Western Rail Coal Unloader

ENVIRONMENTAL ASSESSMENT

CHAPTER 7 – ENVIRONMENTAL MANAGEMENT AND STATEMENT OF COMMITMENTS

- April 2007

Contents

7. Environmental Management and Statement of Commitments

This chapter addresses the Director-General's Environmental Assessment requirement to outline environmental monitoring and management provisions for the proposed works. It provides a draft Statement of Commitments by the proponent in relation to environmental impact mitigation, management and monitoring during construction and operation.

7.1 Introduction

The environmental impacts of the proposal have been assessed in this Environmental Assessment (EA) and measures to manage those impacts have been outlined. These mitigation measures, 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.

The EMPs for construction and operation would be prepared in accordance with the requirements of ISO 9001:2000 and ISO 14001:2004.

7.2 Construction Environmental Management and Mitigation

Environmental management commitments proposed for implementation during the construction phase are shown in **Table 7-1** below. These commitments will be developed during the detailed design phase and included in the construction EMP (CEMP) which would be required prior to any construction activities commencing. The CEMP would detail operating conditions and temporary environmental protection measures to mitigate the impact of construction activities. Other commitments may form part of the terms of contract with the companies or consortium responsible for the project construction, or may be further assessed at the detailed design stage.

Table 7-1: Environmental Management Measures – Design and Construction

Objective	Action
Environmental Management	
Manage hours of construction work	Proposed hours of construction are 7.00am – 6.00pm Monday to Friday, 8.00am – 1.00pm Saturday, with no work on Sundays or public holidays. The construction EMP will outline protocols for notifying relevant authorities and local residents prior to any works occurring out of normal construction hours. Out of hours work may be required under certain circumstances (e.g. to minimise impacts on active operational services, to minimise impacts on existing traffic, to respond to emergencies), and unavoidable construction constraints.
Minimise impact of construction on surrounding area	A Construction Environmental Management Plan (CEMP) would be prepared and implemented to guide construction activities as outlined below in the following commitments: ■ Road Traffic & Transport ■ Air Quality ■ Hydrology & Water Quality ■ Noise & Vibration ■ Heritage ■ Flora & Fauna ■ Landscape & Visual ■ Waste Management ■ Communication. All plans and strategies would be developed as part of the CEMP, in consultation with the relevant agencies.
Road Traffic and Transport	
Minimise impact of construction traffic on surrounding road network	A Construction Traffic Management Plan (CTMP) would be prepared and implemented to: ■ A detailed study to address the issue of sight distance for the access. The study will review the accident history on the road to determine if there are potential problems which need to be addressed in the access design; ■ A detailed design of the site access intersection, This will identify the need for auxiliary lanes to allow trucks to decelerate before entering the site, and to allow following cars to overtake turning trucks. If these lanes are required, they will be described in the plan; ■ An assessment of the implications of the use of spoil trucks on the road network should trucks on the public road be required.
Air Quality	
Minimise dust generation during construction	Develop and implement a Dust Management Plan (DMP) as part of the Construction EMP. In order to minimise dust impacts at the nearest receptors the construction contractor would be required to ensure that the following dust controls are implemented: ■ Spray water with watercarts and/or hand held hoses on a regular basis, particularly during dry or windy conditions; ■ Stabilise worked areas as soon as possible after earth works have been completed eg re-vegetation; ■ Construct and maintain cloth fencing around work sites; ■ Spray trafficable areas with water using a water cart; ■ Cover all materials transported on and off site; ■ Remove mud from truck wheels; ■ Sweep-up mud or soil tracked onto public roads at the site entrance;

Objective	Action
	■ Ensure adequate water supply is maintained on site for dust suppression; ■ Minimise machinery speeds on site; ■ Revegetate stockpiles or progressively landscape exposed areas and where material is to remain in situ for a long period of time; ■ Install and maintain dust gauges on site to monitor dust levels.
Hydrology and Water Quality	
No increased sedimentation of nearby waterways	■ A Soil and Water Management Plan (SWMP) will be prepared and implemented to reduce the potential water quality impacts from the site during construction. General measures to control erosion of soil and sedimentation would be implemented prior to construction works. These measures would be prepared in accordance with the principles and practices in *Soils and Construction* (Landcom, 2004) and would be maintained and monitored during the construction phase.
Noise and Vibration	
Minimise construction noise impact on surrounding residences	An Environmental Noise Management Plan (ENMP) would be prepared and implemented prior to the commencement of works to achieve compliance with DEC criteria where reasonable and feasible. This Plan would include: ■ Application of physical noise controls to construction equipment, equipment maintenance and utilising “best practice” technology to achieve low levels of construction noise emissions; ■ Noise compliance monitoring for all major equipment and activities on site; ■ Erection of temporary noise attenuation barriers where necessary and practicable; ■ Construction of noise barriers as appropriate for the location and type of construction activities as early as practicable in the program; ■ The planning of noisy activities for parts of the day when they would have the least impact; ■ Communication between the community and the construction management to be provided at the start of the works and maintained during the works; ■ Investigative monitoring of noise in response to specific complaints.
Heritage	
Investigation of areas of potential archaeological deposits	■ A program of archaeological subsurface testing would be conducted for the PADs. Testing should 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 not be able to be avoided and approval will be sought for recording and removal of 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.
Protection of Indigenous Heritage relics if uncovered	■ In the event that artefacts of indigenous heritage significance are uncovered during the course of construction, works in the immediate area would cease, DEC would be notified and expert advice would be sought from an appropriately qualified professional.
Investigation of farm site	■ Historic site WCU H1 would be subject to an archival level recording prior to its removal from the site.

Objective	Action
Flora and Fauna	
Management of terrestrial vegetation and habitats	■ The proposed disturbance footprint would be clearly defined on-ground, using temporary fencing, to avoid unnecessary vegetation and habitat removal; ■ A pre-clearing survey would be undertaken to identify and flag any significant hollow-bearing habitat trees and Capertee Stringybarks within the works corridor, with the aim of avoiding these features in the final design and construction phases of the project where possible; ■ Storage of equipment and stockpiling of resources would be restricted to designated areas in cleared and degraded land to minimise the overall impact of the construction and avoid unnecessary vegetation and habitat removal; ■ Appropriate weed management strategies would be implemented during construction to ensure they are not spread throughout the study area and particularly into areas of remnant vegetation adjacent to the proposal area; ■ Appropriate sediment and erosion controls would be provided; ■ Fallen logs encountered within the proposed disturbance footprint would be relocated to areas of retained remnant vegetation; and ■ Timber felled for clearing would be retained on the ground in the area as habitat for terrestrial fauna.
Minimise likelihood of impacts on aquatic and riparian habitats	■ Sediment and erosion controls would be adopted to prevent impacts on water quality. Appropriate measures to store and manage fuels and oils are to be adopted and spill containment equipment would be carried at all times to prevent and contain accidental spills in the creek. ■ Creek crossing structures would be designed so as not to impede fish passage by ensuring that the base of the culvert is positioned below the bed of the creek. ■ Pipers Flat Creek, Irondale Creek and Thompsons Creek would be restored by reinstating riparian vegetation and providing connectivity along the creek for movement by terrestrial and aquatic flora and fauna. ■ Revegetation of Pipers Flat Creek, Irondale Creek and Thompsons Creek and surrounding areas would use *DNR guidelines for revegetation in water courses and regularly inundated areas*. Native species which occur in the local area and are adapted to the local conditions would be used.
Landscape and Visual	
Improve and manage landscaping	A Landscape Management Plan (LMP) will be prepared during detailed design of the project and implemented during and after the construction period. The plan would include: ■ Landscaping to be detailed and carried out in accordance with the concepts in the EA. ■ processes for the management of on-site weeds. Noxious weeds at the site would be identified and be removed in accordance to the criteria under the *Noxious Weeds Act 1993*, and the relevant NSW Department of Primary Industries weed control guidelines; ■ Monitoring of vegetation to ensure it becomes established and to identify any further management requirements.
Minimise visual impacts during construction	■ Earthworks would be undertaken in the early stages of construction. Revegetation of these areas would be conducted as soon as practicable during the construction phases.

Objective	Action
Waste Management	
Minimise waste generated and maximise re-use and recycling. Waste disposal to be undertaken when re-use and recycle is not possible	A Waste Management Plan (WMP) would be prepared and implemented. This would include: ■ Management of construction waste materials including correct orders, use of recycled material where practicable and reuse or appropriate disposal of surplus materials; ■ Waste for disposal would be removed by a licensed waste contractor and disposed of at a licensed landfill facility; ■ Use of spoil material on site or appropriate disposal when this not possible; and ■ Appropriate treatment and disposal of green wastes, sewage and domestic wastes.
Communication	
Establish effective communication with community and relevant agencies	A Construction Communications Plan would be prepared and implemented. This would include: ■ Establishment of a basis for liaison with the community to deal with construction issues; ■ Maintenance of phone line/fax/website to provide opportunity for community input; ■ An effective complaints handling procedure to address and respond to issues raised by the community, including investigative monitoring of construction traffic in response to specific complaints.

7.3 Operational Environmental Management and Mitigation

Mitigation and other environmental management measures identified in the EA and relevant to the operational phase of the project are summarised in **Table 7-2**. These include the preparation of a site Operational Environmental Management Plan (OEMP) which would be required prior to operations commencing. The OEMP would detail on-going operating conditions and protection measures to mitigate the impact of site operations. Relevant measures would be detailed, as appropriate, in the relevant OEMP to be prepared by site tenants or lessees.

The OEMP would be updated as required to reflect any changes in the operation of the site or regulatory requirements.

Table 7-2: Environmental Management Measures – Operational

Objective	Action
Environmental Management	
Minimise impact of operations on surrounding area	An Operational Environmental Management Plan (OEMP) would be prepared and implemented to guide operational activities. It would include: ■ Environmental Management ■ Road Traffic & Transport ■ Fuel storage and handling ■ Hydrology & Water Quality ■ Noise & Vibration ■ Heritage ■ Flora & Fauna ■ Landscape & Visual ■ Waste Management ■ Energy and Greenhouse ■ Water Consumption ■ Emergency Response ■ Community Liaison ■ Environmental Reporting All plans and strategies would be developed in consultation with the relevant agencies.
General	The OEMP would provide for regular monitoring and periodic performance reviews of key performance criteria for noise to be established for the operation of the site. Performance reviews will be undertaken against noise performance parameters established in the OEMP. The examination and interpretation of results will be undertaken by a suitably qualified professional and any agreed actions implemented within a reasonable timeframe as defined in the OEMP. Hours of operation are 24 hours 7 days per week.
Traffic	
Minimise impact of operational traffic on surrounding road network	■ Potential traffic impacts from the operations would be managed by minimising access to the site to those vehicles necessary for the delivery of goods or operation of the site, and the establishment of and appropriate operation of the level crossing access proposed.
Air Quality	
Minimise emissions from plant and equipment	■ Restrict traffic to defined roads. ■ Maintain low vehicle speeds on unsealed roads (e.g. 40km/h). ■ Trucks transporting material to and from the premises on public roads would be covered with tailgates securely fixed to prevent wind blown emissions and spillage. The covering would be maintained until immediately before unloading. ■ Ensure trucks exit the site via a wheel cleaning facility established at the exit of the site to prevent any dirt/soil being transported onto external public roads. ■ Ensure no incineration or burning of any material on the premises. Prompt action would be taken to extinguish any fire. ■ Record and action all air quality complaints ■ Floor sweep system for rail unloader, driven by a booster fan for delivery to the collector system ■ Ensure onsite conveyor systems remain covered by the overhead gantry

Objective	Action
	to ensure wind blown dust is kept to a minimum. ■ Ensure the spray dust suppression system strategically positioned at the train wagon and bin opening interface to minimise coal dust is maintained and working to specification. ■ Maintain the dust extraction and ventilation system to prevent the accumulation of coal dust. ■ Equipment to be maintained to ensure the best environmental performance in terms of air emissions. ■ Maintain dust deposition gauges for a period of 12 months after operation to monitor potential effects of dust from the site operation.
Fuel Storage & Handling	
Minimise risk of on site incidents	■ The site operator will be required to prepare and implement operating procedures for the management of diesel and lubricants on the site.
Hydrology and Water Quality	
Manage potential flooding due to the construction of the rail embankments on the site	■ The projected waterway velocity through the culvert would require armouring of the downstream waterways to avoid scour effects; ■ Refinement of the 2D model will be undertaken during the detailed design of the project. This will be used to refine the optimal sizing and location of flood relief structures for Pipers Flat Creek.
Manage water quality runoff to waterways	■ To capture and treat the water discharged from the washdown areas and the dust control areas at the unloader a water quality detention basin 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. The vegetation program would include grassing of the railway embankments to stabilise the batters against erosion. To assist in managing runoff from the grassed embankments, cut drains and toe drains will be installed along the foot of the embankment. Runoff from these areas will be directed through flow retardation areas and into the creek at specified locations. ■ Diesel would be stored according to requirements 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.
Noise and Vibration	
Minimise operational noise impact on surrounding residences	An Environmental Noise Management Plan (ENMP) would be prepared and implemented and would detail methods available to mitigate noise during the operation of the proposal. ■ General operational noise emissions would be required to be controlled by implementing appropriate enclosure design for equipment within the dump hopper building. The dump hopper building itself would also require acoustic design input to ensure noise emissions are minimised. ■ Take up rollers for the conveyors and coal transfer towers would be designed within acoustic enclosures for drive motors so as to reduce the transmission of noise from equipment and operations to external environment. Gearbox applications and motor speeds would be matched as closely as possible through the correct pole rating of a motor. Any

Objective	Action
	further speed control would then be achieved through the use of gearbox reductions ■ To reduce the likelihood of rail/wheel noise, the inclusion of wooden sleepers, track ballast, rail head profiling and cambering of the track would be included in the design considerations. The provision for trackside lubricators would be made in the project design ■ Noise mitigation measures will be considered in consultation with the community ■ Noise monitoring program developed to confirm the effectiveness of mitigation measures. .
Heritage	
Maintenance of items on site	■ Any identified or potential sites remaining on site will be protected in consultation with the Bathurst LALC.
Flora and Fauna	
Maintenance of revegetated areas	■ Monitoring of the revegetated areas will be undertaken to ensure they are functioning as designed.
Landscape and Visual	
Minimise impacts on residential amenity	■ 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.
Waste Management	
Reduce the generation of waste	■ Ensure that initiatives for the sustainable management of waste are given due consideration. Such measures would include reduction of materials being brought onto the site, reuse of wastes where practicable and recycling.
Water Consumption	
Reduce consumption of water	■ Identify opportunities to minimise water consumption on site and potential re-use of washdown water and Envirocycle effluent for irrigation.
Emergency Response	
Ensure emergency response procedures are adequate	■ An Emergency Response and Incident Management Plan (ERIMP) would be prepared to ensure incidents are handled promptly and safely. The ERIMP would outline the appropriate emergency response equipment that would be provided, the mandatory training requirements, the emergency response procedure and the responsibilities of site operators.
Community Liaison	
Establish effective communication with community	■ Establish appropriate means of on-going liaison with the community; ■ Establish complaints handling procedures.
Environmental Reporting	
Provide clear and appropriate communication about site operations	■ During operation, environmental performance and progress will be incorporated as necessary into the respective corporate environmental reporting of Delta Electricity. The reports would ensure relevant authorities have access to important environmental information relating to the new facility. Any shortcomings in environmental performance identified by the reporting process would be addressed by updating the EMPs.

7.4 Environmental Reporting

Periodic environmental reports would be prepared to measure performance and progress against the CEMP. During operation, environmental performance and progress will be incorporated as necessary into the respective corporate environmental reporting of Delta Electricity. The reports would ensure relevant authorities have access to important environmental information relating to the new facility. Any shortcomings in environmental performance identified by the reporting process would be addressed by updating the EMPs.

7.5 Emergency Response

An Emergency Response and Incident Management Plan (ERIMP) would be prepared to ensure incidents are handled promptly and safely. The ERIMP would outline the appropriate emergency response equipment that would be provided, the mandatory training requirements, the emergency response procedure and the responsibilities of site operators. Further details are provided in Chapter 20 – Hazard, Risk and Incident Management.

7.6 Conclusions

The environmental assessment undertaken for the project identified a number of benefits arising from the project. It also identified potential environmental impacts which may result, especially during the construction works. These impacts were considered in the context of possible mitigation measures which were incorporated, where appropriate, into recommendations for work procedures or design of the project and commitments for environmental management. The potential for impacts to occur is regarded as minor, and this is supported by the environmental management measures identified in the EA. These measures will be further developed in the form of EMPs. The preparation and implementation of those EMPs will provide the procedures by which the environment will be protected from the possibility of those impacts occurring.