



PART E Justification and Conclusion



16. Justification of the Project

16.1 Achieving Objectives

ARTC has developed a set of core and non-core objectives for the Project, which are discussed in Section 5.6. These objectives have been developed to achieve the coal carrying capacity requirement at Minimbah Bank.

16.1.1 Core Objectives

The core objectives are to:

- Reduce headway for loaded coal trains to 8 minutes;
- Increase line capacity to 165 mtpa; and
- Have the reduced headway and increased line capacity in place by March 2010.

16.1.2 Non-core Objectives

The non-core objectives of the Project are to:

- Maximise operational benefits beyond the core objectives within the constraints of the operational requirements;
- Minimise impacts to existing operations during construction and maintenance;
- Minimise the quantity of property acquisition and property severance required;
- Minimise capital expenditure;
- Minimise life cycle maintenance costs;
- Minimise signalling and communications complexity; and
- Have regard to the Principles of ESD (as outlined in ARTC's Environmental Impact Assessment Code of Practice).

The Project would achieve the core and non-core objectives of the Minimbah Bank Third Track.

16.2 Consequences of Not Proceeding

The current constraint of the Hunter Valley coal carrying system from mine to ship is the Port of Newcastle's ability to load the quantity of coal transported by rail into export vessels. By January 2010, the new coal loader at the Port of Newcastle is due to be commissioned, meaning therefore that the constraint on the coal carrying system would become the rail network and specifically, the delays caused to loaded trains by the Minimbah Bank.

The consequences of not proceeding with the Project would be that trains would continue to stall on the Bank, causing:

- Reduced line capacity;
- Severe service disruptions due to continued operational conflicts; and
- Increased rail wear.



As 95% of coal trains in the Hunter Valley negotiate Minimbah Bank, this problem has significant impacts to the current and future line capacity.

16.3 Principles of Ecologically Sustainable Development

According to the *Protection of the Environment Administration Act 1991* (PEA Act), ecologically sustainable development (ESD) requires the effective integration of economic and environmental considerations in decision-making processes. Ecologically sustainable development can be achieved through the consideration of the following four principles:

- ▶ The precautionary principle;
- ▶ Inter-generational equity;
- ▶ Conservation of biological diversity and ecological integrity; and
- ▶ Improved valuation, pricing and incentive mechanisms.

The route development and design process has included the consideration of ESD principles.

16.3.1 The Precautionary Principle

Definition

The PEA Act defines the precautionary principle as *“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”*.

Further, the PEA Act states that, in applying the precautionary principle, decisions should be guided by:

- (i) *Careful evaluation to, wherever practicable, avoid serious or irreversible damage to the environment;*
- (ii) *An assessment of the risk-weighted consequences of various options.*

Discussion

The precautionary principle has played a key role in the development of the Project. From route option identification through to the concept design and Environmental Assessment, the precautionary principle has been applied. An assessment of the consequences of various options was undertaken as part of the route options identification process. In identifying the preferred route, a number of stages were implemented to select the most appropriate route.

During the Environmental Assessment sufficient information has been gathered to allow an informed process to be implemented. Careful evaluation of collected information was undertaken to avoid, wherever practicable, serious or irreversible damage to the environment. This has allowed the development of appropriate mitigation measures to limit the potential for both long and short-term impacts on the surrounding environment and minimise impacts to threatened flora and fauna species that may potentially be present but were not confirmed as being present during field investigations.



Intergenerational Equity

Definition

The PEA Act defines intergenerational equity as *“the present generation ensuring that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations”*.

Discussion

The Project has been developed to anticipate the needs of future generations, by developing and improving infrastructure for the coal industry and in turn the economic conditions in the area. This would have long-term benefits and is supported and encouraged by the State Plan and the State Infrastructure Strategy (refer to Section 5.3).

Additionally, the construction and operation of the Project would involve the implementation of mitigation measures to respond to any potential adverse impacts on the environment. Measures have been formulated to minimise potential impacts on existing residential properties and other existing land uses, while also taking into consideration potential impacts on proposed future land use activities. These measures would assist with achieving the principle of intergenerational equity.

Conservation of Biological Diversity and Ecological Integrity

Definition

The PEA Act states *“conservation of biological diversity and ecological integrity should be a fundamental consideration”*.

Biological diversity is defined by the *Threatened Species Conservation Act 1995* (TSC Act) as *“the diversity of life and is made up of the following 3 components:*

- (a) genetic diversity - the variety of genes (or units of heredity) in any population,*
- (b) species diversity - the variety of species,*
- (c) ecosystem diversity - the variety of communities of ecosystems.”*

Ecological integrity is not defined by any Australian legislation. However, ecological integrity is defined by the *Canada National Parks Act 2000*, as *“a condition that is determined to be characteristic of its natural region and likely to persist, including abiotic components and the composition and abundance of native species and biological communities, rates of change and supporting processes”*.

Discussion

The preferred route selection process and the development of the concept design have sought to minimise disturbance to native vegetation where feasible. The preferred route was chosen in preference to other options as it has a comparatively lower ecological impact, with a lesser extent of native vegetation to be removed. Additionally, the preferred route was selected, as it would not produce any additional fragmentation or isolation of remnant bushland.



The Project has been developed to minimise impacts to local biodiversity and ecological integrity. Where potential impacts have been identified, mitigation measures in the concept design have been developed to reduce the scale and intensity of those impacts. Consideration has been given to the cultural significance of the remaining areas of native vegetation to the local Aboriginal community and the maintenance of biological diversity.

The mitigation measures identified in this Environmental Assessment to be implemented prior to, during and following construction, and continuing in the operation phase, have the purpose of minimising impacts on native fauna species, and therefore maintain biological diversity. A range of mitigation measures to minimise the potential impact on a range of environmental aspects, including noise, air quality, water and waste would also play a role in the protection of biological diversity.

Improved Valuation, Pricing and Incentive Mechanisms

Definition

The PEA Act states that environmental factors should be included in the valuation of assets and services. The PEA Act identifies the following methods to achieve this:

- ▶ *“Polluter pays: those who generate pollution and waste should bear the cost of containment, avoidance or abatement;*
- ▶ *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; and*
- ▶ *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”.*

Discussion

The economic value of the environmental resources affected by the Project has been considered throughout the route selection process, the concept design development and the Environmental Assessment phase. This has included:

- ▶ Consideration of environmental issues in the route selection process;
- ▶ A number of the measures required to minimise potential impacts on the environment, such as avoidance of sensitive ecological areas and measures for safe fauna movement, have been incorporated into the concept design and are key elements of the Project and its overall cost; and
- ▶ Measures have been identified throughout the Environmental Assessment for the mitigation of potential environmental impacts, including the containment, avoidance and control of pollution associated with the construction and operation phases.



Detailed investigations have been undertaken using a number of environmental parameters throughout the route selection process, the concept design development and the Environmental Assessment phase. This has been developed so that potential issues requiring remediation or clean-up tasks, and their associated potential high costs, can be addressed early and at likely lower cost.



17. Conclusion

17.1 Introduction

This Environmental Assessment has addressed the key issues and general requirements identified in the Director-General's Requirements (DGR's) under Part 3A of the EP&A Act, together with the objects of the EP&A Act and the Project's consistency with the aims and objectives of the NSW State Plan and State Infrastructure Strategy.

The Project would produce some adverse impacts, which are unavoidable for a development of this scale. The Project's design process has reduced the scale and intensity of these impacts, and through the adoption of appropriate and targeted environmental measures during the construction and operation phases, these impacts would be substantially mitigated. These environmental management measures are identified in this Environmental Assessment and detailed in the draft SoC (Appendix B).

The Project is expected to produce economic and transportation benefits to the coal industry on a local, regional, national and international scale that will, in turn, provide flow-on economic benefits to Singleton and the Upper Hunter Community. The Project is a key component in meeting the objectives ARTC's strategy of line improvements endeavouring to keep system capacity ahead of industry demands.

17.2 Next Steps

The next steps for the Project are as follows:

- ▶ The Environmental Assessment would be placed on public exhibition by the NSW Department of Planning for a minimum of 30 days. Stakeholders and the public are invited to make submissions;
- ▶ ARTC would prepare a Submissions Report detailing the key subjects of the submissions received. If required, ARTC would prepare a Preferred Project Report and a final statement of commitments; and
- ▶ The Director-General of the NSW DoP would provide an Assessment Report to the NSW Minister of Planning who would then make a decision on the Project. If the Minister approves the Project, a set of approval conditions would be sent to the ARTC, who would then be required to comply with these conditions for the construction and operation phases.



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