

Port Kembla Coal Terminal Project (MP 08_0009)

Major Project Application

Approval to remove the current restrictions on road delivery to Port Kembla Coal Terminal to allow coal and bulk products to be received 24 hours a day, 7 days a week and for existing rail and road receipt, stockpiling and shiploading operations

Responses to Public Exhibition

Submissions Report

December 2008





PKCT Submissions Report

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY:	4
2. Introduction:.....	7
3. Government Agency Responses:	8
3.1. Department of Planning	8
3.1.1. Noise	8
3.1.2. Traffic	12
3.1.3. Greenhouse Gases	15
3.2. Wollongong City Council.....	16
3.3. Department of Primary Industries	19
3.4. Ministry of Transport.....	19
3.5. Department of Environment and Conservation.....	20
3.5.1. Noise Emitted from PKCT	21
3.5.2. Road Haulage Noise Assessment.....	22
3.5.3. Transport Planning	24
3.5.4. Climate Change and Energy Use.....	25
3.6. RTA	25
4. Public Submissions:.....	30
4.1. Noise from Trucks:	32
4.2. Road Safety:	34
4.3. Dust/air pollution from trucks:	35
4.4. Rail as an alternative to road transportation:.....	35
4.5. Maldon-Dombarton Rail Line:.....	36
4.6. Infrastructure cost/impact:.....	37
4.7. Greenhouse Gas:	37
4.8. Mount Ousley area:.....	38
4.9. Bellambi area:	39
4.10. Property Values:	40



PKCT Submissions Report

4.11.	Consultation Levels:.....	40
4.12.	Historical context:.....	42
4.13.	Volume of coal transportation:.....	42
4.14.	Stop RTA Submission:	44
5.	Supportive Submissions:	45

LIST OF TABLES

Table 2.1 – Coal Truck Noise Impact.....	9
Table 2.2 - Average Weekday Daily and Hourly Coal Truck Volumes at PKCT	13
Table 3.1 – Weekday Scenarios.....	23
Table 3.2 – Weekend Scenarios	24
Table 4.1 – Issued Raised by Public	30
Table 4.2 – Noise Level Change	33

LIST OF FIGURES

Figure 1 – Noise Monitoring Locations	10
Figure 2 – Average Hourly Weekday Truck Volumes.....	14
Figure 3 - Map	31
Figure 4 - Current Forecast for Road Received Coal.....	43

APPENDICES

Appendix A – Government Agency Responses	48
Appendix B – Revised GHG Work	49
Appendix C – Cardno Eppell Olsen (Traffic Consultant) Response.....	50
Appendix D – Wilkinson Murray (Noise Consultant) Response	51
Appendix E – Public Consultation Letter.....	52
Appendix F – Community Newsletter.....	53

1. EXECUTIVE SUMMARY:

Public exhibition and responses

Port Kembla Coal Terminal (PKCT) welcomed responses from the community to the public exhibition of the Environmental Assessment (EA) seeking approval to remove the current restriction on hours to enable coal and bulk products to be received by public road at PKCT 24 hours per day, 7 days per week (24/7) up to a maximum of 10 million tonnes per annum (10 mtpa). The public exhibition during September and October 2008 resulted in 122 public submissions.

The key issues raised in public submissions were noise from trucks, traffic and road safety, dust/air pollution and rail as an alternative to road transportation. Responses are made to the key matters raised by the public in Section 4 of this Submissions Report. The majority of issues raised by the public were adequately addressed in the EA and most have been clarified or responded to in more succinct terms. Key points from the EA findings have been outlined in this Submissions Report.

The public objections were analysed across three geographical areas and the percentage of total objections are noted for "Mount Ousley" (43%), "Bellambi" (27%) and "Regional" or general non-specified locations (30%). The specific issues raised by both the Mount Ousley and Bellambi residents are grouped and responses are in section 4.8 and 4.9 respectively.

There was only one new issue raised by the public from a community representative who states he is the "Community Representative for Stop RTA". This group has one issue, which was not known to PKCT during the EA development. The issue is road modifications which will limit the ability to turn right from Drummond Street across Masters Road at Coniston, which is a project being undertaken by the Wollongong City Council and RTA. This road change is across the coal transportation route, and PKCT was not consulted on this matter, however understand that community and Port Kembla Port Corporation consultation was made in relation to the road changes. PKCT is now aware that the Wollongong City Council and RTA have made a decision to modify the above mentioned road with the key reason being a 12 year history of safety concerns. Further information on this issue is outlined in Section 4.14 of this Submissions Report.

In summary, PKCT consider that adequate and appropriate communication and consultation was carried out with the public for the project, with a targeted approach along the transportation corridor, which is described in detail in section 4.11 of this Submissions Report.

Government agency responses

As part of the consultation process for this Major Project application, the Department of Planning consulted with relevant Government agencies, namely, Wollongong City Council, Department of Primary Industries, Ministry of Transport, Department of Environment and Conservation and the RTA, who were invited to respond to the EA. In this Submissions Report, Section 3 directly responds to each individual issue raised by Government agencies in their submissions, which are found at **Appendix A**.

The key Government agency issues where points of clarification were sought include:

- **noise**, including impacts from traffic, site operations, truck noise events, cumulative proposed and existing developments, specific location modelling and scenarios
- **traffic**, including numbers of anticipated truck movements, specific road considerations, cumulative traffic impact assessment, intersection capacities and mid-block capacities
- **rail transport of coal and bulk products as an alternative, and**
- **greenhouse gas calculations.**

The majority of issues raised by the Government agencies were adequately addressed in the EA and these are clarified or responded to in more succinct terms in this Submissions Report.

There was one area of assessment which required re-work, that is the Greenhouse Gas (GHG) emissions, which were incorrectly calculated in the EA. These have subsequently been re-calculated, and are provided in this report at **Appendix B** as revised GHG assessment. As a result of recalculations, GHG emissions from PKCT existing operations are expected to account for 0.012% of NSW GHG emissions, which is down from the previously calculated 0.038%. In terms of the proposed increase to 10 mtpa, the contribution of PKCT to NSW GHG emissions is expected to be 0.015% which is down from the previously calculated 0.052%.

There was one coal truck operating noise scenario which had not been modeled in the EA, that was the noise impact assessment of coal truck movements from the Dendrobium Coal Preparation Plant, located within BlueScope Steelworks, via Springhill and Port Kembla Roads. This site currently transports coal via internal roads from BlueScope Steel to PKCT, and there is a potential option that this transportation may be via different roads in the future, namely Springhill and Port Kembla Roads. A subsequent noise impact assessment has been conducted, and a maximum total noise increase of 0.3dBA is predicted in 2013 at 10 mtpa along Springhill Road, which is within the Environmental Criteria for Road Traffic Noise (ECRTN) permit of 2dB.



PKCT Submissions Report

Conclusion:

PKCT considers that the Environmental Assessment was rigorous, comprehensive, and adequately addresses all of the environmental issues outlined in the Director General's Requirements. The EA, and clarification provided in this Submissions Report, show that the existing and proposed PKCT operations have a small environmental footprint, which is minimized through existing environmental impact mitigation measures.

The previous justifications for the 11 hours per day, 6 days per week restriction on public road deliveries are no longer relevant and it is unnecessary and unreasonable to retain this restriction on the growth of NSW coal exports. Improvements in coal truck technology, noise mitigation measures along road haulage routes and infrastructure provide a different operating environment, which is vastly improved from over 25 years ago when the restriction on 60% of the total operating time of public road delivery was introduced.

It is therefore concluded that the continuation of existing operations and ability to receive coal and bulk products by public roads 24 hours per day 7 days per week, to a maximum of 10 mtpa, with appropriate mitigation measures in place, is acceptable.

2. INTRODUCTION:

The exhibition period for submissions on the Port Kembla Coal Terminal (PKCT) Project (MP08_0009) was from 16 September 2008 to 17 October 2008. During this period, copies of the Environmental Assessment (EA) were available for public viewing at the Department of Planning (Sydney), Wollongong City Council, and Nature Conservation Council (Sydney). Copies of the EA were also available from the Department of Planning on CD free of charge, or via the Department of Planning or PKCT websites.

There were a total of 131 submissions received, including:

- 6 Government agencies
- 5 Supportive
- 9 Issues
- 113 Objections

Responses to government agencies are provided to individual departments, outlined in Section 3 below. Responses to public submissions are provided in Section 4 and are collectively based on each individual issue (e.g. noise from trucks) which was identified by respondents.

PKCT has obtained further specialist advice from traffic consultants, Cardno Eppell Olsen, and noise consultants, Wilkinson Murray, to further address or clarify matters raised in the submissions received. This report incorporates information from these consultants to assist in answering relevant questions, and their reports are provided in **Appendices C and D**.

3. GOVERNMENT AGENCY RESPONSES:

3.1. DEPARTMENT OF PLANNING

Several comments and questions were raised in relation to EA by the Department of Planning, particularly in regard to noise and traffic impacts. The following information is provided to further clarify the work carried out in the EA.

3.1.1. Noise

Comment: Include Noise modeling account for shift from use of BlueScope Steel internal roads to the use of Springhill Road and Port Kembla Road

Coal truck deliveries by public road from the BHP Billiton Illawarra Coal Pty. Ltd. (BHPBIC) Dendrobium Coal Preparation Plant (DCPP), which is located in BlueScope Steelworks, to PKCT are discussed in Sections 6.3.2 and 7.1.9 of the Traffic Report for the PKCT EA. This provides existing and predicted numbers of coal trucks and includes trucks travelling from DCPP to PKCT by public roads, namely Springhill and Port Kembla Roads.

Table 6.1 in the Wilkinson Murray Noise Assessment identified that the proposal to deliver coal by public road to PKCT 24/7 and up to 10mtpa will increase noise levels from Springhill Road by only 0.2dB, however this noise assessment did not include trucks from DCPP traveling via Springhill and Port Kembla Roads.

However, an assessment of the noise impact of coal trucks (DCPP to PKCT via Springhill and Port Kembla Roads) has subsequently been undertaken by Wilkinson Murray (WM) to identify if noise levels from Springhill Road will be impacted to a greater extent than is permissible by the Environmental Criteria for Road Traffic Noise (ECRTN). Noise modeling of the 24/7 at 10 mtpa public road deliveries, including DCPP deliveries via Springhill and Port Kembla Roads, predicts a maximum total noise increase of 0.3dBA along Springhill Road. The ECRTN permits a justified noise increase of up to 2dB.

Table 2.1 – Coal Truck Noise Impact

Springhill Rd	Weekday		Weekend	
	Day	Night	Day	Night
DCPP via Tom Thumb Rd (via private road)	0.2 dBA	0.2 dBA	0.2 dBA	0.2 dBA
DCPP via Port Kembla Rd (via public road)	0.3dBA	0.3dBA	0.3dBA	0.3dBA

Comment: Include Road traffic Noise Impact Assessment for residences in Swan Street, east of Corrimal Street, especially due to trucks turning into Port Kembla Road off Springhill Road

Noise assessments were carried out in locations closest to the boundary of PKCT, which were anticipated to be most impacted by PKCT operations and road deliveries. While the road haulage noise impacts at Swan Street, east of Corrimal Street have not been specifically presented, modelling has been carried out on Swan Street, west of Corrimal Street. The alternative location, ie Swan Street west is approximately 250 metres on the same road from Swan Street east (see Figure 1) and was considered more appropriate as Swan Street east is affected by surf noise. Furthermore, it is noted that the Swan Street west location is equidistant from the intersection of Port Kembla Road and Springhill Road, and is comparative in terms of noise characteristics. It is considered that the noise impacts would be no worse at Swan Street east than that presented for Swan Street west.

The road haulage noise impacts at Swan Street (west) are considered in the noise assessment, please refer to Table 4.4 of the EA. The resultant road haulage noise impacts at Swan Street (west) from the increased traffic movements on Springhill Road are provided in Table 6.1 of the noise report of the EA. A maximum increase of 0.2 dB was predicted at Swan Street (west), which is considerably below the ECRTN criteria of +2dB.

Comment: East Swan Street member of community noise annoyance due to engine brakes, noise at Springhill Road/Port Kembla Road intersection; noise generated from trucks crossing speed humps; tailgate banging; unloading noise; fixed plant noise. Include proposed mitigation measures and compliance with noise criteria to minimise noise impacts on community.



Noise Monitoring Locations

PORT KEMBLA COAL TERMINAL

Legend

- * Horizon Seaside Links Aged Care Complex
- 1 392 Keira Street (Wilkinson Murray)
- 2 163 Kembla Street (Wilkinson Murray)
- 3 10 Swan Street (SKM)
- Site Boundary
- Railway (LPI)
- Road To Port Kembla Coal Terminal
- Cadastre (LPI)



Scale 1:6,000 (at A3)



FIGURE 1



Map Produced by Cardno Forbes Rigby
 Date: 8 December 2008
 Coordinate System: Zone 56 MGA/GDA 94
 GIS MAP REF:
 108004-02_2810_NoiseMonitoring.mxd

Aerial imagery supplied by Google Earth Pro and associated third party providers

The noise assessment that was conducted as part of the EA, specifically addressed noise associated with the PKCT site operations, road receivals and the intersection of Springhill Road and Port Kembla Road. The assessment included field monitoring of the site in operation and included noise creating activities such as:

- Truck operational noise such as engine noise, brakes and engine braking, speed hump crossing and intersection noise
- Unloading noises at the road and rail receival, including tailgate banging
- Noise from PKCT plant including stackers, conveyors and reclaimers.

The assessment demonstrated that all onsite noise and intersection noise was in compliance with the Industrial Noise Policy, with the exception of minor exceedences of between 1 and 2dB in enhanced meteorological conditions (refer to section 6.6.1 of the EA).

Specific modelling has been carried out for instantaneous noise activities, such as a banging tail gate, which has shown that they are not likely to cause sleep disturbance. The predicted noise level from such an event has been calculated to be LAmax 37 dBA at the nearest of the residential receivers. Given that this noise level is below the general background noise level in the area (38 dBA), it can be concluded that the potential risk of such an event disturbing the sleep of nearby residents is unlikely.

Consideration must also be given to the industrial nature of the Port Kembla port precinct and the other industrial noise contributors in the area.

An assessment of road noise as a result of the proposal has also shown that at 10mtpa of public road received coal and bulk products, in 2013, noise levels are predicted to rise by 0.2dB.

Notwithstanding these predictions, a Statement of Commitment was made as part of the EA that: “A driver’s code of conduct will be utilised for all transport companies delivering product to PKCT.” A draft driver’s code of conduct has been provided and the intention is to limit potential impacts on the community as a result of sub-optimal driver behaviours and practices during road deliveries of coal. Furthermore, it is proposed that the draft driver’s code of conduct is further developed in consultation with the RTA and DECC.

Comment: Include cumulative noise impact assessment of Inner Harbour expansion and associated transport of passenger cars

Cumulative traffic increases due to the approved General Cargo Handling Facility (GCHF), located at Port Kembla Inner Harbour, were assessed for background traffic growth and combined with the PKCT proposal and are modelled in sections 5.2.4, 5.3 and 5.4 of the Traffic Report of the EA. Data was derived from the Inner Harbour/GCHF Environmental Assessment Report (SKM December 2005) and used for subsequent cumulative impact modeling. This cumulative impact was considered in the PKCT EA Traffic analysis. In addition, noise consultants, Wilkinson Murray, then used the results of this traffic modeling to model cumulative noise increases and impacts on the surrounding area. All

background noise modeling for future scenarios included Inner Harbour operational and traffic associated noise.

Therefore, the Noise Assessment conducted (see Appendix K of the EA) provides a cumulative noise assessment that includes noise from the associated transport of passenger cars with the extension of the Inner Harbour.

Comment : Clarification sought on Figures 31 and 32, Tables 6.12 and 6.13 potential inconsistencies re noise levels for Keira and Swan Streets

Section 6.6.1 of the EA should state that Figures 31 and 32 provide a visual representation of Table 6.13 not Table 6.12.

The noise contours as presented in the Noise Assessment were used to provide a visual representation of the noise level predictions around PKCT and the surrounding area. Noise contouring requires significant interpolation and as such is not as accurate as point calculations. The Note on Table 5-2 of the noise assessment of the EA states “*Calculated (point to point) levels as presented in Table 5-2 are more accurate than the noise contours.*” Data which is presented in Table 6.13 of the EA has a high level of accuracy and should be used for accurate point source noise measurements.

3.1.2. Traffic

Comment: Clarification of current and anticipated truck movements entering and leaving PKCT daily and under various traffic scenarios modeled

Coal truck data was collected for all coal trucks departing the Gujarat NRE (GNRE) No. 1 Mine, the BHPBIC West Cliff Coal Preparation Plant (WCCPP), and the Dendrobium Coal Preparation Plant (DCPP).

Currently, all coal trucks that enter and depart PKCT from GNRE No. 1 Mine and all trucks during the day (7am to 6pm) from West Cliff do so via Port Kembla Road. Coal trucks from West Cliff to/from PKCT during the night (6pm – 7am) may enter and exit via 21 Entry Road in BlueScope Steel Limited’s (BSL) Port Kembla Steelworks. The coal is then delivered to PKCT using the private roads situated inside the BSL Steelworks. Coal from the DCPP is hauled via internal roads within BSL to PKCT via Tom Thumb Road.

The daily coal truck numbers entering and exiting PKCT were estimated based on the mine departure times and estimated travel times from the mines to PKCT. The addition of day time (7am – 6pm) coal trucks from West Cliff and all coal trucks from GNRE No. 1 Mine identifies the number of trucks

entering PKCT via Port Kembla Road. Traffic modelling has also been conducted on coal being delivered from DCPD via public road, and entering PKCT via Port Kembla Rd.

The historical data shows marked variations in weekly coal truck delivery numbers during high and low output periods. For the purposes of modelling scenarios average annual daily coal truck traffic volumes were estimated that represent the average daily volumes under 11/6 operating conditions with current output levels (approximately 4mtpa). The resulting average weekday daily coal truck delivery volumes are presented in **Table 2.2**. The existing operation includes trucks from DCPD delivering to PKCT, which is unaffected by the infrastructure SEPP restriction.

Table 2.2 - Average Weekday Daily and Hourly Coal Truck Volumes at PKCT

Delivery Period	Current Operations (11/6 @4 mtpa)#		Increase tonnage - No change to restriction (11/6 @ 10 mtpa)#		Proposed Change (10 mtpa @ 24/7 & 15/5+10/2)*	
	IN	OUT	IN	OUT	IN	OUT
Total Daily (24hr)	372	372	840	840	818	818
Day (7am to 6pm)	294	320	687	732	595	610
Night (6pm-7am)	78	52	153	108	223	208
Peak Day (per hour)	40	45	94	93	74	61
Peak Night (per hour)	8	6	13	10	31	27
Average Day (per hour)	27	29	62	67	54	55
Average Night (per hour)	6	4	12	8	17	16

* Includes coal truck movements from Dendrobium CPP using the public road network along Springhill & Port Kembla Roads

Includes coal truck movements from Dendrobium CPP using internal roads through Bluescope Steel Works

Based on the methodology above and the calculated truck numbers from West Cliff Colliery, GNRE No. 1 Mine and DCPD in Tables 6.2 and 6.3 in Section 6.3.2 of the Traffic Report the average number of trucks delivering to PKCT via Port Kembla Road on a weekday at 10 mtpa of coal will be 818 one way (1636 in both directions). Under the proposed operating scenario, no trucks will be required to deliver to PKCT via 21 entry road, regardless of operating tonnages.

The greatest potential benefit from this proposal is the forecast distribution of truck numbers over an additional number of hours. The net benefit is that less trucks will interact with commuter traffic during the morning and afternoon peak periods, as coal trucks will be more evenly distributed across the 24 hour period. This was demonstrated during the trial of 24/7 delivery arrangements, which was carried out as part of the Environmental Assessment. Data collection and modeling throughout the trial period concluded that:

- Deliveries to PKCT over 24 hours of the day results in spreading the load of coal trucks on the haulage routes, especially during times of high delivery volumes

- 24/7 permits greater percentages of night deliveries which reduces interaction with peak commuter traffic
- Deliveries on Sundays allow coal truck numbers on other days of the week to be reduced.

Figure 2 shows the average weekday hourly truck numbers for the various operating scenarios. It is noted that if the current 11/6 restriction remains, and volume increases to 10 mtpa, then the result is 62 to 67 trucks per hour per direction during the day. However, if the proposed 24/7 & 15/5- 10/2 operation proceeds under 10 mtpa, then around 8 to 12 less trucks, or a total of 54-55 trucks per hour per direction, will be the resulting outcome. This is due to additional trucks able to deliver during the night hours and efficiencies in the delivery times. Furthermore, it is noted that there is currently no restriction on the tonnage delivered to PKCT, however, a voluntary restriction of 10 mtpa is proposed in the Environmental Assessment.

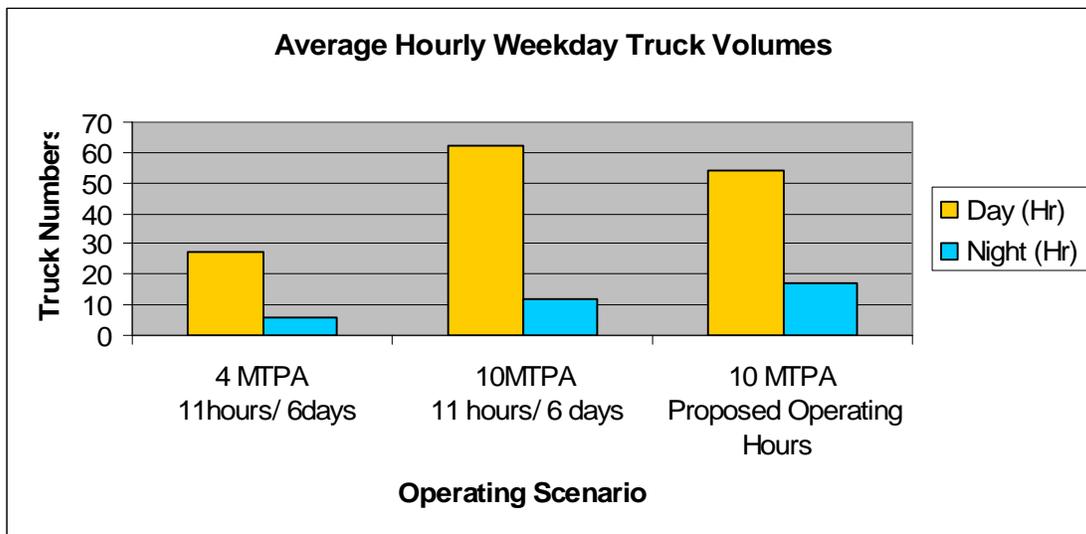


Figure 2 – Average Hourly Weekday Truck Volumes

Due to a range of operating parameters, truck deliveries from DCP, located in BlueScope Steelworks, to PKCT may travel by either Tom Thumb Rd or Port Kembla Rd in the future. Both scenarios have been modeled in the traffic report. Under a 4 mtpa scenario, approximately 91 one way truck movements are required to deliver coal to PKCT from DCP. Under a 10 mtpa scenario, approximately 167 one way truck movements are required to deliver coal to PKCT.

Comment: Include traffic modeling to account for any shift from use of BlueScope internal roads to the use of Port Kembla Road

Traffic modeling has been carried out which takes account of the level of coal truck traffic as a result of the coal from Dendrobium CPP (DCPP), located in the BlueScope Steelworks, coming by public road to PKCT via Springhill Road. This modeling can be found in Section 6.3.2 of the Traffic Report of the EA. Within Section 6.3.2 coal truck traffic numbers from DCPP are quantified:

- Of the current cumulative 4mtpa received at the PKCT road receipt, trucks from DCPP will account for an average of 91 trucks per day per direction.
- If cumulative road receipt volumes are to increase to 10mtpa, trucks from DCPP will account for an average of 167 trucks per day per direction.

It should be noted that it has been assumed that all coal will continue to be railed into DCPP from Dendrobium Colliery as required by the Dendrobium Mine development consent. No coal truck movements are proposed on Cordeaux Road.

Comment: Include cumulative traffic impact assessment due to Inner Harbour expansion and associated transport of passenger cars, and identify any traffic conflicts

Cumulative traffic increases due to the approved General Cargo Handling Facility (GCHF), located at Port Kembla Inner Harbour, were assessed for background traffic growth and combined with the PKCT proposal are modelled in sections 5.2.4, 5.3 and 5.4 of the Traffic Report of the EA. Data was derived from the Inner Harbour/GCHF Environmental Assessment Report (SKM December 2005) and used for subsequent cumulative traffic impact modeling. This cumulative traffic impact was considered in the PKCT EA Traffic report in Appendix G of the EA and provides a cumulative traffic assessment from the associated transport of passenger cars with the extension of the Inner Harbour.

3.1.3. Greenhouse Gases

Comment: Clarification sought on calculations for Greenhouse Gas emissions

Following consultation with the DECC the Greenhouse Gas assessment has been revised, which has resulted in a reduction in Scope 1 emissions due to PKCT activities. This revised modeling and a revised greenhouse gas assessment Section of the EA is included as **Appendix B**. As a result of recalculations, GHG emissions from PKCT existing operations are expected to account for 0.012% of NSW GHG emissions, which is down from the previously calculated 0.038%. In terms of the proposed increase 10 mtpa, the contribution of PKCT to NSW GHG emissions is expected to be 0.015% which is down from the previously calculated 0.052

As a result of the proposal it has been calculated that while there will be an absolute increase in the total GHG emitted as a result of PKCT handling 10mtpa of coal, there will be a decrease in the GHG emissions intensity of approximately 13% per tonne of coal handled. This is primarily due to efficiency gains as a result of road receipt operating 24 /7.

The GHG assessment has shown that emissions from existing PKCT operations are very low levels and constitute a negligible percentage of New South Wales (0.012%), Australian and World Emissions. The GHG emissions from the proposed operations make up 0.015% of the total New South Wales GHG emissions. Ongoing work is being carried out on ensuring emissions from coal haulage and energy usage from PKCT onsite operations are minimised, and PKCT has an Energy Savings Action Plan in place.

3.2. WOLLONGONG CITY COUNCIL

Comment: Include acoustic consultant assessment of noise impact on residents along transportation route, including up to 100 metres away from road, and survey of residents

An acoustic consultant (Wilkinson Murray) was used to assess and predict the noise impact due to the proposal, including residential areas up to 100 metres away from the road transportation corridor and under adverse weather conditions. The consultants did consider the road transportation corridor during night time periods. Please see Section 6.6, page 111 of the EA, as well as the full noise report at **Appendix K** of the EA.

In relation to the community survey, the Illawarra Regional Information Service did survey residents along the transportation consultation corridor, and the findings are reported in 3.2.2 (page 38-41) of the EA. In addition, the full report of the community survey is at Appendix E of the EA. It is specifically noted that section 5.1.1 (page 14) of this report provides a comprehensive response from 330 residents surveyed in relation to noise pollution from heavy vehicles.

Comment: Consider network model developed for intersection capacities including impacts of re-routing of passenger vehicles to avoid congestion at key intersections and impacts on local streets such as re-routing and impacts on residents during night and weekends

The Traffic Report associated with the PKCT EA specifically considers existing key intersection and mid-block performance and impacts with additional traffic. In the Traffic Report, Sections 3.5, 3.6, 3.7, 3.8 and 3.9 relate to existing road network capacity and intersection performance.

Table 3.21 in Section 3.9 of the Traffic Report provides information obtained from assessment of the key intersections of:

- Masters Road / Springhill Road
- Springhill Road / Port Kembla Road
- Springhill Road / Tom Thumb Road.

This assessment identifies that all three intersections operate at Level of Service (LoS) C or better during both the AM and PM peak periods. As such there are no undue delays or queueing.

Section 7.2 of the Traffic Report analyses mid-block carriageway LoS for the coal truck haulage routes with projected future traffic volumes for each of the scenarios. Table 7.18 and Table 7.19 in Section 7.2 of the Traffic Report provides the mid-block carriageway LoS for the coal truck haulage routes. This shows that Masters Road and Springhill Road will both operate at LoS A in the AM and PM peak periods with PKCT receiving up to 10mtpa of coal. This identifies that the additional coal trucks to deliver up to 10mtpa to PKCT do not significantly alter existing LoS. It is noted that coal trucks form a very small percentage of the vehicles along the road haulage routes and that background growth in other traffic has a more significant impact on the road network.

The increase in peak hour traffic volumes as a result of the proposed EA are minor. The additional peak hour coal truck movements to deliver up to 10mtpa to PKCT compared with the delivering 4mtpa under 11/6 operations are as follows:

- 11/6 operations around 97 additional coal truck movements per hour (54 in and 43 out of PKCT) during the AM peak hour; and
- 24/7 & 15/5-10/2 operations around 65 additional coal truck movements per hour (34 in and 31 out of PKCT) during the AM peak hour

Section 5.3 of the Traffic Report established that there is no anticipated background traffic growth along Springhill Road and Masters Road. As such, the three key intersections along Springhill Road are judged to be able to manage the minor increase in coal truck volumes given that each intersection has spare capacity.

It is noted that Council suggest that re-routing of passenger vehicles could occur in relation to the increase in coal trucks and that this may be evaluated via a network model. The re-routing of passenger vehicles away from haulage routes on to alternative roads as a result of additional coal truck movements is considered very unlikely due to the minor increases in peak hourly traffic volumes. The mid-block capacity analysis shows little to no change in mid-block level of service as a result of increased coal truck traffic.

Additionally, it should be noted that a network model is not required to assess the traffic impacts from the PKCT project as the Traffic Report thoroughly assesses traffic impacts associated with PKCT deliveries. The PKCT delivery haulage routes from the mines are fixed and there are no route choice

options to be made. A detailed spreadsheet model was used to model the projected traffic volumes using accepted transport planning principles.

Comment: Consider future increases of coal transfer and compliance with DECC limit

As part of the EA, Katestone Environmental consultants were engaged to conduct an air quality assessment of the PKCT operations, and the change to 24 hour road receipt, to a maximum of 10mtpa. This report can be found in Appendix J of the EA. Key findings in relation to TSP concentrations are outlined below:

- The largest source of dust emissions is the coal stockpiles. These represent about half of the total emissions of PM10 from PKCT. These will remain unchanged as a result of 24hour road receipt.
- Emissions of dust from road and rail receipt are equivalent per tonne of throughput because the emission controls that are implemented provide an equivalent reduction in total emissions. As a consequence, increasing road receipt will not substantially affect coal dust emission rates provided that existing dust controls are diligently applied and tracking out of coal along access roads is minimised.
- Maximum concentrations of PM10, TSP and dust deposition rates due to all activities at PKCT, including the proposed increase in road receipt, are predicted to be well below the relevant air quality criteria for human health and amenity.

The information provided above concludes that the proposal can be carried out without compromising the DECC emissions limits. Emissions from the facility will continue to be monitored and reported to the DECC through the PKCT Environmental Protection License.

Comment: Consider total concentration of nutrients generated from site before discharge into Inner Harbour from recycled water usage for dust suppression

PKCT has considered the total concentration of nutrients generated from the site (ie run-off from recycled water, leachate and local stormwater), and are confident that discharge into the Inner Harbour is appropriate for the PKCT site. Consultants, Ecoengineers, conducted an environmental risk assessment of the proposed use of Tertiary Treated Effluent, or recycled water, on the PKCT site for dust suppression and other site activities.

The Executive Summary of the Ecoengineers report concluded that *“reuse of Tertiary Treated Effluent can be justified on the following grounds:*

- a) *Adverse impact on the trophic status of the lower Garungaty Waterway is unlikely.*
- b) *Total Nitrogen and Total Phosphorus loads exported to the Inner Harbour under conditions of PKCT discharge, which invariably occur only in wet to very wet weather periods, would be higher than at present. However, they would not be excessively greater than loads naturally exported out of the large, urban Garungaty Catchment under equivalent wet weather flow conditions.*
- c) *Reuse of a significant fraction of the TTE generated at PKCT offers the possibility of export of those constituents with the exported coal on all those days of the year when rainfall is non-existent or low and excess water discharges from PKCT do not occur. This represents a significant net removal of part of those constituents from the near shore environment.”*

Furthermore, it is noted that PKCT has implemented a Recycled Water Management Plan, which considers the discharge of Tertiary Treated Effluent Water into the Inner Harbour and that all discharges are monitored and reported under conditions of the PKCT Environmental Protection License with the reporting back to the DECC.

3.3. DEPARTMENT OF PRIMARY INDUSTRIES

No comments made on EA.

3.4. MINISTRY OF TRANSPORT

Two issues were identified by the Ministry of Transport after review of the EA, one on the viability of the port and the other on the rail mode share.

Comment: Consider the potential impact on the viability of port due to cumulative impact on the road network from proposed coal truck movements

As explained under Issue 1 in **Section 3.1.1** of this report, the cumulative impacts on the road network from the PKCT increased delivery proposals and the expansion of the inner harbour to create the GCHF to import cars has been modeled in the Traffic Report associated with the PKCT EA.

In addition, other developments in the Wollongong area are considered to be included in the background traffic growth.

The Traffic modeling shows that the road network that services the port can accommodate the projected increase in vehicle numbers without significant reduction in LoS. As such there is no reason to consider that the PKCT proposal will have an adverse impact on the viability of the port.

Comment: Consider deterioration in Rail Mode share if road receival hours are extended and potential existing mode split to be maintained, consistent with rail receival capacity

Historically, the majority of coal received at PKCT is by rail, with 75% of mine sites currently delivering by rail. PKCT does not have the ability to control the supply of coal from the current 12 mine sites to the coal terminal, and it is noted that the mines are owned by various and different PKCT customers. If a road and rail split condition was to be placed on PKCT, this could effectively:

- constrain mine capability to export coal,
- constitute a restriction of trade, and
- would be a serious retrograde step preventing open market access to critical infrastructure.

However, recognising the potential concerns for some degree of imbalance between road and rail transportation of coal, PKCT has recommended a voluntary cap or restriction on the volume of coal being transported by road to 10mtpa. This limitation on road transported coal has been proposed clearly throughout the EA, and modeling for environmental impacts were conducted based on this scenario projection of tonnage. It is noted that historically over 8 million tonnes per annum of coal has been received by private and public roads at PKCT, and that the future projection of 10 mtpa may be reached by as early as 2013/2014.

Furthermore, it is noted that there is currently **no** restriction on the volume of coal transported by road to PKCT, only a restriction on the hours of receival by road transportation, which in effect is a tonnage constraint.

PKCT therefore considers that the proposed 10 mtpa restriction on the volume of road transportation of coal to PKCT is a suitable solution to the road and rail mode split issue raised.

3.5. DEPARTMENT OF ENVIRONMENT AND CONSERVATION

The Department of Environment & Climate Change (DECC) commented on several points of the EA, primarily related to noise, traffic and climate change.

Background noise levels, and noted differences between different monitoring locations were queried by the DECC. Noise assessment techniques which were used in the assessment were similar to those used for the approved Inner Harbour (GCHF) approval, and have provided comparable results.

3.5.1. Noise Emitted from PKCT

Comment: Clarification sought of the difference between change in background noise at 163 Kembla Street and 392 Keira Street noise monitoring locations, and whether noise from operations was removed from background data

As presented in Section 3.1.1 and Section 3.1.2 of the Noise Assessment of the EA, background noise levels at 163 Kembla Street and 392 Keira Streets are dominated by traffic noise from Corrimal Street and Springhill Road. These areas would have a diurnal nature, primarily due to a higher level of activity around the port and Wollongong during these times.

The reason why there is a high variation between day and night time background noise levels at the 392 Keira Street and 163 Kembla Street locations, is due to the fact that during the day, the 392 Keira Street monitoring location has additional traffic noise from vehicles using Keira Street to access the Central Business District of Wollongong. In addition, there is a proportion of background noise at the 163 Kembla Street monitoring location that is influenced by surf noise therefore resulting in higher background noise floor at night compared to 392 Keira Street.

It is concluded that the RBL levels presented in the EA are a good representation of the background noise level in the area.

Comment: Clarification of noise assessment criteria in Table 5.2 in Noise Impact Assessment regarding predicted noise levels

Section 3.1.2 of the noise report presents attended noise monitoring at 163 Kembla Street which concludes that PKCT noise is likely to be between 35-40 dBA L_{Aeq} . It is therefore estimated that the likely L_{A90} contribution at 163 Kembla Street would be approximately between 30-35 dBA L_{A90} which would not contribute to the background noise level at Kembla Street.

The RBL levels presented in the EA are a good representation of the background noise level in the area. This is supported by noise data measured by SKM for the General Cargo Handling Facility.

Comment: Consider noise assessment of Horizon Seaside Links Aged Care Complex at the southern end of the Wollongong Golf Course

The noise assessment did not specifically consider the Horizon Seaside Apartments; however the assessment considered residences on the corner of Swan Street and Kembla Street which is closer to PKCT, and considered more appropriate for assessment. This identified that noise levels in this area do not breach relevant guidelines. Please also see Figure 1 of this Submission Noise monitoring locations in relation to Horizon Seaside Apartments location. See also response to Department of Planning, Section 3.1.1.

3.5.2. Road Haulage Noise Assessment

Comment: Consider how noise events (eg compression engine braking, ineffective muffling, empty wagon booming, loose tail gates, etc, will be effectively and proactively managed and mitigated along coal transport routes

Mitigation of maximum sound level events, such as compression braking, ineffective muffling, empty wagon booming and loose tailgates will be managed through the implementation of a Drivers Code of Conduct for deliveries to PKCT. A Statement of Commitment was made as part of the EA that: "A driver's code of conduct will be utilised for all transport companies delivering product to PKCT." The intent of this document and commitment is to limit impact on the community as a result of this proposal, and this will be achieved in part by limiting noise as a result of road deliveries of coal. It is proposed that the Drivers Code of Conduct is developed in consultation with the RTA and DECC.

As noted in section 3.1.1 above, specific modelling has been carried out for instantaneous noise activities, such as a banging tail gate at PKCT, which has shown that they are not likely to cause sleep disturbance. The predicted noise level from such an event has been calculated to be L_{Amax} 37 dBA at the nearest of the residential receivers. Given that this noise level is below the general background noise level in the area (38 dBA), it can be concluded that the potential risk of such an event disturbing the sleep of nearby residents to PKCT is unlikely.

Comment: Consider reduced traffic and noise levels on Bellambi Lane post Northern Distributor opening potential measures to ameliorate against noise impacts, other than those proposed in the Environmental Assessment

Assessment of the impacts on Bellambi Lane of increased truck movements has shown that in order to ameliorate against night time noise impacts, trucking along Bellambi Lane required restriction.

The proposal is for 24/7 transportation of coal to PKCT in all areas apart from Bellambi Lane. It is affirmed that the proposal for Bellambi Lane is for 15 hours per day Monday to Friday (ie 7am to 10pm) and 10 hours per day (ie 8am to 6pm) for Saturday and Sunday. This proposal was stated in the EA to address the unique considerations of Bellambi Lane. It should be noted that the submission by the NSW RTA to the EA stated that: "the recommendation to avoid night time haulage on Bellambi Lane (at Page 120) is agreed with".

Comment: Consider two scenarios for noise levels in Bellambi Lane after the opening of the Northern Distributor without any changes to coal haulage, effectively the status quo and with the proposed changes. Consider the net noise differences and any appropriate noise mitigation measures

DECC have requested a noise comparison between the following two scenarios:

1. Northern Distributor Extension open and existing delivery patterns- “status quo”
2. Northern Distributor Extension open with PKCT receiving 10mtpa of coal delivered by road and Bellambi Lane restricted to 15/5 – 10/2 deliveries.

The first scenario was not included in the Noise Impact Assessment (NIA) as the EA does not propose to retain the existing 11/6 delivery restrictions. Furthermore, Gujarat NRE forecasts growth in production volumes from NRE No 1 mine, which will result in additional deliveries to PKCT which would not be captured under a “status quo” scenario as requested.

The two scenarios are presented below. **Table 3.1** provides modeling for weekday scenarios, and **Table 3.2** provides modeling for weekend scenarios. The modeling concludes that that based on existing noise levels on Bellambi Lane, a 1.9dBA increase is modeled in 2013 on weekdays, with GNRE delivering their proportion of 10 mtpa to PKCT.

Table 3.1 – Weekday Scenarios

Location	Existing Noise Levels – 2008	Week Day	
		Scenario 1 2009 11/6 + NDE	Scenario 2 2013 15/5 10/2 + NDE
Front Yard Bellambi Lane	71.3	67.6 (-3.7)	71.9 (+ 0.6)
Rear Yard Keerrong Ave	56.6	52.9 (-3.7)	58.5 (+ 1.9)

Table 3.2 – Weekend Scenarios

Location	Existing Noise Levels – 2008	Weekend	
		Scenario 1 2009 11/6 + NDE	Scenario 2 2013 15/5 10/2 + NDE
Front Yard Bellambi Lane	69.5	65.8 (- 3.7)	70.3 (+ 0.8)
Rear Yard Keerrong Ave	54.7	51.0 (- 3.7)	55.5 (+ 0.8)

Through the completion of the noise assessment it was recognised that the proposal of 24/7 coal truck deliveries on Bellambi Lane would have the potential for noise impacts. Therefore it was proposed to use a 15 hour weekday and 10 hour weekend delivery pattern (15/5 & 10/2). This delivery pattern will allow for the greatest residential amenity, while allowing GNRE to efficiently deliver coal to PKCT up to maximum forecast volumes. The amelioration of noise impacts at night proposed through the 15/5 & 10/2 is considered appropriate, and has been agreed by the RTA.

3.5.3. Transport Planning

Comment: Consider reasonable options to maximize the use of rail to transport coal to and from PKCT using a model split between truck and rail deliveries. Transport Planning: Model split between truck and rail transported coal

Historically, the majority of coal received at PKCT is by rail, with over 75% of mine sites currently delivering by rail. PKCT does not have the ability to control the supply of coal from the current 12 mine sites to the coal terminal, as the mines are owned by various and different customers. If a road and rail split condition was to be placed on PKCT, this could effectively:

- constrain mine capability to export coal,
- constitute a restriction of trade, and
- would be a serious retrograde step preventing open market access to critical infrastructure.

However, recognising the potential concerns for some degree of imbalance between road and rail transportation of coal, PKCT has recommended a voluntary cap or restriction on the volume of coal being transported by road to 10 million tonnes per annum. This limitation on road transported coal has been proposed clearly throughout the EA, and modeling for environmental impacts were conducted based on this “worst case scenario” projection of tonnage. It is noted that historically

over 8 million tonnes per annum of coal has been received by private and public road at PKCT, and that the future projection of 10 million tonnes per annum may be reached by as early as 2013/2014.

Furthermore, it is noted that there is currently **no** restriction on the volume of coal transported by road to PKCT, only a restriction on the hours of receipt by road transportation, which in effect is a constraint.

PKCT therefore consider that the proposed 10 million tonne per annum cap on road transportation of coal to PKCT is a suitable solution to the road and rail mode split and is adequately addressed in the Statement of Commitments.

3.5.4. Climate Change and Energy Use

Comment: Clarification sought of calculations with respect to Greenhouse Gas emissions

Following consultation with the DECC, amendments to the Greenhouse Gas Assessment for the proposal have been made. These are included in **Appendix B**. A summary of the changes can be found in the Department of Planning section 3.1.3 responses above.

3.6. RTA

Comment: Clarification sought on truck movements from Dendrobium Coal Preparation Plant and impacts on road safety and traffic efficiency impacts on both local and state road networks, in particular consideration to impacts along Cordeaux Road

Coal from the Dendrobium Mine is railed to the Dendrobium Coal Preparation Plant which is located within BlueScope Steelworks at Port Kembla. Rail delivery of coal is specified as the delivery method from Dendrobium Mine to DCPD in the Dendrobium Mine development consent. Trucking of coal is not proposed from Dendrobium Mine as part of this proposal, and therefore Cordeaux Road will not be affected by the proposal.

Trucks currently carry coal from the Dendrobium Coal Preparation Plant (DCPP), located in the BlueScope Steelworks, to PKCT via internal access roads within the BSL site. As part of the EA, it was proposed, due to congestion and safety concerns, to divert these trucks to PKCT via Springhill Road. This would result in a potential increase in 167 coal truck movements one way on a typical weekday.

Traffic modelling of this 10mtpa scenario with 24/7 and 15/5-10-2 operation for has been undertaken. Analysis results can be found in Section 6 and Section 7 of the Traffic Report of the EA.

Comment: Clarification sought on calculations used to estimate additional coal truck movements, including typical capacity of coal for typical truck and whether volumes in Table 8.1 are one way or two way movements

In the Traffic Report of the EA the future coal truck movements for each option have been calculated as detailed in Section 6.3.2:

- The total annual coal tonnage from each location is divided by the number of operating days to determine the estimated coal tonnage per operating day, taking into account restrictions on deliveries;
- The number of coal truck movements from each location is then calculated by dividing the output capacity (by day and by night) by an average coal truck haulage capacity (based on historical data), which is assumed to be:
 - 36.5 tonnes per coal truck for BHPBIC; and
 - 31.8 tonnes per coal truck for Gujarat NRE No. 1 Mine;
- The number of trucks is distributed throughout the day and night periods per hour for average weekdays and weekends. This is based on the assumptions detailed in Section 6.2.1 and Section 6.2.2 of the Traffic Report.
- Volumes in Table 8.1 of the EA are two-way movements and represent the total volumes in both directions on the relevant road sections.

Comment: Consideration of other developments within the Port precinct from a cumulative impact perspective and the cumulative impact to state road network

As discussed above in Sections 3.1.1, 3.1.2 and 3.4 the cumulative traffic impact in relation to the General Cargo Handling Facility (GCHF), located at the Inner Harbour for car imports, is included in sections 5.2.4, 5.3 and 5.4 of the Traffic Report. A review of the GCHF Environmental Assessment Report (SKM December 2005) prepared to document the proposed expansion was undertaken. This traffic increase was considered in the PKCT EA Traffic analysis.

The Traffic Report analysis identifies that the existing road network can adequately carry the maximum predicted traffic volumes in relation to proposed PKCT and GCHF traffic operations.

It is not possible for the PKCT EA to address traffic impacts in relation to the proposed Soy Bean Processing and Biodiesel Project. It is considered beyond the scope of the PKCT EA to address proposals which are not significantly through the planning process or under construction. PKCT is aware that the Preliminary Environmental Assessment has been submitted for the Biodiesel Project but is unaware if any alterations may be made during the assessment of related impacts. It may be incumbent upon the Biodiesel Project proponent to assess their traffic impact cumulatively with the

GCHF and PKCT projects and demonstrate no significant impact on the road network from their project.

However, it is noted that “general development” in the Wollongong area is considered to be included in the background traffic growth modeling conducted in the PKCT Traffic Report of the EA.

Comment: Consider Mid-block capacity of Springhill and Masters Roads in light of cumulative impacts of Port precinct development

Tables 7.18 and 7.19 in Section 7.2 of the Traffic Report of the EA analyse mid-block capacity in relation to the proposed 24/7 receipt of coal up to 10mtpa. This identifies that the increase in traffic, including background growth, GCHF and PKCT has minimal alteration on existing carriageway capacities even in the worst case scenario of 2018. Section 8.1.14 of the Traffic Report concludes that the additional coal trucks do not significantly affect any part of the road haulage route. Furthermore, traffic modeling has predicted that the LoS for Masters and Springhill Rd are predicted to remain at “A” under a 10mtpa operating Scenario in 2018.

An increase in receipts at PKCT to 10mtpa, and a change in the operating hours will result in the following percentage change in traffic volumes in 2018:

AM Peak Hour

- Masters Rd 2.4% increase
- Springhill Rd 3.1% increase

PM Peak Hour

- Masters Rd 2.0% increase
- Springhill Rd 3.6% increase

Comment: Clarify that Intersection modeling includes both AM and PM peak using SIDRA. Consider inclusion of Masters Road and Springhill Road; Springhill Road and Port Kembla Road, Springhill Road and Tom Thumb Road and Key intersections from Dendrobium Coal Preparation Plant with Princes Highway and Cordeaux Road. Further consider 10mtpa future scenario at all listed junctions and provide electronic copies of modeling for verification.

Section 3.9 of the traffic report of the EA summarises results of AM and PM intersection modeling which has been completed using the SIDRA software package. Furthermore, Section 3.9 contains the



PKCT Submissions Report

modeling of the intersection of Masters Road and Springhill Road, Springhill Road and Port Kembla Road; and Springhill Road and Tom Thumb Road.

As noted, the PKCT EA does not propose any activities at Cordeaux Road. There is no requirement for intersection modeling of the Princes Highway and Cordeaux Road.

As noted in the comments above, the increase in peak hour traffic volumes as a result of the proposed EA are minor, and are not expected to result in any LoS reduction in Springhill or Masters Roads. The three intersections tested all operated well during both AM and PM peak periods. All traffic modelling data has been provided in soft copy to the RTA for review.

Comment: Consider suitable infrastructure to ameliorate any traffic impacts and safety impacts and the provision of a Voluntary Planning Agreement. Consideration of strengthening the bridges on Springhill Road over the rail line, and allowances of increased loads for Higher Mass Limit vehicles.

The route from West Cliff Colliery to PKCT was previously approved by the RTA, in consultation with Wollondilly and Wollongong Councils to run Higher Mass Limits. Road infrastructure was assessed as part of this approval, and found to be adequate. Under the proposed 10 mtpa scenario in 2013, coal trucks delivering to PKCT will account for approximately 7.6% of total traffic on Springhill Road.

As mentioned in the EA, this “major project” is an existing operation and the only change is to extend the hours of road received coal to PKCT. It is not considered appropriate, given that Higher Mass Limits are already in place, and that the coal trucks are a small percentage of total traffic, that a voluntary planning agreement for infrastructure improvements to a state road should be entered into by PKCT. Traffic safety has been assessed along the route as part of the traffic study and no safety concerns were identified in the Springhill Road area.

Comment: Consider commitment or condition for the management of noise at Bellambi Lane for night time hours proposed restriction. Also consider management of vehicle noise including fleet choice and maintenance.

PKCT has specified in the Statement of Commitments that a Drivers Code of Conduct will be utilised for all transport companies delivering to PKCT. This will include specific responsibilities for operators relating to the minimisation of noise created as a result of delivering to PKCT. It is proposed that the Drivers Code of Conduct be prepared in consultation with the RTA and the DECC.

PKCT has minimal influence over fleet purchasing arrangements of haulage companies contracted to client mines. However, vehicles used by client mines are modern trucks, which have up to date technology. Signage, and contact phone numbers are posted on a large number of trucks. Trucks

used to haul coal from West Cliff Coal Preparation Plant have a large identifying number which can be used to report traffic incidents. Strict maintenance regimes are followed for trucks to ensure safety and reliability.

Engine brakes are an essential method of truck control on steep haulage routes such as Mt Ousley. This is evidenced in the National Transport Commissions Engine Brake Noise Final Proposal and Regulatory Impact Statement (August 2007) which notes:

“An independent expert has been commissioned to assess the safety implications and he concluded that:

- *engine brakes play an important safety role on long, steep descents; and*
- *engine brakes provide a small proportion of the total braking in low speed and relatively flat environments.”*

This data supports the current truck management regime for use of engine brakes on long steep descents such as Mt Ousley. While noise impacts from engine brakes are recognised, and are limited where possible, trucks used for coal haulage utilise modern technology to ensure that impacts, as a result of coal haulage are minimised. Ongoing work by haulage companies to limit the impact of the brakes through technology such as Donaldson mufflers is being implemented by the industry. A key coal haulage contractor has commented that: *“Eliminating the use of engine braking on Mt Ousley would cause serious safety concerns for trucks and other users of Mt Ousley.”*

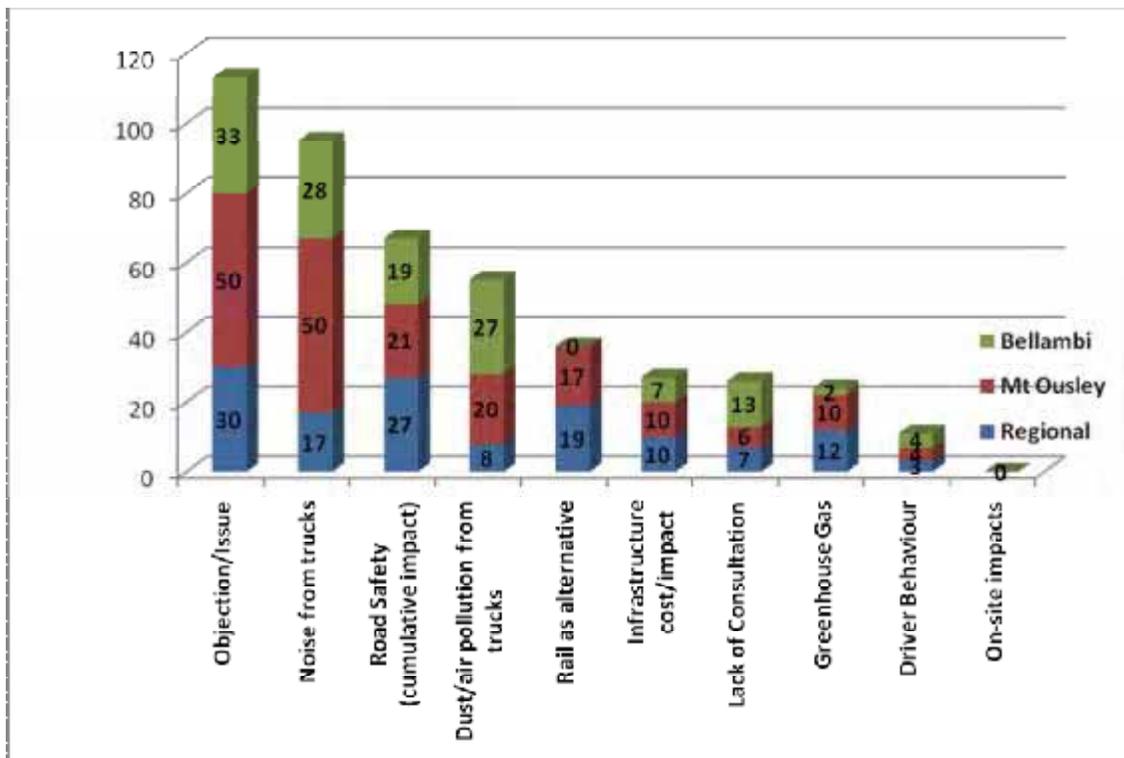
The New South Wales RTA have recently installed a noise camera on Mt Ousley targeted at measuring truck noise, in particular engine braking, and applying regulation to trucks using the route. The noise camera will be able to identify offending trucks which do not comply with current industry standards. As coal haulage companies use Mt Ousley on a daily basis, it would not be possible for coal truck fleets to be operating outside compliance limits without having serious repercussions for the contractor in terms of fines and other enforcement.

4. PUBLIC SUBMISSIONS:

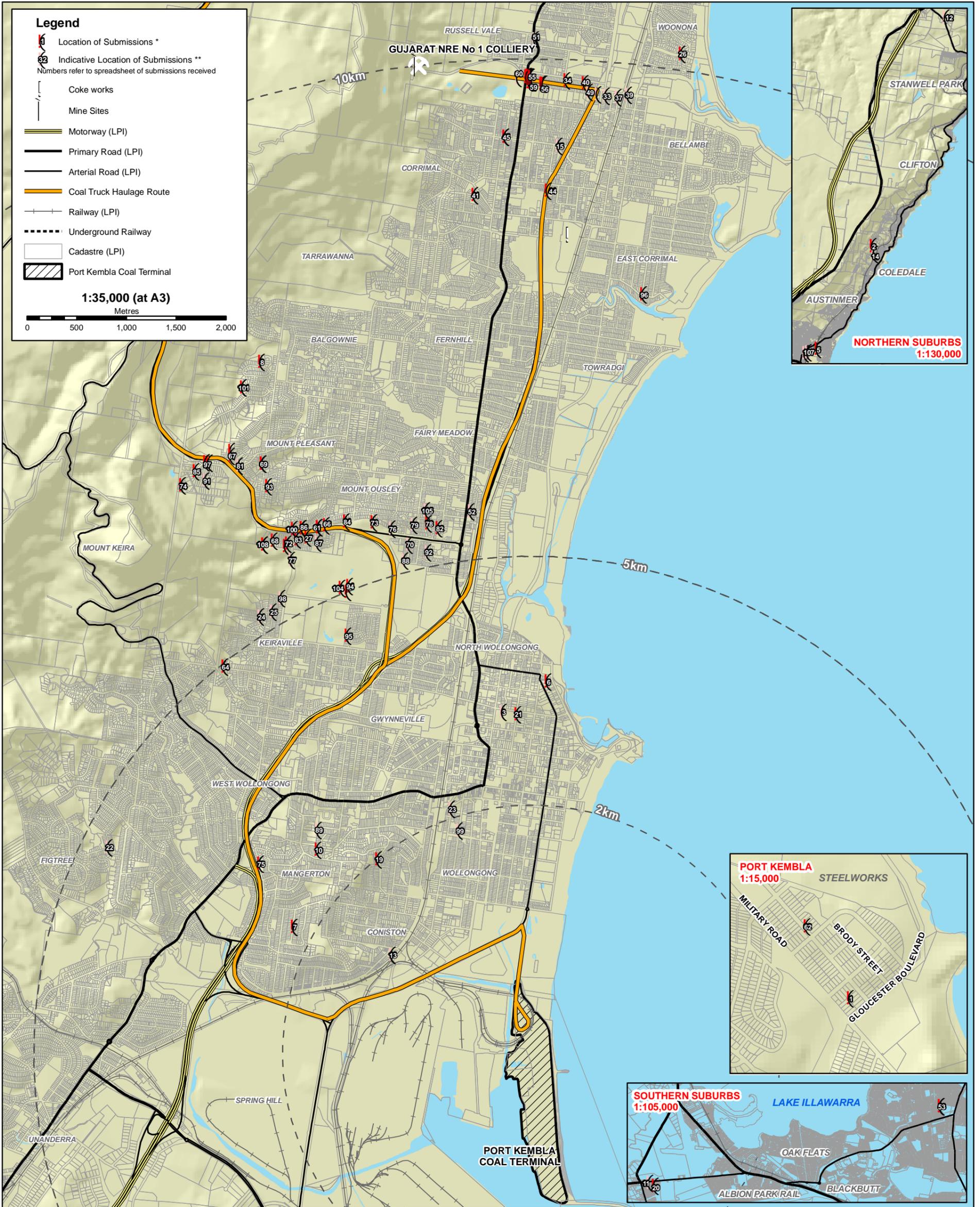
There were a total of 122 public submissions received, including one which had 55 signatures on a petition, counted as one. Of these responses, 113 were objections and 9 raised issues.

A summary of the key issues raised in submissions from the public is provided in **Table 4.1**. Please note that there was an average of three issues raised from each individual respondent. Responses have been grouped into the issue outlined, as well as the geographic area of reference, including Bellambi, Mount Ousley and non-specified or wider area responses, called "Regional".

Table 4.1 – Issues Raised by Public



To further elaborate on the geographical distribution of public objections to the proposal, **Figure 3** has been prepared which shows the locations of persons who made submissions, and clearly shows that they are heavily concentrated along the transport consultation corridor.



Location of Persons Who Made Submissions



PORT KEMBLA COAL TERMINAL

* 3 objectors at Epping, Kiama and North Nowra excluded from map
 ** Location only indicates suburb as no address was provided

Map Produced by Cardno Forbes Rigby
 Date: 21 November 2008
 Coordinate System: Zone 56 MGA/GDA 94
 GIS MAP REF: 108004-02_2809_PKCT_Submissions.mxd

Responses to issues raised from public submissions are as follows:

4.1. NOISE FROM TRUCKS:

A number of submissions were received in relation to noise impacts of the proposal. Detailed noise monitoring was carried out by a specialist noise consultant (Wilkinson Murray) at a range of locations on key haulage routes as part of the EA process. In addition, periods where emergency provisions have been granted under SEPP 7 were also monitored and analysed for noise impacts. As noted in the study carried out by Wilkinson Murray, traffic noise levels on major haulage routes, such as Mt Ousley, support the ECRTN criteria of 2dB allowance at operating levels up to 10mtpa. At a 10mtpa scenario in 2013, the predicted noise impact on Mt Ousley from the proposal is predicted at +/- 0.2db, or 10% of the allowable change under ECRTN.

Previous data collected and analysed by HATCH for periods of emergency provisions exhibited that noise levels associated with night time truck movements of coal had **no** effect on the night time noise levels in these areas, as commented in their 2007 report:

"It is the conclusion and assessment of this study that the transport of coal trucks to Port Kembla Coal Terminal at night time did not affect the long-term or daily period average sound levels, either in the specific sections of their route along Springhill Road, or along their general route from Mount Ousley to BlueScope Steel."

As noted in section 6.5. of the EA, total coal truck traffic accounts for a small percentage of traffic on all roads. Coal trucks are also only a small percentage of heavy vehicles. Currently there are no restrictions on any other heavy vehicles that operate on major Wollongong roads, such as Mt Ousley. This results in all heavy vehicles, with the exception of coal trucks delivering to PKCT, being permitted to travel on haulage routes at night. This accounts for over 90% of heavy vehicle movements, which is a key contributor to existing noise levels. Should restrictions be lifted on coal truck movements, the change would be negligible at current delivery volumes, and within 2 dB up to 10mtpa on all major haulage routes.

There is, however, one exception to the above noise impact assessment, and that is along the transportation route from Bellambi Lane. Along Bellambi Lane night time noise is predicted to be noticeable. It is for this reason that the night time restrictions on coal haulage movements are proposed for GNRE No 1 mine. This is a self imposed condition, as a result of the EA, which is a significant commitment given that other heavy vehicles are unrestricted from traveling along this route on a 24 hour basis.

Table 4.2 – Noise Level Change

Location	Lowest Permitted Noise Level Change (dB)	Calculated 2013 Noise Level Change (dB)
Bellambi Lane	+2	Mitigation measures proposed
Northern Distributor	+2	<2.0
Mount Ousley Road	+2	<0.2
F6 Freeway	+2	<0.8
Masters Road	+2	<1.9
Springhill Road	+2	<0.2

During a trial of 24/7 access that was conducted earlier in April 2008, community perceptions of the change in deliveries were gauged. The respondents were asked a series of questions in relation to truck movements, including some specific questions in relation to the change in delivery hours. When asked if they had noted any change in coal truck movements on Mt Ousley Road or Springhill Road in the last few weeks, 93% of respondents commented that they had noticed **no** change, and 0.3% were unsure of a change. This community survey supports noise evidence that a change to 24/7 deliveries would not result in noticeable noise changes at Mt Ousley Road or Springhill Road.

The use of exhaust brakes on Mt Ousley was also referred to in several submissions. Engine brakes are an essential method of truck control on steep haulage routes such as Mt Ousley. This is evidenced in the National Transport Commissions Engine Brake Noise Final Proposal and Regulatory Impact Statement (August 2007) which notes:

“An independent expert has been commissioned to assess the safety implications and he concluded that:

- *engine brakes play an important safety role on long, steep descents; and*
- *engine brakes provide a small proportion of the total braking in low speed and relatively flat environments.”*

This data supports the current truck management regime for use of engine brakes on long steep descents such as Mt Ousley. While noise impacts from engine brakes are recognised, and are limited where possible, trucks used for coal haulage utilise modern technology to ensure that impacts as a result of coal haulage are minimised. Ongoing work by haulage companies to limit the impact of the brakes through technology such as Donaldson mufflers is being implemented by the industry. A key coal haulage contractor has commented that: *“Eliminating the use of engine braking on Mt Ousley would cause serious safety concerns for trucks and other users of Mt Ousley.”*

The New South Wales Roads and Traffic Authority have recently installed a noise camera on Mt Ousley targeted at measuring truck noise, in particular engine braking, and applying regulation to trucks using the route. The noise camera will be able to identify offending trucks which do not comply with current industry standards. As coal haulage companies use Mt Ousley on a daily basis, it would not be possible for coal truck fleets to be operating outside compliance limits without having repercussions for the contractor in terms of fines and other enforcement.

Client mines that utilise Mt Ousley as part of the haulage route support the implementation of the noise camera as a method of improving the trucking industry standard in relation to noise. The NTC document also comments on limitations in effective regulation of noise by limiting access times for heavy vehicles:

“From research undertaken as part of this policy proposal, a minority of heavy vehicles have excessive noise from engine brakes. Limiting access to all heavy vehicles because of a small minority is a very inefficient approach to regulation. It is likely to cause high productivity costs and an inability to service businesses located in populated area.”

4.2. ROAD SAFETY:

Submissions were received into road safety and driver behavior in relation to the proposal. The submissions recalled historical events in relation to accidents involving coal trucks.

A detailed traffic assessment has been conducted for all haulage routes. The full assessment can be found in Appendix G of the EA. Detailed analysis of crash data has been undertaken. The report recognises that Bulli Pass to Mt Ousley Road exhibits a relatively high crash history, however also takes into account that the data must be taken in perspective, that 14.4% of crashes involved articulated vehicles, with coal trucks only representing an average of approximately 6.8% of heavy vehicle traffic on the same route in 2008.

The removal of delivery restrictions will allow less interaction with commuter traffic, as trucks will be able to deliver more efficiently during night time hours outside of peak commuter times. Drivers who work for coal haulage companies are professional drivers who travel the route on multiple occasions per day. This ensures hazards and risk perception along the haulage routes are clearly identified and understood. The competency of drivers is assessed by contractors prior to commencing work on coal haulage.

Community enquiries regarding coal haulage can be directed to community call lines maintained by BHP Billiton Illawarra Coal, PKCT, Gujarat NRE and coal haulage contractors. Most trucks operating on coal haulage routes also have a large identification number on the back that clearly identifies the vehicle. Should inappropriate driving be reported, a full investigation of the incident is completed and corrective actions are implemented.

The Statement of Commitments for the PKCT EA states that *“A Drivers Code of Conduct will be utilized for all transport companies delivering product to PKCT”*. Implementation of a Drivers Code of Conduct will reinforce appropriate conduct of professional drivers delivering to PKCT.

The traffic study carried out indicated that road safety would not be compromised on any haulage route as a result of the proposal. It has been demonstrated through the trial of 24/7 haulage that the proposal will result in less congestion over peak commuter time periods by allowing smoothing

of deliveries over the full 24 hour period. The deficiencies of the SEPP 7 regulation were identified in the Auslink 2007 Sydney – Wollongong Transport Corridor Study:

“A large number of these trucks will only operate during the day due to the SEPP 7 regulation where export coal trucks are only allowed to operate between 7:00am and 6:00pm Monday to Saturday. This will cause increasing conflict with commuter and local traffic around the roads leading to Wollongong and Port Kembla”.

4.3. DUST/AIR POLLUTION FROM TRUCKS:

Dust and air pollution was raised as a concern in some submissions. All trucks which leave a mine site are mandated to have a cover over their load. Trucks also pass through a truck wash at all sites to ensure that excess coal that may have built up on the sides of the truck is washed off. These measures are regarded as being able to restrict the majority of wind-blown dust and are seen as sufficient to limit fine coal particles leaving the truck while in transit. Significant differences between washed and unwashed coal is not recognised due to sufficient dust emission control measures being in place.

Vehicles which are owned by major coal haulage firms are subject to a strict maintenance regime. Vehicles are serviced on a weekly basis and then on a kilometer basis as specified by the manufacturer. Servicing regimes include an inspection of the entire exhaust system. Trucks are regularly replaced to ensure that modern equipment is in use, so as to maximise efficiency and minimise diesel particulate emissions.

4.4. RAIL AS AN ALTERNATIVE TO ROAD TRANSPORTATION:

Several submissions called for the use of rail in lieu of road transportation of coal from the mines to PKCT. Notably, there were 35% of the Mount Ousley community responses and 62% of the Regional community responses who called for the alternative use of rail transportation.

The mode of transport of coal from mines to PKCT is determined by the mine site location and its accessibility to rail lines, existing land uses and economic viability of the alternatives (see also section 8.3 of EA, p 164). Currently there are three mines out of a total of twelve which deliver coal to PKCT via road transportation, which represents 25% of the mines.

The three mines which currently deliver by road to PKCT have no viable alternative option to road haulage. Barriers to the use of rail to transport coal from the three mines include:

- no rail line in the vicinity of the mine;
- mine located in sensitive ecological environment, problematic terrain, with rail construction prohibitive due to environmental impacts on State Conservation Areas, Catchment Special Areas and National Park; and
- cost of construction of rail line is beyond commercial viability.

PKCT therefore contend that no viable rail alternative exists for the three current mines that use road transportation.

Submissions also called for the reopening of O'Brien's drift as an alternative to coal truck transportation via Mt Ousley. The decommissioned O'Brien's system previously fed coal from trucks into a drift near Mt Keira and conveyed the coal to Dendrobium Mine's rail loading facility in Mt Kembla. O'Brien's Drift has been decommissioned as the rail line transports Dendrobium coal to the Dendrobium Coal Preparation Plant at BlueScope Steelworks. The capacity of the rail line is fully utilised with the coal produced at Dendrobium Coal Mine and therefore the system could not be efficiently utilised if O'Brien's Drift was to be reinstated.

4.5. MALDON-DOMBARTON RAIL LINE:

Several submissions called for the use of the Maldon-Dombarton rail line as an alternative to road transportation. At present, the Maldon-Dombarton rail line is incomplete and there are no committed plans for completion, therefore this does not present a solution as an alternative method of transporting coal.

Work commenced on the construction of the Maldon-Dombarton rail line in 1983, and was subsequently stopped in 1988. Since that time, mine site locations have changed and PKCT is aware that the issues of linkages between the potential Maldon-Dombarton rail line and the present mine sites are significant and may not be commercially viable. In addition, there have been changes to the rail transportation path in Western Sydney, especially in the Campbelltown and surrounding regions where significant increases in passenger demands are now placed on rail lines.

PKCT is aware that a Pre-feasibility Study of the Maldon-Dombarton rail line is currently being undertaken, auspiced by the Port Kembla Port Corporation. The following points are made in relation to the pre-feasibility study:

1. PKCT is willing to participate in the feasibility study and co-ordinate input from its customers
2. Coal is a part of the overall freight movements through the port of Port Kembla, however there are also several other products that will benefit from enhanced infrastructure, and a co-ordinated Illawarra Freight Strategy is required; and

3. PKCT will consider any potential proposal for the completion of the Maldon-Dombarton rail line, including PPP (public, private, partnership), in light of our customers future forecasts, as well as other regional freight requirements, following the feasibility study.

4.6. INFRASTRUCTURE COST/IMPACT:

Several submissions commented on the infrastructure cost of heavy vehicles on haulage routes. The infrastructure which forms part of the haulage routes is primarily maintained by the New South Wales Roads and Traffic Authority, and is not managed or under the control of PKCT. Taxes and royalties are paid on mine output and the suggestion that PKCT is liable for infrastructure costs is not feasible given that the total volumes account for only 4% of total traffic, which originate from client mines.

Heavy vehicle registration is also payable on all coal haulage vehicles and contributes to the maintenance and serviceability of the New South Wales road network.

Royalties are paid by mining companies for the extraction of coal. This year, it is estimated that coal mining activity in NSW alone will contribute \$840m to the people of NSW through royalties, rising to \$1.3 billion next year. Furthermore, in November 2008 the NSW Government Mini-budget will see the royalty regime increased where a further \$1.2 billion will be paid in royalties over the next three years. The cost of maintaining roads and existing infrastructure should be supported by the NSW Treasury who accepts the royalties on behalf of the state of NSW and its people.

4.7. GREENHOUSE GAS:

As part of the EA a Greenhouse Gas (GHG) assessment was carried out. Results of the assessment are documented in section 6.8 of the EA. As a result of the proposal it has been calculated that while there will be overall increases in GHG emissions as a result of PKCT handling 10mtpa of coal, there will be a decrease in GHG emissions of approximately 13% per tonne of coal handled. This is primarily due to efficiency gains as a result of road receipt operating 24 /7.

The GHG assessment has shown that emissions from existing PKCT operations have been shown to be of very low levels and constitute a negligible percentage of New South Wales (0.012%), Australian and World Emissions. The GHG emissions from the proposed operations make up 0.015% of the total New South Wales GHG emissions. Ongoing work is being carried out on ensuring emissions from coal haulage and energy usage from PKCT onsite operations are minimised.

4.8. MOUNT OUSLEY AREA:

43% of submissions received were from community members in the Mt Ousley area. Key issues that were identified in the submissions were as follows:

- 100% identified the noise of trucks
- 41% identified concerns with road safety
- 41% identified air pollution and dust impacts
- 34% identified rail as an alternative means of coal haulage.

Noise from trucks, and in particular the sound from engine brakes on the descent of Mt Ousley has been addressed in this document (see **Section 3.5.2**). It is important to note that the change to noise levels in 2013 if 10mtpa is being received at PKCT is +/- 0.2dBA at Mt Ousley. This is primarily due to coal trucks being a small percentage of overall traffic that travels on Mt Ousley Road.

Contracting companies associated with coal haulage are regulated by client mines and controls are in place to ensure that road user impact is minimised. Controls include:

- In addition to RTA licensing, drivers are required to be assessed as competent to work for client mines
- Drivers operate under a drivers manual, which identifies hazards and drivers responsibilities
- Drivers are required to be shown a haulage hazards video, which includes a competency assessment
- Site inductions are required at each mine site, which includes training in hazard perceptions
- Most trucks have GPS tracking
- Modern trucks are used with latest technology to ensure high standards of safety are maintained
- Complaints in relation to negligent driving can be reported through community call lines and are investigated and corrective action put in place.

All coal trucks are required to have a coal cover that effectively limits dust from exiting the load. Trucks are also washed before leaving any of the client mine and other sites to ensure that the any excess coal which may be on the body of the truck is washed off.

Katestone Environmental conducted an air quality assessment as part of the EA, which identified several key sources of pollution in the Wollongong area. While minor levels of pollutant would be attributable to coal truck traffic on Mt Ousley Road, other road users would also significantly contribute to pollutant deposition. This is an issue for all major haulage routes in Australia, in close proximity to residential areas.

The alternative of rail haulage of coal has been discussed in the EA and in several sections of this report. Due to limitations on rail access this is not seen as a viable alternative.

4.9. BELLAMBI AREA:

27% of submissions received were from community members located in the Bellambi area. It is noted that 10 responses, or 30% of the overall Bellambi responses, were received from members of a religious group who are not residents in the area but who attend a community hall for meetings in Bellambi Lane. Key issues identified from all Bellambi respondents were:

- 85% identified noise of trucks
- 82% identified dust as a concern, although a number of submissions raised dust from the mine site as a key concern in lieu of dust from the transportation of coal
- 58% identified road safety
- 40% expressed concern at the level of community consultation.

The issues identified above will be addressed in each section, ie noise of trucks, dust, road safety and community consultation.

Many submissions from the Bellambi area raised issues of concern with relation to the Gujarat NRE No. 1 Mine in general. This submissions report will not address mine-related concerns, such as subsidence, mine site noise, historical perceptions, mine closure and re-opening, surface and run-off water, etc, as this approval is not for the mine operation but for the transportation of coal. The PKCT EA is unable to consider the mine sites directly, but has considered the public off-site transportation of coal to and from PKCT site. A schematic representation of the zones considered is shown on Figure 3, page 14 of the EA.

As a result of the opening of the Northern Distributor extension opening, traffic volumes are set to decrease by an estimated 58% on Bellambi lane. Due to this change, an increase in coal truck volumes was predicted to have an impact if proposed over a 24 hour period. This has resulted in more detailed noise analysis and modeling being carried out. Modeling has shown that if trucks are

run on a 15 hour weekday and 10 hour weekend schedule, the noise levels will be the same as the current 2008 noise levels.

In response to the assessment conducted on changes in truck movements on Bellambi Lane, it was proposed in the PKCT EA that a mitigation measure is put in place to assist in ameliorating against any potential noise impacts to residents. PKCT considers that there was perhaps a lack of understanding by Bellambi residents, with many making reference to concerns of 24/7 trucking.

The proposal is for 24/7 transportation of coal to PKCT in all areas apart from Bellambi Lane. It is affirmed that the proposal is for 15 hours per day Monday to Friday (ie 7am to 10pm) and 10 hours per day (ie 8am to 6pm) for Saturday and Sunday. This proposal was stated in the EA to address the unique considerations of Bellambi Lane, however there appears to have been considerable concern that 24/7 was intended for Bellambi Lane.

A separate communication (see **Appendix E**) was provided to residents in the Bellambi area to clarify the intended hours of coal transportation as stated above.

4.10. PROPERTY VALUES:

Many respondents noted concerns with their property values diminishing as a result of this application. Respondents were principally grouped in the Bellambi and Mount Ousley locations. PKCT does not consider they are in a position to respond to this issue, as there are many factors and influences, both subjective and objective, which impact on property values and they are considered beyond the scope of this application.

4.11. CONSULTATION LEVELS:

Consultation undertaken is outlined in Section 4 of the EA (see pages 33-44). The majority of consultation issues raised were noted from Bellambi Lane, with 50% of responses, while regional responses were 27% and Mount Ousley responses were 23%. Responses claim that they had only learned of the proposal recently and that there was inadequate time to consider the application. Further, 11 respondents called for an extension to the consultation time period and 10 respondents called for a Commission of Inquiry.

PKCT consider that full and appropriate levels of community communication and consultation were conducted over a period of nearly 12 months, through various forms of consultation.

1) Transport Consultation Corridor:

During the EA development, it was considered appropriate to concentrate on the road transportation corridor as the principal consultation area due to the changes proposed of 24/7 truck movements. This area was identified through contour mapping the road haulage routes based on topography and the distance sound will travel (see Figures 6 and 7, pages 39-40) of the EA which identified 2,400 households in the consultation corridor.

The consultation corridor was targeted with a Community Newsletter delivered to the 2,400 households identified outlining the proposal in April 2008, as well as providing the newsletter on the PKCT website for any community member to access, see **Appendix F** of this report and available at website http://www.pkct.com.au/pdf/Newsletter_April_08.pdf

2) Community Survey Consultation:

The Illawarra Regional Information Service (IRIS) conducted a telephone survey of 330 households, also along the aforementioned transport consultation corridor. The survey was conducted from 8-11 April 2008 and aimed to better understand community perceptions of the planned changes to coal truck delivery hours, and is included as Appendix E of the EA.

The key findings were that 59% of respondents indicated medium levels of support for the change, the majority of these were due to decreased levels of congestion during peak times, as well as some mention of increased employment generation and economic benefits. Concerns were raised in relation to general road safety, noise pollution from heavy vehicles, air brake noise and driver behavior.

The IRIS survey was timed to be undertaken during the final week of the 6 week Trial of 24/7 road transportation (see Section 5 of EA, pages 75-84). It is noted also that 93% of residents had not noticed any change in truck movements in the recent weeks during the Trial period.

3) General Community Consultation:

General media and advertising occurred from 21 December 2007, when the project was announced by the Minister for Planning, through to recent media on the matter covered by radio, television and the Illawarra Mercury newspaper. In addition, information is readily available on the PKCT website, including the EA, Executive Summary, Community Newsletters and Annual Sustainable Development Reports. In addition, quarterly meetings are held with representatives of the community who are members of the PKCT Community Consultative Committee, who have been consulted on the project for 12 months.

PKCT consider that adequate and appropriate communication and consultation was conducted for this project. It is noted that PKCT is an existing operation, and that the overall change was not operational but limited to the hours of receipt of coal at PKCT. The targeted approach of concentrating on the transport consultation corridor, or those community members who are most

likely to potentially be affected by the proposal, is considered adequate and appropriate for this project.

4.12. HISTORICAL CONTEXT:

Several submissions called for a historical review of literature and past events in relation to PKCT's history, dating back over 18 years within PKCT and beyond that period for the Maritime Services Board. PKCT does not consider that a "contemporary planning approval" application, such as the Major Project Application under Part 3A, is the appropriate forum for this type of literature review.

However, in terms of historical regulations, Section 2 of the EA, outlines the appropriate regulatory framework and Section 8, pages 159 – 161 outlines the historical context appropriately.

In terms of the historical regulations, it is noted that the Wollongong City Council Development Consent of 1979 (D79/44) and SEPP 7 of 1982 were implemented at a time when different coal transportation routes, road infrastructure and truck fleets were in place. SEPP 7 was introduced to minimise the impacts of road haulage of coal and bulk products on residents of Wollongong at a time when there were eleven mines delivering coal via road. Only three mines deliver coal by road today. Coal and bulk products transportation routes from the three mines are markedly different today to that of over 25 years ago. Since 1982, significant changes have been made to improve road infrastructure, including jersey barriers, noise attenuation barriers and additional lanes on the coal and bulk products haulage routes to and from PKCT; trucks have been designed to be both quieter and have larger payloads (eg B-doubles), resulting in fewer trucks on the road; and truck fleet safety and environmental performance have improved markedly.

PKCT contend that the Director General's Requirements have been met in so far as the "historical overview of the terminal operations". In addition, the previous justifications for the 11 hours per day, 6 days per week (11/6) time restrictions are no longer relevant and it is unnecessary and unreasonable to retain this restriction on the growth of NSW coal exports. Furthermore, the current 11/6 policy is inequitable when compared with neighboring industrial and port operations, who all operate unrestricted on a 24/7 basis.

4.13. VOLUME OF COAL TRANSPORTATION:

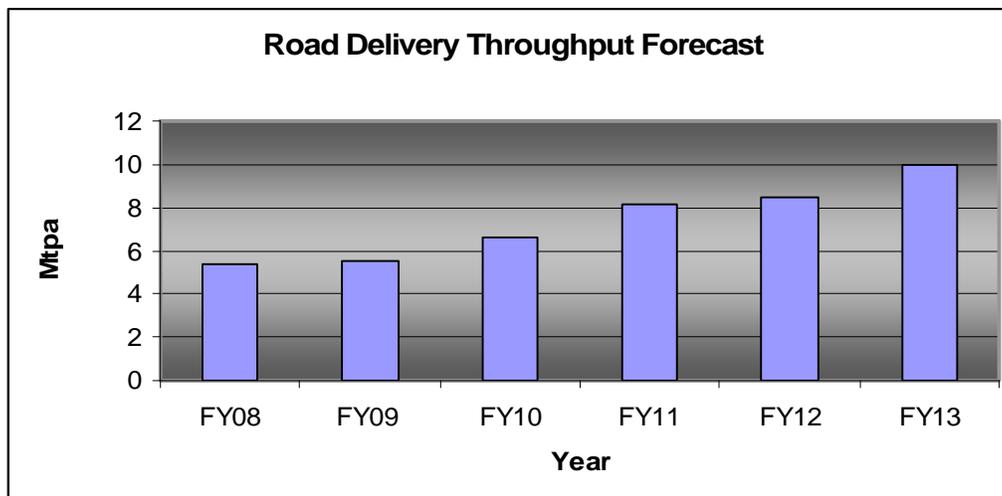
The 1979 Development Consent for PKCT had three conditions which were superseded by the introduction of SEPP 7 in 1982, namely conditions 2, 3, and 17. It is noted that condition two, which was superseded three years after its inception, stated "no coal in excess of 2 million tonnes per

annum shall be received at the road unloading facility". SEPP 7 limited the amount of coal able to be received through a different methodology, through a limitation being placed on the hours that coal can be received at PKCT of 11 hours per day, 6 days per week.

It should be noted that PKCT does not currently have any tonnage restriction on the facility, only a constraint in capacity through the hours restriction under which coal may be received by public road. Discussions with the Department of Planning, resulted in agreement to put forward a limitation on PKCT's ability to receive coal and bulk products by road transportation up to 10 million tonnes per annum.

Coal forecasts are strong, and it is anticipated that future throughput will see road receival capacity constrained unless this approval for 24/7 road transportation of coal and bulk products is received. The table below outlines the current forecasts for road received coal at PKCT, which are predicted to steadily increase and reach 10 million tonnes per annum by 2013.

Figure 4 - Current Forecast for Road Received Coal



PKCT contend that restricting the capacity of road received coal through hours of receival is inequitable with other operations in the Port Kembla port precinct, such as the General Cargo Handling Facility who are able to transport car carriers 24/7, and BlueScope Steel, who is able to receive coal 24/7. PKCT operates the facility 24/7, and believes that a 60% restriction of available time for road deliveries is no longer relevant. Therefore we have proposed an alternative method of control, which is limiting the currently unlimited volume of coal and bulk products received by road transportation to 10 million tonnes per annum (see **Figure 4**).

4.14. STOP RTA SUBMISSION:

Several emails and correspondence were received from a member of the community who states he is the “Community Representative for Stop RTA”. This “group” has one issue, and that is the inability of residents to turn right from Drummond Street across Masters Road at Coniston

PKCT is aware that Wollongong City Council has been allocated funds for the restriction of the access to Mt St Thomas via the implementation of a median on Masters Road. The funding comes from the Federal Government under the National Blackspot Program 2008/09. The RTA and Wollongong Council have made a decision to modify the road so that right hand turns from Drummond Street into Masters Road (the intersection) will no longer be possible after assessing seven different options of possible traffic management to reduce accidents at this Blackspot. There have been two fatalities and 21 recorded accidents at this intersection over the last 5 years, most involving the right turn movements.

The road modifications are scheduled to commence on 3 December 2008, after a five month period of community consultation on the project. PKCT was not consulted on this matter, however understand that community and Port Kembla Port Corporation consultation was made in relation to the road changes.

Masters Road is a key arterial road, which connects the major freight movements into and out of the Port of Port Kembla, and includes coal truck movements. According to the RTA, there are 25,000 vehicle movements along this arterial road, with 12% of these heavy vehicles. The RTA have advised that there are a relatively small number of vehicles of approximately 1,000 per day which have a current demand for turning right at the intersection onto Masters Road. The RTA further advise that they have undertaken extensive community and industry consultation in relation to the proposed road modifications.

PKCT understand that the intersection has a 12 year history of safety concerns, which is the key issue for this intersection. PKCT understands that it is for safety reasons that the road modifications are planned by the RTA. The RTA has advised PKCT that they have assessed all potential options for this intersection and that the alternative that best addresses the predominant road safety concern is to modify the intersection so that right turns from Drummond Street onto Masters Road are no longer possible.

5. SUPPORTIVE SUBMISSIONS:

Five submissions in support of the application were received, two from customers and three from other organisations/individuals. The key supporting statements made are as follows:

- Customers:
- Currently operational inefficiencies.
 - Trucks cannot turn left at Masters and Springhill Roads intersection to access PKCT, however they can turn right at the same intersection 24/7 to deliver to BlueScope Steel unrestricted.
 - Spread coal truck deliveries over the full 24/7 period rather than push increased numbers of trucks onto roads during times most frequently used by commuters in mornings and afternoons.
 - The design and operation of truck fleets has improved braking systems, lower exhaust emissions and improved safety systems, and contribute positively to noise reduction and community impact.
 - Majority of roads used are through non-residential areas.
 - We have no other option than to transport coal to PKCT by truck.
 - The proposed change to hours of transportation on Bellambi Lane will spread deliveries out over a longer time period, reduce potential conflicts during peak hour traffic periods and reduce impacts upon the local community.
 - Bellambi Lane hours proposed takes into consideration possible adverse noise impacts with respect to people living along and in close proximity to Bellambi Lane.
 - Noise and traffic impacts have been minimised by implementing initiatives through working with trucking fleet.
 - 24/7 provides opportunities for coal producers to better manage their deliveries to PKCT to meet tight shipping constraints.
- Others:
- Current restrictions are unproductive to the industry
 - Does not enhance security of industry or its employees
 - Significant changes since original restriction put in place (ie sound barriers, upgrade of road network, improved technology in heavy vehicles)
 - Less concentration of heavy vehicles with 24/7
 - Eliminates long continuous line of trucks descending Mt Ousley around d 6am
 - More efficient transport resources
 - Less congestion at peak morning and evening times due to better spread of transport



PKCT Submissions Report

PKCT is a vital economic lifeblood to Region and needs to be able to operate at maximum operational efficiency
Approval would bring PKCT's receival operations in line with other Port users and increase the viability of its overall operation
Economic benefits to the region of mining industry and flow on effects to other industries.



Appendices



Appendix A – Government Agency Responses



NSW GOVERNMENT
Department of Planning

Contact: Georgia Ivancevic
Phone: (02) 9228 6457
Fax: (02) 9228 6466
Email: georgia.ivancevic@planning.nsw.gov.au

Ms Debra Murphy
Business Improvement and External Affairs Manager
Port Kembla Coal Terminal
PO Box 823
WOLLONGONG NSW 2520

Our ref: 9041530

Debra
Dear Ms Murphy

Port Kembla Coal Terminal Project (08_0009)

The Department received a number of submissions during the recent exhibition of the environmental assessment (EA) for the above project (please refer to Attachment B). The Department also has a number of comments and questions concerning the EA (see Attachment A). In particular, the Department considers that the environmental assessment should be supplemented by further information regarding the potential noise and traffic impacts of the project.

In accordance with Section 75H(6) of the *Environmental Planning and Assessment Act*, the Director-General requires you to provide a response to all issues raised in the submissions, including the Department's comments and questions.

The Department will forward any other submissions that it receives on the project as they are received.

Should you wish to discuss this matter, please contact either myself on 9228 6308 or Georgia Ivancevic on 9228 6457. In regards to issues raised in respect of the noise assessment, you should contact Jeff Parnell on 9228 6494.

Yours sincerely

Howard Reed
Howard Reed 4.11.08
A/Manager – Mining & Extractive Industries
Major Development Assessment

Attachment A: Proposed Port Kembla Coal Terminal Project (08_0009)

Noise

- 1) The noise modelling in the EA does not seem to account for any shift from use of BlueScope's internal roads to the use of Springhill Road and Port Kembla Road. Please advise and provide updated modelling, if required.
- 2) The EA does not seem to include any road traffic noise impact assessment for residences in Swan Street, east of Corrimal Street. What are the impacts on these residences due to road traffic noise, especially due to trucks turning into Port Kembla Road off Springhill Road and returning through the same intersection?
- 3) A member of the east Swan St community has indicated to the Department that the main causes of local noise annoyance from PKCT are:
 - use of engine brakes at Springhill Road/Port Kembla Road intersection;
 - engine and drive train noise at Springhill Road/Port Kembla Road intersection;
 - noise generated from trucks crossing speed humps on Port Kembla Road at too great a speed;
 - tailgate banging;
 - unloading noise; and
 - fixed plant noise at PKCT.

Please provide proposed mitigation measures that would be implemented to ensure ongoing compliance with noise criteria and to otherwise minimise noise impacts on this community.

- 4) The EA does not seem to include cumulative noise impact assessment reflecting the recently approved Inner Harbour expansion and associated transport of passenger cars. Please provide a cumulative noise impact assessment that includes the Inner Harbour expansion.
- 5) The EA states that Figures 31 and 32 provide a visual representation of the results shown in Table 6.12. However, it appears that the figures instead reflect the results shown in Table 6.13. More importantly, there appear to be inconsistencies in the results between Table 6.13 and Figures 31 and 32 regarding noise levels for the corner of Keira and Swan Street during night time in Summer and during daytime in Spring. Please clarify these and any other inconsistencies in the Table and Figures.

Traffic

- 1) The EA is not clear in reporting how many coal trucks (both loaded and unloaded) currently enter and leave PKCT daily, nor is it clear how many trucks (both loaded and unloaded) will enter and leave PKCT daily under the various traffic scenarios modelled. Information required includes the number of trucks currently entering and leaving and the number of trucks expected to enter and leave PKCT daily via Port Kembla Road and whether trucks will continue to enter and leave PKCT via either Tom Thumb Road or Entrance Road (including estimated numbers). You are requested to supply clear figures on current and anticipated truck movements under the various traffic scenarios modelled relating to each of the available entrances and exits to PKCT.
- 2) The traffic modelling in the EA does not seem to account for any shift from use of BlueScope internal roads to the use of Port Kembla Road. Please clarify current and projected truck movements on Port Kembla Road and provide updated modelling, if required.
- 3) The EA does not seem to include cumulative traffic impact assessment due to the recently approved Inner Harbour expansion and associated transport of passenger cars. Please provide a cumulative traffic impact assessment that includes the Inner Harbour expansion and identify any traffic conflicts that would arise as a result of increased traffic volumes.

Greenhouse Gases

As identified in DECC's submission, Scope 1 and 3 greenhouse gas emissions calculations to not appear to be correct. Please provide updated calculations, and ensure that these reflect all anticipated traffic movements.

Attachment B: Submissions



Major Development Assessment
Department of Planning
GPO Box 39
SYDNEY 2001

Attention: Georgia Ivancevic

Your Ref	MP 08_0031
Our Ref	RH
File	MP-2008/9
Date	22 October 2008

Dear Madam

Major Project, Port Kembla Coal Terminal MP 08_009

I refer to the Major Project currently lodged with the Department of Planning to remove the current restrictions on road delivery to its terminal to allow coal and bulk products to be received 24 hours a day, 7 days a week at the Port Kembla Coal Terminal. The Terminal is also seeking approval for an increase in the amount of coal being processed to 10 million tonnes and the exhibition period inviting comments and conditions ending on the 17 October 2008.

In accordance with Section 75H(4) of the *Environmental Planning and Assessment Act 1979*, Council has undertaken an assessment of the Environmental Assessment (EA) prepared by Cardno Forbes Rigby, volumes 1 & 2.

The EA does not adequately address the following environmental issues:

Noise Emissions

ECRTN based criteria was used for determine the noise impact due to the proposed development. Consultants should also consider the survey from residents living along F6, Mount Ousley Road, Bellambi Lane and Northern Distributor. During night times (10.00 pm – 6.00 am) the noise due to truck movements in low gears descending/ascending with or without coal load on F6 can be heard up to 100 metres away from the road depending on the weather condition. An acoustic consultant should consider this factor in the assessment.

Traffic

The proposal of doubling tonnage per annum and increasing operational hours to 24 hours a day, 7 days a week impacts the road network as a whole. While the increase in hours will alleviate the impacts on the road network, it will not improve the current level of service (LoS) on the network.

Doubling the per annum tonnage results in an increased number of truck deliveries. These increases in deliveries are likely to result in a decreased LoS in the AM and PM peak periods for intersection capacities. Intersection assessments showing base 2008, base 2008 + proposed, base 2018 and base 2018 + proposed are requested for a detailed assessment at key intersections along the routes proposed. Further it is recommended that a network model be developed detailing each scenario above. This will show impacts as a whole within the network including re-routing of passenger vehicles to avoid congestion at key intersections and the overall economic

impacts. There will come a time when intersections and carriageways reach capacity, Council is concerned capacity may be accelerated as a result of this proposal.

While the main routes taken are classified roads, Council have concerns regarding the impacts on local streets such as re-routeing and decrease in intersection LoS. Also the impacts on residents due to increased deliveries during night and weekends. Further investigations are required to demonstrate the impacts associated with this proposal.

Dust Emission

Dust emission from coal stock pile is the significant environmental issue which will impact the local air shed. With the proposed increase of coal transfer the predicted ground-level concentration of PM10 and dust deposition (TSP ug/m3) would be very close to the limit imposed by DECC. Future increases of coal transfer may not enable compliance with the DECC limit and this issue requires further consideration.

Use of Water

PKCT currently uses natural raw water for dust suppression and truck wash and other non potable uses. It is proposed that the recycled water from Wollongong STP to be used for dust suppression purpose. The total concentration of nutrients generated from the site (runoff from recycled water, leachate and local stormwater) must be assessed before discharge into the Inner Harbour can be considered as an appropriate location for discharge.

Thank you for the opportunity to comment on the application.

Should you have any enquires, please contact Council's Acting Manager City Planning, Mr Pier Panozzo on 4227 7480.

Yours faithfully



David Farmer
General Manager
Wollongong City Council
Direct Line (02) 4227 7010

Georgia Ivancevic - Proposed Port Kembla Coal Terminal Project

From: <william.hughes@dpi.nsw.gov.au>
To: <georgia.Ivancevic@planning.nsw.gov.au>
Date: 17/09/2008 4:22 PM
Subject: Proposed Port Kembla Coal Terminal Project
CC: <garth.holmes@dpi.nsw.gov.au>

Dear Georgina

Thank you for providing the Department of Primary Industries (DPI) with copies of the Environmental Assessment (EA) for the proposal to remove the current restrictions on road delivery to Port Kembla Coal Terminal. As matters addressed in this EA fall outside DPI Mineral Resources' area of responsibility under the *Mining Act 1992* we have no substantive comments to make on the EA.

If you have any questions please let me know.

Kind Regards

William

William Hughes
Principal Adviser, Coal and Strategic Projects
NSW Department of Primary Industries
Level 6, 201 Elizabeth Street
Sydney NSW 2000
Ph: +61 2 8289 3931
Fx: +61 2 9286 3208
Mob: +61418286530
E: william.hughes@dpi.nsw.gov.au
Web: www.dpi.nsw.gov.au

This message is intended for the addressee named and may contain confidential information. If you a



MINISTRY OF TRANSPORT

Level 19, 227 Elizabeth Street Sydney 2000
GPO Box 1620 Sydney 2001
Telephone 9268 2800 Facsimile 9268 2900
Internet www.transport.nsw.gov.au
ABN 25 765 807 817

Mr David Kitto
Director
Major Development Assessment
NSW Department of Planning
23-33 Bridge Street
SYDNEY NSW 2000

Attention: Georgia Ivancevic

Dear Mr Kitto,

**MAJOR PROJECT – INCREASED ROAD RECEIVAL HOURS FOR
PORT KEMBLA COAL TERMINAL (MP 08_0009)**

I refer to the Department's letter dated 5 September 2008 seeking comment on the public exhibition of the environmental assessment for the above project. The Ministry appreciates this opportunity to provide input to the review of this application.

The Ministry has reviewed the accompanying environmental assessment prepared by Cardno Forbes Rigby (July 2008) and has identified two issues for the Department's consideration, in particular:

- The potential impact by the proposal on the viability of the port, which will hinge on the capacity of the road network to cater for all increases in freight traffic and the proposed coal truck movements; and
- The potential for a deterioration in rail mode share if road receipt hours were to be extended. This could be addressed by the establishment of a condition of consent that the existing mode split must be maintained, consistent with the rail receipt capacity of the loader.

If you require clarification on this matter, please contact Jose Sevilla Jr on 9268 2833 or email jose.sevilla@transport.nsw.gov.au.

Yours sincerely,

Juliet Grant
A/Director, Transport Planning

31.10.08

TP08/04425

Our reference : FIL08/332:DOC08/42890:DP
Contact : Dennis Pascall (02) 4224 4100

Acting Manager
Mining & Extractive Industries
Major Development Assessment
Department of Planning
(Attention: Howard Reed)
GPO Box 39
SYDNEY NSW 2001

Dear Sir

**EXHIBITION OF ENVIRONMENTAL ASSESSMENT
PROPOSED PORT KEMBLA COAL TERMINAL PROJECT, (MP 08 0009)**

We refer to the above Project Application, Environmental Assessment, and accompanying information provided for the proposed Port Kembla Coal Terminal Project (PKCT) received by the Department of Environment and Climate Change (DECC) on 5 September 2008.

This project involves seeking approval for the removal of an existing time constraint (11 hours per day, 6 days per week) placed on delivery of coal to the PKCT terminal from public roads. If approval is granted, coal and other bulk products could be delivered by public roads at any time up to a maximum of 10 million tonnes per annum (mtpa). The current throughput of the PKCT is 17 mtpa and the proposal relates to haulage by public roads up to 10 mtpa.

DECC licenses the PKCT under the *Protection of the Environment Operations Act 1997*, however DECC does not have a regulatory role in relation to matters such as off site noise and air impacts relating to the haulage of materials.

On the basis of a review of the information provided, DECC has identified several matters that require clarification, justification and/or additional commitments. These are outlined in Attachment 1 to assist Department of Planning (DOP) in their assessment of the project application. They relate to:

- Noise Emitted from PKCT
- Road Haulage Noise Assessment
- Transport Planning; and
- Climate Change and Energy Use.

We would be happy to meet with DoP and the proponent at a convenient time if necessary to discuss the above.

The Department of Environment and Conservation NSW is now known as
the Department of Environment and Climate Change NSW

PO Box 513, Wollongong NSW 2520
Level 3, 84 Crown Street, Wollongong NSW
Tel: (02) 4224 4100 Fax: (02) 4224 4110
ABN 30 841 387 271
www.environment.nsw.gov.au

Department of **Environment and Conservation** NSW

If you have any further queries, please contact Mr Dennis Pascall on (02) 4224 4100.

Yours sincerely



20/10/08

PETER BLOEM
Acting Manager Illawarra
Environment Protection and Regulation

Att:

(N:\DPI\2008\PART3A_PKCT1.DOC)

ATTACHMENT 1

1. Noise Emitted From PKCT

- a) Background Noise Assessment: 163 Kembla Street appears to exhibit very little diurnal change in background noise, however 392 Kelra Street exhibits the characteristic diurnal drop off in noise level during the evening/night period. This difference is a little unusual given that the locations are relatively close. This could suggest that 163 is being controlled by a relatively close noise source and therefore may not be indicative of receivers in the area. An industrial site is located immediately to the east of 163 Kembla Street. The reason for the significant difference between the monitoring locations should be clarified. Further, the Noise Impact Assessment (NIA) does not clearly demonstrate whether noise from existing Port Kembla Coal Terminal operations was removed from the background data. Therefore the rating background noise levels (RBLs) and noise assessment criteria presented in the EA require further justification.
- b) Noise Impact Assessment: The predicted noise levels are reported in Table 5-2 in the NIA. As indicated above, the noise assessment criteria requires further justification before an informed comment can be made about noise emissions from the premises.
- c) Also please note, we are aware that the Department of Premiers and Cabinet in an email dated 23 January 2008 to Department of Planning recommended that the Environmental Assessment (EA) included a noise assessment of the Horizon Seaside Links Aged Care Complex (purportedly under construction) at the southern end of the Wollongong Golf Course. This assessment does not appear to have been undertaken.

2. Road Haulage Noise Assessment

Please note, DECC noise review is based on the traffic data presented in the EA.

- a) Increased traffic noise levels on haulage routes other than Bellambi Lane are predicted to result in minor LAeq, period noise level increases. It is unlikely that residences will be able to perceive a minor increase in LAeq, period traffic levels. It is likely, however, that they will notice an increase in impacts if maximum noise level events are increased, that is, a greater number of maximum noise levels from events such as compression engine braking, ineffective muffling, empty wagon booming, loose tail gates, etc. More information needs to be provided on how these events will be effectively and proactively managed and mitigated.
- b) The opening of the Northern Distributor in 2009 will cause a significant reduction in traffic on Bellambi Lane. Table 6-2 in the NIA presents road traffic noise levels for 2009 (4mtpa scenario) and 2013 (10mtpa scenario) for Bellambi Lane and Keerong Avenue. As a consequence of considering the reduced traffic arising from the opening of the Northern Distributor, the reported daytime levels show a reduction in traffic noise levels when compared to 2008 levels. However, the night time period shows a marginal increase in 2009 (1.8dB(A)) and a significant increase in 2013 (7dB(A)). To mitigate against the significant night time noise level increase, the EA recommends that proposed movements from (GNRE No 1) be limited to 7am to 10pm weekdays and 7am to 6pm weekends. While this is one option DoP may wish to consider other measures to ameliorate any noise impacts.
- c) The assessment approach presented in the EA considers the benefits to Bellambi Lane as a result of the opening of the Northern Distributor, and significantly reduced traffic numbers on Bellambi Lane, concurrently with the impacts associated with increased truck movements from GNRE No 1. While the DECC acknowledges that no night time movements are proposed for Bellambi Lane, the proposal does represent an increase in daytime coal haulage hours and volume, and further that noise impacts on Bellambi Lane are predicted to be acute (i.e. greater than 65dB(A)). In this regard, DECC suggests that DoP seek the following information from the proponent on the following two scenarios:

- Scenario 1: vehicle noise levels in Bellambi Lane after the opening of the Northern Distributor and without any changes to coal haulage from GNRE No. 1, effectively the status quo.
- Scenario 2: expected changes in noise levels in Bellambi Lane after the opening of the Northern Distributor (scenario 1) with the proposed changes in coal haulage considered.

These two scenarios will enable the net noise difference as a result of this proposal to be determined, and may help inform the need for any appropriate noise mitigation measures in Bellambi Lane.

3. Transport Planning

In our EARS, we recommended to DoP that the EA document a model split between materials transported by truck and rail. We also suggested DoP support a similar approach adopted for the Port Kembla Cargo Handling Facility approval (MP 05-0073) which required the proponent to develop and implement all reasonable options, over time, to maximize the use of rail to transport coal to and from the coal loader. The EA including the Draft SOCs was unclear on how these matters will be addressed.

4. Climate Change and Energy Use

Clarification should be sought from the proponent in relation to the assumptions and emissions factors used to calculate greenhouse gas emissions. For example, correct calculations would reduce the scope 1 emissions significantly while scope 2 emissions calculations appear correct.

The Commonwealth's proposed Carbon Pollution Reduction Scheme (CPRS) is expected to cover the project's scope 1 and scope 2 emissions from 2010 (possibly with some delay before the full price signal for diesel fuel is passed through to end-users). Scope 2 emissions are currently covered by NSW's Greenhouse Gas Reduction Scheme (GGAS). The site is also currently covered by a NSW Energy Savings Action Plan.

DECC considers that there is no need for extra mitigation conditions beyond those already to be applied to the site and the project.

Scope 3 emissions and possible mitigating measures have not been assessed by DECC. There are a number of gross errors in the calculations, which will lead to an order of magnitude change to the scope 3 emissions calculated. The proponent has not provided an analysis of mitigation options.

The proponent has been informed of the calculation errors, and may provide updated figures to the DoP in the future, however, DoP has advised that it will consider the relevancy of this project's scope 3 emissions.

DECC considers that no additional conditions need to be placed on this project based on corrected figures for scope 1 and scope 2 greenhouse gas emissions.

Our Ref: 497DA422 (08/1258)
Contact: Chris Millet (42212570)
Your Ref: MP08_0009

Major Development Assessment
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Attention: Georgia Ivancevic

**WOLLONGONG CITY COUNCIL - MP08_0009 - PORT KEMBLA ROAD, PORT
KEMBLA COAL TERMINAL INCREASED ROAD RECEIVAL OUR PROJECT,
PART A, PORT KEMBLA**

Dear Sir

I refer to your letter received on 15 September 2008 regarding the subject major project forwarded to the Roads and Traffic Authority (RTA) for consideration.

The RTA has reviewed the information provided. Based on this review, the RTA offers the following comments for your consideration:

Dendrobium Coal Preparation Plant

Clarification is sought from the applicant with regard to existing and future truck movements on public roads from Dendrobium Coal Preparation Plant (DCPP). The RTA understands that all existing coal deliveries are via rail and this appears consistent with the comments in Section 2.2 of the traffic study. However page 125 of the traffic study suggests that currently there are approximately 91 trucks per day delivering coal to the Port Kembla Coal Terminal (PKCT).

Regardless of the above, the RTA has concerns with the road safety and traffic efficiency impacts associated with trucks movements from DCPP (an average of 167 trucks per day) on both the local and State road network. In particular, consideration should be given to impacts along Cordeaux Road.

Traffic Generation

Table 8.1 of the traffic study suggests that the increase from 4 mtpa to 10 mtpa will generate approximately 800 additional movements on Springhill Road. The RTA seeks clarification on the following issues:

- Calculations used to estimate additional movements, including typical capacity of coal for a typical truck.
- Confirmation as to whether the volumes in table 8.1 are one way or two way movements.

Cumulative Impact

The RTA has concerns that the traffic study does not give consideration to other development within the Port precinct. For example, increased traffic volumes associated with car imports which the RTA understands may generate in the order of 1000 truck movements per week or the Soy Bean Processing and Biodiesel Project which is likely to generate approximately 30 truck movements per day (and more significantly, approximately 140 employee movements in a typical peak hour). Whilst the RTA is currently progressing a transport network model for the Port precinct that will significantly improve the

ability to assess the cumulative impacts of development on the State road network, the RTA strongly recommends that the subject application be revised to consider the cumulative impact of all development within the Port precinct on a strategic level to ascertain the cumulative impact to the State road network.

Midblock Capacity

The RTA is particularly concerned with the route capacity of both Springhill Road and Masters Road in light of the cumulative impacts of development within the Port precinct given that these two routes are integral to all trips to the Port.

The traffic study should be revised to include an assessment of the above with respect to midblock capacity and coordination of signals.

Intersection Modelling

Section 8.1.5 of the traffic study refers to intersection analysis being undertaken for three junctions (Masters Road and Springhill Road; Springhill Road and Port Kembla Road, Springhill Road and Tom Thumb Road) and concludes that all intersections were shown to operate satisfactorily however the details of this analysis have not been provided. The RTA assumes that this modelling has considered both AM and PM peak and was undertaken using SIDRA. This should be clarified.

In addition to the above, the RTA considers that the modelling should consider the following junctions at a minimum:

- Masters Road and Springhill Road; Springhill Road and Port Kembla Road, Springhill Road and Tom Thumb Road.
- ~~Key intersections from Gujarat NRE's No 1 mine, i.e. Princes Highway and Bellambi Lane, Bellambi Lane and the Northern Distributor.~~
- Key intersections from Dendrobium Coal Preparation Plant, in particular, the intersection of the Princes Highway and Cordeaux Road.

Further to the above, and more importantly, there does not appear to have been intersection analysis undertaken to assess the impact of the development, i.e. the 10 mtpa future scenario. Given this, the RTA considers the additional modelling should be undertaken for all above listed junctions using SIDRA to consider AM and PM peaks for the future 10mtpa scenario and a scenario that gives consideration to the potential cumulative impact of development with the Port precinct.

Electronic copies of all the modelling should be provided to the RTA for verification.

Infrastructure

Where appropriate, the applicant should identify suitable infrastructure required to ameliorate any traffic impacts and safety impacts associated with the subject major project application. For any infrastructure necessitated by the proposal, consideration should be given to the timing of the infrastructure and appropriate planning mechanism to ensure the infrastructure is provided, for example Voluntary Planning Agreements.

In addition to the above, to potentially reduce the number of heavy vehicles delivering coal to PKTC from Appin Colliery and West Cliff Colliery, the RTA recommends that consideration be given to strengthening the bridges on Springhill Road over the rail line. This would allow increased loads noting that the remainder of the route is designed to allow Higher Mass Limits vehicles.

Traffic Noise

The RTA has a corporate commitment, stated through the RTA's *Environmental Noise Management Manual* (2001) to manage noise on the road network, which includes guiding principles such as:

- To support the objectives of the *Environmental Criteria for Road Traffic Noise* and work in partnership with the NSW Environmental Protection Agency and other stakeholders;
- To continue to advocate that road traffic noise should be adequately considered in the design and construction of ... traffic generating developments; and

- To continue to advocate the introduction of quieter vehicle standards and will work with the transport industry to achieve voluntary reductions in the use of noisy brakes in urban areas.

From an environmental perspective the RTA notes that impacts to land users adjacent to the road network from traffic, including heavy vehicle traffic, can be negative. The RTA notes that during the proponents' community consultation, road traffic noise (compression brakes, general noise, sleep disturbance), ranked amongst residents' concerns. In the RTA's experience, such concerns are common and regularly expressed by residents adjacent to the haulage routes.

Many of the routes identified by the proposed activity are currently affected by road traffic noise, and in particular by heavy vehicle road traffic noise. The proposed activity acknowledges that there will be some impacts and increases in this noise level as a result of the proposal, when combined with general growth in the road traffic volumes. The recommendation to avoid night-time haulage on Bellambi Lane (at page 120) is agreed with. The RTA would like to ensure that the commitment provided in the draft statement of commitments related to use hours for Bellambi Lane ("*Coal truck deliveries along Bellambi Lane to only be undertaken between 7am – 10pm Monday to Friday. And 8am to 6pm Saturday and Sunday*") be maintained. Consideration to conditioning the use of Bellambi Lane by empty haul vehicles outside these hours should also be given, as the RTA is aware that empty vehicles can provide a noise annoyance to local residents.

The draft Statement of Commitments makes no commitment to noise management from coal transport at either a specific or strategic level. Noise management only at the PKCT site is considered. A commitment or condition relating to the management of road traffic noise should be provided. The RTA recommends that a Noise Management Plan be required to manage vehicle noise, and include factors such as:

- Fleet choice – The RTA strongly recommends that consideration be given to mandating the utilisation of vehicles that do not use compression braking, particularly when considering the purchase of new vehicles or negotiating haulage contracts. Notes and links to alternative braking systems are attached;
- Regular fleet maintenance related to noise emissions. Notes and links on appropriate maintenance and compliances practices are attached;
- On-truck signage and telephone contact numbers for the public

Community Feedback

The RTA notes that it has held a meeting with representatives of the Wollongong Transport Coalition advocacy group, who identified noise impacts and safety issues associated with increased heavy vehicles as issues of concern in relation to the proposed activity.

Conclusion

The RTA will continue its detailed assessment once the aforementioned information is provided to its satisfaction. Notwithstanding this, the RTA would be happy to meet with the Department of Planning or the applicant to discuss the matter further and in this regard please contact Chris Millet on 4221 2570.

Yours faithfully

Trish McClure
Manager, Road Safety and Traffic Management
Southern Operations & Engineering Services

Noise Reference Notes:

Trucks operating on the route that are fitted with an auxiliary braking system using engine compression braking should meet the current national standard noise limit of 3.0 RMS specified in the National Transport Council's (NTC) *Proposed Model Laws in relation to Engine Brake Noise Limits*. Refer to the following website:

<http://www.ntc.gov.au/ViewPage.aspx?page=A02215504300960020>

Test procedures to measure compliance are contained in the NTC's *National In-Service Test Procedures for Engine Brake Noise from Heavy Vehicles, August 2007*. Refer to the following website:

<http://www.ntc.gov.au/ViewPage.aspx?page=A02215504300960020>

New noise measuring equipment that meets the NTC's test procedure is now available (eg: Acoustic Research Laboratories manufactures this type of equipment).

Regardless of the type of auxiliary braking system trucks must be tested to meet the relevant stationary noise level limits contained on the *Protection of the Environment Operations (Noise Control) Regulation 2008*. Refer to the following website:

[http://www.legislation.nsw.gov.au/viewtop/inforce/subordleg+40+2008+pt.1-sec.1+0+N \)](http://www.legislation.nsw.gov.au/viewtop/inforce/subordleg+40+2008+pt.1-sec.1+0+N)

Trucks fitted with quality exhaust mufflers may be expected to meet the requirements listed above. For example the Donaldson *Silent partner* type muffler is known to be of a suitable type. Refer to the following website:

http://www.odms.net.au/files/organise/donaldsonfilters/data_library/Silent%20Partner%20Brochure%20-%20F111058.pdf

Note: There are likely to be equivalent mufflers available from other manufacturers.



Appendix B – Revised GHG Work



6.8 CLIMATE CHANGE & ENERGY USE

Director General Requirement

Greenhouse Gas & Energy Efficiency – including qualified assessment of GHG likely to be generated by the proposal, and a description of the measures that would be implemented to ensure that the terminal is energy efficient

6.8.1 Existing Conditions

Climate Change

Existing onsite operations and deliveries via road and rail to PKCT have been assessed in relation to GHG emissions. These include:

- PKCT existing onsite operations (electricity and diesel use, waste generation)
- Coal receivals by road and rail
- Storage of coal on PKCT site
- Loading of coal onto ships for export (international and domestic)

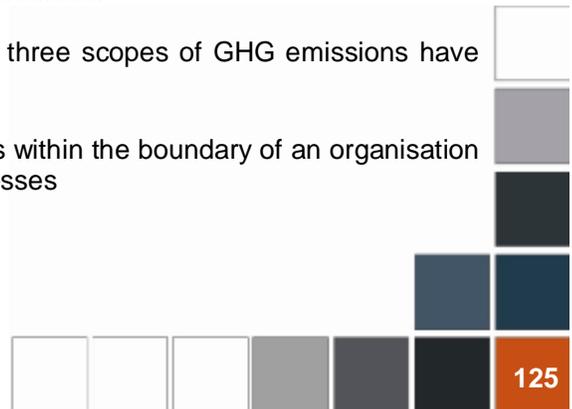
Prior to reviewing GHG emissions from existing PKCT operations, it is relevant to review the three scopes of classification against which emissions are assessed.

The GHG calculations in this report have been prepared using methodology outlined in the *National Greenhouse Accounts (NGA) Factors (2008)* and using emissions factors tabulated in the document and best industry practice. This document, produced by DECC, replaces the *AGO Factors & Methods Workbook (2006)*. All methodologies are underpinned by frameworks outlined in documents produced by the United Nations Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC) with due regard to the Kyoto Protocol. Policies devised by these bodies are accepted as the internationally spanning frameworks designed for intergovernmental efforts to tackle the challenges posed by climate change.

Sources of GHG data on national and global trends used for this study are readily available, and are either peer-reviewed journal articles from CSIRO, or publications that have been prepared by NSW and Federal Government departments, and / or acknowledged by the these government agencies and the IPCC as credible sources.

Consistent with the protocols of IPCC and UNFCCC three scopes of GHG emissions have been defined for this project. These scopes are:

- **Scope 1** – includes direct emissions from sources within the boundary of an organisation such as fuel combustion and manufacturing processes





- **Scope 2** – includes indirect emissions from the consumption of purchased electricity, steam or heat produced by another organisation. Scope 2 emissions result from the combustion of fuel to generate electricity, steam, or heat and do not include emissions associated with the production of fuel. Scopes 1 and 2 are carefully defined to ensure that two or more organisations do not report the same emissions in the same scope.
- **Scope 3** – includes all other indirect emissions that are a consequence of an organisation's activities but are not from sources owned or controlled by the organisation. Examples of Scope 3 emissions include indirect emissions associated with the extraction/production of fuels used onsite, fuel extraction and line loss associated with the consumed electricity, transport of product outside the organisation, and emissions associated with end use of product.

For this GHG assessment all emissions associated with onsite PKCT activities and the delivery of coal are considered Scope 1.

Scope 2 emissions defined in this assessment include direct point source combustion generation emissions associated with the generation of purchased electricity used on the PKCT site.

Scope 3 emissions defined in this assessment include:

- Indirect extraction emissions associated with the generation of purchased electricity used on site (these emissions occur during the extraction of coal/fuels used for generation of electricity)
- Emissions from mining activities to provide diesel fuel used by PKCT onsite vehicles and coal trucks delivering to PKCT
- Full fuel cycle emissions associated with transportation of product coal offshore to customers in China, Japan, Africa, and Europe
- Combustion emissions associated with end use of clean coal
- Waste generated onsite and their transport to tips, landfill and recycling facilities.

The *Greenhouse Gas Protocol 2004* (WBCSD & WRI) considers reporting of Scope 3 emissions to be optional in the GHG inventory calculation of a project, as they are produced by third party organisations and form part of the GHG inventories of those third parties. Also, reporting Scope 3 emissions can result in double-counting of emissions and can potentially make comparisons between organisations and projects problematic potentially resulting in yield emission values higher than the true value.

Notwithstanding the above, Scope 3 emissions are included in this study from as many sources as practical and from sources where data were available.

The various Scope 1, Scope 2, and Scope 3 GHG emissions associated with the PKCT operations and included in the GHG assessment are summarised in **Table 6.23**.

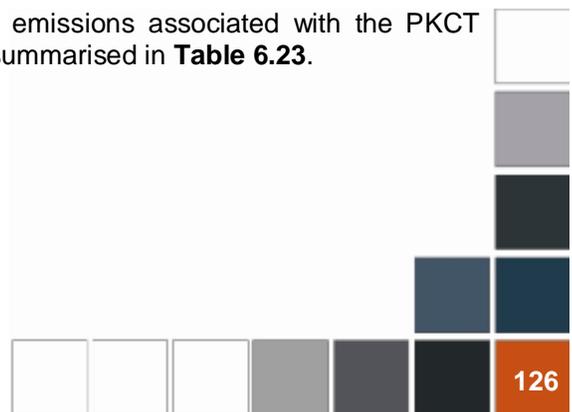




Table 6.23 – Scope 1, 2, & 3 Emissions from PKCT Site

Scope 1 Emissions	Scope 2 Emissions	Scope 3 Emissions
<ul style="list-style-type: none"> • Diesel consumption by loaders and trucks onsite • 	<ul style="list-style-type: none"> • Consumption of purchased electricity. 	<ul style="list-style-type: none"> • Diesel extraction (indirect extraction). • Fuel consumption during transportation of coal to customers offshore • Diesel consumption during transportation of coal from mines to PKCT site. • Consumption of purchased electricity at PKCT site (fuel extraction and line loss). • Coal end-use combustion • Fugitive emissions from waste generated and transported to land-fills • Emissions associated with staff travel

The methodology and calculations regarding the greenhouse gas emissions can be found in **Appendix L**.

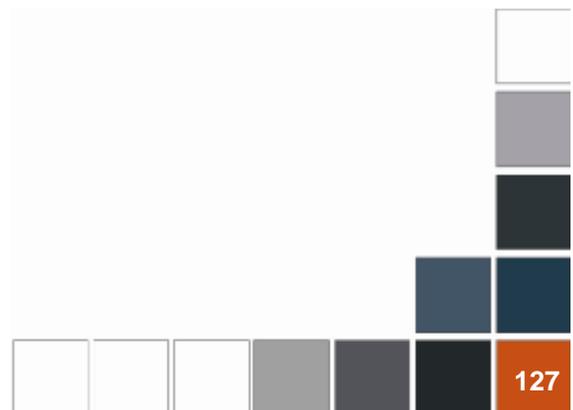
The results of the GHG assessment of existing PKCT activities and 11/6 road deliveries are summarised in **Table 6.24** with **Table 2** in **Appendix L** providing supporting information on emissions arising due to shipping of coal to overseas countries and to South Australia.

Table 6.24 - Summary of Greenhouse Gas Emissions for the Current 11/6 Operations

Scope 1 emissions total / t CO ₂ -e per year	340
Scope 2 emissions total / t CO ₂ -e per year	18,690
Scope 3 emissions total / Mt CO ₂ -e per year	26.73
TOTAL Scope 1 - 3 Emissions / Mt CO₂-e per year	26.75
TOTAL Scope1 + Scope 2 Emissions / t CO₂-e per year	19,030
GHG Emissions in t CO₂-e per year per tonne of coal	0.00163

Table 6.25 – Comparison of Existing PKCT GHG Emissions

	NSW (2007/08)	Australia (2007/08)	World (2010)
GHG Emission	158.2 Mt CO ₂ -e	560 Mt CO ₂ -e	41,825 Mt CO ₂ -e
% From Current PKCT Operations	0.012%	0.003%	~5x10 ⁻⁵ %



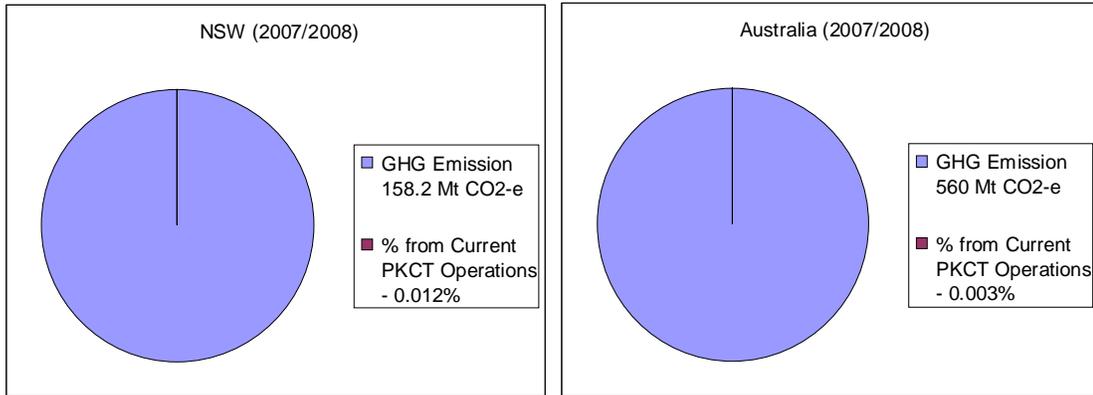


Figure 34 - Comparison of Existing PKCT GHG Emissions

There is not a set criterion to define if increases in GHG emissions are acceptable. Current best practice is to compare emissions with local relevant levels and assess if the emissions from a specific development form a significant amount.

This calculation has been completed and is shown in **Table 6.25** and **Figure 34** above. GHG emissions from existing PKCT operations have been shown to be of very low levels and constitute a negligible percentage of NSW, Australian and world emissions.

In calculating the relative values shown in **Table 6.25** Scope 3 emissions have been disregarded and Scope 1 + Scope 2 total emissions have been used because these are the true indicators of GHG emissions from existing PKCT operations, which equal 19,030 / t CO₂-e per year.

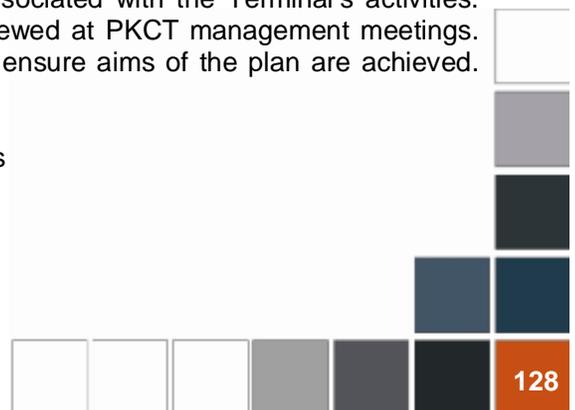
Electricity Usage

PKCT electricity usage is a major aspect of existing operations and an important consideration in GHG emissions calculations. All equipment, with the exception of front-end loaders, is powered by electricity purchased from the national grid. In the 2006 – 2007 financial year, PKCT consumed 21,000 MWh of electricity.

As PKCT operates onsite 24/7 electricity use is constant. PKCT have an Energy Saving Action Plan (ESAP) that seeks to minimise usage where possible. Testing of electricity usage based on continued operation of machinery (such as conveyor belts) and continued stop and restart have shown there is minimal impact on usage. The PKCT Energy Saving Action Plan (ESAP) is included in **Appendix M**.

The ESAP demonstrates PKCT's commitment to a reduction in electricity usage not only for financial gain but also to reduce GHG emissions associated with the Terminal's activities. The ESAP commenced in 2005 and is regularly reviewed at PKCT management meetings. Actions, as detailed in the ESAP, are undertaken to ensure aims of the plan are achieved. Implemented actions include:

- Replacement of inefficient office air condition units
- Removal of redundant lighting and heating.





Cost effective opportunities for electricity use reduction, which are under consideration, include:

- Optimisations of road delivery conveyors and stackers
- Improved power factor correction
- Reduced lighting in workshops.

Further detail on these measures and other possible measures are in **Appendix M**.

1.1.1. Impact Assessment

Increasing coal deliveries to 10mtpa will increase GHG emissions. This is from greater amounts of diesel fuel consumed due to increased coal truck journeys. Other increases in emissions will be from a greater coal throughput and expected increases in electricity use with increased frequency of onsite plant use.

Table 6.26 provides a summary of calculated emissions that will arise from the proposed increase in road deliveries. **Table 4** in **Appendix L** provides emissions from shipping of the proposed increase in coal throughput at the PKCT site.

Table 6.26 - Summary of Greenhouse Gas Emissions for the Proposed 24/7 Operations

Scope 1 emissions total / t CO ₂ -e per year	408
Scope 2 emissions total / t CO ₂ -e per year	22,428
Scope 3 emissions total / Mt CO ₂ -e per year	37.69
TOTAL Scope 1 - 3 Emissions / Mt CO₂-e per year	37.71
TOTAL Scope1 + Scope 2 Emissions / t CO₂-e per year	22,836
GHG Emissions in t CO₂-e per year per tonne of coal	0.00138

The total of all emissions (Scope 1, Scope 2 Scope 3) yields a value of 26.75 Mt CO₂-e per year for the current PKCT operations. The emissions increase to 37.71 Mt CO₂-e per year for the proposed 24/7 road deliveries up to 10mtpa. In both cases Scope 3 emissions make up 99.9% of the total emissions. Thus, emissions are dominated by Scope 3 indirect upstream and downstream emissions.

This GHG assessment has calculated the percentage increase in absolute GHG emissions to be 40% in relation to the proposed increased road deliveries. When Scope 3 emissions are disregarded the percentage increase is only 20%. As the PKCT GHG emissions are so low in relation to NSW and Australia GHG emissions this slight increase can be considered insignificant.

In terms of GHG emissions per tonne of coal throughput the current operations yield a value of 0.0016 t CO₂-e per year per tonne of coal (when Scope 3 emissions are disregarded) while in the case of proposed throughput the value actually decreases to 0.0014 t CO₂-e per year per tonne of coal. Exclusion of Scope 3 emissions is consistent with the international



frameworks on GHG emissions developed by IPCC and UNFCCC, and hence the first set of data is more realistic than the latter set.

An important conclusion inferred from these observations is that omitting Scope 3 emissions in calculations reflects the true change in GHG emissions due to the proposed increased coal deliveries by road.

Expressing emissions (Scope 1 + Scope 2) as per tonne of coal handled is a better indicator of the extent of the change. This identifies that there is a decrease of ~13% in GHG emissions due to the implementation of the 24/7 road deliveries up to 10mtpa.

A plausible explanation for the calculated reduction in GHG emissions per tonne of coal is an increase in efficient use of PKCT plant as greater amounts of coal will reduce occasions when equipment is idle or operational without handling throughput (i.e. conveyors running without carrying coal). The current 24/7 onsite operations will continue with no increase in manpower to handle the proposed approximate 40% increased coal throughput. This can be referred to as a benefit from an economy of scale.

Only a 20% increase is expected in electricity and diesel consumption to accommodate the increased coal throughput. The result is that a 40% increase in throughput can be handled by PKCT without a substantial outlay of resources or a large increase in GHG emissions.

Table 6.27 – Comparison of Future PKCT GHG Emissions

	NSW (2007/08)	Australia (2007/08)	World (2010)
GHG Emission	158.2 Mt CO ₂ -e	560 Mt CO ₂ -e	41,825 Mt CO ₂ -e
% From Current PKCT Operations	0.012 %	0.003 %	~5x10 ⁻⁵ %
% From Proposed PKCT Operations	0.015 %	0.004 %	~5x10 ⁻⁵ %

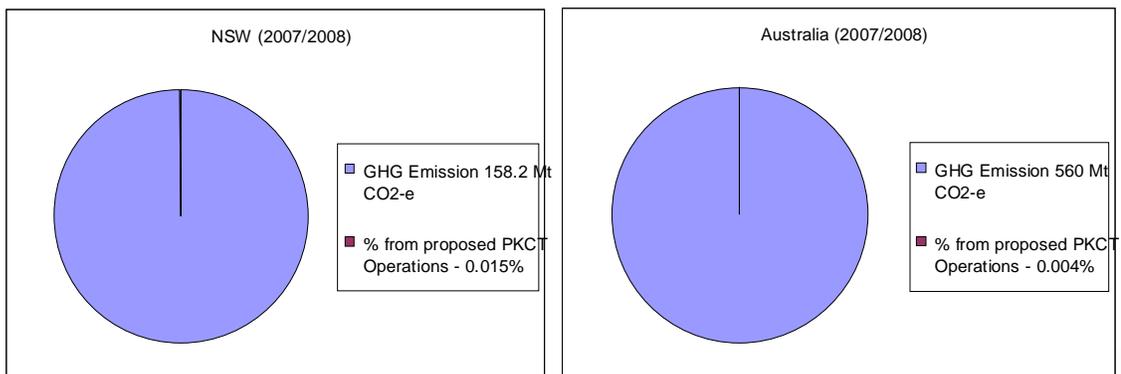
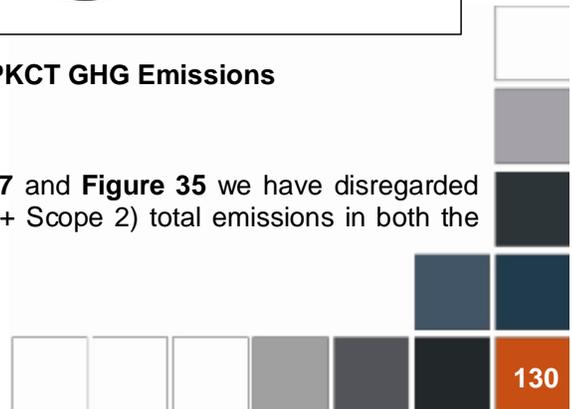


Figure 35 - Comparison of Future PKCT GHG Emissions

In calculating the relative values shown in **Table 6.27** and **Figure 35** we have disregarded Scope 3 emissions, and rather have used (Scope 1 + Scope 2) total emissions in both the





current and proposed scenario. These are the true indicators of GHG emissions from the project.

Similarly, to GHG emissions from existing PKCT operations, calculated increases in GHG emissions from the proposed increased road deliveries will only form small amounts of State, Country and World emissions.

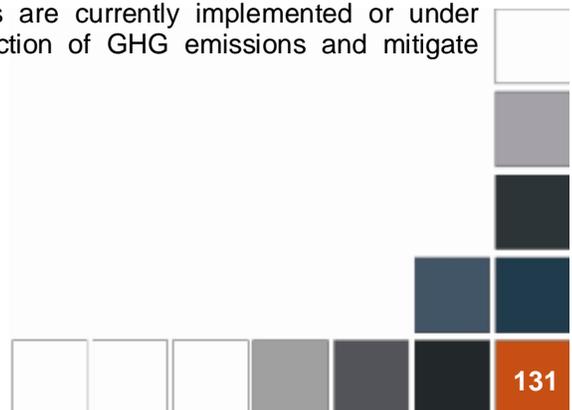
In terms of existing PKCT operations impact on global temperature rise it is necessary to compare GHG emissions against IPCC estimates. The IPCC has estimated that doubling of CO₂-e concentration in atmosphere would lead to a 2.5 °C rise in global average temperature. With the current global carbon dioxide concentration of 2,750 Gt and a total project contribution of 26.75 Mt (current operations) and 37.71 Mt (proposed operations) the PKCT existing operations only forms a negligible increase of $\sim 2 - 3 \times 10^{-5} \text{ } ^\circ\text{C}$.

6.8.2 Mitigation Measures

GHG emissions from PKCT existing operations and the proposed increase in road deliveries of coal have a very minor impact for the following reasons:

- The assessment has shown that approximately 99.9% of the GHG emissions generated as a consequence of the project (in both the current and proposed operations) will be those associated with the downstream combustion of coal elsewhere in the world
- The sum of Scope 1 and Scope 2 emissions increase by only 20% from the current operation value to the proposed operation value.
- However, in terms of GHG emissions per tonne of coal throughput the current operations yield a value of 0.0016 t CO₂-e per year per tonne of coal, while in the case of proposed throughput the value actually decreases to 0.0014 t CO₂-e per year per tonne of coal due to economy of scale benefits
- The similarity in these two values are attributable to the more efficient use of the PKCT resources in the proposed operations comprising 40% increased coal output GHG emissions from the proposed operations makes up 0.015% of the NSW GHG emissions, 0.004% of the national emissions and $\sim 5 \times 10^{-5} \%$ of the global total emissions
- In itself the project will have an insignificant impact on the climate change and thus poses negligible threat to society and the environment
- The proposed 24/7 road deliveries will not result in a significant increase in electricity consumed by PKCT.

Even though the GHG emissions from PKCT operations are small in comparison to state and national emissions PKCT is progressing the methods for reduced electricity use identified in **Section 6.8.1**. PKCT continues to review or implement these whilst considering alternative options. The following electricity usage reductions are currently implemented or under implementation by PKCT. These result in a reduction of GHG emissions and mitigate impacts on climate change from PKCT.





Optimise Road Delivery Conveyors & Stackers

This proposes to automate the use of conveyors between different road receive conveyors to ensure operation only when the conveyor is carrying coal and that the full capacity of the conveyor is used so the coal is moved in a reduced period of time.

PKCT identified operational risks associated with this project and reviewed the method of implementation to ensure energy saving could still be achieved. Operator discretion is used to shut down the system to save on power and mechanical wear. The control room operator monitors delivery rates of trucks, balances that with programmed rail delivery and decides if the system can be shut down and for how long. PKCT will conduct further employee education to refine the process to gain greater energy efficiency.

Compressed Air

The PKCT ESAP identifies that the two air compressors are old and seem to operate continuously despite the intermittent requirement for compressed air. This equipment is therefore using electricity when it is not required.

PKCT have replaced both compressors and checked pipe work for air leakages. This has resulted in a reduction in electricity usage and hence GHG emissions, at the Terminal.

Improved Power Factor Correction

PKCT had old power factor correction controllers that did not operate to reduce electricity usage to the greatest extent. PKCT engaged a consultant to conduct a thorough review of the old controllers and provide advice on opportunities to reduce electricity usage. Following this advice, PKCT have replaced old controllers to enable the plant to operate the same number of hours but using a reduced amount of electricity.

Optimise Rail Delivery Conveyors & Stackers

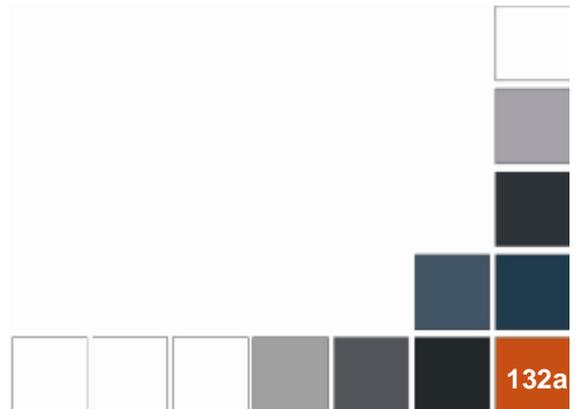
PKCT have implemented automation to ensure that the rail receive conveyors are not operational when coal does not require transportation. It was identified that these conveyors may be in operation without carrying coal, for example, if a train is delayed. The reduction of operational hours of conveyor belts reduces electricity use and GHG emissions.

Further information on all of these actions is available in the PKCT ESAP in **Appendix M**. PKCT calculate that based on the measures taken, due to the implementation of the ESAP, the Terminal has achieved a reduction of 233 t CO₂-e per year. Not only does this reduce impacts on climate change from PKCT but also, the Terminal's emissions become a smaller percent of state and national GHG emissions.

GHG emissions from existing PKCT operations have been shown to be of very low levels and constitute a negligible percentage of NSW, Australian and world emissions. The calculations undertaken in this assessment identify that the proposed increased throughput and road receive hours do not significantly increase the percentage of GHG emissions in comparison to State, national and world levels. Additionally the level of GHG emissions per tonne of coal throughput at PKCT has been calculated as reducing due to improved PKCT efficiency based on the operations proposed in this Environmental Assessment.



As the levels of GHG emissions from PKCT's existing and proposed operations are so low, there is minimal scope for reduction and no method for mitigation. However, PKCT will continue to apply their Energy Saving Action Plan as part of their continued environmental management.



GREEN HOUSE GAS EMISSIONS FROM PORT KEMBLA COAL TERMINAL SITE

1 METHODOLOGY

All methodology used in this assessment for the estimation of GHG emissions has been in accord with the NGA Factors document in the first instance and/or in accord with sound scientific and engineering principles where NGA Factors has proved inadequate for the required calculations. The specific methodologies used in each calculation are given in the following sections.

There are several recognised greenhouse gases and the contribution of greenhouse gas emissions to global warming varies for each different greenhouse gas. The more common ones are carbon dioxide, methane, sulphur hexafluoride, and halogenated refrigerants. The Intergovernmental Panel on Climate Change (IPCC) has defined the Global Warming Potential (GWP) for a number of greenhouse gases, and all are referenced to carbon dioxide which is assumed to have a GWP of 1. For example, the IPCC GWP for methane (CH₄) is 21. To allow a quantitative comparison between the emissions of different types of greenhouse gases it is necessary to convert all emissions to a universally comparable unit. The methodology adapted by the NGA Factors document and used in this assessment converts all emissions for non-carbon dioxide gases to a carbon dioxide equivalent (CO₂-e). Emissions from non-carbon dioxide gases are converted to t CO₂-e by multiplying the emission of each non-carbon dioxide gas by its GWP.

2 CALCULATIONS

2.1 SCOPE 1 EMISSIONS

2.1.1 Diesel Consumption by Loaders and Trucks Onsite

The formula for calculating GHG emissions from diesel fuel combustion onsite and during transportation of materials is given as

$$\text{GHG emission (t CO}_2\text{-e)} = Q \times \text{EF} \quad \text{(Equation 1)}$$

Where: Q is the quantity of fuel consumed expressed in tonnes or by volume (kL)
EF is the relevant emission factor, obtained from the *National Greenhouse Accounts (NGA) Factors* document, or the GHG Protocol online database

The FY2007 diesel usage from PKCT records were used in the calculations. Associated with this Scope 1 emission is also the Scope 3 emissions due to diesel consumption discussed below in Section 2.3.1. The EF for diesel combustion (Scope 1) is 2.7 t CO₂-e / kL of diesel consumed while the Scope 3 EF value is 0.2 t CO₂-e / kL of diesel consumed.

2.1.2 Emissions from Spontaneous Combustion of Stored Coal

The NGA Factors document does not provide methodology for the estimation of emissions from this source. A CSIRO study under the Australian Coal Association Research Program (ACARP, C8059 (2000)) derived a formula that showed that the emissions from the slow oxidation of coal were dependent on the carbon content of the material, ambient temperature and the type of

active spontaneous combustion. So, for example, emission rate values in the range 0.0063 – 6.6 t yr⁻¹ m⁻² have been obtained for Hunter Valley sites studied in the CSIRO investigation.

We have used the EF value of 3 kg CO₂-e per tonne of coal sourced from *Projection of Fugitive Greenhouse Gas Emissions to 2020* (Energy Strategies, 2000). The formula used for the calculation was

$$\text{GHG emission (t CO}_2\text{-e)} = (\text{Q} \times \text{EF}) / 1000 \quad \text{(Equation 2)}$$

Where: Q is the quantity of coal throughput given in tonnes
EF is the emission factor for spontaneous oxidation

2.1.3 Emissions from Low Temperature Oxidation of Stored Coal

As for spontaneous oxidation of coal (Section 2.1.2) the following equation can be used to calculate emissions:

$$\text{GHG emission (t CO}_2\text{-e)} = (\text{Q} \times \text{EF}) / 1000 \quad \text{(Equation 3)}$$

Where: Q is the quantity of coal throughput given in tonnes
EF is the emission factor for low temperature oxidation

However, the emission factor of the low temperature oxidation is different, and smaller than the spontaneous combustion EF value, being 0.5 kg CO₂-e per tonne of coal. This value has been sourced from *Projection of Fugitive Greenhouse Gas Emissions to 2020* (Energy Strategies, 2000).

2.2 SCOPE 2 EMISSIONS

2.2.1 Emissions Associated with Electricity Consumption

Emissions from the consumption of purchased electricity were calculated using the following equation (*NGA Factors*, 2008)

$$\text{GHG Emission (t CO}_2\text{-e)} = (\text{Q} \times \text{EF}) / 1000 \quad \text{(Equation 5)}$$

Where: Q is the amount of electricity consumed in kWh
EF is the relevant emission factor, obtained from *NGA Factors* document

The amount of electricity consumed in FY2007 was used in the calculations for the current 24/7 operations which handles 11.7 Mt of coal per year.

In the proposed scenario the current 24/7 onsite operations will continue but since the amount of coal throughput will be increased to 16.5 Mt per year the amount of electricity consumption will also increase. We have allowed a 20% increase in the electricity usage to account for increased coal throughput.

2.3 SCOPE 3 EMISSIONS

2.3.1 Emissions Associated with the Extraction of Fuels

Associated with the diesel usage onsite (Scope 1) is the Scope 3 indirect emissions attributable to the diesel extraction process. The emission factor for this is different (0.2 t CO₂-e / kL diesel consumed) is much smaller than the Scope 1 diesel combustion emission factor from (0.2 t CO₂-e / kL diesel consumed). The sum of Scope 1 and Scope 2 emissions form the full fuel cycle emissions.

2.3.2 Emissions Associated with the Transport of Coal to PKCT Site

We have classed transport fuels consumed for the transport of coal from mines both by rail and road as Scope 3 for PKCT operations as this fuel is consumed by vehicles owned and run by companies other than PKCT. The emissions are calculated using the formula:

$$\text{GHG Emission (t CO}_2\text{-e)} = (\text{Q} \times \text{EF}) / 1000 \quad \text{(Equation 6)}$$

Where: Q is the amount of electricity consumed in kWh
EF is the relevant emission factor, obtained from *NGA Factors* document

The EF factor used in the calculations was the full fuel cycle value of 2.9 t CO₂-e / kL diesel consumed.

2.3.3 Emissions Associated with End-Use Coal Combustion

We have classed this indirect source of emissions under scope 3 as emissions will be generated by the end-user, with 93% (see Section 2.3.5) being generated overseas. The formula for calculating emissions from end-use coal combustion is given by:

$$\text{GHG Emission (t CO}_2\text{-e)} = (\text{Q} \times \text{EF}) / 1000 \quad \text{(Equation 7)}$$

Where: Q is the amount of electricity consumed in kWh
EF is the relevant emission factor, obtained from *NGA Factors* document

EF is the full fuel cycle emission factor for NSW coal (98.1 t CO₂-e per kg of coal combusted) and is the sum of both the Scope 1 and Scope 3 coal combustion EF values.

2.3.4 Emissions from Waste Generation and Disposal

Municipal solid waste that is ultimately disposed of in a well-managed landfill is estimated to produce methane in accordance with the formula:

$$\text{GHG Emission (t CO}_2\text{-e)} = [(\text{Q} \times \text{DOC}) / 3 - \text{R}] \times 18.9 \quad \text{(Equation 8)}$$

Where: Q is the quantity of municipal waste in tonnes

DOC is the degradable organic carbon expressed as a proportion of the particular waste type and listed in the NGA Factors document

R is the recovered methane (in tonnes) from wastewater in an inventory year

However, since the actual composition of the waste is not known (ie., DOC in Equation 3 not available) we use the weighted average emission factors for municipal, commercial and industrial and construction and demolition waste, given as 1.11 t CO₂-e / t waste, to calculate GHG emissions from the PKCT site.

2.3.5 Emissions Associated with Shipping of Product Coal to Customers

A preliminary estimate of GHG emissions from sea transport of product coal was undertaken using similar methodology to that used in the Anvil Hill Coal Project GHG Assessment Addendum Report to the Director-General Department of Planning (Independent Hearing and Assessment Panel for the Anvil Hill Coal Project, 2007). The assessment makes the following assumptions:

1. The percentage of clean coal produced that will be transported by sea to customers for the proposed scenario will be the same as the average over the 2007 operations. These percentages are as follows:
 - 21% – India
 - 15% – Europe/UK/Africa/Other
 - 57% – China/Japan/Korea/Taiwan
 - 7% – Domestic (assumed Whyalla, South Australia)
2. Cargo ship carrying capacity 75,000 tonnes.
3. Freight shipping energy efficiency is equal to 4.16 tkm / MJ.
4. Shipping distances are as follows:
 - 12,000 km to India/Japan/China
 - 20,000 km to Europe/UK/Africa
 - 1,000 km to Whyalla (South Australia)
5. Ships are assumed to burn heavy fuel oil.
6. All trips are assumed one way as it is likely that ships would carry other goods elsewhere upon unloading trip.

The calculations for the preliminary estimation of GHG emissions associated with shipping of clean coal are provided in **Table 1** (current operations) and **Table 3** (proposed operations).

2.4 EMISSIONS NOT INCLUDED IN ASSESSMENT

The following Scope 3 emission sources were not considered in this assessment:

- Disposal (end of life) of product sold
- Fugitive emissions due to coal production
- Extraction, production, and transport of other purchased materials and goods (eg. packaging materials)
- Out sourced activities.

There are practical difficulties and anomalies associated with determining these Scope 3 upstream emissions in any assessment and are thus generally not required to be included in GHG emission calculations, according to the international emission accounting and reporting frameworks. This is especially true of building materials production where no stringent records have been kept or are easily accessible from the open literature, or online.

In any case these minor point sources are expected to make negligible contributions in comparison with the major Scope 1 and Scope 2 emissions included in the assessment.

Table 1: Greenhouse Gas Assessment Calculations for Port Kembla Coal Terminal – Current

Parameter	Value	Unit
1. Emissions from PKCT Diesel Consumption Onsite (Scope 1)		
<u>Data for Consumption Calculations</u> (refer email with PKCT data from Debra Murphy 24-Aug-2007)		
FY2007 PKCT Diesel Consumption	126	kL / yr
<u>Diesel Emission Factors (EF)</u> (refer NGA Factors January 2008, p13, Table 1.2)		
EF (CO _{2-e}) Scope 1 (Diesel combustion)	2.7	t / kL Diesel Consumed
EF (CO _{2-e}) Scope 3 (Diesel combustion)	0.2	t / kL Diesel Consumed
EF (CO _{2-e}) Scopes 1 & 3 (Diesel consumption)	2.9	t / kL Diesel Consumed
Onsite Fuel Combustion GHG emission (Scope 1)	340.2	t CO _{2-e} / yr
Onsite Fuel Combustion GHG emission (Scope 3)	25.2	t CO _{2-e} / yr
Overall Onsite Fuel Combustion GHG Emission (Scope 1 + Scope 3)	365	t CO_{2-e} / yr

2. Emissions from PKCT Electricity Consumption (Scope 2 & Scope 3)

Consumption Calculations

FY2007 PKCT Electricity Consumption	21,000	MWh / yr
FY2007 PKCT Electricity Consumption	21,000,000	kWh / yr

Emission Calculation:

(refer NGA Factors January 2008, p16, Table 5)

EF (CO _{2-e}) Scope 2 (Electricity consumed in NSW & ACT)	0.89	kg/kWh
EF (CO _{2-e}) Scope 3 (Electricity consumed in NSW & ACT)	0.17	kg/kWh
EF (CO _{2-e}) Scope 2 & 3 (Electricity consumed in NSW & ACT)	1.06	kg/kWh

Onsite Electricity Consumption GHG Emission (Scope 2)	18,690	t CO_{2-e} / yr
Onsite Electricity Consumption GHG Emission (Scope 3)	3,570	t CO_{2-e} / yr

Overall Onsite Electricity Consumption GHG Emission (Scope 2 & 3)	22,260	t CO_{2-e} / yr
--	---------------	--------------------------------

3. Emissions from Shipping to Customers (Scope 3)

(Refer "Customer Shipping" Spreadsheet)

Total Emission from Shipping to Customers (Scope 3)	882,414	t CO_{2-e}/yr
--	----------------	------------------------------

Total Emission from Shipping to Customers (Scope 3) Overall Emission Rate	882,414	t CO_{2-e}/yr
--	----------------	------------------------------

4. Combustion of Coal (Scope 3)

EF Full Fuel Cycle for NSW Coal Combustion	98.1	kg CO_{2-e} / GJ
---	-------------	---------------------------------

Energy content of Black coal for electricity in NSW	22.5	GJ/t
--	-------------	-------------

Total energy content of 11.7 Mt of coal throughput	263,250,000.0	GJ
---	----------------------	-----------

Emissions from exported coal and domestic coal use (11.7 Mt)	25,824,825	t CO_{2-e} / yr
---	-------------------	--------------------------------

Total Emission from Customer Coal Combustion (Scope 3)	25,824,825	t CO_{2-e} / yr
---	-------------------	--------------------------------

5. Emissions from Transport of Coal from Mines to PKCT by Road (Scope 3)

Diesel Consumption for total distance travelled by all trucks	3000.0	kL
<u>Diesel Emission Factors (EF)</u> (refer NGA Factors January 2008, p13, Table 1.2)		
EF (CO _{2-e}) Full Fuel Cycle (Diesel consumption)	2.9	t / kL Diesel Consumed
Transport Diesel Combustion GHG emission (Scope 3)	8700	t CO_{2-e} / yr
Total GHG Emissions from Coal Transport from Mines to PKCT by Road (Scope 3)	8700	t CO_{2-e} / yr

6. Emission from Transport of Coal from Mines to PKCT by Rail (Scope 3)

Coal transported by rail	6.5	Mt / yr
Diesel consumption for transport of 6.5 Mt of coal	2829.5	kL
EF (CO _{2-e}) Full Fuel Cycle (Diesel combustion)	2.9	t / kL
Emissions from transport of 6.5 Mt coal from mines to PKCT by rail	8205	t CO_{2-e} / yr
Total GHG Emissions from Coal Transport from Mines to PKCT by Rail (Scope 3)	8205	t CO_{2-e} / yr

7. Emissions from Waste Generated Onsite during Operations (Scope 3)	
Waste (dry) generated per year onsite	291 t
Waste (liquid) generated per year onsite (assume liquid density = 1.3 g/mL)	53 t
Weighting factor for unknown composition	1.1 t CO _{2-e} / yr
Emissions from disposal of waste generated onsite	379 t CO_{2-e}/ yr
Total GHG Emissions from Waste Generated onsite during PKCt operations	379 t CO_{2-e}/ yr
8. Emissions by Personnel (Scope 3)	
Full fuel cycle emission factor (Table 3, NGO Factors)	2.5 t CO _{2-e} / kL
Total staff equivalent at weekends per year with 30 staff per day for	3120 / yr
Total staff equivalent during weekdays per year at 80 staff per day	20800 /yr
Total distance travelled by each staff assuming they live within 30 km from PKCT site	1435200 km
Petrol consumption for total distance travelled assuming 7L / 100 km consumption for an average -sized car	100 kL
Emissions for total staff per year (commute to and from work, business travel)	251 t CO_{2-e}/ yr
Total GHG Emissions from PKCT Staff & Truck Drivers (Scope 3)	251 t CO_{2-e}/ yr

Total Scope 1 GHG Emissions **340 t CO_{2-e} / yr**
Total Scope 2 GHG Emissions **18690 t CO_{2-e} / yr**
Total Scope 3 GHG Emissions **26.728 Mt CO_{2-e} / yr**

Total GHG Emissions (Scope 1, Scope 2, Scope 3)	26.747	Mt CO_{2-e} / yr
Total GHG Emissions (Scope 1, Scope 2, Scope 3) per tonne of coal	2.29	t CO_{2-e} / yr
GHG Emissions (Scope 1, Scope 2) per tonne of coal	0.00163	t CO_{2-e} / yr

Table 2: PKCT Shipping Information - Current

End User Location	India	Europe/UK/Africa/ Other	China/Japan/Korea/ Taiwan	Domestic	TOTAL
2007 Tonnage	2,457,000	1,755,000	6,669,000	819,000	11,700,000
% of Total Coal Throughput	21	15	57	7	100
Avg. Shipping Distance (km)	12,000	20,000	12,000	1,000	45,000
Carrying Capacity of Ship (tonnes)	75,000	75,000	75,000	75,000	300,000
No of Ship movements required	33	23	89	33	178
Rate as per (DEFRA 2008) (kg CO2/tkm)	0.006	0.006	0.006	0.006	
Total Shipping (Mtkm)	29,484	35,100	80,028	2,457	147,069
Total Emission (t CO _{2-e})	176,904	210,600	480,168	14,742	882,414

NOTES:

1. Assumed average shipping distance from Australia to China/Japan/India is 12,000km
2. Assumed average shipping distance from Australia to Europe/UK/Africa is 20,000km
3. Assumed average shipping distance to domestic customers in Australia is 1,000km (approx. distance to SA)

Table 3: Greenhouse Gas Assessment Calculations for Port Kembla Coal Terminal – Proposed

Parameter	Value	Unit
1. Emissions from PKCT Diesel Consumption Onsite		
<u>Data for Consumption Calculations</u>		
(refer email with PKCT data from Debra Murphy 24-Aug-2007)		
FY2007 PKCT Diesel Consumption	126	kL / yr
FY2007 PKCT Diesel Consumption plus 20% increase	151	kL / yr
<u>Diesel Emission Factors (EF)</u>		
(refer NGA Factors January 2008, p13, Table 1.2)		
EF (CO _{2-e}) Scope 1 (Diesel combustion)	2.7	t / kL Diesel Consumed
EF (CO _{2-e}) Scope 3 (Diesel combustion)	0.2	t / kL Diesel Consumed
EF (CO _{2-e}) Scopes 1 & 3 (Diesel consumption)	2.9	t / kL Diesel Consumed
Onsite Fuel Combustion GHG emission (Scope 1)	408.2	t CO _{2-e} / yr
Onsite Fuel Combustion GHG emission (Scope 3)	30.2	t CO _{2-e} / yr
Overall Onsite Fuel Combustion GHG Emission (Scope 1 + Scope 3)	438	t CO_{2-e} / yr

2. Emissions from PKCT Electricity Consumption (Scope 2 & Scope 3)

Consumption Calculations

FY2007 PKCT Electricity Consumption	21,000	MWh / yr
FY2007 PKCT Electricity Consumption plus 20% increase	25,200,000	kWh / yr

Emission Calculation:

(refer NGA Factors January 2008, p16, Table 5)

EF (CO _{2-e}) Scope 2 (Electricity consumed in NSW & ACT)	0.89	kg/kWh
EF (CO _{2-e}) Scope 3 (Electricity consumed in NSW & ACT)	0.17	kg/kWh
EF (CO _{2-e}) Scope 2 & 3 (Electricity consumed in NSW & ACT)	1.06	kg/kWh

Onsite Electricity Consumption GHG Emission (Scope 2)	22,428	t CO_{2-e} / yr
Onsite Electricity Consumption GHG Emission (Scope 3)	4,284	t CO_{2-e} / yr

Overall Onsite Electricity Consumption GHG Emission (Scope 2 & 3)	26,712	t CO_{2-e} / yr
--	---------------	--------------------------------

3. Emissions from Shipping to Customers (Scope 3)

(Refer "Customer Shipping" Spreadsheet)

Total Emission from Shipping to Customers (Scope 3)	1,244,430	t CO_{2-e} / yr
--	------------------	--------------------------------

Total Emission from Shipping to Customers (Scope 3) Overall Emission Rate	1,244,430	t CO_{2-e} / yr
--	------------------	--------------------------------

4. Combustion of Coal (Scope 3)

EF Full Fuel Cycle for NSW Coal Combustion	98.1	kg CO _{2-e} / GJ
--	------	---------------------------

Energy content of black coal in NSW	22.5	GJ/t
-------------------------------------	------	------

Total energy content of proposed 16.5 Mt of coal throughput in one year	371,250,000	GJ
---	-------------	----

Emissions from exported coal and domestic coal use (16.5 Mt)	36,419,625	t CO_{2-e} / yr
---	-------------------	--------------------------------

Total Emission from Customer Coal Combustion (Scope 3)	36,419,625	t CO_{2-e} / yr
---	-------------------	--------------------------------

5. Emissions from Transport of Coal from Mines to PKCT by Road (Scope 3)		
Diesel Consumption for total distance travelled by all trucks	4800	kL
<u>Diesel Emission Factors (EF)</u> (refer NGA Factors January 2008, p13, Table 1.2)		
EF (CO _{2-e}) Full Fuel Cycle (Diesel consumption)	2.9	t / kL Diesel Consumed
Transport Diesel Combustion GHG emission (Scope 3)	13920	t CO_{2-e} / yr
Total GHG Emissions from Coal Transport from Mines to PKCT by Road (Scope 3)	13920	t CO_{2-e} / yr
6. Emission from Transport of Coal from Mines to PKCT by Rail (Scope 3)		
Coal transported by rail	6.5	Mt / yr
Diesel consumption for transport of 6.5 Mt of coal	2829.5	kL
EF (CO _{2-e}) Full Fuel Cycle (Diesel combustion)	2.9	t / kL
Emissions from transport of 6.5 Mt coal from mines to PKCT by rail	8205	t CO_{2-e} / yr
Total GHG Emissions from Coal Transport from Mines to PKCT by Rail (Scope 3)	8205	t CO_{2-e} / yr

7. Emissions from Waste Generated Onsite during Operations (Scope 3)	
Waste (dry) generated per year onsite plus 20% increase	349 t
Waste (liquid) generated per year onsite (volume*density) plus 20% increase	64 t
Weighting factor for unknown composition	1.1 t CO _{2-e} / yr
Emissions from disposal of waste generated onsite plus 20% increase	454 t CO_{2-e}/ yr
Total GHG Emissions from Waste Generated onsite during PKCT operations	454 t CO_{2-e}/ yr
8. Emissions by Personnel (Scope 3)	
Full fuel cycle emission factor (Table 3, NGO Factors)	2.5 t CO _{2-e} / kL
Total staff equivalent at weekends/year with 30 staff per day for 2 days per week for 52 weeks	3120.0 / yr
Total staff equivalent during weekdays per year at 80 staff per day	20800 /yr
Total distance travelled by each staff assuming they live within 30 km from PKCT site	1435200 km
Petrol consumption for total distance travelled assuming 7L/100km consumption for an average -sized car	100 kL
Emissions for total staff per year (commute to and from work, business travel)	251 t CO_{2-e} / yr

Total GHG Emissions from PKCT Staff & Truck Drivers (Scope 3)	251	t CO_{2-e} / yr
Total Scope 1 GHG Emissions	408	t CO_{2-e} / yr
Total Scope 2 GHG Emissions	22428	t CO_{2-e} / yr
Total Scope 3 GHG Emissions	37.69	Mt CO_{2-e} / yr
Total GHG Emissions (Scope 1, Scope 2, Scope 3)	37.71	Mt CO_{2-e} / yr
Total GHG Emissions (Scope 1, Scope 2, Scope 3) per tonne of coal	2.29	t CO_{2-e} / yr
GHG Emissions (Scope 1+ Scope 2) per tonne of coal	0.001384	t CO_{2-e} / yr

Table 4: PKCT Shipping Information – Proposed

End User Location	India	Europe/UK/Africa/ Other	China/Japan/Korea/ Taiwan	Domestic	TOTAL
2007 Tonnage	3,465,000	2,475,000	9,405,000	1,155,000	16,500,000
% of Total Coal Throughput	21	15	57	7	100
Avg. Shipping Distance (km)	12,000	20,000	12,000	1,000	45,000
Carrying Capacity of Ship (tonnes)	75,000	75,000	75,000	75,000	300,000
No of Ship movements required	46	33	125	46	251
Total Shipping (Mtkm)	41,580	49,500	112,860	3,465	207,405
Rate as per (DEFRA 2008) (kg CO ₂ /tkm)	0.006	0.006	0.006	0.006	
Total Emission (t CO _{2-e})	249,480	297,000.000	677,160.000	20,790.000	1,244,430

NOTES:

1. Assumed average shipping distance from Australia to China/Japan/India is 12,000km
2. Assumed average shipping distance from Australia to Europe/UK/Africa is 20,000km
3. Assumed average shipping distance to domestic customers in Australia is 1,000km (approx. distance to SA)



Appendix C – Cardno Eppell Olsen (Traffic Consultant) Response



Cardno Eppell Olsen Pty Ltd
ABN 82 095 614 154

**Transportation and Traffic
Specialists**

910 Pacific Highway
Gordon NSW 2072
Australia

Telephone: 02 9496 7700

Facsimile: 02 9499 3902

Email: anissa.levy@cardno.com.au

www.cardno.com.au

Our Ref: FR108004

Date: 1/12/2008

Ms Debra Murphy
Business Improvement and External Affairs Manager
Port Kembla Coal Terminal
Port Kembla Road,
Inner Harbour, Wollongong NSW

c/- Mr Philip Paton
Town Planner
Cardno Forbes Rigby
278 Keira Street
WOLLONGONG NSW 2500

Dear Ms Murphy,

In order to assist you in preparing your response to comments from the Department of Planning, Roads and Traffic Authority and other agencies, the following information is provided in relation to comments associated with traffic and transport issues:

Issue 1: Coal trucks entering and departing PKCT

DoP Comment: The EA is not clear in reporting how many coal trucks (both loaded and unloaded) currently enter and leave PKCT daily, nor is it clear how many trucks (both loaded and unloaded) will enter and leave PKCT daily under the various traffic scenarios modelled. Information required includes the number of trucks currently entering and leaving and the number of trucks expected to enter and leave PKCT daily via Port Kembla Road and whether trucks will continue to enter and leave PKCT via Tom Thumb Road or Entrance Road (including estimated numbers). You are requested to supply clear figures on current and anticipated truck movements under the various traffic scenarios modelled relating to each of the available entrances and exits to PKCT.

Coal truck data was collected for all coal trucks departing the Gujarat NRE (GNRE) No. 1 Mine and the BHPBIC West Cliff Coal Preparation Plant (WCCPP), and the Dendrobium Coal Preparation Plant (DCPP).

Table 2.4 and 2.5 in Section 2.3 of the Traffic Report provide information on the historical number of coal trucks that are delivering to PKCT under existing conditions. Table 2.4 relates to trucks from WCCPP and Table 2.5 relates to trucks from GNRE. The 2008 Post Trial data set is the most applicable for current delivery numbers.

Currently, all coal trucks that enter and depart PKCT from GNRE and all trucks during the day (7am to 6pm) from WCCPP do so via Port Kembla Road. Coal trucks from WCCPP to/from PKCT during the night (6pm - 7am) may enter and exit via Entry Road in BlueScope Steel Limited's (BSL) Port Kembla Steelworks. The coal is then delivered to PKCT using the private roads situated inside the BSL Steelworks. Coal from the DCPP is hauled via internal roads within BSL to PKCT via Tom Thumb Road.

As no trucks are stored at PKCT all trucks that enter also leave, thus the numbers for truck entry and departure are the same over the course of a day.

The daily coal truck volumes entering and exiting PKCT were estimated based on the mine departure times and estimated travel times from the mines to PKCT. The addition of day time (7am - 6pm) coal trucks from WCCPP and all coal trucks from GNRE identifies the number of trucks entering PKCT via Port Kembla Road. Modelling has also been conducted on coal being delivered from DCPD via public road, and entering PKCT via Port Kembla Rd.

The historical data shows marked variations in weekly coal truck delivery volumes during high and low output periods. For the purposes of modelling scenarios average annual daily coal truck traffic volumes were estimated that represent the average daily volumes under 11/6 operating conditions with current output levels (approximately 4mtpa). The existing operation includes trucks from DCPD delivering to PKCT, which are unaffected by the infrastructure SEPP restriction. This results in 91 trucks per day coming to PKCT one way from Dendrobium CPP.

The resulting average weekday and weekend daily coal truck volumes at each entry (in and out of PKCT) is presented in Table 1. A summary of the resulting average weekday daily coal truck delivery volumes is presented in Table 2.

Table 1 Average Weekday and Weekend Daily Coal Truck Volumes at PKCT

Entry		Current Operations (11/6 @4 mtpa)	Increase tonnage - No change to restriction (11/6 @ 10 mtpa)	Proposed Change (10 mtpa @ 24/7 & 15/5+10/2)	Proposed Change (10 mtpa @ 24/7 & 15/5+10/2) + DCPD*
Port Kembla Road	In	235	579	650	818
	Out	260	622	650	818
	Total	495	1,201	1,300	1,636
Entry Road	In	45	93	-	-
	Out	20	50	-	-
	Total	65	143	-	-
Both	In	280	672	650	818
	Out	280	672	650	818
	Total	560	1,344	1,300	1,636
Port Kembla Road	In	240	572	542	709
	Out	259	609	542	709
	Total	499	1,181	1,084	1,418
Entry Road	In	40	100	-	-
	Out	21	63	-	-
	Total	61	163	-	-
Both	In	280	672	542	709
	Out	280	672	542	709
	Total	560	1,344	1,084	1,418

* Includes coal truck movements from Dendrobium CPP using the public road network along Springhill Road

Table 2 Average Weekday Daily and Hourly Coal Truck Volumes at PKCT¹

Delivery Period	Current Operations (11/6 @4 mtpa)		Increase tonnage - No change to restriction (11/6 @ 10 mtpa)		Proposed Change (10 mtpa @ 24/7 & 15/5+10/2)	
	IN	OUT	IN	OUT	IN	OUT
Total Daily (24hr)	372	372	840	840	818	818
Day (7am to 6pm)	294	320	687	732	595	610
Night (6pm-7am)	78	52	153	108	223	208
Peak Day (per hour)	40	45	94	93	74	61
Peak Night (per hour)	8	6	13	10	31	27
Average Day (per hour)	27	29	62	67	54	55
Average Night (per hour)	6	4	12	8	17	16

¹ Includes coal truck movements from Dendrobium CPP using the public road network along Springhill Road

Based on the methodology above and the calculated truck numbers from West Cliff Colliery, No. 1 Mine and DCPD in Tables 6.2 and 6.3 in Section 6.3.2 of the Traffic Report the average number of trucks delivering to PKCT via Port Kembla Road on a weekday at 10 mtpa of coal will be 818 one way (1636 in both directions). Under the proposed operating scenario, no trucks will be required to deliver to PKCT via 21 entry road, regardless of operating tonnages. GNRE No. 1 Mine is proposed to be restricted in its delivery hours to 7am and 10pm Monday to Friday and 8am to 6pm Saturday/Sunday (referred to as 15/5 - 10/2).

Due to a range of operating parameters, truck deliveries from DCPD, located in BlueScope Steelworks, to PKCT may travel by either Tom Thumb Rd or Port Kembla Rd in the future. Both scenarios have been modeled in the traffic report. Under a 4 mtpa scenario, approximately 91 one way truck movements are required to deliver coal to PKCT from DCPD. Under a 10 mtpa scenario, approximately 167 one way truck movements are required to deliver coal to PKCT.

A number of different time frames and scenarios for delivery have been assessed by the EA. The resulting average weekday and weekend daily coal truck volumes at each entry (in and out of PKCT) is presented in Tables 1 and 2 for the key 10mtpa scenarios.

Issue 2: Shift from BSL internal Roads to Port Kembla Road

DoP Comment: The traffic modelling in the EA does not seem to account for any shift from use of BlueScope internal roads to the use of Port Kembla Road. Please clarify current and projected truck movements on Port Kembla Road and provide updated modelling, if required.

Traffic modelling has been carried out which takes account of the level of coal truck traffic as a result of the coal from Dendrobium CPP (DCPD), located in the BlueScope Steelworks, coming by public road to PKCT via Springhill Road. This modelling can be found in Section 6.3.2 of the Traffic Report. Within Section 6.3.2 coal truck traffic numbers from DCPD are quantified:

- Of the current cumulative 4mtpa received at the PKCT road receipt, trucks from DCPD will account for an average of 91 trucks per day per direction.
- If cumulative road receipt volumes are to increase to 10mtpa, trucks from DCPD will account for an average of 167 trucks per day per direction.

It should be noted that it has been assumed that coal will continue to be railed into DCPD from Dendrobium Colliery.

Issue 3: Cumulative traffic impact due to inner harbour expansion

DoP Comment: The EA does not seem to include cumulative traffic impact assessment due to the recently approved Inner Harbour expansion and associated transport of passenger cars. Please provide a cumulative traffic impact assessment that includes the Inner Harbour expansion and identify any traffic conflicts that would arise as a result of increased traffic volumes.

Cumulative traffic increases due to the approved General Cargo Handling Facility (GCHF) (located at the inner harbour for car imports), background traffic growth and the PKCT proposal are modelled in sections 5.2.4, 5.3 & 5.4 of the Traffic Report. A review of the GCHF Environmental Assessment Report (SKM December 2005) prepared to document the proposed expansion was undertaken. This identified that in 2016 an additional 814 daily vehicles trips would be expected as a result of the GCHF. This traffic increase was considered in the PKCT EA Traffic analysis as cumulative impact over and above the general background traffic growth.

The Traffic Report analysis identifies that the existing road network can adequately carry the maximum predicted traffic volumes in relation to proposed PKCT and GCHF traffic operations.

Issue 4: Coal Haulage from Dendrobium Mine & Coal Preparation Plant

RTA Comment: Clarification is sought from the applicant with regard to existing and future truck movements on public roads from Dendrobium Coal Preparation Plant (DCPP). The RTA understands that all existing coal deliveries are via rail and this appears consistent with the comments in Section 2.2 of the traffic study. However page 125 of the traffic study suggests that currently there are approximately 91 trucks per day delivering coal to the Port Kembla Coal Terminal (PKCT).

Regardless of the above, the RTA has concerns with the road safety and traffic efficiency impacts associated with trucks movements from DCPP (an average of 167 trucks per day) on both the local and State road network. In particular, consideration should be given to impacts along Cordeaux Road.

Coal from the Dendrobium Mine is railed to the Dendrobium Coal Preparation Plant which is located within Bluescope steelworks (BSL) at Port Kembla. Trucking of coal is not proposed from Dendrobium Mine as part of this proposal, and therefore Cordeaux Road will not be affected by the proposal.

Trucks currently carry coal from the Dendrobium Coal Preparation Plant (DCPP) to PKCT via internal access roads within the BSL site. As part of the environmental assessment, it was proposed, due to congestion and safety concerns, to divert these trucks to PKCT via Springhill Road. This would result in a potential increase in 336 coal truck movements (168 each way) on a typical weekday. The peak coal truck movements from DCPP would be 24 vehicles per hour (12 in and 12 out), during weekdays, under the proposed 10mtpa scenario.

Traffic modelling of this 10mtpa scenario with 24/7&15/5-10-2 operation for has been undertaken. Analysis results can be found in Section 6 and Section 7 of the Traffic Report.

Issue 5: Traffic generation

RTA Comment: Table 8.1 of the traffic study suggests that the increase from 4mtpa to 10mtpa will generate approximately 800 additional movements on Springhill Road. The RTA seeks clarification on the following issues:

- *Calculations used to estimate additional movements, including typical capacity of coal for a typical truck.*
- *Confirmation as to whether the volumes in table 8.1 are one way or two way movements.*

In the Traffic Report the future coal truck movements for each option have been calculated in the following manner (as detailed in Section 6.3.2):

- For each option, the number of operating days per year from each location (West Cliff CPP and GNRE No. 1 Mine) is calculated based on multiplying the number of operating days per week by 52 (weeks per year);
- The total annual coal tonnage from each location (West Cliff CPP and GNRE No. 1 Mine) is divided by the number of operating days to determine the estimated coal tonnage per operating day;
- Weekdays have been assumed to have the same output rate per day as weekends;
- By considering the proportion of coal assumed to be delivered by night the tonnage of coal to be delivered by day or night was estimated (if no night time deliveries, then 0 tonnes of coal a day are assumed to be delivered at night), where:
 - Day time for coal delivery is assumed to be 7:00am to 6:00pm; and
 - Night time for coal delivery is assumed to be 6:00pm to 7:00am.
- The number of coal truck movements from each location is then calculated by dividing the output capacity (by day and by night) by an average coal truck haulage capacity (based on historical data), which is assumed to be:
 - 36.5 tonnes per coal truck for BHPBIC; and
 - 31.8 tonnes per coal truck for Gujarat NRE No. 1 Mine;
- The projected output capacities determines the amount of coal needed to be delivered per hour per day, and hence the number of trucks per hour per day per year.
- The number of trucks is distributed throughout the day and night periods per hour for average weekdays and weekends. This is based on the assumptions detailed in Section 6.2.1 and Section 6.2.2 of the report.

Volumes in Table 8.1 are two-way movements and represent the total volumes in both directions on the relevant road sections.

Issue 6: Cumulative traffic impact

RTA Comment: The RTA has concerns that the traffic study does not give consideration to other development within the Port precinct. For example, increased traffic volumes associated with car imports which the RTA understands may generate in the order of 1000 truck movements per week or the Soy Bean Processing and Biodiesel Project which is likely to generate approximately 30 truck movements per day (and more significantly, approximately 140 employee movements in a typical peak hour). Whilst the RTA is currently progressing a transport network model for the Port precinct that will significantly improve the ability to assess the cumulative impacts of development on the State road network, the RTA strongly recommends that the subject application be revised to consider the cumulative impact of all development within the Port precinct on a strategic level to ascertain the cumulative impact to the State road network.

Cumulative traffic increases due to the approved General Cargo Handling Facility (GCHF) (located at the inner harbour for car imports), background traffic growth and the PKCT proposal are modelled in sections 5.2.4, 5.3 & 5.4 of the Traffic Report. A review of the GCHF Environmental Assessment Report (SKM December 2005) prepared to document the proposed expansion was undertaken. This identified that in 2016 an additional 814 daily vehicles trips would be expected as a result of the GCHF. This traffic increase was considered in the PKCT EA Traffic analysis as cumulative impact on top of predicted background traffic growth and the PKCT growth.

The Traffic Report analysis identifies that the existing road network can adequately carry the maximum predicted traffic volumes in relation to proposed PKCT and GCHF traffic operations.

The PKCT EA did not specifically address traffic impacts in relation to the proposed Soy Bean Processing and Biodiesel Project. These projects were not identified as requiring specific impact assessment and information in relation to these projects was not available to the study team at the time of assessment.

Furthermore general development in the Wollongong area are considered to be included in the background traffic growth.

Issue 7: Mid-block capacity

RTA Comment: The RTA is particularly concerned with the route capacity of both Springhill Road and Masters Road in light of the cumulative impacts of development within the Port precinct given that these two routes are integral to all trips to the Port.

The traffic study should be revised to include an assessment of the above with respect to mid-block capacity and coordination of signals.

Tables 7.18 and 7.19 in Section 7.2 of the Traffic Report analyse mid-block capacity in relation to the proposed 24/7 receipt of coal up to 10mtpa. This identifies that the increase in traffic, including background growth, GCHF and PKCT has minimal alteration on existing carriageway capacities even in the worst case scenario of 2018. Section 8.1.14 of the Traffic Report concludes that the additional coal trucks do not significantly affect any part of the road haulage route.

Furthermore, traffic modelling has predicted that the LoS for Masters and Springhill Rd are predicted to remain at "A" under a 10mtpa operating Scenario in 2018.

An increase in road receipts at PKCT to 10mtpa, and a change in the operating hours will result in the following percentage change in traffic volumes in 2018:

- AM Peak Hour
 - Masters Rd 2.4% increase
 - Springhill Rd 3.1% increase
- PM Peak Hour
 - Masters Rd 2.0% increase
 - Springhill Rd 3.6% increase

Issue 8: Intersection modelling

RTA Comment: Section 8.1.5 of the traffic study refers to intersection analysis being undertaken for three junctions (Masters Road and Springhill Road; Springhill Road and Port Kembla Road, Springhill Road and Tom Thumb Road) and concludes that all intersections were shown to operate satisfactorily however the details of this analysis have not been provided. The RTA assumes that this modelling has considered both AM and PM peak and was undertaken using SIDRA. This should be clarified.

In addition to the above, the RTA considers that the modelling should consider the following junctions at a minimum:

- *Masters Road and Springhill Road; Springhill Road and Port Kembla Road, Springhill Road and Tom Thumb Road.*
- *Key intersections from Dendrobium Coal Preparation Plant, in particular, the intersection of the Princes Highway and Cordeaux Road.*

Further to the above, and more importantly, there does not appear to have been intersection analysis undertaken to assess the impact of the development, i.e. the 10mtpa future scenario. Given this the RTA considers the additional modelling should be undertaken for all above listed junctions using SIDRA to consider AM and PM peaks for the future 10mtpa scenario and a scenario that gives consideration to the potential cumulative impact of development with the Port precinct.

Electronic copies of all the modelling should be provided to the RTA for verification.

Section 8.1.5 of the Traffic Report builds on the monitoring information and modelling discussed in Section 3.9 of the Traffic Report. As noted in Section 3.9, this modelling has been completed using the SIDRA software package. As such Section 3.9 contains the requested modelling of the intersection of Masters Road & Springhill Road, Springhill Road & Port Kembla Road and Springhill Road and Tom Thumb Road.

As noted earlier the PKCT EA does not propose any activities at Cordeaux Road. As such there is no requirement for intersection modelling of the Princes Highway and Cordeaux Road.

Section 5.3 of the Traffic Report established that there is no anticipated background traffic growth along Springhill Road and Masters Road. The increase in peak hour traffic volumes as a result of the proposed EA are minor. As such, the three key intersections along Springhill Road are judged to be able to manage the minor increase in coal truck volumes given that each intersection has spare capacity (established in Section 3.9) and there is no requirement to model the intersections in relation to proposed operations.

Issue 9: Traffic Impacts

WCC Comment: The proposal of doubling of tonnage per annum and increasing operational hour to 24 hours a day, 7 days per week impacts the road network as a whole. While the increase in hours will alleviate the impacts on the road network, it will not improve the current level of service (LoS) on the networks.

Doubling the per annum tonnage results in an increased number of truck deliveries. These increases in deliveries are likely to result in a decreased LoS in the AM and PM peak periods for intersection capacities. Intersection assessments showing the base 2008, base 2008 + proposed, base 2018 and base 2018 + proposed are requested for a detailed assessment at key intersections along the routes proposed. Further it is recommended that a network model be developed detailing each scenario above. This will show impacts as a whole within the network including re-routing of passenger vehicles to avoid congestion at key intersections and the overall economic impacts. There will come a time when intersections and carriageways reach capacity, Council is concerned capacity may be accelerated as a result of this proposal.

While the main routes taken are classified road, Council have concerns regarding the impacts on local streets such as re-routing and decrease in intersection LoS. Also the impacts on residents due to increased deliveries during the night and weekends. Further investigations are required to demonstrate the impacts associated with this proposal.

The Traffic Report associated with the PKCT EA specifically considers existing key intersection and mid-block performance and impacts with additional traffic. In the Traffic Report, Sections 3.5, 3.6, 3.7, 3.8 and 3.9 relate to existing road network capacity and intersection performance.

Table 3.21 in Section 3.9 of the Traffic Report provides information obtained from assessment of the following key intersections:

- Masters Road / Springhill Road
- Springhill Road / Port Kembala Road
- Springhill Road / Tom Thumb Road.

This assessment identifies that all three intersections operate at Level of Service (LoS) C or better during both the AM and PM peak periods. As such there are no undue delays or queuing.

Section 7.2 of the Traffic Report analyses mid-block carriageway LoS for the coal truck haulage routes with projected future traffic volumes for each of the scenarios. Table 7.18 and Table 7.19 in Section 7.2 of the Traffic Report provides the mid-block carriageway LoS for the coal truck haulage routes. This shows that Masters Road and Springhill Road will both operate at LoS A in the AM and PM peak periods with PKCT receiving up to 10mtpa of coal. This identifies that the additional coal trucks to deliver up to 10mtpa to PKCT do not significantly alter existing LoS. It is noted that coal trucks form a very small percentage of the vehicles along the road haulage routes and that background growth in other traffic has a more significant impact on the road network.

The increase in peak hour traffic volumes as a result of the proposed EA are minor. The additional peak hour coal truck movements to deliver up to 10mtpa to PKCT compared with the delivering 4mtpa under 11/6 operations are as follows:

- 11/6 operations around 97 additional coal truck movements per hour (54 in and 43 out of PKCT) during the AM peak hour; and
- 24/7 & 15/5-10/2 operations around 65 additional coal truck movements per hour (34 in and 31 out of PKCT) during the AM peak hour

Section 5.3 of the Traffic Report established that there is no anticipated background traffic growth along Springhill Road and Masters Road. As such, the three key intersections along Springhill Road are judged to be able to manage the minor increase in coal truck volumes given that each intersection has spare capacity.

It is noted that Council suggest that re-routing of passenger vehicles could occur in relation to the increase in coal trucks and that this may be evaluated via a network model. The re-routing of passenger vehicles away from haulage routes on to alternative roads as a result of additional coal truck movements is considered very unlikely due to the minor increases in peak hourly traffic volumes. The mid-block capacity analysis shows little to no change in mid-block level of service as a result of increased coal truck traffic.

Additionally it should be noted that a network model is not required to assess the traffic impacts from the PKCT project as the Traffic Report thoroughly assesses traffic impacts associated with PKCT deliveries. The PKCT delivery haulage routes from the mines are fixed and there are no route choice options to be made. A detailed spreadsheet model was used to model the projected traffic volumes using accepted transport planning principles.

Issue 10: Potential impact on viability of port due to cumulative impact on the road network

MoT Comment: The potential impact by the proposal on the viability of the port, which will hinge on the capacity of the road network to cater for all increase in freight traffic and the proposed coal truck movements.

As explained under Issue 3 in this letter the cumulative impacts on the road network from the PKCT increased delivery proposals and the expansion of the inner harbour to create the GCHF to import cars has been modelled in the Traffic Report associated with the PKCT EA.

Other developments in the Wollongong area are considered to be included in the background traffic growth.

The Traffic modelling shows that the road network that services the port can accommodate the projected increase in vehicle numbers without significant reduction in LoS. As such there is no reason to consider that the PKCT proposal will have an adverse impact on the viability of the port.



Appendix D – Wilkinson Murray (Noise Consultant) Response

6 December 2008

WM Project Number: 07355-R
 Our Ref: 07355-R Ltr Responses
 Fax/Email: philip.panton@cardno.com.au

Mr Philip Paton
 Cardno Forbes Rigby
 278 Keira Street
 WOLLONGONG NSW 2500

Dear Phillip

Re: Proposed Port Kembla Coal Terminal Project - Responses to DoP and DECC

This letter is a response to noise Submissions received from Department of Environment and Climate Change (DECC) and Department of Planning (DoP) as a result of the exhibition of the Environmental Assessment for the Proposed Port Kembla Coal Terminal Project.

Each submission is addressed below:

Department of Environment and Climate Change (DECC) – Attachment 1

1. Noise Emitted from PKCT

a) Background Noise Assessment

As presented in Section 3.1.1 and Section 3.1.2 of the noise assessment, background noise levels at 163 Kembla Street and 392 Keira Streets are dominated by traffic noise from Corrimal Street and Springhill Road which would have a diurnal nature to it. However, during the day 392 Keira Street has the additional traffic noise from vehicles using Keira Street to access the CBD explaining why there is a high variation between day and night time background noise levels. A proportion of background noise at 163 Kembla Street would also be influenced by surf noise therefore resulting in higher background noise floor at night compared to 392 Keira Street.

Additional noise data was collected in 2004 by Sinclair Knight Merz (SKM) as part of Proposed Expansion of General Cargo Handling Facility. SKM deployed 2 noise loggers, one at 10 Swan St and the other at 393 Keira St from 6 to 21 May, 2004 inclusive. The results of the monitoring are presented in Table 1.

Table 1 Summary of Rating Background Levels from the 2004 SKM Expansion of General Cargo Handling Facility noise assessment

Measurement Location	RBL (dBA)		
	Day	Evening	Night
392 Keira Street	48	45	45
10 Swan Street	46	45	44

It is concluded that the RBL levels presented in the EA are a good representation of the background noise level in the area.

Section 3.1.2 of the noise report presents attended noise monitoring at 163 Kembla Street which concludes that PKCT noise is likely to be between 35-40 dBA L_{Aeq} . It is therefore estimated that the likely L_{A90} contribution at 163 Kembla Street would be approximately between 30-35 dBA L_{A90} which would not contribute to the background noise level at Kembla Street.

b) **Noise Impact Assessment**

As explained in the response to DECC query 1 a); attended noise monitoring at 163 Kembla Street from PKCT is likely to be between 35-40 dBA L_{Aeq} . It is therefore estimated that the likely L_{A90} contribution at 163 Kembla Street would be approximately between 30-35 dBA L_{A90} which would not contribute to the background noise level at Kembla Street. As such it is anticipated that DECC would be in a position to provide an informed comment with regard to noise emissions from PKCT.

c) **Horizon Seaside Apartments**

The noise assessment did not specifically consider the Horizon Seaside Apartments, however the assessment considered residences on the corner of Swan Street and Corrimal Street which are closer to PKCT.

2. Road Haulage Noise Assessment

a) **Noise Management**

Refer to DoP Comment 2.

b) **Belambi Lane**

Comment from DECC. No response required.

c) **Belambi Lane**

As a result of the opening of the Northern Distributor Extension in early 2009, the traffic flows are expected to decrease as are the number of heavy vehicle movements (not including coal trucks). Table 2 presents the calculated noise levels along Bellambi Lane once the Northern Distributor has opened in 2009 without any changes to the coal haulage from GNRE No.1. It should however be noted that GNRE No.1 has no restriction for coal haulage.

Table 2 Calculated L_{Aeq} Noise Level for Bellambi Lane for 2009 with the Northern Distributor open without any changes to the coal haulage from GNRE No.1.

Scenario	Location Bellambi Lane	ECRTN Criteria		Predicted the highest tenth percentile hourly A-weighted L_{Aeq} for the relevant period.			
		Day $L_{Aeq,1hr}$	Night $L_{Aeq,1hr}$	Weekday		Weekend	
				Day $L_{Aeq,1hr}$	Night $L_{Aeq,1hr}$	Day $L_{Aeq,1hr}$	Night $L_{Aeq,1hr}$
Existing situation Bellambi Lane ⁽¹⁾	77 Bellambi Lane (front yard)	60	55	71.3	64.3	69.5	63.4
	91 Keerrong Ave (rear yard)			56.6	48.5	54.7	48
Existing situation Bellambi Lane Northern Distributor operating	front yard Bellambi Lane	60	55	67.6	60.6	65.8	59.7
	rear yards Keerrong Ave			52.9	44.8	51.0	44.3

(1) Bellambi Lane is currently an arterial road however since traffic volumes are reducing on Bellambi Lane due the Northern Distributor Extension opening, Bellambi Lane's road category is changing to a collector road. Therefore measured noise levels for Bellambi Lane are reported as the highest tenth percentile hourly A-weighted L_{Aeq} during the relevant period consistent with assessing a collector road.

Table 6-2 and 6-3 of the noise assessment present the calculated noise levels for the proposed operating scenarios considered. These Tables are reproduced for comparison with Table 2.

Table Error! No text of specified style in document.-1 Calculated L_{Aeq} Noise Level for Bellambi Lane for 24/7 haulage scenario.

Scenario	Location Bellambi Lane	Approximate number of houses impacted	ECRTN Criteria		Predicted the highest tenth percentile hourly A-weighted L_{Aeq} for the relevant period.			
			Day $L_{Aeq,1hr}$	Night $L_{Aeq,1hr}$	Weekday		Weekend	
					Day $L_{Aeq,1hr}$	Night $L_{Aeq,1hr}$	Day $L_{Aeq,1hr}$	Night $L_{Aeq,1hr}$
2009 24/7 4M	front yard Bellambi Lane	29	60	55	68.1	65.9	66.9	63.3
	rear yards Keerrong Ave	36			53.4	50.1	52.1	47.9
2013 24/7 10M	front yard Bellambi Lane	29	60	55	70.9	71.1	70.9	67.3
	rear yards Keerrong Ave	36			56.2	55.3	56.1	51.9

Table Error! No text of specified style in document.-2 Calculated L_{Aeq} Noise Level Changes for Bellambi Lane in 2013

Scenario	Location Bellambi Lane	Approximate number of houses impacted	ECRTN Criteria		Predicted the highest tenth percentile hourly A-weighted L _{eq} for the relevant period.			
			Day L _{Aeq,1hr}	Night L _{Aeq,1hr}	Weekday		Weekend	
					Day L _{Aeq,1hr}	Night L _{Aeq,1hr}	Day L _{Aeq,1hr}	Night L _{Aeq,1hr}
2009 15-10 4M	front yard Bellambi Lane	29	60	55	68.5	60.4	66.8	59.4
	rear yards Keerrong Ave	36			53.8	44.6	52.0	44.0
2013 15-10 10M	front yard Bellambi Lane	29			71.9	60.6	70.3	59.6
	rear yards Keerrong Ave	36			58.5	44.8	55.5	44.2

It is recognised in the environmental assessment that 2013 24/7 coal haulage on Bellambi Lane has the potential for significant night time noise impacts. Therefore it is proposed to use a 15 hour 5 weekday and 10 hour 2 weekend day (15/5+10/2) delivery pattern. The (15/5+10/2) delivery pattern will allow for greatest residential amenity, while allowing GNRE to efficiently deliver coal to PKCT up to maximum forecast volumes.

Department of Planning (DoP) – Attachment A

Comment 1 (Noise)

The increase in noise levels for "2013 24/7 10Mtpa + Dendrobium" along Springhill Rd was not presented in noise assessment.

The changes in road traffic noise levels for scenario 2013 24/7 10Mtpa + Dendrobium in 2013 along Springhill Rd has been calculated as a result of the predicted changes in coal truck movements. Table 1 presents results of the noise level changes for the "2013 24/7 10Mtpa + Dendrobium" scenario.

Table 1 Calculated L_{Aeq} Noise Level Changes

Location	Noise Level Change (dB)			
	2013 24/7 10Mtpa + Dendrobium			
	Weekday		Weekend	
Springhill Rd	Day	Night	Day	Night
	0.3	0.3	0.3	0.3

Comment 2. (Noise)

The road haulage noise impacts at Swan Street are considered in the noise assessment, please refer to Table 4.4. The road haulage noise impacts at Swan Street would result from the increased traffic movements on Springhill Road see Table 6.1 of the noise report. A maximum increase of 0.2 dB was estimated at Swan Street.

The road haulage noise impacts at Swan Street, east of Corrimal Street have not been specifically presented. However, it is considered that the noise impacts would be no worse than that presented for Swan Street.

Comment 3 (Noise)

Anecdotal evidence provided previously has listed the following causes of noise complaints to be as stated in DoP response. The EA noise assessment has considered fixed plant from PKCT and has conducted an assessment consistent with the NSW Government Industrial Noise Policy. A sleep disturbance noise assessment was also conducted and concluded that the potential risk of noise from the site disturbing the sleep of nearby residences is unlikely even though they are audible. Additionally PKCT is commitment to best practice (reasonable and feasible) mitigation and possible solutions which could be included in a PKCT operational noise management plan and a driver training plan, namely:

- a) Use of engine brakes at Springhill Rd/Pt Kembla Rd intersection.
 - *Driver training;*
 - *Signage not to use compression brakes;*
 - *a prohibition of engine brakes on Springhill/Pt Kembla Rd, or*
 - *use of a noise camera.*
- b) Engine and drive train noise at Springhill Rd/Pt Kembla Rd intersection
 - *regular fleet maintenance.*
- c) Truck noise generated from passing speed humps
 - *alternate method of speed control ie radar*
- e) Unloading (Tailgate banging)
 - *management practice; and*
 - *possible close in barriers, enclosure or revising orientation of trucks facing Swan Street.*
- f) Fixed Plant at PKCT
 - *regular maintenance review of equipment.*

Comment 4 (Noise)

The road haulage noise impacts for PKCT have been assessed using the Environmental Criteria for Traffic Noise (ECRTN). As required by the ECRTN increases in traffic noise levels due to the proposed increase traffic from PKCT was assessed.

The PKCT road traffic noise assessment used the same approach as the General Cargo Handling facility EA.

Comment 5 (Noise)

The noise contours are a visual representation of the noise level predictions around the area. Noise contouring requires significant interpolation and as such is not as accurate as point to point calculations. Please refer to the Note on Table 5-2 of the noise assessment which states *"Calculated (point to point) levels as presented in Table 5-2 are more accurate than the noise contours."*

I trust this information is sufficient. Please contact us if you have any further queries.

Yours faithfully

WILKINSON MURRAY PTY LIMITED

A handwritten signature in black ink, appearing to read "J Wassermann". The signature is written in a cursive style with a large initial "J" and a stylized "W".

John Wassermann

Director



Appendix E – Public Consultation Letter



ABN 72 003 942 774
Port Kembla Road, Inner Harbour, Wollongong NSW
PO Box 823, WOLLONGONG NSW 2520 Australia
Tel +61 2 4228 0288 Fax +61 2 4228 7603

1st October 2008

Dear Resident,

Part 3A Application for Port Kembla Coal Terminal

As you may be aware, Port Kembla Coal Terminal has been developing an Environmental Assessment for the "Existing Operations and Increased Road Reveal Hours". The Environmental Assessment is currently on public exhibition, and will be assessed by the Department of Planning under Part 3A of the Environmental Planning & Assessment Act over the coming months.

A key area of the Environmental Assessment has been forecasting impacts on the road haulage routes from client mines to PKCT. Impacts associated with traffic volumes and noise, under a range of operating scenarios were assessed along routes. In assessing the impacts on Bellambi Lane, the opening of the Northern Distributor Extension, and its subsequent impact on traffic and noise volumes, has been projected in future modelling.

As part of this assessment, Bellambi Lane was identified as an area where special operating parameters were required. The environmental assessment therefore proposes operating restrictions of 7am – 10pm on Weekdays, and 8am – 6pm on Weekends for coal trucks on Bellambi Lane, i.e. not a 24 hour, 7 day per week basis.

Further information on the proposal is available, including the entire Environmental Assessment, at the PKCT website.

<http://www.pkct.com.au/communityenvironment.htm>

Regards,

A handwritten signature in black ink, appearing to read 'Peter Green', written over a horizontal line.

Peter Green
General Manager – Port Kembla Coal Terminal



Appendix F – Community Newsletter



Support For Clean Up Australia Day



The Coal Terminal is pleased to be a part of this worthwhile clean up activity, with employees volunteering to support by picking up rubbish

The Port Kembla Coal Terminal supported the Friends of the Tom Thumb Lagoon and Conservation Volunteers Australia by both sponsoring and practically participating in the Business Clean-up Australia Day in February 2008 at the Tom Thumb Lagoon Wetland.

Rubbish was collected, with six out of the ten most common types of rubbish found being recyclable items, including drink cans and bottles. The rubbish enters the Tom Thumb Lagoon Wetland from stormwater drains and waterways within the catchment and if not removed it could pollute Port Kembla Harbour and could cause harm to native water birds, fish, frogs and crustaceans.



Designed by iomultimedia



Port Kembla Road
Inner Harbour
WOLLONGONG NSW 2500

PO Box 823
WOLLONGONG NSW 2520
www.pkct.com.au

Phone: 1800 111 448

Email:
communitylinks@pkct.com.au

Coal Terminal Seeks Efficiency Improvements

The Port Kembla Coal Terminal operates two loading berths at Port Kembla Harbour, the coal berth, which last financial year loaded 11.7 million tonnes of coal and the bulk products berth, which loaded 540,000 tonnes of bulk products. The Coal Terminal receives coal from twelve mines in the Illawarra and Lithgow regions via both road and rail, which is stockpiled and then loaded onto ships, with over 90% destined for export markets.

The Coal Terminal operates 24 hours per day, 7 days per week (24/7) to meet shipping requirements. However, a restriction on road transported coal

is during the hours of 7.00am to 6.00pm Monday to Saturday. The current restriction was developed over 25 years ago, and much has

fleets have been made quieter, cleaner and safer. The Coal Terminal considers that it is time for a review of this old regulation in the context of today's operating environment.

“The Coal Terminal considers that it is time for a review of this old regulation in the context of today's operating environment”

under a State Government planning policy developed in 1982 limits the Coal Terminal to receiving coal via public road to 11 hours per day, 6 days per week,

changed since then. Trucks now use different routes, roads have been significantly improved with noise attenuation and jersey barriers, and truck

Approval is being sought from the Minister for Planning to permit the Coal Terminal to receive coal deliveries via public roads 24/7 which will enable efficient operations

Story continued on page 2



❖ Coal Terminal Seeks Efficiency Improvements *Continued from page 1*

and result in a more constant spread of coal trucks on the roads over a 24 hour period. No other changes will be made to the existing Coal Terminal operations as a result of this 24/7 approval request.

Over 50% of coal is currently received at the Coal Terminal by rail. The mines that deliver coal by road have either no or limited access to rail lines and are limited to road transportation by a combination of terrain, land constraints and economic viability. On average, there are 420 coal truck movements to the Coal Terminal 6 days per week. It is noted that coal trucks represent a small percentage of total traffic on Mount Ousley and Springhill Roads, at 1-2%. Moreover, coal trucks represent between 8-16% of total heavy vehicles on Mount Ousley and Springhill Roads.

Volumes of coal (tonnes) and numbers of trucks are not currently restricted, however, the proposed change will result in a 10 million tonne per annum cap on the volume of road transported coal. It is envisaged that trucks will be spread more constantly over each 24 hour period, and the result should be fewer trucks per hour during peak



“ Coal trucks represent a small percentage of total traffic on Mount Ousley and Springhill Roads, at 1-2% ”



commuter times at current volumes.

Restrictions do not apply to the times trucks can operate at any other industry or port operators in Port Kembla, only the Coal Terminal, which is clearly not equitable.

An Environmental Assessment of the change to 24 hour, 7 day deliveries is currently being developed to support the application to the Department of Planning. The preparation of the Environmental Assessment has involved multiple specialist environmental studies to

assess likely impacts of the proposal. The Environmental Assessment is likely to be on public exhibition during June/July 2008. In the interim, if you would like further information on the Coal Terminal's current operations or proposed changes, please contact the Community Hotline on 1800 111 448 or email: communitylinks@pkct.com.au.

If you wish to be kept informed of the Coal Terminal's Environmental Assessment progress, please subscribe by sending an email to: transport@pkct.com.au.

❖ Keep Informed:

For further information on the Coal Terminal's current operations or proposed changes:

❖ Email: communitylinks@pkct.com.au
❖ Ph: 1800 111 448

Subscribe to the Coal Terminal's Environmental Assessment progress:

❖ Email: transport@pkct.com.au