Western Rail Coal Unloader Preliminary Environmental Assessment

September 2006

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Sinclair Knight Merz
ABN 37 001 024 095
100 Christie Street
PO Box 164
St Leonards NSW
Australia 1590
Tel: +61 2 9928 2100
Fax: +61 2 9928 2500
Web: www.skmconsulting.com

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1. Summary

This report provides a Preliminary Environmental Assessment to support Delta Electricity's project application for the Western Rail Coal Unloader (WRCU). The report identifies key environmental issues associated with the project and ultimately supports an application to the Minister for Planning under Section 75J (1) for project approval.

The project comprises four distinct elements each of which are interlinked to form the WRCU infrastructure. The WRCU would essentially comprise a branch rail line off the Wallerawang – Gwabegar Main Line that would enable trains loaded with coal from the north to divert to the coal unloader facility. Once the train wagon is at this facility the coal would be released into a hopper located below the rail line. From the hopper the coal would be fed onto a conveyor belt that would traverse the terrain north towards the Mt Piper Power Station. Once within the power station confines, the coal would be conveyed to an existing coal handing facility and associated stockpiles.

The preliminary desk top investigations and site visits conducted in July 2006 indicate that the key environmental issues for the WRCU project include:

- Flora and fauna;
- Noise;
- Hydrology, hydraulics, water quality and aquatic ecology; and
- Indigenous heritage.

A summary of the key environmental issues listed above is provided in the report. The intent of the discussion is to demonstrate the proponent's existing understanding of the issues and the need for further environmental assessment of these key issues.

The potential impacts and management of other issues such as land use, air quality, socio-economics, traffic, rail operations, European heritage, waste management, soils and groundwater, and the reasons they have not been designated as key issues, are also discussed in the report. It is proposed that these would be addressed in sufficient detail to assess the level of their impacts (if any). It is anticipated that any impacts identified would be able to be managed through appropriate mitigation measures and management plans.

The management of both key issues and these secondary issues would be handled through a Statement of Commitments and the Conditions of Approval of the project, which will determine the requirements for environmental management.

2. Introduction

2.1 Purpose of this Report

This report has been prepared to support Delta Electricity's project application for the Western Rail Coal Unloader (WRCU), to assist with the issuing of Environmental Assessment (EA) requirements by the Director General of the Department of Planning (DoP) under Section 75F of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The report identifies key environmental issues associated with the project and ultimately supports an application to the Minister for Planning under Section 75J (1) for project approval.

2.2 The Proponent

Delta Electricity is a New South Wales State-Owned Corporation whose remit is primarily to maintain and operate facilities for the generation and supply of electricity into the National Electricity Market (NEM). Delta Electricity's business objectives are aligned with the legislation under which it operates and with Government policy direction. This legislation includes the *NSW Energy Services Corporations Act 1995 No 95* that lists the principle objectives for electricity generators, as follows:

- To be a successful business and, to this end:
  - (i) to operate at least as efficiently as any comparable businesses;
  - (ii) to maximise the net worth of the State's investment in it;
  - (iii) to exhibit a sense of social responsibility by having regard to the interests of the community in which it operates;
- To protect the environment by conducting its operations in compliance with the principles of ecologically sustainable development contained in section 6 (2) of the *Protection of the Environment Administration Act 1991*;
- To exhibit a sense of responsibility towards regional development and decentralisation in the way in which it operates;
- To operate efficient, safe and reliable facilities for the generation of electricity;
- To be an efficient and responsible supplier of electricity; and
- To be a successful participant in the wholesale market for electricity.

2.3 Background

Delta Electricity operates two coal-fired power stations, Mt Piper and Wallerawang, near Lithgow in the central west of New South Wales. These two power stations combined provide about 7% of the total generation in the NEM, supplying the needs of consumers from Queensland to South Australia. These power stations are located in the Western Coalfields and have access to a number of independent sources of fuel which are generally located close to the stations.

Given the significant capital investment in these power stations, Delta Electricity needs to ensure the long term security of coal supplies to them. As such, Delta Electricity has determined that it may be necessary to source some of its coal from more distant mines than traditionally. It is anticipated that coal from such sources will be required to be transported by train and, therefore, a rail unloading facility would be required.

2.4 Project Need

The current demand for coal at Mt Piper Power Station is approximately 3.7 million tonnes per annum (mtpa) while at Wallerawang Power Station it is approximately 2.3 mtpa. Forecast increases in electricity demand together with the recently approved upgrade of Mt Piper, providing a 14% increase in capacity, may increase the total coal demand by up to 1.0 mtpa.

Delta Electricity currently sources the coal for Mt Piper and Wallerawang Power Stations from local mines via conveyor and road transport. However, a number of the local sources have limited lives remaining due to declining reserves. Future sources of coal will inevitably come from north of the power stations as they are located at the southern end of the Western Coalfields.

A key consideration to obtaining coal from more distant mines is the mode of transportation. Economics limits the use of conveyors to relatively short distances and additional supply via the road system above the current levels does not represent an economically viable or socially desirable option. The installation of a coal rail unloader in close proximity to the power stations would provide another mode of transport to provide long term security of coal supplies.

2.5 Project Objectives

The objectives of the proposed WRCU are:

- to increase the security of coal supply for Mt Piper and Wallerawang Power Stations by enabling the sourcing of coal from more distant mines;
- to minimise the long term impact of coal transport to Mt Piper and Wallerawang Power Stations;
- to minimise and manage any environmental or social impacts which may result from the construction and operation of the proposed WRCU.

2.6 Alternatives Considered

Parsons Brinkerhoff (2005) undertook a feasibility and site selection study in which sites were selected to be comparatively assessed and evaluated. A short list of four options was identified and these were assessed against a set of technical and operational parameters in addition to economic and environmental criteria. Based on the recommendations of this feasibility study Delta Electricity has selected the Pipers Flat site as its preferred option.

The feasibility and site selection study found that, compared with the other options evaluated, the Pipers Flat site:

- optimises the economic costs and benefits,;
- enables the placement of infrastructure largely within land owned by Delta Electricity
- allows for an optimum number and length of trains to be used;
- does not involve any extreme gradients, curves or reverse curves along the rail loop alignment;
- provides favourable approach conditions for trains originating from the north;
- affects a limited number of privately owned properties;
- provides sufficient room for a rail loop within a cleared flat area; and
- minimises undesirable environmental and social impacts in already developed areas.

3. Project Description and Context

3.1 Context

The location of the proposal and key geographic features are shown in **Figure 1**. The proposed site for the rail loop and coal unloader is located at 708 Portland Road, Wallerawang, within Lots 1 and 2 of DP 800003, Lithgow City, Parish of Lidsdale, County of Cook. This property is in an area commonly identified as "Pipers Flat" and is located between Pipers Flat Road and the base of the ridgeline that forms Mount Piper. Pipers Flat consists of undulating pasture land that is located at approximately RL 800 m AHD. This area has predominately been used for primary production and comprises a cleared flat area that is traversed by Pipers Flat Creek, a tributary of the Coxs River.

The adjoining land includes Mt Piper which rises steeply to the north to a maximum of RL 1050 metres AHD. The ridge of Mt Piper is covered in dense vegetation up to the boundary of the power station beyond the ridge. Wallerawang Power Station is located approximately 6 kilometres to the east of the project site. Pipers Flat Road forms the main road corridor connecting the township of Wallerawang in the southeast with Portland further northwest. The Wallerawang – Gwabegar Main Rail Line is located in close proximity to the project site, running almost parallel with Pipers Flat Road.

Delta Electricity owns the majority of the land required for the project. This includes Lots 1 and 2 DP 800003 (site of the proposed rail loop and coal unloader), and Lot 191 DP 629212, Lots 13 and 14, DP 804929, DP 829065, and Lot 2 DP 702619 (site of the power station).

The proposed coal conveyor from the unloader to Mt Piper would traverse property owned by Centennial Coal, comprising Lots 159/160/ 164/165/166 DP 751638 and Lot 15 DP 804929. The coal conveyor would follow the approximate alignment of an existing easement for a water supply pipeline which connects Thompsons Creek Dam and Mt Piper Power Station.

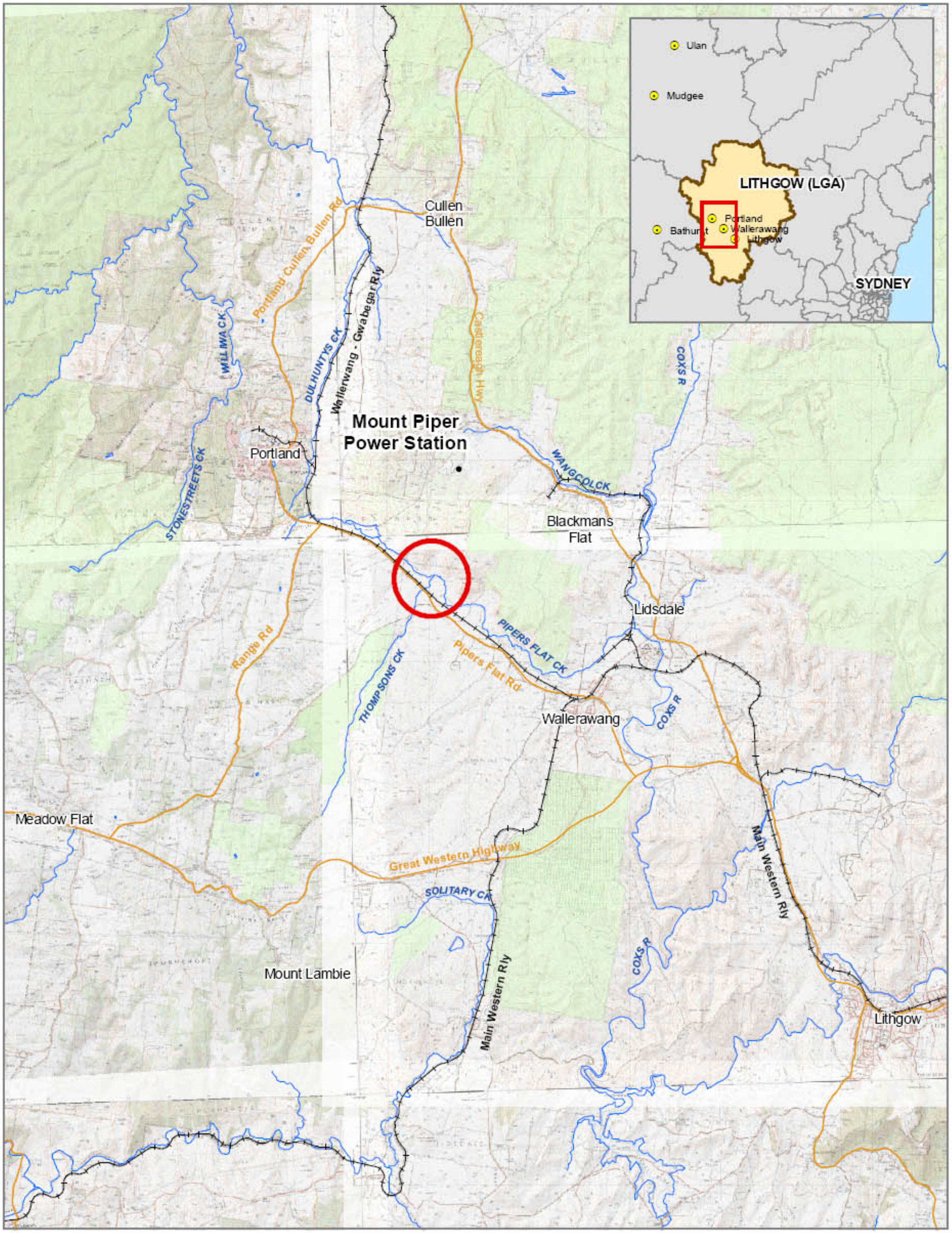

Fig 1: Regional Locality of Proposal

Delta Electricity Western Rail Coal Unloader

Legend

- Main Highways
- Rail
- Rivers
- State Forest
- Project Site

1:120,000

0 2.5 5

Kilometers

EN02154_004.mxd

3.2 Key Elements of the Project

The project comprises four distinct elements each of which are interlinked to form the WRCU infrastructure. The WRCU would essentially comprise a branch rail line off the Wallerawang – Gwabegar Main Line that would enable trains loaded with coal from the north to divert to the coal unloader facility. At this facility the coal would be released into a hopper located below the rail line. From the hopper the coal would be fed onto a conveyor belt that would traverse the terrain north towards the power station. Once within the power station confines, the coal would be conveyed to an existing coal handling facility and associated stockpiles.

An indicative concept layout of the WRCU is depicted in **Figure 2**. A detailed description of each element is outlined below.

3.2.1 Rail Loop

The rail loop connects to the Main Line at one turnout location south of Portland. The connection to the Main Line is formed on a straight and with the initial horizontal alignment duplicating that of the Main Line. The alignment of the rail loop has been defined by the requirement to locate all of the railway track and coal handling facilities that comprise the rail loop on the available land and so that a southbound train entering the loop can exit the loop onto the line as a northbound train. The alignment would form a loop using the minimum desirable track radius, thereby minimising the land take. The loop would allow departing trains to return to the north utilising the same connection on the main line where the train entered without introducing operational difficulties. The length of the loop from the crossing connection would be in the order of six kilometres.

Initially the loop track runs parallel and on a similar gradient as the Main Line, and then curves towards the unloading bin. On the approach to the coal unloading bin the track gradient has been maintained at 1:300 = 0.333% for one train length either side of the coal unloading bin, as specified in the Australian Rail Track Corporation (ARTC) standards for coal unloading.

Trains with a maximum length of 1400 metres are anticipated to operate on the loop. The layout of the loop has been designed to accommodate up to three trains thereby allowing trains to arrive and depart according to the availability of train paths on the Main Line without affecting the unloading operation and without the unloading affecting Main Line operations.

The rail line would be constructed predominantly upon an embankment although some sections may be within cut. The land at Pipers Flat is undulating with the embankment likely to vary in height up to 12 metres so as to obtain a consistent vertical track alignment. A new Type F (lights and bells) level crossing would be provided over the Main Line from Pipers Flat Road to provide vehicular access to the centre of the coal unloader.

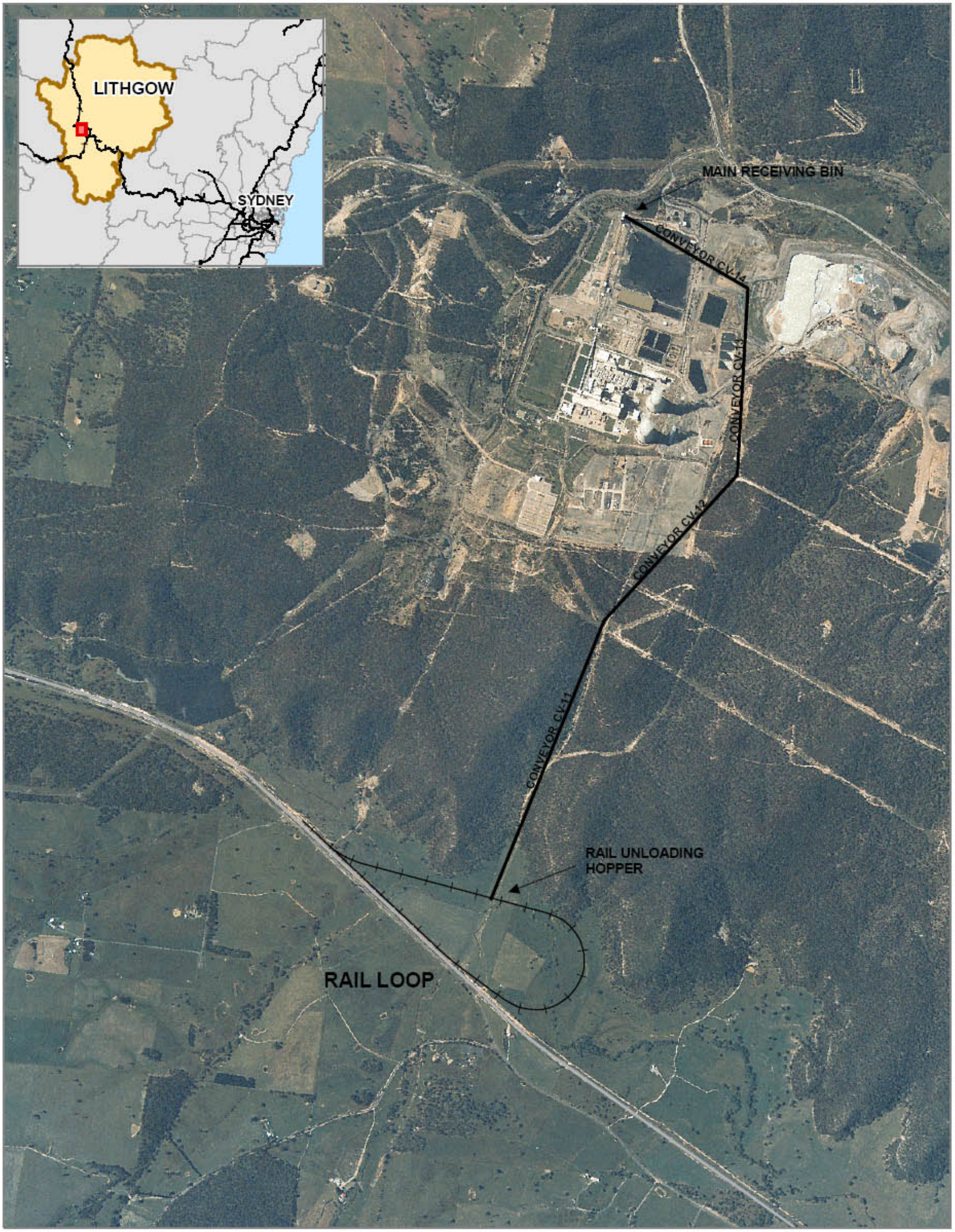

Fig 2: Proposed Rail Corridor

Delta Electricity Western Rail Coal Unloader

Legend

- Rail Loop
- Conveyor
- Existing Rail

1:25,000

0 500 1,000

Metres

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The rail line would cross Pipers Flat Creek in a number of locations (approximately three) as well as other minor drainage lines. It is expected that pre-cast concrete box culverts would be provided at these crossing locations for drainage. In some locations the creek would require realignment or diversion works to ensure the security of the rail structure over its expected life span. This would affect approximately 200 metres of the present creek alignment.

3.2.2 Coal Unloader

The unloading hopper is planned to be constructed at approximately 15 metres below the level of the rail track within a chamber. The structure would consist of a reinforced concrete chamber anchored to bed rock. The above ground component of the unloading hopper would consist of the elevated rail line housed within a protective building about two storeys high with an approximate length of 50 metres. This housing would provide protection for the unloading facility and also provide visual and noise shielding for the operation. Dust suppression and ventilation systems would be installed within the building.

An access gantry would be included in the design to facilitate inspection and maintenance. The facility would also include provisions for wash down with a sump and sump pump to dispose of water accumulated within the chamber. Wash down water would be pumped back to Mt Piper Power Station along the route of the conveyor. The main construction materials used would be reinforced concrete components (cast *in-situ*) and steel structural and cladding materials.

The coal dumping operation would be a semi-automatic one. This would consist of a trackside installation of one or more door-opening triggers at the start of the dumping station bin and a door-closing trigger at the end of the bin. The unloading operation would continue until all wagons have been discharged. No stockpiling of coal would be required outside of the unloader facility.

3.2.3 Conveyor

The dump hopper would discharge to a belt feeder located immediately below. The belt feeder would feed the overland conveyor system at a rate of about 2,500 tonnes per hour (tph). The hopper would have a limited amount of storage and the conveyor is expected to run continuously during and immediately after the unloading operation. The conveyor would be located within a tunnel from the bottom of the dump hopper.

Once the conveyor has exited the tunnel it would be constructed at ground level supported on concrete plinths and housed within continuous steel cladding. Planned features of the conveyor system are:

- a gantry on either side at strategic locations to facilitate maintenance; and
- vehicle access for maintenance and inspection along the entire length.

The transfer of coal along the conveyor would be facilitated by transfer stations located on the belt system. These are required due to the long distances covered by each conveyor belt and the steepness of the gradient. At each transfer station conveyor dust suppression would occur via water spray. Each transfer station would consist of a building of approximately 25 m^2 that would house the conveyor transfer mechanism and loading chutes.

To achieve the height of the loading point for the Main Receival Bin at Mt Piper Power Station the conveyor would be elevated on trestles as it approaches the bin. These trestles would reach a maximum approximate height of 30 metres. Once coal reaches the Main Receival Bin it would be managed by the existing coal handling system at the power station.

3.2.4 Maintenance Facility

A light maintenance facility would be included on the departure side of the coal unloader. This facility would consist of a siding area and workshop and would be used for minor running mechanical repairs to locomotives and wagons and other activities such as refuelling.

A refuelling facility will be included on the return track on the rail loop and will include a bunded fuel storage tank. Amenities will be adjacent to the rail unloader station and are to include a package sewage treatment plant to treat amenities wastewater. Access roads, parking, water tanks and a power distribution system will also be established on the rail unloader site.

4. Project Phases

4.1 Construction Activities

The construction of the WRCU is anticipated to begin before the end of 2007, subject to the determination of the EA and granting of project approval. Based on that start date, construction would be expected to be completed by early 2009. Construction would be in three main phases. Phase one would involve major earthworks for the rail line loop and excavation of the coal unloader chamber and excavation of the conveyor route. No material is expected to leave the site as the construction would be a cut and fill of the existing topography. This phase would involve grading and levelling some of the elevated areas within the Pipers Flat site and constructing embankments with this fill. Vegetation clearance would also be undertaken at this phase and perimeter fencing installed.

Phase two would include construction of the rail line infrastructure including drainage, rail track, crossing loops, signalling and level crossing. The main civil works for the coal unloader would also occur at this stage and this would include construction of the reinforced chamber and erection of steel structural elements to tie in with the rail line and access road to the unloader.

Phase three of the construction would involve construction of the coal unloader housing, the maintenance facility and the overland coal conveyor. This would include all the power, control and water management (wash down and fire fighting) requirements of the facility. The conveyors, hopper bins and transfer station components would be constructed by a supplier off site and brought to the site in sections for assembly during this phase.

The construction phase would culminate in the commissioning of the facility as the various elements of the system are tested and controlled to work in time with the delivery of the coal.

4.2 Operation Activities

In the early years of operation, it is anticipated that the facility would not be required to handle more than 2 mtpa with up to three train services per day at times. In the longer term the peak utilisation could be up to seven trains per day. Each train would take between two to four hours to unload. The facility would be designed to run seven days per week, with the possibility that some deliveries would occur during night time hours.

5. Planning and Approvals

5.1 NSW Environmental Planning and Assessment Act 1979

The State Environmental Planning Policy (Major Projects SEPP) 2005 provides details of the classes of development which require assessment under Part 3A of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*.

Under Schedule 1 clause 6, item 1 of Major Projects SEPP 2005 development that, in the opinion of the Minister for Planning, is development of a kind:

(a) that is described in Schedule 1 or 2,

is declared to be a project to which Part 3A of the Act applies.

Schedule 1 cl. 23 identifies *Rail and related transport facilities* that:

(1) *…has a capital investment value of more than $30 million for the purpose of:*

(a) heavy railway lines associated with mining, extractive industries or other industry.

Therefore, under the provisions of clause 23 in Schedule 1 to Major Projects SEPP 2005, the proposed development meets the criteria for classification as a major development, with the Minister for Planning being the approval authority.

In a letter dated 25 August 2006, the Department of Planning confirmed that the Western Rail Coal Unloader constitutes development to which Part 3A of the *EP&A Act* applies.

5.2 Other State Legislation

Table 5-1 identifies the licences and approvals that may be required for the construction and operation of the proposed WRCU.

Table 5-1: Summary of Potential Approval Requirements under NSW Legislation

Provision	Approval Requirement	Required Action	Agency
Protection of the Environment Operations Act, 1997			
Section 48	Environment Protection Licence for construction and operation	The existing power station is subject to EPL 766. An amendment to EPL 766 under the PEO Act may be sought by Delta for the WRCU.	Department of Environment & Conservation
Water Act, 1912			
Section 10	Approval for extraction of water from a river or lake.	Apply for approval if water is required to be sourced through direct extraction from surface waters.	Department of Natural Resources
Section 116	Approval to sink or enlarge a bore.	Apply for approval if water is required to be sourced through bores.	Department of Natural Resources
Roads Act, 1993			
Section 138	Consent to erect a structure or carry out a work in, on or over a public road.	Access to the proposal property currently exists off Pipers Flat Road. This access may require altering for the proposal. An application would be made if necessary.	Roads and Traffic Authority

If approval to carry out the project is granted under Part 3A of the EP&A Act, the following authorisations, if required, would not be required:

- A permit under Section 201, 205 or 219 (relating to a permit to block fish passage) of the *Fisheries Management Act 1994*;
- An approval under Part 4, or an excavation permit under Section 139, of the *Heritage Act 1977*;
- A permit under Section 87 or a consent under Section 90 of the *National Parks and Wildlife Act 1974*;
- An authorisation referred to in Section 12 of the *Native Vegetation Act 2003* (or under any Act to be repealed by that Act) to clear native vegetation;
- A permit under Part 3A (to undertake any 'works' within 40 metres of a watercourse including the construction of structures within watercourses) of the *Rivers and Foreshores Improvement Act 1948*;
- A water use approval under Section 89, a water management work approval under Section 90 or an activity approval under Section 91 of the *Water Management Act 2000*.

Whilst authorisations would not be required, Delta Electricity would consult closely with the agencies that administer these Acts to ensure the intent of the Acts are observed.

5.3 Regional and State Planning Instruments

A number of State Environmental Planning Policies (SEPPs) are relevant to the proposal. These include:

- SEPP 33 – Hazardous and Offensive Development;
- SEPP 44 – Koala Habitat Protection;
- SEPP 55 – Contaminated Land; and
- SEPP 58 – Protecting Sydney's Water Supply.

Whilst the proposed development lies within Sydney's water catchment area, as defined by SEPP 58, the works would not require referral to or concurrence from the Sydney Catchment Authority (SCA) as it is Major Project under Part 3A of the EP&A Act.

5.4 Local planning requirements

The proposed development would be undertaken on land owned by Delta Electricity and land owned by commercial land holders. The development site is described as:

Lots 1 and 2 DP 800003 – Rail Loop and Coal Unloader.

Lot 191 DP 629212, Lots 13 and 14, DP 804929, DP 829065, Lot 2 DP 702619 - Mt Piper Power Station.

Lots 159/160/164/ 165/166 DP 751638 and Lot 15 DP 804929 – Centennial Coal.

Lithgow City Local Environmental Plan 1994

The proposed WRCU would be located within the City of Lithgow local government area (LGA), and hence is subject to the provisions of the Lithgow City Local Environmental Plan 1994. The development site is zoned Rural (General) 1 (a) and the proposed WRCU is permissible with consent in this zone.

The letter of 25 August 2006 making the WRCU proposal subject to Part 3A of the EP&A Act also makes the Minister for Planning the approval authority for the development.

5.5 Commonwealth Legislation

Potential impacts of the proposed WRCU that may trigger assessment under the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act) are limited to potential impacts on nationally threatened species and Commonwealth migratory species.

Desk-top studies undertaken for this Preliminary Environmental Assessment have identified the presence of suitable habitat for EPBC Act listed threatened species and migratory species within the proposed area of the WRCU. In addition, a number of these species have previously been recorded near the vicinity of the proposed WRCU. As detailed in Section 6.1, consideration would be given within the Environmental Assessment (EA), as to whether any of the EPBC Act species listed from the area would be significantly disrupted or affected as a result of the proposed works and whether referral to the Department of Environment and Heritage (DEH) for consideration as a controlled action would be made.

6. Preliminary Environmental Assessment

6.1 Overview

The preliminary desk top investigations and site visits conducted in July 2006 indicate that the key environmental issues for the WRCU project include:

- Flora and fauna;
- Noise;
- Hydrology, hydraulics and water quality; and
- Indigenous heritage.

A summary of the key environmental issues listed above is provided in Section 6.2. The intent of the discussion is to demonstrate the proponent's existing understanding of the issues and the need for further environmental assessment of these key issues. The potential impacts and management of other issues such as land use, air quality, socio-economics, traffic, rail operations, European heritage, waste management, soils and groundwater, and the reasons they have not been designated as key issues, are discussed in Section 6.3.

The majority of the information for this section was obtained from the feasibility study undertaken for the project site selection phase (Parsons Brinkerhoff 2005). This assessment was supplemented with additional walk over surveys for some aspects of the environment. This information was further supplemented with other studies undertaken in the study area over the last ten or more years.

6.2 Assessment of Key Issues

6.2.1 Flora and Fauna

The majority of the land directly affected by the coal unloader and rail loop is predominately in agricultural use, comprising cleared pasture land. This land is situated within the low-lying areas associated with Pipers Flat Creek. This environment has been highly modified from any previously extant state and is dominated by exotic grassland and the occasional scattered trees, most of which are exotic Willow (*Salix* spp.) species.

The more hilly relief to the north of this area, in proximity to the proposed conveyor route, is predominantly uncleared. The vegetation in this area is representative of native vegetation broadly mapped as Tablelands Grassy Woodland complex and Scribbly Gum / Stringybark Woodland (Benson & Keith 1990).

A review of ecological data sources, such as the DEC Wildlife Atlas, Department of Environment and Heritage Protected Matters database and results of local environmental studies (Ecotone 1996),

was undertaken to identify the documented locations of threatened flora and fauna species within a 10 kilometre radius of Mt Piper Power Station. Up to six threatened flora species and twenty-nine threatened fauna species listed in the schedules of the NSW *Threatened Species Conservation Act 1995* (TSC Act) or the EPBC Act have previously been recorded in the search area.. These species are listed in **Table 6-1** and **Table 6-2** below.

- **Table 6-1 Threatened flora previously recorded in the locality**

Species	Status	
	EPBC Act	*TSC Act*
Lepidium hyssopifolium	E	E
Persoonia marginata	V	E
Eucalyptus cannonii	V	V
Boronia deanei	V	V
Persoonia hindii		E
Derwentia blakelyi		V

Several of the listed threatened fauna species could potentially occur within the habitats of the project site; in particular many of the threatened bat and bird species, the Bathurst Copper Butterfly and the Pink-tailed Legless Lizard have potential habitat within the project site area.

One plant species is listed as threatened under both the TSC Act and the EPBC Act. This species (*Eucalyptus cannonii* (Capertee Stringybark)) has been recorded as distributed throughout the study locality and there is a high potential for specimens of this species to be found at or near the project site, particularly along the conveyor alignment.

None of the vegetation mapped within the study locality comprised part of an endangered ecological community listed under the TSC Act or the *EPBC Act.* The Tablelands Grassy Woodlands community is considered to be rare and of conservation significance (Benson & Keith 1990).

The condition of the woodland within the southern slopes of Mt Piper ranged from moderate to high in terms of the quality of the vegetation and the value of the habitat for fauna species. In general, the remnant vegetation provides fauna habitat, including both arboreal and terrestrial habitat and would provide microhabitat features important for threatened fauna potentially occurring in the study area. Limited disturbance has occurred to the area, although clearing for the existing water main easement and an access track has resulted in a moderate level of weed invasion and disturbance by exotic fauna species was apparent during the site inspection.

Table 6-2 Threatened fauna previously recorded in the locality

Common name	Species	Status	
		EPBC Act	*TSC Act*
Brush-tailed Rock Wallaby	*Petrogale penicillilata*	E	E
Regent Honeyeater	*Xanthomyza phrygia*	E	E
Spotted-tailed Quoll	*Dasyurus maculatus*	V	V
Green and Golden Bell Frog	*Litoria aurea*	V	E
Bathurst Copper Butterfly	*Paralucia spinifera*	V	E
Large-eared Pied Bat	*Chalinolobus dwyeri*	V	V
Blue Mountains Water Skink	*Eulamprus leuraensis*		E
Giant Dragonfly	*Petalura gigantea*		E
Stuttering Frog	*Mixophyes balbus*		E
Booroolong Frog	*Litoria booroolongensis*		E
Koala	*Phascolarctos cinereus*		V
Gang-gang Cockatoo	*Callocephalon fimbriatum*		V
Powerful Owl	*Ninox strenua*		V
Eastern Bent-wing Bat	*Miniopterus schreibersii*		V
Glossy Black-Cockatoo	*Calyptorhynchus lathami*		V
Yellow-bellied Glider	*Petaurus australis*		V
Brown Treecreeper	*Climacteris picumnus*		V
Grey-crowned Babbler	*Pomatostomus temporalis temporalis*		V
Black-chinned Honeyeater	*Melithreptus gularis gularis*		V
Hooded Robin	*Melanodryas cucullata*		V
Eastern False Pipistrelle	*Falsistrellus tasmaniensis*		V
Barking Owl	*Ninox connivens*		V
Diamond Firetail	*Stagonopleura guttata*		V
Greater Broad-nosed Bat	*Scoteanax rueppellii*		V
Squirrel Glider	*Petaurus norfolcensis*		V
Square-tailed Kite	*Lophoictinia isura*		V
Speckled Warbler	*Pyrrholaemus sagittata*		V
Pink-tailed Legless Lizard	*Aprasia parapulchella*		V
Turquoise Parrot	*Neophema pulchella*		V

The conveyor system traversing the hilly area to the power station would pass near the Tablelands Grassy Woodland complex and Scribbly Gum / Stringybark Woodland areas and may result in some disturbance to this vegetation.

Conclusions and Need for Further Assessment

A detailed flora and fauna assessment would need to be undertaken to assess potential impacts of the project. An updated review of relevant literature and legislation would be undertaken to determine any new listings of threatened species, populations or communities.

The assessment of the potentially affected threatened species, populations or communities would be undertaken in accordance with the Director-General's requirements. Consultation with Department of Environment and Conservation (DEC), the local Council and the Commonwealth Department of Environment and Heritage (DEH) would also be undertaken.

6.2.2 Hydrology, Hydraulics, Water Quality and Aquatic Ecology

The alignment of the WRCU rail loop would traverse the low lying areas adjacent to Pipers Flat Creek and Thompsons Creek, both tributaries of the Coxs River. The Thompsons Creek Dam is located to the south of the project site and this provides water storage for Mt Piper Power Station. The project site is located at the foothills of Mount Piper and is likely to receive a considerable amount of runoff from these hills. Pipers Flat is impounded between these foothills and the gently sloping land to the north from the Main Rail line. The width of the Pipers Flat site varies between 250 metres and 750 metres.

In addition to recognising the impact of the peak flood levels and flows, there are other potential impacts associated with flooding such as flood velocities, scour protection, loss of floodplain storage, drainage, on-site stormwater detention and channelling.

Pipers Flat Creek drains into the Coxs River which, in turn, flows south through Lake Wallace and Lake Lyell and ultimately to the Hawkesbury-Nepean River system. Therefore, the project locality is within the hydrological catchment included under *State Environmental Planning Policy No. 58 – Protecting Sydney's Water Supply* and hence is considered a sensitive area in terms of potential impacts on water quality. The Coxs River system uses include water supply for industrial and agricultural purposes. The interconnecting lake systems act as storage dams and also create spaces for recreational activities.

Local water quality within the vicinity of the site may be affected by existing agricultural activities and mining operations. Extractions of water from the system have interfered with river flows and storage dams have exacerbated the condition. Pipers Flat Creek and drainage lines at the project site were observed to have been disturbed previously through minor realignments and access crossings. Riparian vegetation was limited to grasses and exotic Willow trees and the structure of the Creek exhibited little variation along its length. The river bed consisted of a suitable gravel and stone substrate which would provide habitat for some aquatic fauna species.

Pollutants have the potential to be introduced to waterways during both construction and operation of the proposed WRCU. During construction, potential impacts include the risk of high sediment loads in downstream waterways arising from the major earthworks proposed, excavation dewatering activities and the remote possibility of chemical spills. Potential operational impacts on water quality would include fuel spillages during refuelling operations.

In addition, the project may require the realignment of the creek in some areas. This realignment, in addition to the need to construct culverts where the rail loop crosses the creek, has the potential for localised impacts on the current Pipers Flat Creek system.

Conclusions and Need for Further Assessment

The potential impacts of the WRCU on the existing flood regime and drainage patterns would need to be assessed. The proposal would be designed to minimise upstream and downstream flooding effects. Hydraulic modelling and analysis would be undertaken to assess potential flooding impacts at each creek crossing and recommend appropriate waterway crossing structures.

To minimise water quality impacts of the project during construction, general measures to control erosion of soil and sedimentation and protect water quality would be implemented prior to construction works. Furthermore, a Construction Water and Soil Management Sub-Plan (CWSMP) that is consistent with the principles and practices outlined in the Landcom (2004) Managing Urban Stormwater: Soils and Construction would be prepared during the detailed design phase of the project. The CWSMP would address all areas where significant disturbance of land or stockpiling of soils is likely to occur.

Additional assessment of the likely impacts to water quality and aquatic ecology would be required as part of the Environmental Assessment. This would include a habitat assessment of the potential aquatic ecology values of the affected water courses.

6.2.3 Noise

Background noise levels at the project site are low with the main contributors being rural use and the rail and road corridors. The project site is not located in proximity to any large settlements, the closest being Wallarang and Portland located at a distance of approximately 5km to the south-east and north-west respectively. However, up to four residential receivers have been identified within one kilometre of the project site. As such there is potential for noise impacts during both construction and operation.

It is expected that noise emissions associated with the operation of the project would mainly be limited to locomotive diesel engines noise, train movements, coal unloading and, to a lesser extent, conveyor operations. During construction, noise would be generated though piling works, major earthworks and excavations, crane operations and material deliveries.

Construction and operational noise impacts would generally be mitigated through appropriate management and design measures. Standard noise controls would be implemented during the construction phase such as limiting construction to DEC normal working hours and maintaining ongoing consultation with nearby residential receivers.

Conclusions and Need for Further Assessment

A noise assessment would need to be undertaken to assess the operational impacts of the project. This would include monitoring of existing noise levels and the modelling of the potential impacts in accordance with industry recognised standards and protocols. The criteria used to assess the noise impacts would be reviewed in consultation with DEC. The assessment would include construction noise from work sites, particularly an assessment of traffic noise along haulage routes for spoil removal, if required.

6.2.4 Indigenous Heritage

Previous searches of the Aboriginal Heritage Information Management System (AHIMS) have identified only one listed indigenous site located within the locality of Mt Piper Power Station (PB 2005). The site was identified as an open camp site and is not located near the project site. However, the Delta Electricity Land Management Report (Delta 1996) identified a greater distribution of aboriginal sites within the study locality. In particular, the report identifies one site within Pipers Flat in close proximity of the project site. Other archaeological surveys undertaken in the region have identified possible aboriginal sites in the south and south east of Mt Piper Power Station (McIntyre 1988). The project site also contains archaeologically sensitive features such as creek flats, exposed ridgelines and rocky overhang areas. All of these features increase the potential for previously unrecorded aboriginal sites or artefacts to exist in the project area.

Conclusions and Need for Further Assessment

An Aboriginal heritage survey and assessment would be undertaken as part of the environmental assessment. These surveys would include consultation with representatives of the local Aboriginal group and the requirements of the draft *Part 3A Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation, July 2005* would be implemented as part of the study.

The significance of any sites that are potentially directly affected by the proposal would be assessed. If any of the indigenous sites are considered to be of high significance and would be affected by the proposal, further intensive investigations would be conducted in consultation with the relevant Aboriginal groups. Furthermore, prior to construction, appropriate management measures would be developed to ensure sites are salvaged, if necessary.

6.3 Other Environmental Issues

6.3.1 Secondary Environmental Issues

There is a range of potential environmental issues associated with the WRCU project that are not considered to be key issues. These issues are considered secondary issues given the characteristics of the project and the availability of appropriate safeguards for mitigation. **Table 6-3** outlines these issues.

It is proposed that these would be addressed in sufficient detail to assess the level of their impacts (if any). It is anticipated that any impacts identified would be able to be managed through appropriate mitigation measures and management plans.

The management of both key issues and these secondary issues would be handled through a Statement of Commitments and the Conditions of Approval of the project, which will determine the requirements for environmental management.

6.3.2 Community Involvement

As part of the EA, a social impact assessment would be undertaken to consider the potential impacts of WRCU project on the community. It is proposed to prepare a Community Consultation Plan, the content of which would depend on the outcomes of the Planning Focus Meeting and any specific requirements issued by the DoP, but may include:

- Establishment of a database, including all private stakeholders and potentially affected landholders;
- Establishment of an information hotline and project email address.
- Preparation of a local newsletter, colour posters informing stakeholders about the project and newspaper advertisements to advertise the project.

Meetings would be held with stakeholders / concerned landholders as required. The consultation plan would aim to ensure there is effective, ongoing liaison with the community. The feedback from the consultation activities would be evaluated as part of the social impact assessment.

Issues such as severance resulting from the physical presence of the rail loop, property acquisition, access, road closures and amenity impacts during construction would be addressed. A profile of affected communities would also be prepared. Measures to reduce adverse impacts and promote positive impacts would be identified in the EA and appropriate management plans developed for the proposal (e.g. the Air Quality Management Sub-Plan, Noise and Vibration Management Sub-Plan and Traffic Management Plan).

Table 6.3 Other Environmental Issues

Existing Environment	Potential Impacts	Management and Mitigation Measures
Land Use		
The project site would largely be located within a large rural landholding that has recently been transferred to Delta Electricity. The site is located adjacent to an existing rail line. It is proposed to create an easement for the conveyor route. This land is not currently used for any commercial purposes. The project site would primarily be located within land zoned rural (General) purposes, including the proposed development.	The creation of an easement for the conveyor route would result in a minor constraint to the future and existing land use of this area. The site is heavily vegetated and on a steep gradient and it is unlikely that any useful purpose would be made of this land by the landholder.	Consultation with potentially affected landowners has been undertaken and this will be continued up to and during construction. The proposed footprint of the project has been designed to affect the least number of property owners and minimal amount of land parcel. Overall, the adverse impacts on land use are expected to be minimal.
Air Quality		
Existing air quality in the project site area is typical of rural areas within Central West NSW.	During construction, the main potential air quality impacts would be dust generated during excavation earthworks and emissions from diesel powered equipment and vehicles transporting materials to and from the site. The extent of the impact would depend on the level of activity being undertaken at the site and the prevailing weather conditions. During operation, emissions from diesel locomotives and the fugitive dust emissions from the coal unloader have the potential to affect the local air quality.	Mitigation measures to control dust and plant emissions would be outlined in an Air Quality Management Sub-Plan as part of a CEMP. Due to the considerable distance from any receivers and that emissions from plant are likely to be low, it is unlikely that the project would result in any detectable reduction in air quality within the surrounding area. Hence, a detailed assessment of adverse air quality issues is not considered necessary as part of the EA.

Existing Environment	Potential Impacts	Management and Mitigation Measures
Socio-Economic		
The regional economics are partly dependent on the continued investment of local industries such as Mt Piper power station.	The construction works would provide a short-term financial benefit to the community, with some of the labour and resources sourced directly from the region. Operation of the project would support the continued employment generated from the Mt Piper power station.	An economic analysis of the proposed WRCU and alternative options has been previously undertaken to determine the economic viability of the project. No further assessment or economic justification for the project is considered necessary.
Road Traffic		
Currently, road traffic is at a very low level for the region. However the Portland / Pipers Creek Road provides the main access to the site and also serves as a main north-south thoroughfare for local traffic.	During construction, new traffic movements would be generated by construction workers and material deliveries to and from the project construction sites. There is a potential for conflict with local traffic to exist during this stage. It is expected that the level of construction traffic would be relatively low and this would adequately be accommodated within the current road network without delay or obstruction.	Consultation would be undertaken before construction with the appropriate roads authority regarding the works that may affect roads or traffic. A Traffic Management Plan (TMP) would be developed as part of the CEMP. The impacts on road traffic are considered to be minimal, short –term and localised and therefore traffic is not considered to be a key issue.
Rail Operations		
During operation, there would be a moderate increase in rail traffic within the area. The line is currently operated by ARTC under licence for RailCorp. The predominant operation on the line is coal haulage to Port Kembla.	Rail operations are expected to be within the limits of the existing licence held by RailCorp. This increase is not expected to reduce the efficiency of current rail operations on the line.	Consultation with ARTC and RailCorp are expected to be ongoing throughout the development of the project.
Visual Affects		
Views of the area are generally limited to a small number of residential receivers of adjacent landholdings and transport corridors south of the	Rail structures and unloading facility would introduce a new visual element to the surroundings. In general, the rail loops would	Temporary and permanent screening of some structures would be considered in the project design.

Existing Environment	Potential Impacts	Management and Mitigation Measures
project area.	not be inconsistent with the existing rail main line. The unloader structure and conveyors would be designed to be unobtrusive in the environment. During construction, there would be noticeable changes to the visual environment resulting from the presence of construction equipment, a construction site and stockpiles, for example.	design. The WRCU design would consider any needs to development of landscaping and design treatments to ensure all completed structures would be consistent with the nature of the existing vistas.
European Heritage		
A desktop search of the NSW Heritage Office – State Heritage Inventory has not identified any European heritage items occurring within the project area.	It is considered highly unlikely that construction and operation activities associated with the project would cause any significant risk to European heritage values within the project area. European heritage is therefore not considered a key issue.	If a potential European heritage site is uncovered during the works the works in that area would cease until the find could be assessed by an appropriately qualified archaeologist.
Waste		
The proposal would generate a number of waste streams and utilise a variety of materials during the construction phase.	During construction, general building waste such as timber, masonry, scrap metal, packaging materials and plastics would be generated. In addition, a small quantity of waste (sewage and domestic rubbish) would be generated from the construction compound. During operation, waste products would be limited to those associated with maintenance and repair requirements.	A Waste Management Sub-Plan (WMP) which would incorporate the principles of avoid, re-use and recycle would be developed for the construction phase of the proposal. The WMP would detail any procedures for the management of construction wastes from the site. This would be part of the CEMP. Any hazardous material would be stored, handled and transported in accordance with relevant legislation and guidelines.

Existing Environment	Potential Impacts	Management and Mitigation Measures
Contaminated Land		
The proposal is located within an area that may have been subject to contamination from localised agricultural chemical use.	During construction, contaminated soil may be encountered and disturbed.	An assessment of potential contamination risks would be undertaken prior to construction. Any contamination detected will be managed according to the requirements of the Contaminated Land Management Act, SEPP 55 and appropriate guidelines. Procedures for the management of contaminated material would be outlined in the CEMP.