PROPOSED BAYSWATER AND DRAYTON MINES ANTIENE JOINT USER RAIL FACILITY PROJECT,

REPORT ON THE ASSESSMENT OF A DEVELOPMENT APPLICATIONS (DA 105-04-2000 AND DA 106-04-2000) PURSUANT TO SECTION 79C OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

FILE: N99/00203 PT1 AND S99/01070 PT1

INTRODUCTION AND BACKGROUND

The Applicants and Joint Environmental Impact Assessment

- Coal Operations Australia Limited (COAL), current owners of Bayswater Colliery.

- Drayton Coal Pty Ltd (Drayton), current owners of Drayton mine.

Coal Operations Australia Limited (COAL) and Drayton Coal Pty Ltd (Drayton) have prepared a joint environmental impact statement (EIS) for the Antiene Joint User Rail Facility Project. The joint EIS accompanied two separate development applications lodged with the Department on 4th April 2000. The key components to the joint EIS and separate DA's are as follows:

- COAL seeks development consent to:
  - construct and operate the Bayswater Rail Loading Facility, which includes a balloon rail loop, loading facilities, and connection to the Antiene Rail Spur east of the Drayton Loop; and
  - transport up to 20 million tonnes per annum (Mtpa) of coal from the Facility using the Antiene Rail Spur to access the Main Northern Railway.
- Drayton seeks development consent to:
  - increase the transportation of coal from an existing 3.3 million tonnes per annum to 7 million tonnes per annum (Mtpa) along the existing Drayton rail loop; and
  - approve the transportation of upto 20Mtpa of coal along the Antiene Rail Spur (this includes the 20 Mtpa sought by COAL).

The joint EIS was prepared by both Applicants under direction from the Department. The joint EIS ensures a consistent approach to the environmental assessment of both proposals was adopted, including an adequate consideration of the potential cumulative impact of the concurrent operation of both rail transport facilities.

Overview of the proposals and their locations

COAL is seeking development consent to construct and operate the Bayswater Rail Loading Facility, and approval for the transportation of up to 20 million tonnes per annum (Mtpa) of coal from the Facility and along the Antiene Rail Spur. The 20 Mtpa capacity will service the existing operations at Bayswater No.3 mine and allow flexibility to service the operations of the proposed Mount Arthur North project if approved (The Mount Arthur North proposal was lodged with the Department on 5 May 2000 and is currently being assessed by the Department as a separate development application).

The COAL and Drayton proposals are located approximately 8 km south of Muswellbrook, within the Muswellbrook Local Government Area, in the Hunter Valley of NSW as illustrated by Figure 1.

Drayton is seeking development consent to increase the tonnage of coal transported from its existing Drayton Rail Loop facilities from 3.3 Mtpa (currently approved under an existing Muswellbrook Shire Council consent on 25th September 1980) to 7 Mtpa. Drayton is also seeking development consent to increase the amount of coal permitted to be transported along the Antiene Rail Spur (under the existing Muswellbrook Shire Council consent) from 3.3 Mtpa to 20Mtpa. The proposed 7 Mtpa capacity of the Drayton rail loop will service the existing operations at Drayton mine and allow flexibility to service the operations of the proposed Saddlers Creek mine, which is currently in a preliminary feasibility stage.

The proposed transportation of up to 20 Mtpa of coal from the Bayswater Rail Loading Facility and Rail Loop alone will only occur when the 7 Mtpa limit sought by Drayton is not being used by the Drayton Rail Loop. Both the Bayswater and Drayton Rail Facilities are connected to the Antiene Rail Spur which will have a maximum coal tonnage limit of 20 Mtpa. The Antiene Rail Spur will be used by both COAL and Drayton to access the Main Northern Railway for transportation of coal material to the Port of Newcastle.

The COAL proposal is expected to provide 55-66 construction jobs, 2 permanent operational jobs and sustain existing operational employment at the Bayswater colliery. Bayswater colliery currently employs approximately 300 people. The Drayton proposal will not provide additional jobs but is expected to sustain the 250 people currently employment at the mine.

Background to the Drayton Rail Loop, Antiene Spur and Drayton Mine operations is as follows:

- Development consent for Drayton mine was granted by Muswellbrook Shire Council on 25th September 1980, permitting construction and operation of the existing rail loading facility and the Antiene Rail Spur. The consent also permitted the production of 3.3 million tonnes per annum (Mtpa) of coal, and construction of a coal preparation plant and coal product stockpiles.
- The Antiene rail spur was constructed as a joint venture between Drayton and the then Electricity Commission of NSW (now Pacific Power) and has been operated under the management of Drayton since 1982. The joint venture also included plans for an additional rail loop for the Mount Arthur North Project which has never been constructed. Drayton has now purchased Pacific Power's share in the venture.
- The proposed increase in coal haulage along the Drayton rail loop is also proposed to accommodate any potential future production from the proposed Saddlers Creek mine. The proposed increase in coal transportation along the Antiene rail spur is proposed to also accommodate coal being transported from the existing Bayswater mine and the proposed Mount Arthur North coal mine if approved.

The current development application for the Drayton Rail Loop and Antiene rail spur involves an increase in the volume of coal permitted to be transported along the existing Drayton rail loop from 3.3 Mtpa to up to 7 Mtpa, and along the Antiene rail spur to a limit of 20 Mtpa. No additional rail infrastructure or construction work is required for an increase in coal transport along the Drayton rail loop and Antiene rail spur, apart from continued track maintenance, and additional noise mitigating cladding to be installed on the existing train loading bin on the Drayton rail loop as a noise mitigation measure. The proposal will also excise the Drayton Rail Loop from the existing mine lease and establish the Drayton Rail Loop and Antiene rail spur as a Common User Facility.

Background to Bayswater mining operations is as follows:

- Bayswater No.2 coal mine began production in 1968. As reserves depleted, Bayswater No.3 mine was issued development consent by the then Minister for Planning on 12 September 1994 for mining of four pit areas known as Saddlers Pit, McDonalds Pit, Belmont Pit and Calool Pit. The 1994 consent also provided flexibility to consider alternative rail loading facilities, but required implementation of rail transport of coal within three years of commencement of mining (mining commenced in 1995).

- The Minister for Urban Affairs and Planning issued further development consent on 14 September 1997 for modified coal preparation and transport arrangements from Bayswater No.3. The consent also provided for an additional 2 years of road haulage.
- The Minister granted a further modification to the Bayswater No.3 consent on 14 December 1999 to continue road haulage until mid 2001. This consent was sought to allow time to construct infrastructure for alternative rail transportation.
- COAL now propose to construct and operate the alternative rail infrastructure including a rail loading facility and rail loop to operate at a capacity of up to 20 Mtpa to service the Bayswater No.3 mine and the proposed Mount Arthur North project if approved.

The development application for the Bayswater Rail Loading Facility and Rail Loop involves:

- Provision of 7270 metres of railway and associated infrastructure to form the Bayswater rail loop and connect the loop to the Antiene rail spur.
- Construction of a 1500 tonne train loading bin immediately to the north of the Bayswater No.2 Mine.
- Two rail over road bridges: one double track bridge approximately 150 metres east of the existing Bayswater Colliery entrance; and one single track rail bridge over Thomas Mitchell Drive approximately 200 metres north of the existing Drayton rail loop.
- Construction of a 40,000 tonne stockpile, truck dump station and reclaim tunnel within the product stockpile area approved under the 1994 Bayswater No.3 mine consent. And transfer conveyor to the train loading bin.
- Construction of new entrance to Bayswater colliery approximately 500 metres east of the existing entrance.
- Operation of the Bayswater rail loading facility and rail loop up to 20 Mtpa to make use of any priority access of the 7 Mtpa not utilised by Drayton Coal along the Drayton rail loop and Antiene rail spur as the product coal transported along the Bayswater rail loop will also be transported along the 20 Mtpa capacity Antiene rail spur.

The location of the proposals by COAL and Drayton are shown in Figure 1.

State Significant, Integrated, Designated Development

The proposals are both defined as State Significant Development and integrated development under the *Environmental Planning and Assessment Act 1979* (the Act). On 19th August 1999, the Drayton proposal was declared by the Acting Minister for Urban Affairs and Planning (John Della Bosca) as State significant. The COAL proposal is State significant under the Act as the proposal forms part of an existing State significant development (the Bayswater No.3 Mine). As such, the Minister for Urban Affairs and Planning is the consent authority for the DA's.

The proposals are also designated development under the *Environmental Planning and Assessment Regulation 1994* (the Regulation) and the joint EIS has been prepared. One integrated approval is required for the Drayton proposal from the Environment Protection Authority (EPA) under the *Protection of the Environment Operations Act, 1999*. The integrated approvals required for the COAL proposal include:

- the Environment Protection Authority under the *Protection of the Environment Operations Act, 1999*;
- the Department of Land and Water Conservation under the *Rivers and Foreshores Improvement Act 1948* and the *Water Act* 1912;
- the Mine Subsidence Board under the *Mine Subsidence Compensation Act 1961;*
- Singleton Shire Council under the *Roads Act 1993*; and
- the National Parks and Wildlife Service under the *National Parks and Wildlife Act 1974*.

The approval bodies have submitted their general terms of approval, which have generally been adopted as conditions in the recommended instruments of consent.

COAL had also identified the NSW Heritage Office as an approval body for the Bayswater rail loading facility and rail loop proposal under s58 of the *Heritage Act 1977*. However, it was determined that this approval was not required following consultation between the COAL, DUAP and the NSW Heritage Office, as the proposal does not affect any items listed on the State Heritage Register which requires the approval under the *Heritage Act 1977*.

Lodgement of DA's and exhibition

On 4th April 2000, Drayton and COAL lodged the DA's and EIS with the Department of Urban Affairs and Planning. The DA's and EIS were placed on joint public exhibition from Friday 14 April 2000 to Monday 22 May 2000 in accordance with the *Environmental Planning and Assessment Act 1979.* Submissions were received until close of the exhibition period.

The Department is satisfied that the requirements for public exhibition of the EIS and public participation have been fully met.

Local Councils' position

Muswellbrook Shire Council has provided comments for the Drayton rail loop and general terms of approval for the Bayswater rail loop proposal. Council has not raised any specific concerns in regard to the Drayton proposal and supports the COAL proposal subject to its general terms of approval and recommended conditions.

Government agencies' position

The National Parks and Wildlife Service (NPWS), Department of Land and Water Conservation (DLWC), Environmental Protection Authority (EPA), Department of Mineral Resources, NSW Fisheries, NSW Heritage Office, Roads and Traffic Authority (RTA) lodged submissions in regard to the COAL proposal. The Environmental Protection Authority (EPA), Department of Mineral Resources, Roads and Traffic Authority (RTA), Mine Subsidence Board, and NSW Agriculture lodged submissions in regard to the Drayton proposal. All government agencies that provided comment on both the COAL and Drayton proposals do not oppose the proposals, provided that key issues they raise are addressed by imposing appropriate conditions of consent.

NPWS, DLWC, MSB have provided general terms of approval for the COAL project. The EPA has provided general terms of approval for both the COAL and Drayton proposals. All submissions received during the exhibition period were forwarded to all the approval bodies as required by clause 53A of the Regulation.

Local community position

A total of four private submissions were received following the exhibition of the DA's and EIS. All four submissions either objected to, or raised concerns about both proposals.

The concerns and objections principally related to:

- Noise and dust
- Odours
- Visual
- Devaluation of property

THE PROPOSALS

BAYSWATER RAIL LOADING FACILITY AND RAIL LOOP

Site details and Infrastructure

The Bayswater rail loading facility and rail loop is illustrated by Figure 2

The existing Bayswater mine is made up of the Bayswater No.2 and No.3 open cut coal mine sites, surface facilities including the coal preparation plant, work shops, administration, and work force amenities. The mine facilities are located on the southern side of Thomas Mitchell Drive, 8 km south of Muswellbrook. The site of the proposal itself covers an area of 55 hectares within a four kilometre corridor, which is currently used for agricultural purposes, including cattle grazing, and vegetation dominated by pasture and woodland species.

The Bayswater facility will require 7270 metres of track is to be used for the project. The majority of the rail line connecting the rail loop with the Antiene rail spur will be located on the northern side of Thomas Mitchell Drive and the loop itself and loading facilities will be located on the southern side of Thomas Mitchell Drive. The rail loop will pass over Thomas Mitchell Drive via two rail over road bridges which is illustrated by Figure 2.

A load out bin with 1500 tonne capacity and associated control room will also be located at the south eastern end of the rail loop. Coal will be provided to the load out bin via a reclaim tunnel and conveyor leading from a 40,000 tonne coal stockpile located at the north end of the 350,000 stockpile area approved by the Department in 1994.

The existing Bayswater access road is to be relocated 500 metres to the east of its present location off Thomas Mitchell Drive and is illustrated by Figure 2.

The rail loop and new access road to the Bayswater facility are also located on Crown land that is a designated travelling stock reserve. Figures 2.1, 2.2, 2.3 and 2.4 of the EIS show the location, site layout, land ownership and catchment area for the project.

Land Ownership and Land Use

Land covered by the proposed rail loop, loading facility and existing facilities to be used at the Bayswater colliery includes land owned by COAL, Drayton Coal Pty Ltd, Bayswater Colliery Company, Muswellbrook Shire Council, Macquarie Generation and the Crown (Travelling Stock Reserve). Landownership within the proposed area of operations is highlighted by Figure 2.2 in the EIS.

Landownership surrounding the rail infrastructure includes other mining activities and companies, including operations at the Bayswater Coal Mine, Drayton Coal Mine to the east, Macquarie Generation to the east and private land owners in the Antiene Estate area to the north.

Surrounding land uses include the activities associated with the existing Bayswater coal mine, Drayton coal mine and rail loop, agricultural properties, travelling stock routes and rural residential holdings.

There are a number of non-mined owned residences which also occur near the existing Bayswater mine facilities and proposed rail loop and loading facility. The nearest residence is located in the Antiene rural-residential area, with the closest residence located approximately 400m to the northeast (Drayton Coal Pty Ltd owned) and the nearest private residence are located between 300m to 1500m to the north along Balmoral Road and Thomas Mitchell Drive. Figure 2.3 of the EIS shows the location of these residences.

Production process

Coal will be provided to the loadout bin via a reclaim tunnel and conveyor leading from the 40,000 tonne coal stockpile. Coal will then be loaded on to trains via the loadout bin at a rate of 4500 tonnes per hour, at this rate a maximum of 76500 tonnes may be loaded per day (equivalent to nine 8500 tonne trains). The loading of trains will be controlled from a control room located below the loadout bin. Trains loaded at the Bayswater rail loading facility will transport coal to the port of Newcastle via the Bayswater rail loop, the Antiene rail spur (owned by Drayton mine) and the Main Northern Railway. The maximum number of trains loaded per week is expected to be 14 during campaign loading periods. The process for loading trains is shown in Figure 3.3 of the EIS.

Annual haulage, hours of operation and employment

COAL seek's approval to transport 13 Mtpa of coal along the Bayswater rail loop to the Antiene rail spur. This approval also includes the potential transportation of up to 20 Mtpa of coal from the Bayswater rail loop on occasions when Drayton's proposed 7 Mtpa is not being used by Drayton mine. Bayswater has priority access to the 7 Mtpa limit of the Drayton rail facility (refer to the Drayton annual haulage, hours of operation and employment which is discussed below).

Construction will be undertaken during daylight hours seven days per week. Some tasks may by undertaken outside these hours.

Delivery of coal to the stockpile area, operations of the coal conveyor and loadout bin will be conducted 24 hours per day, 7 days per week during coal loading campaigns. The EIS estimates that 30 campaigns of 60 hrs will be conducted annually to transport coal from the current Bayswater mine operations. Annual campaigns could reach 108 for 13 Mtpa or 167 for 20Mtpa should the proposed Mount Arthur North project or other mines use the facility at full capacity.

Approximately 55 to 66 workers will be employed during construction of the Bayswater loading facility and rail loop. The operational stage will provide employment for an two additional workers to operate the loadout bin. Employment will also be generated for train drivers and track maintenance workers.

Stages of development

Construction will be staged over a 12 month period. The construction process is listed in Section 3.3.1.13 of the EIS. Operations will commence on the completion of the construction period.

Transport arrangements

All export coal is currently transported from the site by truck road haulage along Thomas Mitchell Drive and the New England Highway to the Ravensworth Coal Terminal. All coal transported from the Bayswater site will be via rail once the construction of the rail loading facility is complete.

The Bayswater access road will also be relocated 500 metres to the east of the existing location as shown in Figure 3.2 of the EIS. The access road is to be relocated to allow a sight distance of 250 metres to the double track rail overpass bridge for traffic turning onto Thomas Mitchell Drive.

Temporary road closure of Thomas Mitchell Drive will occur for a period of four hours during the construction of the two rail bridges. Five minute closures, in consultation with Muswellbrook Shire Council, may also occur to transfer fill from the northern side of Thomas Mitchell Drive to the southern side.

Justification

The Bayswater rail loading facilities and rail loop will have short term economic benefits to the local region as a result of capital investment of $20.5 million required during the construction phase. There will also be between 55-66 temporary construction jobs created for the 12 month construction period, and employment of two full time staff to operate the loading facility. The facility will also generate employment for contract workers employed to undertake track maintenance and train drivers using the facility. The local community will also benefit from the expenditure of a proportion of employee wages locally.

Once the rail loading facility and rail loop becomes operational, the local area will also benefit from the cessation of coal haulage trucks from the local road network, including Thomas Mitchell Drive. At present road transport is undertaken by some 80 to 90 trucks with an average capacity of 28 tonnes. This currently equates to some 60 peak truck movements per hour during haulage campaigns.

The construction of the rail facility will also allow the Applicant to meet the conditions of a modification of the 1994 Bayswater consent issued by the Minister for Urban Affairs and Planning on 14th December 1999. Condition 17(a) of the modification prescribes that '*the Applicant shall (a) undertake to transport all coal from Bayswater Colliery by rail or conveyor as soon as practicable, at the latest, by 1 July 2001'.*

The rail loading facility and rail loop will improve the long term efficiency of Bayswater mines coal transport systems, ensuring ongoing product flexibility and competitiveness in the coal market. Rail transportation allows flexibility to enable Bayswater mine to meet erratic shipping schedules at the Port of Newcastle.

Bayswater mines existing consent to undertake open cut mining is reliant on the ability of the mine to transport product to customers. Without a reliable transportation system such as the Bayswater rail loading facility and rail loop, the mine would be unable to continue to supply the market demand and would therefore be unable to operate. The Bayswater rail loading facility and rail loop will also help to maintain the existing 300 employees working within the mine operations.

COAL's proposed Mount Arthur North project (currently being assessed by the Department) is also reliant on the ability to transport product to export customers. The Bayswater facility has been strategically located to service the Mount Arthur North project. Without the development of the rail loading facility and rail loop, a viable transportation system will not be available to service the project which will employ a total of 521 operational staff and 290 peak construction employees.

INCREASED COAL TRANSPORT ALONG THE DRAYTON RAIL LOOP AND ANTIENE SPUR

Site details and Infrastructure

The Drayton rail loop and Antiene spur is illustrated by Figure 1

As the proposal only relates to an increase in the capacity of coal transportation on existing infrastructure, there will be no significant changes to existing infrastructure, apart from noise control works involving minor modifications to cladding on the rail loadout and ongoing track maintenance.

The existing loading and transportation system, including the Drayton rail loop and Antiene Spur is located adjacent to the southern end of Thomas Mitchell Drive. The Antiene Spur joins with the Main Northern rail line

approximately 8 km south of Muswellbrook, which links to the Port of Newcastle. It is proposed to continue to use these facilities.

Land Ownership and Land Use

Drayton and Shell Australia Limited (Anglo America) owns the land on which the Drayton rail loop and coal loading facilities are located. A number of other parties own land traversed by the Antiene Spur, including land owned by a private landowner and Macquarie Generation.

Landownership surrounding the rail infrastructure includes the Drayton Coal Mine, Bayswater Coal Mine to the west, Macquarie Generation to the east and private land owners in the Antiene Estate area to the north. The landownership within the proposed area of operations is shown in Figure 2.4 of the EIS.

Surrounding land uses include the activities associated with the existing Drayton coal mine and Bayswater coal mine, agricultural properties, travelling stock routes and rural residential holdings.

There are a number of non-mined owned residences, which also occur near the existing Antiene rail spur. The nearest residence is located in the Antiene rural-residential area, with the closest residence located approximately 100m to the north (Drayton owned) and the nearest non mine owned private residences are located between 300m to 1500m to the north along Balmoral Road and Thomas Mitchell Drive. Figure 3 attached shows the location of these residences.

Production process

Drayton seeks approval to increase the transportation of coal material from the 3.3 Mtpa to 7 Mtpa of coal from the rail loop to the Antiene Rail Spur. Consent is also being sought for the use of the Antiene rail spur up to a limit of 20 Mtpa. There will be no change to the existing mining operations. Coal will continue to be transported from the Drayton mine open pits by rear dump truck where it is crushed and stockpiled adjacent to the Drayton rail loop. Export coal will continue to be transferred by conveyor from the coal stockpile to twin 1750 tonne train loading bins. If the Saddlers Creek mine proposal is approved, coal will be transported from the Saddlers creek mine area which boarders Drayton mine to the south with via private haul road or a conveyor system. Specific details would be finalised in a separate development application for the Saddlers Creek proposal.

Hours of operation and employment

There will be no change to the existing workforce of 250 people. There will also be no change to the existing hours of operation from the existing 24 hours a day, six days a week.

Transport arrangements

There will be no increase in peak train movements on the Drayton rail loop and Antiene spur, which are currently 12 movements per day for both the loop and spur, as a result of the Drayton proposal. However, the number of days on which train movements occur will increase from 107 to 227 along the Drayton rail loop and from 107 to 282 along the Antiene rail spur as a result of the concurrent operation of the Drayton and Bayswater rail loops. Export coal is transported from both the Drayton rail loop and Antiene spur to the Port of Newcastle via the Main Northern Railway. Domestic coal is transported to Bayswater Power Station by overland conveyor. No coal is or will be transported by road from Drayton mine.

Justification

The EIS states that the proposal will improve the long term efficiency and economics of the Drayton coal transport system, ensuring ongoing product flexibility and competitiveness in the coal market. Without an effective method of transportation, Drayton will be unable to continue to supply their markets to meet often erratic shipping schedules.

The EIS shows that all potential environmental constraints can be appropriately managed to enable the increased operation of the Drayton rail loop and Antiene spur.

Drayton can maintain continued employment levels, by continuing to supply Drayton's export markets through the proposed increased capacities.

The proposed increased capacity along the Drayton rail loop and the Antiene rail spur will provide a flexible coal transport system for the proposed Saddlers Creek coal mine proposal if approved, ensuring road haulage of coal would not be considered as an option.

The increased capacity of the Antiene rail spur will ensure rail transportation of product coal from Bayswater mine and the proposed Mount Arthur North mine rail is a viable option other then road transportation.

STATUTORY PLANNING MATTERS

Various State, regional and local statutory planning provisions apply to the proposals. Both proposals are "designated development" under Schedule 3 of the *Environmental Planning and Assessment Regulation 1994* and an EIS has been prepared.

Local Planning Considerations

The proposed developments are located within Muswellbrook Shire. The planning provisions of the Shire are contained within the Muswellbrook Local Environmental Plan (LEP) 1985.

Under the Muswellbrook LEP (1985), both DA areas are zoned Rural 1(a). The proposed developments are permissible with development consent in this zone and are not inconsistent with the objectives of the LEP.

Regional Environmental Plans

Hunter Regional Environmental Plan

The Hunter Regional Environmental Plan (REP) 1989 applies to the proposals. The REP provides a framework to guide and control growth and development in the region. The REP includes objectives relating to the management of coal and other mineral resources and extractive industries in the region. The proposals are consistent with the objectives of the REP.

State Environmental Planning Policies

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development

SEPP 33 was introduced in 1992 to ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimise any adverse impact. The Department reviewed the hazards related issues with the COAL and Drayton proposals and concluded that SEPP 33 does not apply to the proposal.

State Environmental Planning Policy No 44 – Koala Habitat Protection

SEPP 44 applies to Muswellbrook Shire as it is identified in Schedule 1 of the policy, which identifies local government areas where koalas are known to occur. The joint EIS indicates that the study area of the Bayswater rail loading facility and rail loop contains potential Koala habitat as two habitat tree species identified under the Policy are located in the study area. However, the EIS also indicates that the study area is not considered to be core Koala habitat as defined under SEPP 44 as there is not currently a resident population of Koalas occurring at the site, with no evidence of Koala use of the area being observed. There are also no historical records of Koalas occurring in the study area.

The joint EIS also indicates that no core koala habitat was found to occur at the site of the Drayton rail loop and Antiene rail spur and that there is no vegetation clearance associated with the Drayton proposal.

Schedule 3 of EP&A Regulation

The COAL and Drayton proposals are both designated development under Schedule 3 of the EP&A Regulation 1994 and an EIS was accordingly prepared. Procedures relating to the preparation and public notification of the EIS have been followed.

Threatened Species Conservation Act, 1995

An assessment of the significant effect of the COAL and Drayton proposals on threatened species, population and ecological communities and their habitats was undertaken in the EIS through an 8-part test in accordance with section 5A of the EP&A Act. The Department's assessment has concluded that with the implementation of appropriate mitigation measures in the conditions, the COAL proposal is unlikely to have a significant impact on threatened species or their habitats. The Department's assessment has also concluded that the Drayton proposal is unlikely to have a significant impact on threatened species or their habitats as there is no vegetation clearance associated with the proposal. A Species Impact Statement (SIS) was therefore not required to support the DA's. This issue is discussed in greater detail in the COAL assessment section of this report.

Conclusion

The COAL and Drayton proposals are in accordance with the provisions of all the relevant environmental planning instruments.

SUBMISSIONS RECEIVED

In accordance with section 79 of the EP&A Act, the Department received a total of thirteen (13) submissions during the exhibition period of the DA's and joint EIS. Eight (8) submissions related to both proposals, Four (4) related to the COAL proposal specifically, and one (1) related to the Drayton proposal specifically. A detailed summary of submissions for each project resulting from the public exhibition of the proposal is given at Appendix 2. Four submissions were from private residents.

Government agencies

A total of nine (9) submissions were received from government agencies. Five (5) related to both proposals, while four (4) related to both proposals, particularly due to the construction component of the COAL proposal. No State agency nor Muswellbrook Shire Council objected to the proposal.

However, a number of issues were raised including: noise; cumulative impacts; Aboriginal heritage; transport, protection of Ramrod Creek catchment; flora and fauna and threatened species. It is considered that the issues raised by agencies can be addressed by attaching appropriate conditions of consent to the proposal and requiring certain management practices to be carried out by the Applicant.

Public submissions to proposal

Four submissions were received from private individuals during the exhibition of the proposals. All four submissions related to both proposals, and were received from private residents living in the Antiene estate area. These submissions raised a number of issues including:

- noise, dust and odour impacts
- potential property acquisition and devaluation of properties
- visual

DEPARTMENT OF URBAN AFFAIRS AND PLANNING'S CONSIDERATION

BAYSWATER RAIL LOADING FACILITY AND RAIL LOOP

Key issues

In the Department's opinion the key issues for assessment, taking into consideration the submissions received on the proposal and the contents of the EIS, are:-

noise
dust
flora and fauna
visual and lighting
water issues
aboriginal and non-aboriginal heritage issues
transportation
social and economic

Noise Impact Assessment

Establishment of Background Noise Levels

The applicant monitored background noise levels in blocks of 15 minutes continuously for two weeks using noise loggers at six locations, which represented the residences most likely to be affected by noise from the Bayswater rail loading facility and rail loop proposal and the proposed increased coal transportation along the Drayton rail loop and Antiene rail spur. The monitoring locations are referred to as A, B, C, D, E, F and J in the EIS (see Figure 4 attached). The monitoring identified that existing transport operations associated with Bayswater mine comply with the relevant EPA criteria. Coal haulage movements along Thomas Mitchell Drive is the principal noise contributor at residential receptors due to the existing Bayswater coal transportation operations.

The monitoring identified Rating Background Levels (RBL) ranged from 30 – 39dB(A) during the day, 32 – 42 dB(A) during the evening and 33 - 47 dB(A) during the night. The RBL at the nearest residential area, location B

(Balmoral Road) were determined to be 33 dB(A) during the day, evening and night. The EPA concurs with the RBL of 33 dB(A).

Establishment of Noise Criteria for Rail Operations

In January 2000, the EPA introduced the Industrial Noise Source (INS) Policy which aims to control of noise from scheduled premises identified under the *Protection of the Environment Operations Act 1997*. The Policy also introduces two revised criteria used in the assessment of noise impacts from industrial development. The first being an intrusive criteria which aims to minimise the occurrence of intrusive noise in the community, and an amenity criteria which aims to preserve the amenity for specific landuses. The EIS has been assessed under this new Policy.

The INS Policy has been used in the EIS to determine the operational noise criteria for the mine. The intrusive criterion requires that the equivalent continuous (average) noise level (L_{Aeq}) of the mine should not be more than five decibels (dB) above the minimum background level (L_{A90}) noise level. The background noise level is the noise level exceeded for 90 per cent of the time over a specified period (normally 15-20 minutes). If the L_{Aeq} noise level is therefore exceeded by more than 5 to 10dB(A), then it is likely to produce complaints. The amenity criteria is based on the particular landuse, which in this case is rural residential. Specified limits in the INP differ depending on the defined area of the receiver. These levels are based on the average noise from all noise sources (except non-industrial traffic) in an area over a specific time period (typically 9 hours for night time noise). As such the amenity criteria can be described as the cumulative noise criteria.

The joint EIS and additional information provided by the applicant in response to the EPA's request for additional information on 5 July 2000, differ in the interpretation of applying the EPA's Industrial Noise Policy (INP). The applicant defined the key receiver area (Antiene subdivision) as rural-residential in the joint EIS. The applicant changed it's interpretation in it's submission of additional information in response to the EPA's request (5 July) by defining the receiver as urban. As a result a higher amenity noise criteria was considered by the applicant to apply.

In the joint EIS, after defining the receiver as rural-residential, the applicant determined that under the INP, the amenity criteria of night time 40 dB(A) L_{Aeq}, evening time 45 dB(A) L_{Aeq} and day time 50 dB(A) L_{Aeq} applies. However, the applicant reduced these levels by three dB(A) in the joint EIS in order to account for noise emissions from existing mining operations in the area. As a result night time amenity criteria was determined to be 37 dB(A) L_{Aeq}. After redefining the receiver as urban, in the additional information provided in response to the EPA's request of 5 July 2000, the applicant determined the amenity criteria of night time under the INP as 45 dB(A) L_{Aeq}. This level was reduced by three dB(A) again in order to account for noise emissions from existing mining operations in the area. As a result, night time amenity criteria was determined by the applicant to be 42 dB(A) L_{aeq}.

The intrusive criteria determined by the applicant under the INP was determined to be 38 dB(A) $L_{Aeq(15\ min)}$ in the EIS and the additional information in response to the EPA request for additional information on 5 July 2000.

The EPA strongly disagreed with the applicant's additional information in defining the receiver (Antiene sub division) as urban and could only conclude that the receiver is a rural-residential situation not an urban situation. After considering the applicant's assessment, the EPA provided it's own assessment of the appropriate night time specific noise levels for the proposal under the INP. The EPA levels include industrial noise amenity criteria for rural situations (40 dB(A) $L_{Aeq(9hour)}$, applicable amenity criteria for the proposal alone (32 dB(A) $L_{Aeq(9hour)}$), an intrusive criteria of 38 dB(A) $L_{Aeq(15\ min)}$ based on a RBL of 33 dB(A). The Department

generally concurs with the EPA approach and has essentially adopted the approach in determining appropriate consent conditions (see the mitigation and management measures below).

Weather conditions and noise criteria

The weather conditions under which the noise criteria applies is also a very important factor to consider in the development of the relevant noise criteria. Under the INP, the EPA considers that the assessment of noise impacts should include finding a single set of meteorological conditions, representing generally adverse conditions for noise propagation. The Department supports this view. The effects of all typical meteorological phenomena need to be addressed to determine the likely impact from noise. Measured or estimated percentage occurrences of temperature inversions or wind for the area that could enhance noise levels are useful in quantifying likely noise impacts.

The applicant adopted procedures to account for meteorological effects in it's assessment of operational noise. It is noted in the EIS that for rail traffic noise, these effects are not considered significant due to the shorter source-receiver distances involved.

The EPAs current approach in addressing noise impacts from coal mines is designed to ensure that "achievable and therefore enforceable noise limits" are included in consent conditions. For this reason the EPA's approach is that where receiver locations are predicted to experience noise levels that exceed the planning noise level goals by a relatively minor amount under typical weather conditions (eg: up to 5dB), and all feasible and reasonable mitigation measures appear to have been applied and the project provides significant social and economic worth, then those predicted noise levels and the locations at which they pertain should be included in the Operational Limits for the proposal. The Department has included consent conditions that reflect this requirement.

The joint EIS undertakes that the applicant's proposed noise criteria, which is discussed above in the section '*Establishment of Noise Criteria for Rail Operations',* shall be met at all residences and other noise –sensitive locations under the meteorological night time conditions of 8.2 degrees C per 100 m for temperature inversions , and 2 m/sec wind from the south which is relevant to sources to the east of the ridge near Antiene. The meteorological conditions are said to have been determined based on data from the Bengalla Mast in the Bengalla mine lease area and the INP.

The predicted noise levels from the Bayswater Rail loading facility and rail loop under adverse weather conditions at nearby residences are shown in figure 4.8 of the joint EIS. The joint EIS determined a night time noise intrusive criteria of 38 dB(A) $L_{Aeq(15\ min)}$ and night time amenity criteria of 37 dB(A) L_{Aeq} (or applicant's reviewed night time amenity criteria of 42 dB(A) L_{Aeq}) will not be exceeded at any resident due to the operation of the facility. This is outlined in refer to Figure 4.8 of the EIS.

The Department considers adverse criteria (strong inversions or G class inversions as described in the INP) for noise levels should be used, which consider the presence of wind up to 3 metres per second and includes temperature inversions of up to 4 degrees C per 100 metres. The EPA's INP recommends the use of moderate inversions generally in the Hunter Valley. The noise levels in the consent conditions therefore apply under adverse weather conditions (strong inversions) which are considered typical for the locality.

Cumulative Impact

Areas potentially impacted by noise from Bayswater rail loading facility and rail loop are also potentially affected by other industrial activities, including other mining activities, such as the existing Bayswater mine, Drayton rail loop and Antiene rail spur, Drayton coal mine and proposed Mount Arthur North project, if approved.

Noise levels for the cumulative operations of all these activities were presented by the applicant in response to the EPA's request for additional information. The additional information examines the cumulative noise impacts for properties 4, 7 and 12 and property 19 within the Antiene subdivision (refer to Figure 5 attached) as these are considered to be the closest non-mine owned residences and hence the most likely to be affected properties. The additional information identifies the likely impacts of each mine and the total cumulative impact of all operations. It is shown that the operation of the Drayton mine is the dominant source of noise emissions at all residences.

The cumulative effect of all operations at residents 4, 7 and 12 are shown to be 42 dB(A)$L_{eq(9hour)}$. The additional information also shows that additional rail movements associated with both the Bayswater rail loading facility and Drayton rail loop will be the dominant noise source at property 19. The INP indicates that the amenity or cumulative noise criteria for rural areas should be 40 dB(A)$L_{eq(9hour)}$ night time. The predicted cumulative noise levels at properties 4, 7, 12 and 19 is in excess of the amenity criteria.

Mitigation/Management Measures

The applicant has predicted that there will be no exceedance of the relevant EPA noise criteria from the operations of the rail loading facility and rail loop at non-mine owned residences. However, the Department considers potential noise impacts of the rail loading facility and rail loop, particularly including cumulative noise contributions from the operations of the Bayswater mine, Drayton rail loop and Antiene rail spur, Drayton coal mine and proposed Mount Arthur North project, if approved, require implementation of appropriate management measures to ensure adverse noise impacts do not occur.

The applicant has indicated that it will be unable to meet the EPA's recommended amenity or cumulative criteria of 40 dB(A)$_{Leq(period)}$ and that a criteria of 42 dB(A)$_{Leq(period)}$ should be applied. The Department in consultation with both the EPA and applicant has determined that the upper noise level be the noise limit level for the first three years, and then the more stringent of 40dB(A) be applied unless the applicant can clearly demonstrate that it cannot achieve the 40d(B)A noise criteria after three years of operation.

Should it be demonstrated that noise emissions can not be managed adequately, noise mitigation measures will be required to be undertaken, and acquisition requirements will be available in certain circumstances. Subsequently, the consent conditions require the Applicant to prepare a detailed Noise Management Plan (in consultation with the owner of Drayton mine), which will manage noise impacts associated with noise produced from the construction and operation of the rail loading facility and rail loop. The Management Plan will outline the methods for mitigating noise limits that exceed the relevant EPA criteria in consultation with the owners of Drayton mine, requirements for independent noise investigations should noise limits be exceeded and procedures for recording, reporting and acting on any noise complaints received by the owner of the rail loading facility and rail loop. The Noise Management Plan is also required to focus on the management of nighttime noise (10:00pm to 7:00am) from the operations. The consent conditions set noise limits and requirements for a detailed monitoring program and incorporate the General Terms of Approval from the EPA.

Should a landowner or occupier consider that noise produced from the Bayswater rail facility alone at their dwelling is in excess of the noise levels set by the conditions of consent, the Applicant is required, upon the receipt of a written request, to consult the landowner or occupier to identify their concerns. The Applicant is then required to undertake independent noise investigations in consultation with the owner of Drayton mine to determine the source of the impact and modify operations if exceedences are identified as occurring from the rail loading facility and rail loop related activities. In modifying the loading facility and rail loop, the Applicant is required to develop noise controls in addition to those required by the Noise Management Plan, undertake noise controls at the dwelling and conduct further investigations if considered necessary.

Acquisition

The joint EIS and additional information provided by the applicant, has not identified that any significant noise impacts on any residential receivers will occur as a result of the operation of the Bayswater rail loading facility and rail loop. Subsequently, there are no up front acquisitions required for any specific residents.

The Department in consultation with the EPA concurs with this prediction. However, the Department recommends a condition to cover the instance if the operation of the Bayswater rail facility exceeds a noise level of 43dB(A)$L_{eq(15minute)}$ (which is 5 dB(A) above intrusive level) during either the night, evening or day period at a residence, that residence will be in the area of noise affectation (ie subject to a significant noise impact) and should be acquired by the owner of the rail loading facility and rail loop at the request of the owner of the property.

The Department also considers that if night time cumulative noise levels greater than 45dB(A)$L_{eq(9hour)}$ occurs at a residence as a result of the operation of the Bayswater rail loading facility and rail loop in conjunction with the total cumulative noise contributions from the operations of the Bayswater mine, Drayton rail loop and Antiene rail spur, Drayton coal mine and proposed Mount Arthur North project, if approved, that the residence will be subject to a significant noise impact and should be acquired by the owner of the rail loading facility and rail loop in co-operation with the owner of Drayton mine and in consultation with the owner of the property at the request of the owner of the property. This requirement is also reflected in the consent conditions.

As discussed throughout this report, the Bayswater rail loading facility and rail loop will operate jointly with the Drayton rail loop in terms of rail movements along the Antiene rail spur. As a result, a number of joint management plans are required to be prepared in the consent conditions for both proposals for key issues. A Joint Acquisition Management Plan has been included in these conditions. The Plan requires a joint approach to be adopted by the owners of the Bayswater rail loading facility and Drayton rail loop in regard to the potential acquisition of a property as a result of cumulative impacts from the Bayswater rail facility, the existing Bayswater mine, Drayton rail loop and Antiene rail spur, Drayton coal mine, and Mount Arthur North project, if approved.

If the independent noise investigations confirm noise limits are being exceeded, the Applicant is required to acquire the property, in consultation with the owner of Drayton coal mine, at the written request of the owner. The acquisition shall be at market price and with compensation for disturbance and relocation costs and is to occur within 6 months from the written request. As discussed above, the consent also requires the applicant to prepare a Joint Acquisition Management Plan with the owner of Drayton coal mine to outline a joint approach to meet the acquisition procedure requirements outline in both applicant's consents. The consent also establishes a means for independent valuation of a property should the Applicant and landowner disagree on the acquisition price within the time limit set by the consent. The Applicant is also required to cover the costs for any independent valuation.

Summary of noise and dust management/mitigation measures, including cumulative impacts

Management plan preparation

- Dust and noise management plans are to be prepared by each applicant in consultation with adjoining mining operations.
- Each management plan for each operation is to describe its inter-relationship with the adjoining operation's dust/noise management plans.

Noise criteria

- Each development has intrusive (L_{eq} 15 minute), and amenity (in other words cumulative) noise criteria (L_{eq} 9 hour), placed on it.

Intrusive noise criteria and management

- The intrusive criteria (background noise +5 dB(A)) is for the relevant project alone to comply with.
- If the intrusive criteria is exceeded, the applicant will be liable for non-compliance.
- Depending on the level of exceedence the applicant will either have to undertake mitigation measures at a private property, or acquire it.

Cumulative noise criteria and management

- The amenity or cumulative criteria (average noise in an area from all sources (except non industrial traffic) determined over a particular time period, typically 9 hours) is to be complied with by the applicant co-operating with surrounding mining, to limit the cumulative noise contributions from the project alone in conjunction with the total cumulative industrial noise emissions from other mining operators.
- If the cumulative criteria is exceeded, the applicant shall negotiate/consult with the other mining operators appropriate arrangements to reasonably contribute to the management of the identified cumulative impacts to the satisfaction of the DG.
- If agreement on appropriate contributions towards mitigation measures/ acquisition cannot be reached, then the DG may appoint an independent panel to resolve the matter.
- Prior to the appointment of the independent panel, the applicant shall provide the Director-General a report detailing the applicant's reasons for being unable to get agreement with the other parties, and the reasons for the cumulative criteria exceedences with demonstration that the applicant's activities are not the sole cause of the exceedences.

Dust criteria and management

- Dust criteria in consent conditions is based on EPA criteria.
- If this is found to be exceeded through independent monitoring from a mine alone, the relevant mine would be required to acquire the property.
- If exceedence is through an identified cumulative effect, the same process would be undertaken as for cumulative noise above.

Independent monitoring trigger

- The trigger for independent monitoring to ascertain whether noise/dust levels within the consent are being exceeded for both intrusive and cumulative noise levels is by private landowners complaint and Director-General's agreement.
- Any independent monitoring undertaken would be funded/arranged by the relevant applicant in consultation with adjoining mines.

Construction Noise

Three main construction areas will operate over a 26 week construction period, including construction of the proposed stockpile area, the rail loading facilities and the rail over road bridges. Construction noise levels were assessed against intrusiveness criteria relevant for a continuous period. Construction will also include construction of the track and associated earthworks. Piling, blasting and rock breaking will also occur over limited periods.

The joint EIS assessed long term and short term construction activities at receiver locations in the Antiene estate area. All noise levels from long term construction activities are reported to be within the long term construction noise criteria of 41dBA. All noise levels from short term construction activities are reported to be within the short term construction noise criteria of 46dBA, with the exception of a 1 dBA exceedence due to rock-breaking at one resident in the Antiene estate.

Levels of maximum instantaneous charge required to ensure both overpressure and ground vibration criteria are met by any potential blasting required during construction were also assessed. Overpressure and vibration from any blasting required during construction would be monitored, and if necessary blasting design would be modified to ensure appropriate criteria are met.

The applicant has also undertaken to implement a number of measures to ensure noise construction criteria is not exceeded, such as the use of equipment operating with noise levels as low as is economically achievable and practicable, scheduling the construction of barriers as early as possible to allow subsequent work to be undertaken behind the barriers, limitation of work at single sites, particularly bridge construction sites, to the shortest possible time span. The applicant will also design blasting to conform with the relevant charge sizes, regularly monitor general construction noise and noise and vibration from blasting, with implementation of a procedure for follow up and rectification if any excellences of the relevant criteria are found, continue consultation with nearby residences to keep them informed of the construction timetable and to discuss any difficulties and undertake regular site meetings with contractors to enable.

The Department considers that the measures in the EIS should be adequate to manage noise. However, a condition is recommended that the applicant prepare a Construction Noise Management Plan to outline measures to be taken in the event of complaints.

Conclusion

The Department is satisfied that the measures described in the joint EIS and additional information supplied in response to the EPA's request for additional information prior to issuing general terms of approval, and the recommended consent conditions will adequately manage and mitigate any significant noise impacts from all aspects of the proposal, including cumulative impacts. The consent conditions set appropriate noise levels that are to be met at private residences, provide a process for establishing and implementing noise mitigation measures where noise levels are exceeded, including acquisition, and the provision for independent monitoring to occur if requested by landowners, and development of a joint acquisition management plan with the owner's of Drayton mine. In addition, it is considered that cumulative impacts of noise can be adequately managed through the implementation of the applicant's proposed mitigation measures and the Department's recommended consent conditions.

Air Quality and Dust Impacts

The proposal will produce dust impacts associated with the construction stage and operational stage. Impacts during the construction period will result from excavation activities, loading, transportation, emplacement and shaping of fill material during the twelve month construction phase (nine months of actual excavation). Operational stage impacts is expected to result from the loading and unloading of coal during operations.

The air quality assessment provided in the EIS assessed the impact of construction activities and the impacts of the joint operation of the Bayswater rail loading facility and rail loop with the Drayton rail loop and Antiene rail spur. The air quality impacts of the proposal were estimated through a short term industrial source complex model. Time varying emission rates from wind erosion sources during the loading and unloading of coal,

overburden and construction materials were used as input variables to the model to indicate the impact of the operations on surrounding residents.

Two submissions from private residences raised concerns about the potential impacts of dust from the proposal.

Assessment Criteria

To determine the potential impact of dust produced from the proposal on health and amenity, dust deposition and concentration levels were compared to both long-term (annual average) and short-term (24 hour) criteria and to different particle sizes. The EPA's assessment criteria for dust deposition (g/m^2/month) permits increases in the criteria above existing levels according to the existing air quality. The location of the proposal in a rural area provided a permissible increase in deposition of $2g/m^2$/month above the existing levels, up to a maximum of $4g/m^2$/month

Dust concentrations were compared to long-term and short-term criteria and different particle sizes, including total suspended particulate (TSP) or particles less than 50 microns, and particles smaller than 10 microns (PM_{10}). The EPA has indicated it is satisfied with the methodology used in the EIS to determine the predicted dust impacts from the project.

Predicted Impacts

The EIS indicates that all long term and short term air quality goals, including 24-hour PM_{10} and annual average PM_{10} TSP concentrations and dust deposition will be met at surrounding residences during the construction stage and operational stage of the proposed Bayswater rail loading facility and rail loop.

The EPA believes that the methodologies used by the consultant for assessing background dust levels and estimating dust emissions from the proposed development are satisfactory. The Department therefore considers that the calculated dust levels contained in the EIS are a reasonable projection of the likely dust impacts from the project.

Cumulative Impact

The methodology for assessment of future dust levels in the EIS was based on existing background levels. The dust impact assessment has also considered the cumulative impact of the Bayswater rail loading facility and rail loop in conjunction with other existing land uses in the area. The EIS suggests that there will be no predictable cumulative amenity impact on any residence as a result of dust impacts from the concurrent operations of the Bayswater rail loading facility and rail loop and the Drayton rail loop, Antiene rail spur and existing land uses in the area.

Mitigation Measures

Although dust impacts are assessed as being negligible in the EIS, the Applicant proposes to implement a number of air quality controls associated with the proposal including implementing the existing Bayswater Air Quality Management Plan. Controls include installation of dust suppression sprays on the proposed coal stockpile, extension of the existing Bayswater air quality monitoring program to include a high volume sampler to measure PM_{10} dust concentrations to the northeast of the proposal site. This monitoring location will be jointly managed by COAL and Drayton. In addition to the proposed controls listed by the Applicant, the Department's recommended conditions of consent include the EPA's GTA's approval. The EPA GTA's provides that dust monitoring procedures are to be determined in consultation with the EPA.

The Department considers that these measures will be generally adequate, however conditions are recommended which require the Applicant to prepare a detailed Dust Management Plan to the satisfaction of the Director-General to address potential dust impacts and prepared in consultation with the owners of the Drayton facility. The Plan includes requirements for the establishment of a dust monitoring program, a protocol for handling complaints, mitigation measures to minimise dust emissions, and measures to modify mining activities to reduce dust emissions. The consent conditions also require stringent monitoring of dust deposition and dust concentration to be undertaken in consultation with the EPA, with the results required to be reported annually in the Annual Environmental Management Report. The consent conditions also allow any landowner within the vicinity of the mine to request independent monitoring if they consider that they are being adversely impacted by dust. Should the investigations determine that dust levels at the residence are being exceeded, the Applicant is required to either ameliorate or compensate the owner, or acquire the property if requested.

Conclusion

The Department is satisfied that the potential air quality impacts resulting from the proposal can be adequately managed through the implementation of the controls listed in the EIS, EPA general terms of approval and the Departments recommended conditions of consent.

Flora and Fauna Assessment

Flora

Through field surveys and the review of databases held by the NPWS for the area of the proposed rail loading facility and rail loop, no threatened flora species, populations or ecological communities listed in the *Threatened Species Conservation Act, 1995* were identified in the study area. Five vegetation communities were recorded in the study area, including:

- Pastoral grasslands (covering the majority of the site);
- Mixed Eucalypt Woodland;
- *Eucalyptus tereticornis* Woodland – Open Forest;
- *Corymbia maculata* Woodland; and
- Aquatic vegetation (occurring in natural and constructed waterways).

Fauna

The field surveys and investigations also recorded three general habitat areas, being pastoral grassland habitat, woodland and open forest habitat and permanent and ephemeral waterbody habitat. The habitat areas are generally degraded due to disturbances from the surrounding agricultural and mining related activities. Three threatened fauna species were recorded during the field surveys, including:

- Common Bent-wing Bat (*Miniopterus schreibersii*);
- Yellow-bellied Sheathtail Bat (*Saccoaimus flaviventris*); and
- Squirrel Glider (*Petaurus norfolcensis)*.

The EIS also indicates that the proposal is unlikely to have an impact on any other Threatened Species as habitat for other species being marginal or absent from the study area. The Department's assessment of the

potential impacts of the proposal on threatened species has also concluded that there is unlikely to be a significant impact.

SEPP 44 (Koala Habitat Protection) applies to the proposed site as Muswellbrook Shire is included within Schedule 1 of the policy. The EIS indicates that the study area contains potential Koala habitat as two SEPP 44 habitat tree species are located in the study area. However, the EIS also indicates that the study area is not considered to be core Koala habitat as defined under SEPP 44 as there is not currently a resident population of Koalas occurring at the site, with no evidence of Koala use of the area being observed. There are also no historical records of Koalas occurring in the study area.

The submission by the NPWS raised a number of issues concerning flora and fauna, including management of the Applicants proposed bushland conservation area, the size of the Applicant's proposed habitat corridor which links the proposed bushland compensation area to existing forest vegetation located at the eastern end of the study area (see section 4.9.7 of the EIS), and a recommendation in regard to the implementation of the Applicant's proposed nest boxes to be located in the bushland conservation area. However, NPWS indicated they were generally supportive of the approach being proposed in the EIS to mitigate impacts of the development on flora and fauna (mitigation measures are listed below). The views of NPWS have been incorporated in the Departments recommended conditions of consent.

The proposal is generally considered by the Department as unlikely to have a significant impact on threatened species in the region with an area of 5.75 hectares of forested habitat and 13.9 hectares of pastoral grassland being affected. However, the imposition of appropriate mitigation measures by way of consent conditions will still manage the potential impacts from the proposal on the three threatened fauna species identified in the area. In considering its impacts, the Department's assessment concluded that with mitigation measures as proposed by EIS and the recommended consent conditions, the proposal is unlikely to have a significant impact on threatened species and a Species Impact Statement (SIS) was not required.

Mitigation Measures

The Applicant is required by the consent conditions to prepare a detailed Flora and Fauna Management Plan to the satisfaction of the Director-General. The Plan is required to specifically outline the procedures and measures required for the clearing of any vegetation that will occur as a result of the Bayswater rail loading facility and rail loop and the methods for conserving existing bushland areas through a proposed bushland conservation areas and rehabilitation/reconstruction of native bushland areas disturbed by the proposal following the cessation of rail loading operations. This includes methods for the removal / translocation of any threatened species identified by appropriately qualified ecologists. The Plan also requires the utilisation of important habitat that will be cleared (eg limbs and hollow branches) as part of the Applicant's proposed bushland conservation area, the provision of measures to connect existing areas and future areas of habitat rehabilitation to form a network of wildlife corridors throughout the site and that nest boxes are installed in both the existing habitat areas and the proposed habitat compensation areas.

The conditions also require stringent monitoring of the success of regeneration works, the effectiveness of the reafforestation, the establishment of the proposed habitat compensation area, the establishment of the habitat corridor by appropriately qualified and experienced ecologists and a detailed monitoring program to be reported annually. The conditions also require that the monitoring program is to be publicly reported annually as part of the Annual Environmental Management Report.

The requirements of the Flora and Fauna Management Plan and the monitoring requirements within the consent, will manage the impacts from the proposed rail loading facility and rail loop and provide an appropriate

means for the rehabilitation of the site and conservation of existing threatened species habitat through the establishment of the proposed bushland conservation area.

Conclusion
The Department is satisfied that with the mitigation measures described in the EIS and conditions of consent, the proposal will not significantly impact on any threatened flora or fauna species and a SIS is not required to be prepared. The specific conditions recommended for the clearing of existing vegetation and habitat, the conservation and reconstruction of new bushland areas and stringent monitoring requirements by the consent conditions, also address the issues raised by the NPWS.

Visual Impact Assessment

The site of the proposed Bayswater rail loading facility and rail loop is located in undulating cleared and semi-cleared grazing land with isolated patches of woodland and extensive views of current mining activities and associated service infrastructure. The EIS states that the area of the proposal has a low scenic quality.

A joint visual impact analysis was undertaken by COAL and Drayton for the Antiene Joint User Rail Facility considering the visual impacts of both the Bayswater rail loading facility and rail loop and the Drayton rail loop and Antiene rail spur. The visual analysis was undertaken for all potentially affected surrounding residences and other viewing locations. Viewing locations used are shown in figure 4.18 and 4.19 of the EIS.

The joint analysis in the EIS concludes that the Bayswater loading facility is not visible from any residence due to visual shielding of the intervening topography. The Department concurs with this view. The Bayswater rail loop and rail line joining the Antiene rail spur will not be visible from the nearest residence located 200 metres northeast of the area of the proposed mine. However short distance views of the site are available from the front gate. The residence is owned by Drayton and is located in area with low visual quality due to the views of the existing Drayton rail loop. All other residence in the Antiene area to the north of the proposed rail loop have no views of the site of the rail loop due to intervening topography and vegetation. The rail loading facility and rail loop will be visible from an approximate 3.5 km length of Thomas Mitchell Drive, views are relatively long glimpses at short distance from road users travelling in either direction.

The EIS also indicates that road users driving in either direction along Thomas Mitchell Drive would be impacted by headlights from trains travelling along the Bayswater line. The main area of impact will be near the location of the proposed rail loop and entrance to the Bayswater Colliery as shown in figure 4.20 of the EIS. The impact of lighting on the proposed stockpile area is considered to be negligible in the EIS due to the nature of the topography in the area. There may however be limited impacts from lights on trains.

Mitigation Measures

It is indicated in the EIS that the impact of train headlights on users of Thomas Mitchell Drive will be mitigated through the development of vegetation corridor ranging from 55 – 125 metres in width between the rail line and Thomas Mitchell Drive and the construction of visual screens along the top of the rail embankment. The location of the proposed vegetation corridor and proposed visual screens is shown on figure 4.16 of the EIS. The Department considers these measures reasonable, but additionally recommends conditions which require the preparation of a detailed Landscape and Revegetation Management Plan, which includes development of the vegetation corridor between the rail line and Thomas Mitchell Drive and construction of proposed visual screens. A Light Management Plan is also required to be prepared by the applicant to detail management measures for reducing light impacts.

Conclusion

The Department is satisfied that the measures described in the EIS and consent conditions will manage the visual impacts from the proposed rail loading facility and rail loop.

Water Management

Surface Water

The site of the proposed Bayswater rail loading facility and rail loop is characterised by rolling hills, while the rail line associated with the proposal will traverse mostly gentle slopes. The proposal is located in the upper reaches of the Ramrod Creek catchment and will cross the creek upstream of an existing dam, approximately 2.1 kilometres from the existing Antiene rail spur (figure 2.1 of the EIS shows the proposal location of the site in regard to the Ramrod Creek catchment area). The Ramrod Creek drains to the Hunter River approximately 5 kilometres south of Muswellbrook. The Ramrod creek catchment has been disturbed by pastoral and mining activity, including the Bayswater and Drayton mines. Two existing culverts, one located near the access to Bayswater and the other near Wire Lane, discharge flows from the southern side of Thomas Mitchell Drive to Ramrod creek and an unnamed tributary.

The EIS states that three dams located in the proposed rail corridor (one located within Ramrod creek) are likely to be drained and filled during construction of the rail embankment. There are also two other dams and a constructed wetland in the vicinity of the proposal associated with the Bayswater colliery mine operations and another dam associated with Drayton mining operations. An open septic tank and two sewerage polishing ponds are also located within the area of disturbance of the proposal.

The area for the proposed rail loop is currently subject to existing water quality monitoring, which include two monitoring sites on Ramrod creek in the area of the proposal and a dam within the existing Drayton rail loop. A summary of the monitoring results is provided in the EIS. The monitoring results show that the sampling locations on Ramrod creek are weakly to moderately alkaline, with a moderate to high conductivity, with salinity (total dissolved solids) and sulphate levels rendering the water unsuitable for drinking and unsuitable for most agricultural purposes, including stock watering.

Due to the close proximity of the proposal to the Ramrod Creek Catchment, there is the potential for the proposal to impede on surface water drainage. This may result from the construction of access infrastructure over drainage lines, diversion of runoff away from existing drainage lines, increased peak discharge and runoff volumes through earthworks altering catchment boundaries, and through the construction of hardstand areas. The proposal also has the potential to impact on water quality as a result of increased turbidity through erosion of disturbed areas during construction and inadequately stabilised areas during operation, contaminants from oil and fuel spills, and contaminants and pathogens from both the proposed new effluent disposal system and during disturbance of the disused effluent system located along the rail corridor.

Mitigation Measures

A number of controls, mitigation measures and modifications to the existing Bayswater water management system are proposed in the EIS to mitigate the potential impacts of the proposal on surface drainage and water quality. These include:

- Construction of eight culverts where the rail line will cross Ramrod Creek to conveyor runoff under transport infrastructure and prevent flooding of this infrastructure up to 1 in 100 year average recurrence interval design storm events.
- Construction of clean water diversion drains to divert clean water away from the proposed infrastructure.
- Construction of a new sediment dam to collect runoff from the proposed stockpile and loadout area. The dam will replace the existing Bayswater No.2 sedimentation dam which needs to be drained to allow construction of the rail loading facility and rail loop. The new dam will have a capacity of 23,000 m^3
- Construction of dirty water catch drains to collect sediment laden runoff and divert it to the new sedimentation dam.
- Implementation of soil and water management controls, including stabilisation and revegetation of exposed areas, during the construction period and maintenance and monitoring of erosion and sediment control structures throughout the life of the operation.
- Analysis of water in the disused sewerage polishing ponds for faecal coliforms to determine appropriate disposal prior to removal for the construction of the proposal.
- Implementation of sediment and erosion controls.
- A detailed Soil and Water Management Plan is also proposed to be prepared prior to construction.

The DLWC raised some issues in relation to surface water management, including issues on licensing requirements, water quality management and proposed water supply. However, the DLWC considered the issues could be resolved and has subsequently provided their General Terms of Approval for the project. The General Terms of Approval include requirements for the protection of the Ramrod Creek catchment area, culvert construction requirements, requirements for the preparation of an Erosion and Sediment control plan and surface water management requirements. The Department considers that the mitigation measures proposed by the applicant are appropriate and consistent with the DLWC General Terms of Approval. The proposed mitigation measures and DLWC General Terms of Approval have been incorporated into the Departments recommended conditions of consent.

As part of the consent conditions, the Department will also require the Applicant to prepare a Site Water Management Plan to the satisfaction of the Director-General and DLWC. The Plan requires measures to manage the quality and quantity of surface and groundwater in the area, management of stormwater and general surface runoff, and the development of contingency plans for managing any adverse impacts. The Applicant will also be required to undertake stringent surface and groundwater monitoring to the satisfaction of DLWC and the Director-General. The Department is satisfied that the consent conditions, which incorporate the General Terms of Approval of DLWC, will adequately manage the potential impacts of the proposal on surface water quality.

Groundwater

The EIS indicates that no significant groundwater reserves have been identified within or adjacent to the proposed development area. Groundwater that does occur in the area is generally characterised by low quality and yield, since the groundwater is derived from fractured rock aquifers. The EIS indicates that watertable depths at the nearest bores, located on the Drayton mine site, range between 26 to 36 metres. The proposal is unlikely to impact on groundwater as the only area where excavations will occur to greater than 10 metres below ground level is where the proposed rail loop will pass through a cutting at the top of Ramrod creek valley. The elevation in the vicinity of this area is 50 metres higher than the valley floor and therefore the watertable is unlikely to be intercepted during excavations. There will also be no extraction of groundwater associated with the proposal, which will also minimise potential groundwater impacts.

The Department considers that the proposal is unlikely to impact on local or regional groundwater due to its depth in the area, and the minimal level of surface disturbance associated with the proposal. This position is supported by DLWC who did not raise any concerns with the potential impact of the proposal on groundwater.

Mitigation Measures

A number of consent conditions are however recommended to ensure groundwater impacts do not occur. This includes the preparation of a Site Water Management Plan to address groundwater issues such as the consideration of management and mitigation measures, and contingency measures should adverse impacts on groundwater occur. The Plan is required to be prepared by the Applicant to the satisfaction of the Director-General and DLWC. The consent conditions also require the Applicant to prepare a detailed monitoring program in consultation with DLWC and to the satisfaction of the Director-General.

Waste Water

The EIS states that effluent from the worker amenities will be piped to an on-site package sewerage treatment plant or similar treatment facility. Treated effluent from the plant will be gravity fed to a spray irrigation area. These facilities will be located upslope of the sedimentation dam to provided an additional level of control in the event of an accidental failure of the system.

In providing its General Terms of Approval (GTA's) for the proposal, the EPA has prepared a requirement to ensure the reprocessing or disposal of any waste generated by the proposal will be disposed of at the premises under the Protection of the Environment Operations Act. This requirement has been incorporated by the Department into the recommended conditions of consent. The Department considers the proposals for management of waste water adequate.

Water Balance

The water requirements of the proposed rail loading facility and rail loop will be achieved via the existing Bayswater 1000 megalitre dam and the proposed 30 megalitre sedimentation dam. Any additional water required by Bayswater Colliery and the proposed rail loading facility and rail loop will come from excess water available from Drayton mine, Muswellbrook Council's sewerage effluent supply and the Hunter River if greater quantities are required. Details of water make and storage on site and other water supply to the site is to be included in the Site Water Management Plan.

Conclusion

The Department is satisfied that the potential impacts of the Bayswater rail loading facility and rail loop proposal on surface and groundwater quantity and quality as described in the EIS and recommended consent conditions can be adequately managed.

The conditions include the requirement for the Applicant to prepare a Site Water Management Plan to the satisfaction of DLWC and the Director-General. The Plan requires the principles adopted for the management of surface and groundwater at the Bayswater colliery to be adopted for the proposal, details on the quality and quantity of surface water and groundwater within the project area, management of stormwater and general surface runoff, measures to prevent the quality of any surface waters being degraded below the current quality, identify changes in flow of surface waters including Ramrod Creek and unnamed tributaries and all creeks within the DA area, contingency plans for managing adverse impacts of the development on surface and groundwater quality, details on the transfer of water between Drayton mine and the proposal and details of water make and storage on site.

The conditions also provides requirements set by DLWC to be met prior to the issuing of a permit under Part 3A of the Rivers and Foreshores Improvement Act, DLWC requirements for the construction of the proposed culverts, details on monitoring locations and proposed monitoring program, reporting on the performance of water management measures in the Bayswater Annual Environmental Management Report and contingency plans for managing adverse impacts of the development on surface and groundwater quality.

Heritage

Aboriginal Heritage

Aboriginal archaeological investigations were undertaken by the Applicant within the proposed disturbance area associated with the rail loading facility and rail loop. Two field surveys were conducted by the Applicant with the participation of the Wonnarua Tribal Council (WTC) (nine members of WTC participated during the period of the investigations) and in consultation with the Wanaruah Local Aboriginal Land Council (LALC).

There are 14 Aboriginal sites identified in the study area as shown on Figure 4.17 of the EIS. All sites were reported to be scatters of stone artefacts. A total of 271 stone artefacts have been identified within the fourteen sites. The 14 identified sites occupy 53% of the study area.

Scientific significance of the 14 sites was assessed using a 'cultural landscape approach' based on ten archaeological terrain units. The EIS indicates that the scientific value of evidence within the ten terrain units is assessed as ranging from moderate to high within a local context and low to moderate within a regional context.

The EIS indicates that seven of the 14 Aboriginal sites identified will be impacted by the proposal. The National Parks and Wildlife Service (NPWS) have indicated in their general terms of approval that consents will be required to be obtained from NPWS for these seven sites under section 90 of the *National Parks and Wildlife Act 1974* prior to disturbance.

Mitigation Measures

In order to protect and preserve the 14 identified sites as far as possible, the Applicant is required to undertake a number of management and monitoring measures as part of the consent conditions. These consent conditions incorporate the General Terms of Approval from NPWS, and the recommendations of the WTC, as far as possible.

As part of the consent conditions, the Applicant is required to prepare a detailed Archaeological and Cultural Management Plan to address Aboriginal cultural heritage issues in consultation with the WTC and NPWS, and to the satisfaction of the Director-General. The Plan includes requirements for the identification of conservation areas with the DA area, identification and monitoring of future salvage and excavation of sites, measures to manage and protect unaffected sites, and detail of measures to assist the Aboriginal community to maintain and manage cultural heritage in the DA area. The consent conditions also require appropriate measures be undertaken should any future sites be identified, and monitoring of the effectiveness of the Archaeology and Cultural Management Plan.

Non-Aboriginal Heritage

One site of European heritage was identified as occurring on the site, which will be disturbed by the proposal. The site consists of a scatter of fragments of glass and ceramics located within the proposed location of the rail loop. The EIS indicated that the site was assessed as being over 50 years old and of low heritage significance.

The site identified by the Applicant's survey is not listed on all relevant heritage registers. The NSW Heritage Office has reviewed the proposal and archaeological assessment and has indicated that in general the proposal will have minimal heritage impacts. The Department's assessment generally concurs with this view, however a number of mitigation measures are recommended in the consent conditions to particularly ensure that an excavation permit under section 140 of the Heritage Act 1977 is obtained from the NSW Heritage Office prior to the commencement of works if works will disturb a site with known or potential archaeological relics. The Archaeology and Cultural Management Plan is also to be prepared in consultation with the Upper Hunter Historical Society.

Mitigation Measures

The Archaeology and Cultural Management Plan required by the consent conditions will also address non-Aboriginal heritage issues. Documentation of the European heritage site that will be disturbed by the proposal is also required by the Plan. The Plan also requires the monitoring of the effectiveness of the mitigation measures.

The consent conditions also sets out the procedures the Applicant is required to follow should any future non-Aboriginal heritage items be identified during the construction or operation of the rail loading facility and rail loop. This includes the requirement to consult NPWS and the NSW Heritage Office if any artefacts or items are located.

Conclusion
The Department is satisfied that the conditions of consent, which include the General Terms of Approval of NPWS, will adequately address any potential impacts on Aboriginal and non-Aboriginal archaeological and heritage items, and provide suitable protection measures.

Transportation

Bayswater rail loading facility and rail loop is proposed to be used for the haulage of export coal from Bayswater Colliery and the proposed Mount Arthur North project (if approved) to the Port of Newcastle via the Antiene rail spur and northern railway. All Bayswater domestic coal will continue to be hauled via Macquarie Generation's overland conveyor.

Existing Coal Haulage Methods

The Bayswater Colliery currently utilises two methods for the transportation of product coal. Currently, some 3.5 Mtpa of export coal is transported off site via road haulage to the Ravensworth Coal Terminal (RCT), then by rail to the Port of Newcastle. Coal is transported on a campaign basis to meet shipping schedules. Between 80 and 90 trucks are used during a campaign, which may range from 1 to 15 days, with a peak number of 60 truck movements per hour.

Approximately 500,000 tonnes per annum of domestic coal is transported off site via the Macquarie Generation coal conveyor to Bayswater and Liddell power stations.

Once the rail loading facility and rail loop are in operation, coal will no longer be hauled by road between the mine and RCT. The volume of traffic on Thomas Mitchell Drive will be significantly reduced. As a result, the EIS estimates that the AUSTROADS (1998a) level of service (LOS) of Thomas Mitchell Drive between the Bayswater mine intersection and the New England Highway will increase from the existing C LOS to a B LOS.

The Department considers the removal of haulage trucks off the local road network is a positive aspect of the development.

Employee and Construction Associated Traffic

Increased road traffic volumes associated with the construction stage of the project will result due to labour transport and from the transport of construction materials and equipment.

A conservative estimate of peak construction workforce traffic movements during the 12 month construction period would be 66 one way vehicles per hour. Heavy vehicle traffic during the construction period is estimated to be 70 vehicle movements per day or 11 peak movements per hour. These movements will be in addition to the existing 90 passenger car movements and 60 coal haulage truck movements generated by Bayswater Colliery per hour.

The EIS indicates that Thomas Mitchell Drive currently operates at a level of service C pursuant to AUSTROADS (1998a) and that the above increase in movements will not effect the C level of service. The Department considers that the traffic generated by the proposal will not significantly impact traffic flow on Thomas Mitchell Drive.

Road Infrastructure

A new mine access road is to be constructed as part of the proposal (as shown in Figure 2). The new access will accommodate the above estimated peak traffic flows, including the construction phase traffic, and offset restricted sight distance for east bound traffic approaching the intersection that will result from construction of the rail over road bridge to be located approximately 500m east of the existing intersection. A NAASRA Type B intersection will be constructed to achieve this. A sign will also be erected on the western side of the bridge to alert east bound traffic to the presence of the new access road intersection.

Temporary road closures will be required during construction of the two rail over road bridges. Each closure will be for approximately 4 hours. Notification and management of closures will be coordinated with Muswellbrook Shire Council. There will also be interruptions to traffic flow along Thomas Mitchell Drive for the transport of excavated material from the northern side of Thomas Mitchell Drive to form the rail embankment at the turnout from the Antiene Rail Spur. These interruptions will be for approximately 5 minutes. Appropriately qualified traffic controllers will be employed to direct traffic during these closures. MSC has provided its General Terms of Approval in regard to the proposed works on Thomas Mitchell Drive, including the new access, temporary road closures and construction of the rail bridges. These General Terms of Approval have been incorporated into the Departments recommended conditions of consent. The Department considers the General Terms of Approval adequate and that mitigation measures proposed in the EIS and recommended conditions of consent will manage any potential impacts of the proposal on the local road network.

Rail Traffic Impacts

The EIS suggests that Rail Access Corporation (RAC) has advised that the Main Northern Railway can accommodate the additional coal transportation as a result of the proposal. RAC has not indicated a contrary position to the Department. Rail traffic impacts due to construction activities are expected to be limited to the connection of the proposed rail loop to the Antiene rail spur, the installation of signalling equipment and the transportation of rail track and sleepers (one train required).

The connection of the rail loop to the Antiene rail spur will take approximately one week and will take place 6 months after the commencement of construction of the rail loading facility. During this week no coal will be able to be transported along the Drayton rail loop. The Applicant has an agreement with Drayton mine in regard to this impact. A note in the consent states an agreement between COAL and the owners of Drayton mine in regard to scheduling of trains along the Bayswater rail loop, Drayton rail loop and Antiene rail spur.

Signal installation will be coordinated with Rail Access Corporation (RAC) to meet RAC's stringent safety requirements. The Department has included a recommended consent condition which ensures the Applicant to undertake consultation with RAC to achieve RAC's stringent safety requirements.

The existing number of peak train movements per day on the Antiene spur is 12 at an average of 107 days of train movements per year (train movements generated by movements along the Drayton rail loop). Operation of the Bayswater rail loading facility and rail loop will result in an additional 18 train movements per day along the rail loop and the Antiene spur bringing the total of Bayswater and Drayton concurrent train movements along the Antiene rail spur to 30 per day or 4 movements per hour. A recommended condition of consent restricts the number of movements along the Bayswater rail loop to the 18 train movements predicted in the EIS.

As a result of concurrent operation of the Bayswater and Drayton Rail Loops, rail movements along the Antiene Spur will occur approximately 282 days per year.

Increased rail movements along the Antiene rail spur resulting from the concurrent operation of the Bayswater and Drayton rail loops has the potential to restrict access to residences on the northern side of Antiene Road, near the junction of the Antiene Rail Spur and the Main Northern Railway as access the these residences is via a level crossing. Residents have advised Drayton mine the access is occasionally blocked at this location when trains are stopped at a signal (Signal 58) prior to entering the Main Northern Railway. The EIS suggests that RAC has agreed to amend the signal procedures manual so that the signal located to the west of the level crossing (Signal 60) is the priority signal for access to the Main Northern Railway. This will prevent trains from stoping across the level crossing. A recommended condition of consent regarding signal 60 is discussed in the Department's assessment section of this report for the Drayton proposal.

It is also suggested in the EIS that Port Waratah Coal Terminal (PWCT) will have enough capacity through an expansion program at PWCT scheduled for completion in September 2001 to receive the increase in coal associated with the concurrent operation of the Bayswater and Drayton rail loops. The Department concurs with this view based on the annual audits the Department has received from PWCT regarding the approval issued in 1996 to PWCT for a staged approval which includes an increase in capacity to be completed in September 2001.

Conclusion

The Department is satisfied that the potential impacts of the propose Bayswater rail loading facility and rail loop associated with traffic and transportation will be adequately managed through the implementation of the proposed mitigation measures listed in the EIS and the recommended consent conditions, which include the General Terms of Approval of MSC.

Economic and Social Impacts

The EIS states that the Bayswater rail loading facilities and rail loop will have short term economic benefits to the local region as a result of the capital investment of $20.5 million required during the construction phase. There will also be between 55-66 temporary construction jobs created for the 12 month construction period, and

employment of two full time staff to operate the loading facility. The facility will also generate employment for contract workers employed to undertake track maintenance and train drivers using the facility. The local community will also benefit from the expenditure of a proportion of employee wages locally.

Once the rail loading facility and rail loop becomes operational, the local area will benefit from the removal of coal haulage trucks off the local road network, particularly at Thomas Mitchell Drive. At present road transport is undertaken by 80 to 90 trucks with an average capacity of 28 tonnes, which equates to 60 peak truck movements per hour during haulage campaigns.

Bayswater mines existing consent to undertake open cut mining is reliant on the ability of the mine to transport product to customers. Without a reliable transportation system, such as the Bayswater rail loading facility and rail loop, the mine would be unable to continue to supply the market demand and would therefore be unable to operate. The Bayswater rail loading facility and rail loop will therefore help to maintain the existing 300 employees working within the mine operations.

The EIS has indicated that the proposal will not significantly affect residential property values. One private submission raised concerns in regard to this statement.

The EIS indicates that the nearest private residences to the proposal will not be significantly impacted by noise, dust and visual impacts by the proposal. However, the Department's consent conditions also require the Applicant to either mitigate impacts or acquire any properties should investigations determine that the landowner is being impacted by the proposal. The Department is satisfied that the requirements of the consent conditions will adequately manage potential social impacts, and will ensure that any properties that may be significantly impacted by the proposal in the future, are mitigated or purchased at the market price. In addition, the conditions require the applicant to have matters concerning the rail loader facility discussed at the existing Bayswater mine Community Consultative Committee (CCC). Joint meetings with the Drayton CCC are also to be co-ordinated by the applicant.

Conclusion

The proposal will have a socio-economic benefit at a local, regional and state level through the provision of direct and indirect employment and economic investment in the region. The Department is satisfied that potential adverse social impacts from the rail loading facility and rail loop will be adequately mitigated through the requirements of the recommended consent conditions, and removal of coal haulage trucks from public roads.

INCREASED COAL TRANSPORT ALONG THE DRAYTON RAIL LOOP AND ANTIENE SPUR

In the Department's opinion the key issues for assessment, taking into consideration the submissions received on the proposal and the contents of the EIS, are:-

noise
dust
visual
transportation/rail movements
social and economic

Noise Impact Assessment

Noise

Establishment of Background Noise Levels/Existing Traffic Noise

The principal noise sources associated with existing operations on the Drayton rail loop and Antiene spur include the loading of rail wagons from the loadout bin and the squealing of brakes as trains approach the bin. The use of train brakes on the downhill slope heading from Drayton rail loop towards the railway bridge over the New England Highway will also produce noise.

As discussed in the noise assessment section of this report for the Bayswater rail loading facility and rail loop, the applicant monitored background noise levels in blocks of 15 minutes continuously for two weeks using noise loggers at six locations, which represented the residences most likely to be affected by noise from the Drayton proposal and the increased coal transportation along the Antiene rail spur and the Bayswater rail loading facility. Background noise levels measured for the existing coal transportation operations on the Drayton rail loop and Antiene spur have indicated that current noise emissions are in excess of the relevant EPA criteria of 37dBA at seven residences in the Antiene area. The monitoring identified Rating Background Levels (RBL) ranged from 30 – 39dB(A) during the day, 32 – 42 dB(A) during the evening and 33 - 47 dB(A) during the night. The RBL at the nearest residential area, location B (Balmoral Road) were determined to be 33 dB(A) during the day, evening and night. The EPA concurs with the RBL of 33 dB(A).

The noise assessment for the Establishment of Noise Criteria for Coal Loading and Rail Operations (refer to page 12), Weather Conditions and Noise Criteria (page 13), Cumulative Impact (p13), and Mitigation Measures (p14) is the same as the Bayswater Rail Facility assessment.

Conclusion

The Department is satisfied that the measures described in the joint EIS and additional information supplied in response to the EPA's request for additional information prior to issuing general terms of approval and the recommended consent conditions will adequately manage and mitigate any significant noise impacts from all aspects of the proposal, including cumulative impacts. The consent conditions set appropriate noise levels that are to be met at private residences, provide a process for establishing and implementing noise mitigation measures where noise levels are exceeded, including acquisition, and the provision for independent monitoring to occur if requested by landowners, and development of a joint acquisition management plan with the owner's of the proposed Bayswater rail loading facility and rail loop. In addition, it is considered that cumulative impacts of noise can be adequately managed through the implementation of the applicant's proposed mitigation measures and the Departments recommended consent conditions.

Dust Impacts

Dust generation associated with the proposal and assessed in the EIS, includes the loading and unloading of coal to and from the coal stockpile, loading of coal onto trains, and emissions from the clean up around the edges of the stockpile area and pushing coal using a dozer. The potential dust deposition and concentration levels that would be generated were estimated through a short term industrial source complex model and compared to relevant ambient air quality criteria to determine the impact on surrounding private properties. One of the three private residence submissions raised concerns about the potential impacts of dust from the proposal**.**

Assessment Criteria

To determine the potential impact of dust produced from the proposal on health and amenity, dust deposition and concentration levels were compared to both long-term (annual average) and short-term (24 hour) criteria and to different particle sizes. The EPA's assessment criteria for dust deposition (g/m^2/month) permits increases in the criteria above existing levels according to the existing air quality. The location of the proposal in a rural area provided a permissible increase in deposition of $2g/m^2$/month above the existing levels, up to a maximum of $4g/m^2$/month

Dust concentrations were compared to long-term and short-term criteria and different particle sizes, including total suspended particulate (TSP) or particles less than 50 microns, and particles smaller than 10 microns (PM_{10}). The EPA has indicated it is satisfied with the methodology used in the EIS to determine the predicted dust impacts from the project.

Predicted Impacts

The EIS indicates that all long term and short term air quality goals, including 24-hour PM_{10} and annual average PM_{10} TSP concentrations and dust deposition will be met at surrounding residences during the proposed operation of the Drayton Rail Loop and Antiene rail spur.

The EPA believes that the methodologies used by the consultant for assessing background dust levels and estimating dust emissions from the proposed development are satisfactory. Consequently, calculated dust levels contained in the EIS are considered a reasonable projection of likely dust impacts from the project.

Cumulative Impact

The methodology for assessment of future dust levels in the EIS is reported as being based on consideration of existing background levels. Therefore the Applicant suggest that the dust impact assessment has considered the cumulative impact of the Drayton rail loop and Antiene rail spur in conjunction with other existing land uses in the area. The EIS suggests that there will be no predictable cumulative amenity impact on any residence as a result of dust impacts from the Drayton Rail Loop, Antiene Spur and Bayswater Rail loop proposals and existing land uses in the area.

Mitigation Measures

The Applicant proposes to continue to implement the existing air quality management system at the Drayton mine to control any potential impacts associated with the proposal. As discussed previously in the COAL assessment, an extension of the existing Bayswater air quality monitoring program to is also proposed to be

undertaken to include a high volume sampler to measure PM_{10} dust concentrations to the northeast of the proposal site. This monitoring location will be jointly managed by COAL and Drayton. In addition to the proposed controls listed by the Applicant, the Department's recommended conditions of consent require the Applicant to prepare a Dust Management Plan to address potential dust impacts, to the satisfaction of the Director-General. The Plan includes requirements for the establishment of a dust monitoring program, a protocol for handling complaints, mitigation measures to minimise dust emissions, and measures to modify mining activities to reduce dust emissions. The consent conditions also require stringent monitoring of dust deposition and dust concentration to be undertaken in consultation with the EPA, with the results required to be reported annually in the Annual Environmental Management Report.

The Department considers that the impacts of the proposal on air quality will not be significant due to the implementation of the proposed controls listed in the EIS, and the Departments recommended conditions of consent.

Conclusion

The Department is satisfied that the proposed increased operations along the Drayton rail loop and Antiene rail spur will not have a significant impact on air quality at the nearest residential receivers.

Visual

The EIS indicates that areas dominated by views of current coal mining and associated activities have low scenic value. Existing views of the Drayton Rail loop and Antiene Rail Spur are limited by the existing intervening vegetation between Thomas Mitchell Drive and the railway line. The nearest residence to the existing rail infrastructure has short distance views from the front gate of the property but not from the dwelling itself. This residence is however owned by Drayton.

One private submission received from the residence at Antiene Lot 7 on Thomas Mitchell Drive raised concerns in regard to the visual impact of the proposal. The EIS suggests that this residence will experience no visual impact from the proposal due to intervening topography and vegetation. The private submission agreed that the site will not be viewed from the dwelling but that views are available from the property boundary. The Department considers that the visual impact of the proposal will not be significant at the private residence due to the views from the residence being obstructed by the topography and existing vegetation. Additionally, the proposal for Drayton does not include any major new infrastructure that would change the existing visual impacts of the infrastructure that has been on site for many years.

Lighting Impacts

Train headlight impact on the Antiene Rail Spur and Drayton Rail loop will continue to be negligible, as existing vegetation and landform features between the rail lines and Thomas Mitchell Drive provide effective screening.

Mitigation Measures

There are no specific visual controls for the proposed increase in operations along the Drayton rail loop and Antiene rail spur in the EIS due to the conclusion in the EIS that there will be a negligible impact of the proposal on visual environment as is the case with existing operations. The Department generally concurs with this view, however a recommended condition of consent ensures that all site lighting is screened or directed away from residences or road users to the satisfaction of Muswellbrook Council as a safeguard for residences and road users.

Conclusion

As the Drayton Rail loop and Antiene Spur are not visible from any private dwellings, and due to the generally low scenic quality of the area, the Department is satisfied that the proposal will not significantly affect the visual amenity of the surrounding area and that the recommended conditions of consent will ensure lighting will not impact on residences or road users.

Transportation/Rail Movements

Existing Coal Haulage Methods

Drayton rail loop and Antiene spur is currently used and will continue to be used for the haulage of export coal from Drayton mine (and potential Saddlers Creek mine if approved) to the Port of Newcastle via the Northern railway. All domestic coal is and will continue to be hauled via overland conveyor to the Bayswater Power Station.

Employee and Construction Associated Traffic

There will be no additional employee traffic movements associated with the proposal, as there will be no change to the existing workforce at Drayton mine and there are no additional construction components associated with the proposal.

Rail Traffic Impacts

The EIS indicates that Rail Access Corporation (RAC) has advised that the Main Northern Railway can accommodate the additional 16.7Mtpa (as 3.3Mtpa is already contributed by Drayton Coal) as a result of the proposal. There will be no impacts to rail traffic due to construction as there is no construction associated with the proposal.

There will be no increase in the peak number of train movements per day on the Drayton Rail Loop, due to the limited capacity of the existing rail loadout facility.

The existing number of peak train movements per day on the Antiene spur is 12, at an average of 107 days of train movements per year. The Peak number of train movements will be 30 per day or 4 movements per hour, with a total of 6346 movements per annum along the Antiene spur as a result of the proposed 20Mtpa limit (including the concurrent operation of the proposed Bayswater Rail loop and Drayton Rail loop). As a result, rail movements along the Antiene Spur will occur approximately 282 days per year.

The Department has included a recommended condition of consent that restricts the movement of trains along the Antiene rail spur to no more than 30 per day and the number of train movements along the Drayton rail loop to no more than 12 a day.

Increased rail movements has the potential to restrict access to residences on the northern side of Antiene Road, near the junction of the Antiene Rail Spur and the Main Northern Railway as access to these residences is via a level crossing. Residents have advised Drayton that the access is occasionally blocked at this location when trains are stopped at a signal (Signal 58) prior to entering the Main Northern Railway. The EIS suggests that RAC has agreed to amend the signal procedures manual so that the signal located to the west of the level crossing (Signal 60) is the priority signal for access to the Main Northern Railway. This will prevent trains from

stopping across the level crossing. The Department has adopted a recommended condition that requires the Applicant to consult with RAC to ensure signal 60 becomes the priority signal.

It is also stated in the EIS that Port Waratah Coal Terminal (PWCT) has enough existing capacity to receive the initial increase in coal associated with the increase in operations along the Drayton Rail Loop. An expansion program at PWCT scheduled for completion in September 2001 will ensure PWCT has enough capacity to accommodate the proposed 20Mtpa to be transported via the Antiene Spur. The Department considers that the PWCT has enough existing capacity to receive the initial increase in coal associated with the increase in operations along the Drayton rail loop and Antiene rail spur. The proposed expansion of the PWCT was given a staged approval by the Department in 1996. The Department has received annual audit reports indicating that the proposed upgrade will be completed by the end of 2001.

Conclusion

The Department is satisfied that the potential impacts of the proposed increase in operations along the Drayton rail loop and Antiene rail spur, associated with traffic and transportation will be adequately managed through the implementation of the proposed mitigation measures listed in the EIS and recommended conditions of consent.

Socio-Economic Impacts

Drayton coal mine currently employees 245 people. The average yearly income of staff is between $70,000 and $80,000. Personnel for the increased operations at the Drayton Rail Loop will be sourced from existing mine operations.

To undertake open cut mining, Drayton is reliant on the ability of the mine to transport product to customers, as is the case with Bayswater Colliery. Without a reliable transportation system, such as the system proposed by Drayton along the Drayton rail loop and Antiene rail spur, the mine would be unable to continue to supply market demand and would therefore be unable to operate. The proposal will therefore help to maintain the existing 245 employees working within the mine operations.

During consultation undertaken as part of the joint EIS preparation, residents agreed that transport of coal by rail was preferable than truck haulage. To remove trucks of the road associated with the Bayswater mine, the 20Mtpa capacity of coal haulage along the Antiene rail spur is required, as coal haulage along the proposed Bayswater rail loop is reliant on the increased capacity of the Antiene rail spur. During these consultations and through private submissions residents also raised concern in regard to noise impacts of existing operations on the Drayton Rail Loop and Antiene Spur. Residents have also commented on a lack of communication from the mine at times. Drayton have made a commitment to provide ongoing consultation if approval is given. Conditions are recommended for complaints handling and reporting to the Department, and also for matters concerning the Drayton facility to be discussed at the existing Drayton CCC. Joint meetings with the Bayswater CCC are also to be co-ordinated by the applicants.

Conclusion

The proposal will have a socio-economic benefit at a local, regional and state level, as it will contribute to Drayton maintaining employment levels at the existing operations. The Department is satisfied that the proposal will have minimal social impact and that potential noise and dust impacts can be adequately mitigated through the requirements of the recommended consent conditions.

SCOPE OF CONDITIONS OF CONSENT FOR BOTH PROPOSALS

The recommended conditions of consent for both the Bayswater and Drayton proposals (at Attachment "A" and "B" respectively), have been prepared taking into consideration the General Terms of Approval and other issues raised by Government agencies, Council, and all other submitters including land owners, community groups and independent organisations.

The recommended conditions of consent for the Bayswater rail facility proposal provide for appropriate monitoring of noise, dust, surface and groundwater management, flora and fauna, and archaeological issues. The conditions of consent also sets appropriate noise criteria, includes specific provisions for land acquisition, requires the inclusion of reporting the environmental performance of the proposal in the existing Bayswater Annual Environmental Management Plan Reports, requires preparation of compliance reports, requires a number of environmental management plans (EMPs) to prepared and amendments to a number of existing Bayswater EMPs to include details of the proposal, and inclusion of the proposal at meetings of the existing Bayswater and Drayton Community Consultative Committees.

The recommended conditions of consent for the Drayton rail facility are very similar to the Bayswater proposal where relevant, particularly in relation to noise and dust issues. The conditions of consent also, sets appropriate noise criteria, include specific provisions for land acquisition requires updating of the Drayton mine Annual Environmental Management Plan Reports and compliance reports, updating Drayton's existing environmental management plans, and the inclusion of the proposal on the agenda of the Drayton and Bayswater Community Consultative Committees

The Department has undertaken extensive consultations with the applicant concerning the draft conditions of consent, and the applicant has agreed to the conditions.

CONCLUSION

The Department believes that through the application of the consent conditions, which incorporate the General Term of Approval of the EPA, DLWC, NPWS, MSB and Muswellbrook Shire Council, the environmental impacts of the Bayswater and Drayton rail loading facility and rail loop can be adequately managed. The proposal is also consistent with State and regional planning objectives, and with the local planning instruments.

RECOMMENDATION

It is RECOMMENDED that the Minister approves the two development applications as submitted by Coal Operations Australia Pty Ltd and Drayton Coal Pty Ltd subject to the attached conditions of consent (COAL at attachment "A" and Drayton at attachment "B")

Endorsed

Richard Lloyd
Senior Environmental Planning Officer

Sam Haddad
Executive Director

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 NO 203

79C EVALUATION

(1) Matters for consideration - general

In determining development applications, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

(a) the provisions of:
  (i) any environmental planning instrument, and
  (ii) any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority, and
  (iii) any development control plan, and the regulations (to the extent that they prescribe matters for the purposes of this paragraph), that apply to the land to which the development application relates,

Refer to pages 4 to 10 of this Report

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality, *Refer to pages 11 to 35 of this Report*
(c) the suitability of the site for the development, *Refer to pages 3 to 35 of this Report*
(d) any submissions made in accordance with this Act or the regulations, *Refer to page 10 of this Report*
(e) the public interest. *Refer to pages 1 to 10 of this Report*