



Western Rail Coal Unloader

Environmental Assessment



April 2007

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Environmental Assessment

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In respect of : Western Rail Coal Unloader

Certification

I certify that I have prepared the contents of this Environmental Assessment and to the best of my knowledge the information contained in the Assessment is neither false nor misleading.

Signature:



Name: Kenneth Robinson

Date: 27 April 2007

Executive Summary

Background

This Environmental Assessment has been prepared to support Delta Electricity's project application for the construction and operation of the proposed Western Rail Coal Unloader. It addresses the requirements for the preparation of an Environmental Assessment for the project, issued by the Director General of Planning (DoP) under the *Environmental Planning and Assessment Act 1979* (EP&A Act). The report supports an application to the Minister for Planning for project approval.

The Western Rail Coal Unloader project is shown in **Figure 1** and comprises the construction and operation of:

- A rail loop comprising a branch rail line off the Wallerawang – Mudgee Main Line;
- A coal unloader building which would allow coal to be delivered into a hopper located below the rail line;
- A conveyor system which would carry the coal to the existing coal handling facility at the Mt Piper Power Station.

Other components of the project include a locomotive provisioning area (refuelling and sanding), a rail wagon maintenance area comprising rail sidings, hard stand areas and a shed, and an office and amenity area as part of the unloader building.

The proposed Western Rail Coal Unloader is subject to assessment under the provisions of Part 3A of the EP&A Act. In a letter dated 25th August 2006, the Department of Planning confirmed that the Western Rail Coal Unloader constitutes Major Project development to which Part 3A of the EP&A Act applies.

Delta Electricity is the proponent for the project. It 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).

The proposed development would be undertaken on land owned by Delta Electricity and would require an easement over land owned by Centennial Coal.



Figure 1 Study Area



Strategic Issues

Delta has been investigating the future need for coal supplies, both for new contracts and for mine risk to the existing contracted mines. Future sources of coal will inevitably come from the Western Coal Fields, north of the power station, as the power station is located at the southern end of those coal fields.

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 station provides another mode of transport to provide coal for the increase in coal requirements in the short term and for future, long term security of coal supplies.

Although the short term requirements for coal transport by rail will be about 2 million tonnes per year, in the longer term this would increase as local coal sources decline. The design of a coal unloader and associated infrastructure must therefore allow for the possible future increase in coal to be transported by rail. The initial supply to Mt Piper via the unloader would be about 2 million tonnes per year and the supply required for Mt Piper Power Station in the medium term is likely to be about 4 million tonnes per year (should all other sources be unavailable due to local mine breakdown or closure). Future volumes in the longer term may increase but in the sizing of equipment and facilities it has been assumed that a future peak load of up to 8 million tonnes of coal per year would be transported by rail.

The preferred site for the unloader was chosen from many candidate sites on the basis of relatively low overall cost (capital and land acquisition) and a relatively good environmental and social outcome. The site is suitable for the proposed development in that:

- Its change in land use from a general rural (beef grazing) to its use as a rail loop and coal unloader would have no significance for or impact on the agricultural activities within the area;
- The land uses in areas adjacent to the preferred site are unlikely to change in the future from the General Rural zoning to any other form of land use, nor would development densities in the area be expected to change;
- The proposed use is consistent with other land uses in the area, given the major land ownership on the property boundary by a coal company suggests a future of coal mining nearby. The other neighbours are separated from the site by a regional road and a freight train line;
- The wider area comprises Mt Piper Power Station, Wallerawang Power station and many coal mines and associated infrastructure; and
- The existing Mudgee rail line passes along the edge of the site.

Assessment of Environmental Issues

The environmental assessment addressed the issues identified in the Environmental Assessment requirements provided by the Department of Planning. These are discussed below.

Hydrology, Hydraulics and Water Quality

A detailed flood study using a 2D model was undertaken to ensure:

- management of waterway scour;
- embankment overtopping does not occur; and
- off-site flood levels (for up to 100 year ARI) would not change from existing levels.

Appropriate culverts and bridge structures in the rail embankment would ensure the flood impacts associated with a flood up to the 100 year ARI would be manageable and the residual impacts would be low. Mitigation measures to be implemented to manage flooding are:

- The projected waterway velocity through the culvert would require armouring of the downstream waterways to avoid scour effects;
- During the detailed design of the project further investigations will be made to optimise the size of the bridge structure over Pipers Flat Creek.

During the construction phase general measures to control erosion and sedimentation would be implemented prior to construction beginning. These measures would be documented within a Soil and Water Management Plan (SWMP), prepared as part of the Construction Environmental Management Plan. It would be prepared in accordance with the principles and practices in Soils and Construction (Landcom, 2004).

Appropriate soil erosion and sedimentation controls would need to be in place during the period of construction until all ground surfaces are stabilised and re-vegetated. The SWMP would include detail on all these measures, including locations.

The key operational water quality measure and environmental safeguard would be the capture and treatment of the water discharged from the washdown areas and the dust control areas at the unloader. It is proposed to contain this runoff within a water quality detention basin that would be located adjacent to the unloader site. Following settlement in the basin, the water would be used for irrigation on the site or discharged directly to the creek.

Sufficient water quality monitoring would be undertaken to ensure that the water quality management devices on site are functioning as expected. The frequency of maintenance would be determined from the water quality monitoring. All exposed surface areas would be revegetated as soon as practicable and these areas maintained during the life of the project.

Although spills of diesel or coal are very unlikely to occur, some risk of the accidental spillage of hazardous materials would always remain. Diesel would be stored according to requirements (discussed in detail in Section 6-1) and clean up provisions provided. Coal spillage would be contained, barriers in place between spillage and the creek system, manual clean up processes put in place.

Flora and Fauna

The study area comprises three vegetation communities.

- Map Unit 1: Ribbon Gum – Apple Box – Snow Gum Woodland;
- Map Unit 2: Brittle Gum – Scribbly Gum – Stringybark Woodland;
- Map Unit 3: Regenerating Vegetation.

Map unit 1 is associated with the gully areas and lower elevated east-facing slopes along the proposed coal conveyor route. The dominant tree species comprise Ribbon Gum *Eucalyptus viminalis*, Apple Box *Eucalyptus bridgesiana* and Snow Gum *Eucalyptus pauciflora*. Other tree species in this community include Candlebark *Eucalyptus rubida* and Broad-leaved Peppermint *Eucalyptus dives*.

Map unit 2 occurs on the ridges and west facing slopes of the study area adjacent to the proposed coal conveyor route. The dominant tree species comprise Brittle Gum, Scribbly Gum *Eucalyptus rossii*, Red Stringybark and Capertee Stringybark. Other common tree species include Broad-leaved Peppermint, Thin-leaved Stringybark *Eucalyptus eugenioides* and Narrow-leaved Stringybark *Eucalyptus sparsifolia*, which are generally restricted to the northern end of the proposed conveyor route.

Map unit 3 occupies several locations in the study area including areas of the communications easement along the proposed coal conveyor route adjacent to the service trail, areas surrounding the power station and areas within the power line easement and disused easements.

One threatened flora species the Capertee Stringybark *Eucalyptus cannonii* was recorded in the study area. The species is scheduled as Vulnerable under both the Threatened Species Conservation Act (State listed species) and the Environment Protection and Biodiversity Conservation Act (nationally threatened species).

Pipers Flat Creek is considered to provide moderate to low value fish habitat. Despite its being given the status of a Category 1 watercourse suggesting a high value as an environmental corridor, there is limited evidence of ecological values along the creek. At present lands surrounding Pipers Creek, in the vicinity of the rail loop, are completely modified and cleared of vegetation, with a long-history of cattle grazing.

Some vegetation, including specimens of the threatened Capertee Stringybark, will be lost to the proposal but the assessment undertaken concluded that the numbers are not of any significance. This impact will be more than offset by appropriate replanting in strategic areas.

The opportunity exists for the re-establishment of the habitat values of Pipers Flat Creek and Thompsons Creek on the rest of Delta's land at Pipers Flat. This will be undertaken as part of the project.

Heritage

Site surveys and a review of available information provided the basis for the assessment of heritage values on the site. A single isolated find (WCU 1) and seven areas of potential archaeological deposit (WCU PAD1-7) were identified in the course of the field survey of the Pipers Flat study area. The survey confirmed the presence of two previously recorded rockshelters, Site Nos. 45-1-0018 and 45-1-0075, and identified the location of the artefact scatter, Site No. 45-1-0076, although no artefacts were visible at this latter site area. PAD7 was also inspected during the survey but no artefacts were identified.

An area of interest for European heritage (site WCU H1 – a farm house area) was found adjacent to the rail line access to the site. The site was found to be of limited heritage value and not worthy of recording on any register. One area of indigenous heritage (Site 45-1-0076) will be affected by the proposed rail loop, and some areas which may contain sites will also be affected. These sites are regarded as of low to moderate significance and the following measures would be followed:

- A program of archaeological subsurface testing would be conducted for the PADs. Testing would aim to determine the nature and significance of any Aboriginal cultural material present at each location;
- Direct impact to the site 45-1-0076 would be able to be avoided and approval would be sought to record and remove the site;
- Consultation has been initiated with relevant Aboriginal community groups and representatives and they would be invited to participate in any further archaeological assessments that are conducted in relation to the Pipers Flat project; and
- Historic site WCU H1 would be subject to an archival level recording prior to its removal from the site.

Air Quality

Impacts on air quality during construction would comprise mainly of particulate matter, with earth works taking approximately 6 months to complete. Particulate emissions associated with the import of approximately 600,000m³ of bulk material would present the greatest risk to air quality in the area. Model results from the air quality assessment show that it is possible to manage impacts within the

identified site specific criteria. It is considered that provided the dust mitigation measures, as outlined, are included with the construction works then the adverse air quality impacts which would result from the works would be low.

With respect to operational phase air quality impacts, locomotives transporting the coal to the facility, the coal transfer process and coal stockpiles would be the primary sources of emissions. PM₁₀ and TSP emissions were modelled to simulate emissions from the coal transfer process at the unloading site. Model results estimate that there would be no exceedance of project specific air quality criteria at nearby receiver locations and the impacts would be low.

To minimise dust impacts at the nearest receptors the construction contractor would be required to ensure that appropriate dust controls are implemented.

Noise

Construction noise will exceed the guidelines developed for the project. The management of this is important, and a series of management processes, including timing and liaison with the community, will be developed to ensure that the noise associated with construction is acceptable.

Operational noise will generally meet criteria, but there will still be a noticeable increase in noise for a few residents on the southern side of Pipers Flat Road. This would be more obvious at night. It is important, therefore, to put in place as many measures as practicable to minimise that noise level and, in consultation with the community, to seek options to minimise the impacts perceived.

Visual Impacts

The visual impact of the proposed railway loop, coal unloader and coal conveyor would be high for one property and to a degree for users of the Pipers Flat Road, as these receivers would experience changes to the visual environment in the foreground. Other properties to the south of Pipers Flat Road would generally have limited views of the coal unloader, due to screening by topography or vegetation.

The selection of colour schemes used for structures associated with the facilities and landscape planting proposed for the rail embankments and for site buildings and screening vegetation along the southern site boundary would assist with minimising any visual impacts.

Environmental Management and Statement of Commitments

The environmental impacts of the proposal have been assessed in this Environmental Assessment (EA) and measures to manage those impacts have been outlined in the form of commitments. These commitments, along with any conditions of approval issued by the Minister for Planning, would be incorporated into the detailed design, as well as where appropriate, the preparation of construction and

operational Environmental Management Plans (EMPs) for the project. The EMPs would typically include:

- Approval conditions and statutory requirements;
- Environmental goals, environmental performance requirements and responsibilities;
- Plans for implementing mitigation measures;
- Environmental performance monitoring and auditing procedures; and
- Clear guidelines for emergency response and incident management plans and responsibilities.

The EMPs would include, where appropriate, safeguards developed during the detailed design phase of the project. The EMPs would become the reference documents that ensure the commitments for environmental protection and management in the EA and subsequent approvals are fully implemented. They would also serve as a framework for confirming the accuracy of impact predictions made in this EA and for measuring the effectiveness of mitigation measures.

Conclusions

The proposed Western Rail Coal Unloader and associated infrastructure represents a \$60-80 million investment by Delta in securing its coal supplies for Mt Piper Power Station in the long term.

The choice of the site for the coal unloader was based on surveys of all practical options and a decision based on the preferred option having a relatively low overall cost (capital and land acquisition) and a relatively good environmental and social outcome compared with the other options. The use of the site chosen for the rail loop and unloader is consistent with the land use in the area and will not sterilise or affect future land uses in the area.

Key environmental issues were considered and potential impacts on those issues assessed. With the implementation of appropriate mitigation measures the residual impacts of the project would be low, and there is no environmental reason why the project should not proceed in the form described within the Environmental Assessment report.