likely future use of the land surrounding the development.*

As part of the preparation of this EA, a PHA has been conducted in accordance with SEPP 33 (Appendix L). The PHA has been prepared in accordance with the general principles of risk evaluation and assessment outlined in the DUAP *Multi-Level Risk Assessment Guidelines* (1999). In addition, the PHA considers the qualitative criteria provided in *Risk Criteria for Land Use Planning: Hazardous Industry Planning Advisory Paper No. 4* (DUAP, 1992b) and is documented in general accordance with *Guidelines for Hazard Analysis: Hazardous Industry Planning Advisory Paper No. 4* (DUAP, 1992a).

Consultation has been undertaken with public authorities during the preparation of this EA as described in Section 3.

Project alternatives (including the Project location) are discussed in Section 6.8.1.

The land surrounding the Project site is primarily rural land and the Project is generally consistent with the uses that are permissible in adjoining lands under the Great Lakes LEP.

State Environmental Planning Policy No. 44 - Koala Habitat Protection

State Environmental Planning Policy No. 44 - Koala Habitat Protection (SEPP 44) requires the council in certain LGAs (including Great Lakes) to consider whether the land which is to be the subject of the Development Consent is "potential koala habitat" or "core koala habitat".

SEPP 44 refers to “council” throughout. Since the Project is a project to which Part 3A applies, the Minister is the approval authority. Accordingly, references to “council” (when referring to giving consent) for the purposes of SEPP 44 would therefore be interpreted as references to the Minister for the Project.

Conservatively, approximately 20 ha of potential Koala habitat as defined by SEPP 44 would be removed by the Project. The Project area is not considered to represent core koala habitat as the Koala has not been recorded utilising habitat in the Project area (Appendix E).

As described in Section 4.8.3, a Vegetation Clearance Protocol (DCPL, 2002b) has been developed to minimise the impact of DCM vegetation clearance on flora and fauna and these measures would continue for the Project. Accordingly the Minister can be satisfied as to these matters.

State Environmental Planning Policy No. 55 (Remediation of Land)

State Environmental Planning Policy No. 55 (Remediation of Land) (SEPP 55) applies to the whole of NSW and is concerned with the remediation of contaminated land. It sets out matters relating to contaminated land that a consent authority must consider in determining an application for Development Consent.

"Contaminated land" in SEPP 55 has the same meaning as in Part 7A of the EP&A Act as follows:

> ***contaminated land*** *means land in, on or under which any substance is present at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment.*

Clause 7(1) of SEPP 55 provides that a consent authority must not consent to the carrying out of any development on land unless:

> *(a) it has considered whether the land is contaminated, and*
>
> *(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and*
>
> *(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.*

Further, clause 7(2) of SEPP 55 provides:

> *(2) Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in subclause (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines* [*Managing Land Contamination - Planning Guidelines SEPP 55 – Remediation of Land]* [DUAP and EPA, 1998].
>
> *(3) The applicant for development consent must carry out the investigation required by subclause (2) and must provide a report on it to the consent authority. The consent authority may require the applicant to carry out, and provide a report on, a detailed investigation (as referred to in the contaminated land planning guidelines) if it considers that the findings of the preliminary investigation warrant such an investigation.*
>
> *(4) The land concerned is:*
>
> *(a) land that is within an investigation area,*

> *(b) land on which development for a purpose referred to in Table 1 to the contaminated land planning guidelines is being, or is known to have been, carried out,*
>
> *(c) to the extent to which it is proposed to carry out development on it for residential, educational, recreational or child care purposes, or for the purposes of a hospital—land:*
>
> *(i) in relation to which there is no knowledge (or incomplete knowledge) as to whether development for a purpose referred to in Table 1 to the contaminated land planning guidelines has been carried out, and*
>
> *(ii) on which it would have been lawful to carry out such development during any period in respect of which there is no knowledge (or incomplete knowledge).*

Clause 7(2) provides that before a consent authority determines an application for Development Consent, a "preliminary investigation" is required where:

- the application for consent is to carry out development that would involve a "change of use"; and
- that "change of use" is to certain land specified in clause 7(4).

The certain land specified in clause 7(4) on which the "change of use" must relate is either:

- land that is an "investigation area" – defined in SEPP 55 as land declared to be an investigation area by a declaration in force under Division 2 of Part 3 of the CLM Act; or
- land on which development for a purpose referred to in Table 1 to the contaminated planning guidelines (being *Managing Land Contamination - Planning Guidelines SEPP 55 – Remediation of Land* [DUAP and EPA, 1998]) is being, or is known to have been, carried out.

The majority of the Project does not involve a "change of use" because the Project would involve the continuation and extension of mining activities within the existing ML 1427 (Figure 1-2). The remainder of the Project would involve a change of use, being that part of the Project described in Section 1.1.3 as the extension of open pit mining activities into MLA 1.

The Project lands in MLA 1 are not an "investigation area" defined by a declaration in force under Division 2 of Part 3 of the CLM Act. A review of past land use practices and current agricultural improvements in the MLA 1 area has been completed by DCPL and this review did not identify any potential sources of land contamination within MLA 1 (DCPL, 2009c).

SEPP 55 is not enlivened by this Project. Nor do the EARs require any assessment under its provisions because it is not relevant to the environmental assessment of any of the key issues listed in the EARs (Attachment 1). In addition, the ERA completed for the Project did not identify land contamination as an issue that required further assessment (Section 4.1).

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

- ***Clause 2***

Clause 2 sets out the aims of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (Mining SEPP) as follows:

> *(a) to provide for the proper management and development of mineral, petroleum and extractive material resources for the purpose of promoting the social and economic welfare of the State, and*
>
> *(b) to facilitate the orderly and economic use and development of land containing mineral, petroleum and extractive material resources, and*
>
> *(c) to establish appropriate planning controls to encourage ecologically sustainable development through the environmental assessment, and sustainable management, of development of mineral, petroleum and extractive material resources.*

- ***Clause 7***

Clause 7 (1) of the Mining SEPP states that development for any of the following purposes may be carried out only with Development Consent:

> *…*
>
> *(b) mining carried out:*
>
> *(i) on land where development for the purposes of agriculture or industry may be carried out (with or without development consent) …*

The Project comprises open pit mining (Section 2) on lands where development for the purposes of agriculture is permissible.

Part 3 of the Mining SEPP provides matters for consideration for Development Applications. While the Project would be assessed under Part 3A and therefore does not comprise a Development Application under Part 4 of the EP&A Act, these clauses are considered below for completeness.

- ***Clause 12***

Clause 12 of the Mining SEPP requires that, before determining an application for consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must:

(a) consider:

(i) the existing uses and approved uses of land in the vicinity of the development, and

(ii) whether or not the development is likely to have a significant impact on the uses that, in the opinion of the consent authority having regard to land use trends, are likely to be the preferred uses of land in the vicinity of the development, and

(iii) any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses, and

(b) evaluate and compare the respective public benefits of the development and the land uses referred to in paragraph (a) (i) and (ii), and

(c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a) (iii).

As described in Section 4.2, the majority of lands in the vicinity of the Project are utilised for pastoral/agricultural production. In addition, GCL owns adjoining lands and lands in the vicinity of the Project (Figures 1-3a and 1-3b) that are used for pastoral/agricultural production. Irrigation areas within ML 1427 and MLA 1 would also be used for Project beneficial rural production.

The Project is not incompatible with existing, approved or likely adjoining land uses. As described in Section 4, the Project would be operated in a manner as to minimise potential impacts on the environment.

- ***Clause 14***

Clause 14(1) of the Mining SEPP requires that, before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following:

(a) that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable,

(b) that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable,

(c) that greenhouse gas emissions are minimised to the greatest extent practicable.

In addition, clause 14(2) requires that, without limiting clause 14(1), in determining a Development Application for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development, and must do so having regard to any applicable State or national policies, programmes or guidelines concerning greenhouse gas emissions.

The potential impacts of the Project on surface water and groundwater resources are discussed in Sections 4.3 and 4.4, including measures to minimise potential impacts which are described in Sections 4.3.3 and 4.4.3. The potential impacts of the Project on threatened species and biodiversity are described in Sections 4.8, 4.9 and 4.10, including measures to minimise potential impacts which are described in Sections 4.8.3, 4.9.3 and 4.10.3.

The Project greenhouse gas emissions assessment is provided in Section 4.7. Greenhouse gas abatement measures are described in Section 4.7.3 and Appendix D. These sections of the EA address the EARs (Attachment 1) for the quantitative assessment of potential scope 1, 2 and 3 greenhouse gas emissions of the Project, and the qualitative assessment of the potential impacts of these emissions on the environment.

- ***Clause 15***

Clause 15 of the Mining SEPP requires that:

> *(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider the efficiency or otherwise of the development in terms of resource recovery.*
>
> *(2) Before granting consent for the development, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at optimising the efficiency of resource recovery and the reuse or recycling of material.*
>
> *(3) The consent authority may refuse to grant consent to development if it is not satisfied that the development will be carried out in such a way as to optimise the efficiency of recovery of minerals, petroleum or extractive materials and to minimise the creation of waste in association with the extraction, recovery or processing of minerals, petroleum or extractive materials.*

As described in Section 3.1.3, DCPL has progressively presented Project description information, mine layout plans and other information to the DII-Minerals & Energy during the development of this EA. It is in DCPL's financial interest to maximise the efficiency and long-term value of open pit mining operations and ROM coal production.

- ***Clause 16***

Clause 16(1) of the Mining SEPP requires that, before granting consent for development for the purposes of mining or extractive industry that involves the transport of materials, the consent authority must consider whether or not the consent should be issued subject to conditions that do any one or more of the following:

> *(a) require that some or all of the transport of materials in connection with the development is not to be by public road,*
>
> *(b) limit or preclude truck movements, in connection with the development, that occur on roads in residential areas or on roads near to schools,*
>
> *(c) require the preparation and implementation, in relation to the development, of a code of conduct relating to the transport of materials on public roads.*

The Project does not involve the transport of coal by road. All off-site ROM coal transport is by rail (Section 2.6). Road transport to and from the DCM for delivery of parts and consumables includes routes that are adjacent to village residential areas and schools that are located along The Bucketts Way.

The Project would involve some minor increases in traffic movements, however the scale of the Project traffic increases is small, and no significant road capacity or road safety issues have been identified by the Road Transport Assessment for the Project (Appendix H). Section 4.13.2 provides a review of potential transport impacts associated with the Project.

Clause 16(2) of the Mining SEPP requires that, if the consent authority considers that the development involves the transport of materials on a public road, the consent authority must, within seven days after receiving the Development Application, provide a copy of the application to each roads authority for the road, and the RTA (if the RTA is not the roads authority for the road).

In addition, Clause 16(3) of the Mining SEPP requires that the consent authority:

> *(a) must not determine the application until it has taken into consideration any submissions that it receives in response from any roads authority or the Roads and Traffic Authority within 21 days after they were provided with a copy of the application,*
>
> *…*

DCPL has consulted with the RTA and GLC during the development of the EA and these authorities are aware of the proposed continuation and expansion of the existing vehicle movements on the public road network, and the closure of Cheerup Road and part of Durallie Road for the duration of the Project (Sections 3.1.3 and 3.1.4).

- ***Clause 17***

Clause 17 of the Mining SEPP requires that before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring the rehabilitation of land that would be affected by the development. In particular, the consent authority must consider whether conditions of the consent should:

(a) *require the preparation of a plan that identifies the proposed end use and landform of the land once rehabilitated, or*

(b) *require waste generated by the development or the rehabilitation to be dealt with appropriately, or*

(c) *require any soil contaminated as a result of the development to be remediated in accordance with relevant guidelines (including guidelines under section 145C of the Act and the Contaminated Land Management Act 1997), or*

(d) *require steps to be taken to ensure that the state of the land, while being rehabilitated and at the completion of the rehabilitation, does not jeopardize public safety.*

In accordance with the EARs (Attachment 1), a detailed rehabilitation and landscape management strategy is provided in Section 5. Landform stability and the maintenance of public safety are integral to the Project rehabilitation strategy. Waste rock and geochemistry management measures are described in Section 2.7 and Sections 4.2 and 4.4. Soil management and land contamination management measures are provided in Section 4.2.3.

6.6 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT, 1999

The EPBC Act defines proposals that are likely to have an impact on a matter of 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, Heritage and the Arts for a determination as to whether or not the action is a controlled action.

The Project will be referred to the Commonwealth Minister for the Environment, Heritage and the Arts for an assessment of whether or not it is a controlled action under the EPBC Act.

6.7 HUNTER-CENTRAL RIVERS CATCHMENT ACTION PLAN

The Hunter-Central Rivers Catchment Action Plan (Hunter-Central Rivers CAP) provides an outline of the natural resource issues in the Hunter-Central Rivers region and guides natural resource management and investment. The Hunter-Central Rivers CAP was developed by the Hunter-Central Rivers Catchment Management Authority (CMA) and is endorsed by the NSW Government.

The Hunter-Rivers CAP provides guiding principles which *provide direction for all natural resource managers to achieve Ecologically Sustainable Development and allow organisations to align their activities so that they are compatible with the CAP* (Hunter-Central Rivers CMA, 2007).

The Hunter-Central Rivers CAP is not a legally binding instrument and was not specifically referenced in the EARs. Notwithstanding, the Hunter-Central Rivers CAP is considered a relevant regional plan and the principles of ESD and guiding principles for terrestrial biodiversity, groundwater and mining and extractive operations contained within the plan have been considered and/or addressed in this EA as outlined below.

Terrestrial Biodiversity

A detailed assessment of the potential impacts of the Project on terrestrial flora and fauna has been conducted for the EA and is detailed in Appendix E and Sections 4.8 and 4.9.

The guiding principles for terrestrial biodiversity provided in the Hunter-Central Rivers CAP aim to 'maintain or improve' terrestrial biodiversity. Sections 4.8.3 and 4.9.3 of the EA as well as Section E6 of Appendix E describe an offset proposal in accordance with the DECCW Offset Principles. Sections 4.8, 4.9 and 6.8.2 of the EA further describe the Project measures to maintain or improve biodiversity values.

Specific examples of how the guiding principles for terrestrial biodiversity provided in the Hunter-Rivers CAP have been considered in the EA include the following:

- Consideration of future impacts (e.g. climate change) on biodiversity (Appendix E and Section 4).
- Assessment of impacts on threatened species, populations, communities and their habitat(s) (Appendix E and Section 4).

- Consideration of key threatening processes under the TSC Act and EPBC Act (Appendix E and Section 4).
- Location of the majority of the Project area on land cleared as part of past rural land use practices and logging (Appendix E and Section 4).
- Proposal of an offset for unavoidable loss of vegetation (Appendix E and Section 4).
- Use of a regional approach to biodiversity management (Appendix E and Section 4).
- Proposal of biodiversity management measures, including measures to minimise pollution and soil erosion and manage grazing pressure and water use (Appendix E and Section 4).
- Proposal of an offset area and rehabilitation concepts which aim to increase the connectivity of habitat in the medium to long-term. The proposed offset area would enhance the local connectivity of existing habitat areas and create linkages to the Mammy Johnsons River and the rehabilitation areas of the final Project (Appendix E and Section 4).
- Proposal of an offset which includes both enhancement and revegetation areas. Native vegetation regeneration will be encouraged by providing appropriate fencing to exclude grazing from existing treed areas and selective revegetation will be undertaken in derived grasslands by appropriate plantings or seeding using local seed sources (Appendix E and Section 4).
- Identification, monitoring and management of weed/pest species to suppress their establishment (Appendix E and Section 4).
- Proposal of bushfire management measures to minimise adverse ecological impacts from fire and co-ordination/reporting of bushfire management with the Great Lakes RFS (Appendix E and Section 4).
- Compliance with relevant legislation, policies, plans and strategies (Section 6).

Groundwater

A detailed assessment of the potential impacts of the Project on groundwater resources has been conducted for the EA and is detailed in Appendix B and Section 4.3.

Specific examples of how the guiding principles for groundwater provided in the Hunter-Rivers CAP have been considered in the EA include the following:

- Consideration of the principles of ESD (Section 6.8.2).
- Groundwater is metered and extracted in accordance with the limits set by Bore Licence (20BL168404) and groundwater monitoring Bore Licence 20BL16853 issued by the DECCW.
- The Groundwater Assessment assesses cumulative groundwater impacts with other existing and approved mines in the area (Appendix B).
- Groundwater dependent ecosystems are clearly identified and assessed in Appendix E and Section 4.8.2.
- The Groundwater Assessment clearly identifies groundwater recharge zones (Appendix B).
- The Groundwater Assessment concluded that there is expected to be negligible deterioration in groundwater quality as a result of mining, including in the long-term (Appendix B and Section 4.3).
- The Groundwater Assessment provides management and mitigation measures, including the development of a comprehensive groundwater monitoring and reporting programme which would be undertaken throughout the Project (Appendix B, Sections 4.3 and 7).
- Compliance with relevant legislation, policies, plans and strategies (Section 6).

Mining and Extractive Operations

The guiding principles for mining and extractive operations aim to minimise the impacts of mining and extractive operations on natural resources and ensure appropriate rehabilitation of affected land.

Specific examples of how the guiding principles for mining and extractive operations provided in the Hunter-Rivers CAP have been considered in the EA include the following:

- A detailed Surface Water Assessment conducted for the EA concluded that impacts on flow in Mammy Johnsons River are likely to be insignificant (Appendix A and Section 4.4).
- The Groundwater Assessment concluded that there is limited potential for reduction of groundwater yield to other groundwater users and the Project is not likely to impact any terrestrial vegetation or wetlands which may be dependant on groundwater (Appendix B).
- The existing Site Water Management Plan will be reviewed and revised to incorporate the Project (Section 4.4.3).
- Proposed environmental monitoring and reporting commitments for the Project are described in Section 7.

- Development of a Rehabilitation and Landscape Management Strategy that allows for progressive rehabilitation of the Project area to achieve final land uses that meet community and regulatory expectations and infrastructure needs in consideration of the pre-mining land use (Appendix N and Section 5).
- Assessment of Aboriginal and Non-Aboriginal heritage sites and landscapes, and avoidance/mitigation of impacts, where practicable (Appendices J and K and Section 4.11 and 4.12, respectively).
- Proposal of an offset for unavoidable loss of vegetation (Appendix E and Section 4).
- Consideration of the off-site and cumulative impacts of mining (Section 4) and the principles of ESD (Section 6.8.2).
- Compliance with relevant legislation, policies, plans and strategies (Section 6).

6.8 PROJECT JUSTIFICATION

In accordance with the requirements of the EARs (Attachment 1), a justification of the Project on economic, social and environmental grounds, including consideration of alternatives and consideration of the consistency of the Project with the objects of the EP&A Act is provided below.

6.8.1 Consideration of Project Alternatives

Project Location

The location for the Project is determined by the location of the coal seams and DCPL's existing mining tenements. The Project involves extension of the current approved mining operations in the Weismantel Coal Seam as well as development of the adjacent Clareval Coal Seam.

Alternative locations for the Project therefore are not relevant for consideration.

Production Rate and Scale

The production rate of a mining operation is determined by the optimum recovery of the resource and production rate that maximises value and ongoing viability whilst enabling compliance with statutory guidelines and Project Approval conditions.

The Project mining reserve comprises approximately 20.5 Mt of ROM coal (Section 2.3).

DCPL has undertaken an analysis of the local geology, coal market volume and quality requirements and mining economics to determine the optimum scale and production rate for the Project which resulted in the selection of an average production rate of approximately 2.3 Mtpa over the life of the Project and peak production of up to 3 Mtpa of ROM coal. The indicative mine schedule is provided in Section 2.5.3.

As a component of the analysis of mining alternatives, DCPL reviewed the size and number of mobile fleet items that would be required to achieve the optimal production profile. Large mobile equipment can, in broad scale bulk mining operations, significantly increase the efficiency of mining (e.g. the use of draglines and very large excavators/haul trucks).

However, at the scale of the DCM mining operation and with the complex nature of the local coal deposits (i.e. extensive faulting and associated repetition of stratigraphic units, steeply dipping coal seams and stratigraphic variations in coal quality) larger bulk mining equipment is not suited to the DCM. DCPL has therefore opted for medium sized mining equipment. In addition, the replacement equipment utilised would be current low noise emission standard equipment (e.g. attenuated exhaust systems, all new haul trucks would be CAT 785XQ models) (Section 4.5.2).

On-site Coal Processing

The Duralie Coal EIS included the development and operation of an on-site CHPP, however, the on-site CHPP was removed and replaced by railing of ROM coal to the SCM as a component of the 1998 modification documented in the Duralie SEE (DCPL, 1998) (Section 2.2).

Establishing a CHPP at the DCM is not the preferred alternative, for reasons including:

- the capital costs associated with establishment of a new CHPP;
- DCM on-site coal reject disposal would be required (either in-pit or out-of-pit) and the SCM has a large open pit void (Stratford main pit) that is available for ongoing coal reject disposal;
- additional land disturbance and supporting infrastructure (e.g. electricity supply) would be required at the DCM; and
- the quality of contained water in the MWD and auxiliary dams would be reduced by on-site coal washing.

ROM Coal Transport

All ROM coal produced by the DCM is railed by a specialised rail transport contractor to SCM for processing. While ROM coal could also be transported to the SCM by road, this is considered to be a sub-optimal method of coal transport as significant additional road transport movements would be required with associated road capacity, maintenance, noise and road safety issues.

As a component of the Project, DCPL has undertaken a review of the current capacity, locomotive type and hours of operation of the DCM ROM coal train.

Up to approximately 1,500 train movements per annum would be required to move the Project ROM coal with the existing DCM ROM coal train, which has a capacity of approximately 2,000 t. In order to reduce the number of train movements that would be required, DCPL has determined that the existing ROM coal train could be upgraded in capacity by some 25% as a component of the Project. This upgrade would reduce the train movements on an annual basis relative to the number of movements if the existing train was retained.

Following completion of existing train noise monitoring and modelling of potential train noise emissions from the Project, DCPL has determined that from Year 2 (or sooner, subject to contract arrangements) the existing locomotives would be replaced by GL class locomotives (or equivalent) which are quieter than the existing DCM locomotives (Section 4.5.3).

Upon their introduction, the existing/approved transportation period (7.00 am to 10.00 pm) would be extended to 2.00 am (Section 2.6). This extension would facilitate improved access to the ARTC network train paths. Sunday movements would generally be restricted to daytime only.

With the proposed Project modifications to the ROM coal train and locomotives minimal additional impacts on receivers located adjacent to the North Coast Railway would occur due to increased Project ROM coal transport (Section 4.5.2).

Water Management

The original proposal for the Project incorporated a controlled release of excess mine water to the Mammy Johnsons River and additional irrigation areas to the east of the Mammy Johnsons River.

During the assessment of the Project water balance and refinement of engineering and mine planning it was determined that an off-site controlled mine water release and irrigation areas to the east of Mammy Johnsons River would not be required.

The Project Application and Preliminary Assessment were amended to reflect removal of these components from the Project in October 2009. Project water management measures are described in Section 2.8, Section 4.4.3 and Appendix A.

6.8.2 Ecologically Sustainable Development Considerations

The concept of sustainable development came to prominence at the World Commission on Environment and Development (1987), in the report entitled *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 the 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.*

Australia's commitment to the principles of ESD is considered in the EPBC Act, which defines principles of ESD:

(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;

(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;

(d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;

(e) improved valuation, pricing and incentive mechanisms should be promoted.

For the purposes of this EA, the relevant definition of ESD is that in section 6(2) of the *Protection of the Environment Administration Act, 1991*, which is the definition adopted by the EP&A Act. This definition provides as follows:

Ecologically sustainable development requires the effective integration of economic and environmental considerations in decision-making processes. Ecologically sustainable development can be achieved through the implementation of the following principles and programs:

(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.

(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,

(c) conservation of biological diversity and ecological integrity – namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,

(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.

Ecologically Sustainable Development Assessment

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

- incorporation of risk assessment and analysis at various stages in the Project design and environmental assessment, and within decision-making processes;
- 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; and
- optimisation of the economic benefits to the community arising from the development of the Project.

Assessment of potential long-term impacts of the Project was carried out during the preparation of this EA on aspects of topography and visual aspects, surface water, groundwater, ecology (including flora and fauna), air quality (including greenhouse gas emissions), noise, blasting, Aboriginal and non-Aboriginal heritage, road transport and socio-economics.

The Project design takes into account biophysical considerations, including the principles of ESD as defined in section 6(2) of the *Protection of the Environment Administration Act, 1991*.

In addition, it can be demonstrated that the Project can be operated in accordance with ESD principles through the application of mitigation and management measures to minimise environmental impacts during the construction and operation of the Project (Section 4).

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.

A PHA (Appendix L) and ERA (Appendix M) were conducted to identify risks and develop appropriate mitigation measures and strategies. The PHA 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). The PHA does not consider those risks that are not atypical, or abnormal (e.g. long-term effects of dust emissions on adjacent vegetation).

The ERA addresses potential environmental impacts associated with the Project, including long-term effects (Appendix M). In addition, longer-term expected risks are considered by the specialist studies conducted in support of this EA (Section 4).

The specialist assessments, PHA and ERA, have evaluated the potential for harm to the environment associated with development of the Project and have identified measures that can be implemented to minimise the potential for harm.

Measures have been adopted as components of the Project design to minimise the potential for serious and/or irreversible damage to the environment, including the development of environmental management and monitoring and compensatory measures that would be implemented during construction and operation of the Project (Section 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 socio-economic impacts of the proposal, including the distribution of impacts between stakeholders and the potential socio-economic impacts of carbon pollution (Appendix G);
- management measures to be implemented in relation to the potential impacts of the Project during construction and operation on land resources, water resources, visual amenity, noise, air quality, flora and fauna, road transport, hazards and risks and socio-economics (Section 4);
- implementation of environmental management and monitoring initiatives (Section 4) to minimise potential environmental impacts (which include environmental management and monitoring programmes to be implemented over the Project life); and
- implementation of a programme of offset/compensatory measures during the life of the Project to compensate for potential ecological impacts that have been identified for the on-site development (Section 4.8 and Appendix E).

In particular, the Project would benefit current and future generations through the provision of continued employment and regional expenditure at the DCM for the duration of the Project. Flow-on employment and production effects would also be significant (Appendix G and Sections 4.14.2 and 4.15.2).

Based on experience during the development of the DCM, the Project would continue to provide a 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 provisions.

The Project incorporates a range of environmental management and mitigation measures to minimise potential impacts on the environment. The costs of these measures would be met by DCPL. These costs have been included in the economic assessment (Appendix G), the potential benefits to current and future generations have therefore been calculated in the context of the mitigated Project, where environmental impacts have been minimised.

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 EA, ecological integrity will be considered in terms of ecological health and ecological values.

The rural lands in the vicinity of the Project are characterised by cattle grazing on native and improved pastures, along with some poultry farming and other agricultural production. Almost all of the pre-European forest and woodland which occurred in the Project area has been extensively cleared and/or logged at least once (Appendix E).

The vegetation community patches that are present in the Project area are mostly regrowth 10 to 50 years old comprising Spotted Gum – Red Ironbark - Thick-leaved Mahogany Forest and Red Gum Grassy Woodland. The broad fauna habitat types in the Project area are associated with the secondary grassland and relatively small discontinuous secondary woodland and forest remnants (Appendix E).

A total of 305 native flora species and 197 native vertebrate fauna species have been located within the Project area and surrounds (Appendix E).

No TECs listed under the TSC Act or EPBC Act have been recorded or are considered likely to occur within the Project area (Appendix E). No threatened flora species listed under the TSC Act or EPBC Act have been recorded or are considered likely to occur within the Project area (Appendix E). Eighteen threatened fauna species listed under the TSC Act and/or EPBC Act have been recorded in the Project area and/or the immediate surrounds.

Four threatened birds and four threatened mammals have been recorded in the Project area, namely the Swift Parrot, Brown Treecreeper (eastern subspecies), Speckled Warbler, Grey-crowned Babbler (eastern subspecies), Brush-tailed Phascogale, Squirrel Glider, Eastern Freetail-bat and Eastern Bentwing-bat (Appendix E).

Data from extensive aquatic field surveys and monitoring programmes were used to describe and assess the condition of aquatic habitats and water quality in the Project area and surrounds. No threatened aquatic biota were found during aquatic field surveys or associated monitoring programmes and it is considered unlikely that any would occur in the Project area (Appendix F).

The environmental assessments described in Sections 4.8, 4.9 and 4.10 (and Appendices E and F) describe the potential impacts of the Project on the biological and ecological environment.

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.

The Project would be designed to minimise impacts on the existing environment. For example, dust controls would be employed that would minimise potential impacts on surrounding vegetation. Further details of how the Project would be designed to minimise impacts on the environment, including potential impacts on threatened species, are provided in Sections 4.8 and 4.9.

Proven operating systems and pollution control measures would be applied where relevant. The potential for environmental degradation would be minimised through training of personnel, environmental auditing and the development of contingency plans in case of an emergency which is likely to impact on the environment. Environmental monitoring would be undertaken to determine whether the environmental control measures are operating effectively. Further details of environmental management and monitoring are provided in Section 4.

As discussed in Sections 4.8.3 and 4.9.3, the Project would include a programme of compensatory measures to address on-site ecological impacts.

Greenhouse Gas Emissions

The effects of global warming are tangible in Australia as well as internationally. 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.

Human-caused Climate Change is listed as a Key Threatening Process under the TSC Act and Loss of 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 of 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; AGO, 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 Heggies for the Project (Appendix D). Section 4.7 provides a description of the potential greenhouse gas emissions of the Project in accordance with the EARs (Attachment 1), including a consideration of emissions that may or may not be covered by the CPRS. Valuation of potential greenhouse gas emission damage costs has been incorporated in the Socio-Economic Assessment (Appendix G) for the Project as described below.

The potential implications of climate change on local surface water and groundwater resources is addressed in the surface water and groundwater assessments (Appendices A and B).

Measures to Maintain or Improve Biodiversity Values

A range of impact avoidance, mitigation and offset measures would be implemented for the Project.

Impact avoidance measures which would be implemented for the Project include minimising disturbance to native vegetation. A Vegetation Clearance Protocol (DCPL, 2002b) has been developed to minimise the impact of DCM vegetation clearance on flora and fauna. The continued implementation of the IMP, including the first flush protocol, is expected to maintain the aquatic health of the Mammy Johnsons River (Appendix F).

Measures which would be implemented to offset potential flora and fauna impacts include:

- Rehabilitation of post-mining landforms. The Project disturbance areas (e.g. waste rock emplacements and infrastructure disturbance areas) would be rehabilitated and revegetated. The revegetation programme for the Project would provide for a combination of woodland and native grassland habitats post-mining, as well as facilitating landscape connectivity with the offset area and existing habitats.
- Enhancement and conservation of vegetation and fauna habitat within the Project offset area as discussed further below.

DCPL propose an offset area of some 444 ha of land (Table 6-1) located within ML 1427 and on adjoining freehold GCL/DCPL owned land to the east of the Project area (Figure 4-8).

GCL currently manages the land for pastoral purposes and it adjoins land which has a conservation agreement included in its conditions of tenure and DCPL's existing offset area (Figure 4-8). The ecological values of the offset area are described in Section 4.8.

Table 6-1
Summary of the Duralie Extension Project Offset Proposal

Area	Description	Area (ha)*
Enhancement Area	Enhancement of existing areas of native vegetation communities through natural regeneration and management for conservation.	214
Revegetation Area	Re-establishment of woodland in derived grasslands by selective planting and fencing for natural regeneration.	230
Total Area Conserved (ha)		444

Source: Appendix E.

* Approximate areas based on vegetation mapping (Appendix E).

The conservation of the proposed offset areas would be secured in perpetuity through a voluntary conservation agreement with the NSW Minister for the Environment. A voluntary conservation agreement provides permanent protection as it is registered on the title of the land.

The planned enhancement and conservation works are also expected to have a positive affect on the in-stream ecology of the Mammy Johnsons River and to early order streams within the proposed offset area.

Terrestrial flora and fauna and aquatic ecology management measures including the offset management and enhancement measures are described in Sections 4.8 to 4.10.

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.

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 Socio-Economic Assessment (Appendix G) undertakes an analysis of the Project and attempts to incorporate environmental values via direct valuation where practicable (e.g. greenhouse gas emissions of the Project). Furthermore, wherever possible, direct environmental effects of the Project are internalised through the adoption and funding of mitigation measures by DCPL to mitigate potential environmental impacts (e.g. land acquisitions, flora and fauna offsets).

The benefit cost analysis in Appendix G indicates a net production benefit of approximately $247M and a net benefit of approximately $336M would be forgone if the Project is not implemented.

6.8.3 Consideration of the Project Against the Objects of the EP&A Act

The EARs (Section 1.2 and Attachment 1) require consideration of the consistency of the Project with the objects of the EP&A Act. 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 resources including water and natural areas (Section 4);
  - development of the State's mineral resources (i.e. coal resources);
  - measures to minimise potential amenity impacts associated with blasting, noise and air quality emissions (Sections 4.5 and 4.6, respectively); and
  - continued employment and other socio-economic benefits to the community (Sections 4.14 and 4.15);
- would extend the life of the DCM and includes the economic use and development of land, while maintaining key existing land uses including pastoral/agricultural uses on surrounding DCPL owned land and within the Project irrigation areas;
- incorporates measures to protect the existing utility services in the DCM area (e.g. ETLs that traverse the Project area);
- includes measures to minimise potential amenity impacts (e.g. blasting impacts) on public land in the vicinity of the Project (e.g. road and rail reserves);
- would support the ongoing provision of community services and facilities through contributions to State royalties, State taxes, Commonwealth tax revenue and any applicable section 94 contributions (Section 6.3.5 and Sections 4.14 and 4.15);
- 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 4.8.3, 4.9.3 and 4.10.3);
- incorporates relevant ESD considerations (Section 6.8.2);
- is a Major Project that would be determined by the Minister (Section 6.3), however consultation with other levels of government has been undertaken and issues raised have been addressed where relevant (Section 3); and
- involves public involvement and participation though the Project EA consultation programme (Section 3), which would be ongoing following the public exhibition of the EA document and DoP assessment of the Project in accordance with the requirements of the EP&A Act.

6.8.4 Summary Consideration of the Potential Impacts and Benefits of the Proposal

Consideration of Potential Environmental Impacts, Mitigation Measures and Environmental Management

An assessment of the potential impacts and benefits of the proposal has been conducted in this EA and associated supporting studies. The following text provides a brief overview of the findings of this EA.

The EARs (Attachment 1) for the Project outline key environmental issues which the Director-General of the DoP has specified must be addressed by this EA. Table 1-2 provides a summary of the EARs and a reference to the relevant section of this EA where the issues are addressed.

In accordance with the requirements of the EARs (Attachment 1), an ERA has been conducted for the Project (Section 4.1 and Appendix M). The key potential environmental issues identified by the ERA and the section of this EA where the issues are addressed are provided in Table 4-1.

A summary of environmental issues raised during consultation with government and non-government stakeholders and the sections of this EA where they are addressed is provided in Section 3.

As described in Section 6.8.2, the Project would be developed and operated in accordance with ESD principles.

Section 4 of this EA provides comprehensive consideration of the potential environmental impacts and environmental mitigation and management and offset measures for the potential impacts of the Project. Appendix N and Section 5 provide a description of the rehabilitation that would be employed at the Project.

A summary of the mitigation measures, environmental management and monitoring programmes is also provided in Section 7 (Statement of Commitments).

Need for the Project

The Project would provide for continuation of the DCM for approximately nine years and direct employment of some 135 people. Employment and expenditure associated with the Project operations is expected to have flow-on effects in the regional and State economy.

DCM ROM coal is used to produce a combination of thermal and coking coal products that are primarily exported for electricity generation and steel production overseas. Project coal production would contribute to NSW export income, State royalties and State and Commonwealth tax revenue as well as contributing to manufacturing and electricity supply in countries that purchase DCM coal.

The Project would utilise existing DCM infrastructure where practicable (including the main infrastructure area, coal handling, rail loading, water management and ancillary infrastructure) and this maximises the return on existing DCPL capital investment.

The Socio-Economic Assessment (Appendix G) indicates that operation of the Project is likely to result in an average annual stimulus of approximately 166 direct and indirect jobs in the local region and some 1,004 direct and indirect jobs in NSW. The Project would also make significant contributions to regional and NSW output or business turnover and household income (Sections 4.14 and 4.15).

The benefit cost analysis in Appendix G indicates a net production benefit of approximately $247M and a net benefit of approximately $336M would be forgone if the Project is not implemented.