

# Interim Environmental Management Report

## 2015/2016

Reporting Period 1.7.15-31.12.15





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## **1 INTRODUCTION**

### **1.1 PURPOSE**

The purpose of the Interim Environment Management Report (IEMR) is to provide the community, Department of Planning and Environment (DP&E) and other stakeholders a summary of Port Kembla Coal Terminal (PKCT)'s monitoring results in accordance with Schedule 4 Condition 9(a) of DP&E Approval 08\_0009.

### **1.2 SCOPE**

PKCT Major Project Approval 08\_0009 was granted on the 12<sup>th</sup> June 2009. The approval included a requirement for PKCT to prepare an Annual Environment Management Report (AEMR). Approval also requires an interim report covering the initial six months of the reporting period. Accordingly, the first PKCT AEMR that was submitted to the DP&E applies to the period of 1<sup>st</sup> July 2009 – 30<sup>th</sup> June 2010 (the reporting period).

PKCT also has an Environment Protection Authority (EPA) Environment Protection Licence 1625 (EPL). EPA requires licencees to make monitoring results available to the public.

Accordingly, this IEMR will be published on PKCT's website ([www.pkct.com.au](http://www.pkct.com.au)).

### **1.3 METHODOLOGY**

Section 2 provides a description of the various environmental aspects monitored by PKCT under its EPL and DP&E approval conditions. Each aspect references applicable assessment criteria and provides a commentary on the monitoring undertaken. Monitoring results are included in the attachments herein.

## 2 MONITORING

### 2.1 NOISE

#### 2.1.1 Assessment Criteria

EPL 1625 & Major Project Approval 08\_0009 describe noise emission criteria from PKCT's premises. Noise criteria are outlined as follows:-

1. The Proponent shall ensure that the noise generated by the project at any privately-owned residence does not exceed the criteria specified in Table 1 for the location nearest to that residence.

*Table 1: Noise impact assessment criteria dB(A) LAeq (15 min)*

Location	Time Period	Limits (LA <sub>eq,15 min</sub> dB(A))
Cnr Swan St/Kembla St	Day	51
	Evening	50
	Night	49
Cnr Swan St/Corrimal St	Day	51
	Evening	50
	Night	49
Cnr Keira St/Fox St	Day	55
	Evening	49
	Night	45

**Notes:**

- (a) To determine compliance with the LA<sub>eq</sub> (15 minute) noise level limits in the above table, noise from the project is to be measured at the most affected point within the residential boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, the DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- (b) The noise emission limits identified in the above table apply under meteorological conditions of:
  - o wind speeds of up to 3 m/s at 10 metres above ground level; or
  - o temperature inversion conditions of up to 3°C/100m, plus a 2 m/s source-to-receiver component drainage flow wind at 10 metres above ground level for those receivers where applicable in accordance with the NSW Industrial Noise Policy.

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

#### 2.1.2 Monitoring and Results

A routine noise survey was undertaken in December 2015. A summary of the monitoring data is provided in Attachment "A". Noise surveys determined that PKCT noise levels were within the noise criteria in EPL 1625 and DP&E Approval 08\_0009. Attachment "A" provides a summary of noise monitoring results from the December survey.

**2.2 TRANSPORT**

**2.2.1 Assessment Criteria**

**Monitoring of Coal Transport**

- 4. The Proponent shall keep records of the amount of coal and bulk products received at the site each year, and include these records in the AEMR.

**Traffic Management**

- 5. The Proponent shall ensure that vehicles waiting to deliver coal or bulk products to the site do not queue or park on public roads other than Port Kembla Road.

**Driver's Code of Conduct**

- 6. The Proponent shall, in consultation with affected mines and principal haulage operators, develop a program to implement the Driver's Code of Conduct (see Appendix 3) to the satisfaction of the Director-General. This program must:
  - (a) be submitted to the Director-General for approval within 6 months from the date of this approval, or as otherwise agreed by the Director-General;
  - (b) include a driver induction program to cover (but not be limited to) speed limits, compression braking, truck washing, load covering and queuing on local roads; and
  - (c) include measures to ensure the Driver's Code of Conduct is enforced.

Appendix 2- Statement of Commitments	PKCT Commitment
<ul style="list-style-type: none"> <li>• Transport of coal and bulk products to PKCT to be conducted in a manner which does not adversely impact on public safety or amenity of road users.</li> </ul>	<ul style="list-style-type: none"> <li>• All trucks delivering coal and bulk products to PKCT must follow designated heavy vehicle transport routes.</li> </ul>

**2.2.2 Monitoring and Results**

Attachment “B” provides a summary of receivals and shiploading throughput data for the reporting period.

PKCT received 2,821,239 tonnes via private and public roads during the reporting period.

There were no instances of trucks queueing on Springhill Road during the reporting period.

Attachments “C” and “D” provide a summary of monitoring results pertaining to road transport and the Drivers Code of Conduct. A Road Users Group (PKCT, truck companies and relevant coal and bulk products shippers) meet to review implementation and monitoring results. During this reporting period, a meeting was held on 14<sup>th</sup> October 2015. Weekly Shippers meetings are also held to coordinate shipping and receival plans. This is facilitated by PKCT with shippers in attendance and is a forum where any issues can be raised. Outside of meetings, PKCT has communications with road transport providers where road and Drivers Code of Conduct matters can be raised and actioned.

Air Quality

**2.2.3 Assessment Criteria**

**Impact Assessment Criteria**

7. The Proponent shall ensure that dust generated by the project does not cause additional exceedances of the criteria listed in Tables 3 to 5 at any residence.

*Table 3: Long term impact assessment criteria for particulate matter*

Pollutant	Averaging Period	Criterion
Total suspended particulate (TSP) matter	Annual	90 µg/m <sup>3</sup>
Particulate matter < 10 µm (PM10)	Annual	30 µg/m <sup>3</sup>

*Table 4: Short term impact assessment criteria for particulate matter*

Pollutant	Averaging Period	Criterion
Particulate matter < 10 µm (PM10)	24 hour	50 µg/m <sup>3</sup>

*Table 5: Long term impact assessment criteria for deposited dust*

Pollutant	Averaging Period	Maximum Increase in Deposited Dust Level	Maximum Total Deposited Dust Level
Deposited Dust	Annual	2 g/m <sup>2</sup> /month	4 g/m <sup>2</sup> /month

*Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS 3580.10.1-1991: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.*

However, if the Proponent has a written negotiated air quality agreement with any landowner to exceed the air quality limits in Table 3, 4 and/or 5, and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the air limits in Table 3, 4 and/or 5 in accordance with the negotiated air quality agreement.

EPL 1625 contains a requirement for dust monitoring but no specified limits for dust, or other air quality emissions. The EPL does require the following:

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O3.2 Activities occurring in or on the premises must be carried out in a manner that will minimise the generation or emission of wind-blown, or traffic generated dust.

#### **2.2.4 Monitoring and Results**

PKCT monitors air quality using dust deposition gauges and continuous dust monitors located on site and on adjacent port and residential areas as shown on Attachment "E".

Dust deposition data is reported on PKCT's web site [www.pkct.com.au](http://www.pkct.com.au) in a monthly Environment Protection Licence Monitoring Report.

PKCT monitors depositional dust levels on a monthly basis and uses a 12 month rolling average to assess compliance against the criteria.

Attachment "F" provides trend graphs for PKCT's depositional gauges at nearby residential sites. Dust deposition levels across the reporting period were within the 12 month rolling average assessment criteria for insoluble solids (4 Grams/m<sup>2</sup>/month) and combustible matter (2 Grams/m<sup>2</sup>/month) at residential sites.

Across the reporting period, there were three months (July, August and November) where residential gauges exceeded the monthly combustible matter criteria of 2 Grams/m<sup>2</sup>/month for that month. In these instances, PKCT undertook additional microscopic analysis of the samples.

In July 2015, elevated combustible matter was recorded at Vikings Oval. Subsequent microscopic analysis of the sample found that Soil and Minerals comprised 80-85% of the sample, coal comprised 10 to 15% of the sample and insects and plants comprised 3 to 5%.

In August 2015, elevated combustible matter was recorded in the Vikings Oval depositional Gauge. Subsequent microscopic analysis of the deposit identified high levels of Coke (40-50%) and Soil and Minerals (30-40%) were the main constituents. Coal was only a minor component. PKCT's stockpile spray systems were operational during August. While still below the EPA Air Quality Criteria of 2 Grams/m<sup>2</sup>/month, the high levels recorded during August have increased and skewed the 12 monthly averages for the remainder of the reporting period.

In November 2015, elevated combustible matter was recorded at the Church Street residential gauge. Further analysis identified that Insect and Plant remains comprised >95% of the sample, Soil and Minerals comprised 2 to 3% of the sample and coal and coke <1%.



A summary of the data recorded at the northern continuous dust monitor is presented below.

The annual average (rolling average for January to December 2015) and six-month average (July to December 2015) concentrations of TSP at the PKCT northern monitoring site were below the trigger level of 90  $\mu\text{g}/\text{m}^3$ .

The annual average (rolling average for January to December 2015) PM10 concentration of 29.2  $\mu\text{g}/\text{m}^3$  at the PKCT northern monitoring site was below trigger level of 30  $\mu\text{g}/\text{m}^3$

The six-month average (July to December 2015) PM10 concentration of 28.6  $\mu\text{g}/\text{m}^3$  at the PKCT northern monitoring site was below the trigger level of 30  $\mu\text{g}/\text{m}^3$ .

At the northern PKCT monitoring site the trigger level of 90  $\mu\text{g}/\text{m}^3$  for the 24-hour average TSP concentration was exceeded on 14 occasions during the July to December 2015 period, while the 24-hour average PM10 air quality standard of 50  $\mu\text{g}/\text{m}^3$  was exceeded on 29 occasions. Each TSP exceedance day was also a PM10 exceedance day.

PKCT was identified as having made, at most, a minor contribution (i.e. less than 30%) to all 14 of the exceedances of the 24-hour average TSP trigger level at the PKCT northern monitoring site.

PKCT was identified as having made, at most, a minor contribution (i.e. less than 30%) to all 29 of the exceedances of the 24-hour average PM10 objective at the PKCT northern monitoring site.

On average, PKCT was estimated to have contributed 4% to TSP levels at the PKCT northern monitoring site on days when exceedances of the TSP trigger level occurred.

On average, PKCT was estimated to have contributed 4% to PM10 levels at the PKCT northern monitoring site on days when exceedances of the PM10 standard occurred.

While data was unavailable from the southern monitoring site during 25, 26, 28 and 29 October and 1 December 2015 to allow the standard contribution analysis for exceedances of the PM10 standard and TSP trigger level, additional analysis of the monitoring data indicates that PKCT did not contribute significantly to the exceedance on these days.

There were no exceedances of the 24-hour average TSP trigger level of 90 $\mu\text{g}/\text{m}^3$  recorded at the BlueScope high volume air sampler at Vikings Oval During the July to December 2015 period.

There was one exceedance of the 24-hour average PM10 air quality objective of 50 $\mu\text{g}/\text{m}^3$  at the OEH monitor at Kembla Grange during the July to December 2015 period, on 26 November. The OEH attributed this exceedance to bushfires. This day was also a PM10 exceedance day at the PKCT northern monitor.

During 8 of the 29 PM10 exceedance days at the PKCT northern monitor, one or more of the OEH monitors at Wollongong, Kembla Grange and Albion Park South recorded an elevated concentration above 40µg/m<sup>3</sup> but below the air quality objective. The coinciding elevated concentrations indicate that regional particulate levels may have been elevated during these exceedance periods.

Attachment “G” provides a summary of continuous dust data.

It is noted that the northern monitor is not located on the northern residential boundary so that exceedance results are considered conservative.

Following a series of Rail Unloading Facility Audits at PKCT in 2014 and 2015, PKCT and other Terminals consulted with the EPA and developed a Wagon Monitoring and Reporting Program which was added to PKCT’s existing EPL. A monitoring process was developed and data collection began in February 2016.

## **2.3 METEOROLOGICAL MONITORING**

### **2.3.1 Assessment Criteria**

11. During the life of the project, the Proponent shall ensure that there is a suitable meteorological station on or in the vicinity of the site that generally complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline.

### **2.3.2 Monitoring and Results**

PKCT was compliant with this Condition during the reporting period. Meteorological monitoring is undertaken as follows:-

- Northern and southern continuous dust monitors are calibrated annually and measure PM10, PM2.5, TSP, wind speed and wind direction.
- PKCT also has an anemometer on the Main Control Tower. It measures wind speed and direction as well as rainfall, pressure, temperature and humidity.
- Summary data is provided in Attachment “H”.

## **2.4 SURFACE WATER**

### **2.4.1 Assessment Criteria**

The Protection of the Environment Operations (POEO) Act 1997 sets requirements and controls regarding pollution of the environment. Section 120 of this Act confirms it is an offence to cause or permit pollution of any waters. PKCT is required to comply with this requirement, however, PKCT’s EPL 1625 provides site specific water pollution permissions and requirements relating to their activities.

PKCT completed a five-yearly EPL review with the EPA in September 2014. Updated licence conditions related to water quality data are presented below.

**EPL 1625 Water Quality Limits**

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Limits following September 2014 EPL Review
Oil and Grease	Milligrams per litre	10	Not visible
pH	pH	6.5-8.5	Monitoring and reporting only
Total Suspended Solids (TSS)	Milligrams per litre	50	50

Exceeding the limit specified in Condition L2.4 of this licence for Total Suspended Solids for discharges from Point 16 identified by Conditions P1.2 and P1.3 is only permitted when the discharge occurs solely as a result of rainfall measured at the premises. For discharge to be considered to occur solely as a result of rainfall, the rainfall must exceed a 5 day rainfall depth value of 90 mm over a consecutive 5 day period.

Condition 12 of Schedule 3 of Major Project Approval 08\_0009 also specifies a surface water standard for PKCT activities. The following extract identifies the control.

**DP&E Approval 08\_0009 Water Quality Condition**

**SURFACE WATER**

**Discharge Limits**

12. Except as may be expressly provided in an EPL for the project, the Proponent shall comply with Section 120 of the *Protection of the Environment Operations Act 1997*.

This replicates PKCT’s surface water requirement under the POEO Act and is therefore controlled by EPL 1625.

PKCT has a Water Savings Action Plan in place and is continuing efforts to minimize overall and potable water usage.

**2.4.2 Monitoring and Results**

PKCT has a Water Management Plan which covers the use of water, collection of process and stormwater, treatment and control of water for reuse and discharge to harbour waters.

Attachment “I” provides data on potable and recycled water usage. Potable water usage across the reporting period has decreased compared to the same period last year (FY14/15 92ML, FY15/16 52ML). Recycled water use has remained stable (FY14/15 175ML, FY15/16 183ML).

PKCT continues to review its water supply infrastructure and investigating ways of reducing water use across the site.

Attachment “J” provides water quality results from PKCT’s EPL Licensed Discharge Point 16 (LDP16). The results indicate the following:

- (a) 100% compliance for Oil and Grease.
- (b) 100% Compliance for Total Suspended Solids.

- (c) Under EPL 1625, pH is required to be monitored and recorded only. pH has been recorded for 100% of overflows.

On 18<sup>th</sup> March 2015, PKCT identified a plume of turbid water below Berth 102. The plume was generated from discharge of wash-down water containing coal fines from Shiploader 1. The event was reported to the EPA immediately and following an investigation, PKCT received a Formal Warning letter from the EPA on 3<sup>rd</sup> September 2015. All corrective actions identified during the investigation have been closed out.

## 2.5 BIODIVERSITY

### 2.5.1 Assessment Criteria

#### Green and Golden Bell Frog Management Plan

14. The Proponent shall prepare and implement a Green and Golden Bell Frog Management Plan for the project to the satisfaction of the Director-General. This program must:
- (a) be developed in consultation with DECC; and
  - (b) be submitted to the Director-General for approval within 12 months from the date of this approval, or as otherwise agreed by the Director-General.

Objective	PKCT Commitment
<ul style="list-style-type: none"> <li>• Management of Green and Golden Bell Frogs (GGBF).</li> </ul>	<ul style="list-style-type: none"> <li>• Implement Interim Management Plan.</li> <li>• Undertake a GGBF Survey and then develop a Long Term Plan of Management.</li> </ul>

### 2.5.2 Monitoring and Results

PKCT has a Green and Golden Bell Frog (GGBF) management plan in place. Internal and external (with consultant) surveys are undertaken periodically by PKCT. PKCT's consultant, Biosphere, undertook a review of PKCT's management plan in July 2011. Site inspections associated with the review failed to detect any GGBF on site, any signs of tadpole activity or croaking. The management plan has been reviewed and submitted to the Environment Protection Authority. Opportunities to further develop Greenhouse Park frog habitat are under consideration. PKCT undertook its latest frog survey in February 2015. During this survey, no Green and Golden Bell frogs were sighted or heard.

There have been no onsite sightings of Green and Golden Bell Frogs in this reporting period.

The next Green and Golden Bell Frog survey is scheduled for February 2016.

**2.6 GREENHOUSE & ENERGY EFFICIENCY**

**2.6.1 Assessment Criteria**

**Operating Conditions**

17. The Proponent shall implement all reasonable and feasible measures to minimise:
- (a) energy use onsite; and
  - (b) greenhouse gas emissions from the project to the satisfaction of the Director-General.

**Greenhouse and Energy Efficiency Plan**

18. Within 12 months of this approval or as otherwise agreed by the Director-General, the Proponent shall prepare and implement a Greenhouse and Energy Efficiency Plan for the project. This plan must:
- (a) be prepared generally in accordance with the *Guidelines for Energy Savings Action Plans* (DEUS 2005, or its latest version);
  - (b) be submitted to the Director-General for approval;
  - (c) include a program to estimate/monitor greenhouse gas emissions and energy use generated by the project;
  - (d) include a framework for investigating and implementing measures to reduce greenhouse gas emissions and energy use at the project;
  - (e) describe how the performance of these measures would be monitored over time; and
  - (f) report on the project's greenhouse gas emissions and minimisation measures in the AEMR to the satisfaction of the Director-General.

EPL 1625 does not include any requirements relating to GHG emissions or energy use.

Major Project Approval 08\_0009 has requirements relating to GHG and energy efficiency but does not set any prescriptive controls. Condition 18 of Schedule 3 requires the following.

Objective	PKCT Commitment
<ul style="list-style-type: none"> <li>• Minimise the production of greenhouse gas emissions associated with PKCT operations.</li> </ul>	<ul style="list-style-type: none"> <li>• PKCT to review onsite electricity use and identify and implement economically viable opportunities for reduced electricity usage.</li> </ul>

## **2.6.2 Monitoring and Results**

### **GHG & Energy Efficiency**

Neither EPL 1625 nor DP&E Approval 08\_0009 specifies criteria for GHG emissions or energy reduction. Attachment “L” and “M” provide data covering the 2015/2016 reporting period. It is noted that Greenhouse Gases - Scope 1 and Scope 2 emissions are below the National Greenhouse and Energy Reporting (NGER) scheme reporting threshold.

Energy Efficiency – Energy efficiency has generally been poor across the reporting period with five of six months exceeding the energy efficiency target of 1.655 kWh/tonnes. Energy efficiency is calculated by dividing kilowatt hours consumed by tonnes of throughput. Of particular note was the low energy efficiency months of November and December. These values directly relate to the low throughput tonnes being experienced by PKCT, which in turn is a result of the industry slow down over the first half of the current financial year.

Opportunities are being continually sought to improve efficiency through proposed plant/equipment replacements and upgrades.

GHG - Use of soya biodiesel has continued across the reporting period primarily for front end loader operations.

## **2.7 WASTE**

### **2.7.1 Assessment Criteria**

EPL 1625 does not include any standards or performance measures relating to waste.

Major Project Approval 08\_0009 has requirements relating to waste but does not set any prescriptive controls. Condition 19 of Schedule 3 requires the following.

#### **Operating Conditions**

19. The Proponent shall:
- (a) monitor the amount of waste generated by the project;
  - (b) investigate ways to minimise waste generated by the project;
  - (c) implement reasonable and feasible measures to minimise waste generated by the project; and
  - (d) report on waste management and minimisation in the AEMR to the satisfaction of the Director-General.

### 2.7.2 Monitoring and Results

PKCT has a Waste Management Plan in place. The plan contains waste monitoring, assessment, reporting, mitigation and management provisions to ensure necessary actions and that waste from PKCT premises comply with the criteria in the condition above.

Waste data for the reporting period as generated from normal site operations and specific Projects is presented in Attachment M.

## 2.8 HAZARDS

### 2.8.1 Assessment Criteria

#### Dangerous Goods

20. The Proponent shall ensure that storage, handling and transport of dangerous goods are done in accordance with the relevant *Australian Standards*, particularly AS1940 and AS1596, and the *Dangerous Goods Code*.

### 2.8.2 Monitoring and Results

PKCT decommissioned its two underground fuel storage tanks in February 2014. PKCT continues to utilise a mobile refueling system for its plant machinery and no longer stores any fuel on site.

## 3 COMMUNITY RELATIONS

### 3.1 ASSESSMENT CRITERIA

Appendix 2- Statement of Commitments	PKCT Commitment
<ul style="list-style-type: none"> <li>PKCT to be regarded as a responsible corporate citizen by the community.</li> </ul>	<ul style="list-style-type: none"> <li>Continued operation of the PKCT Community Consultative Committee.</li> <li>Continued advertisement and operation of the telephone hotline.</li> </ul>

### 3.2 MONITORING AND RESULTS

Complaints received during the reporting period entail the following:

- No complaints related to PKCT general operations were received during the reporting period.
- No complaints related to road transport.

The following actions occurred during the reporting period:

- Community Consultative Committee met on 15<sup>th</sup> October 2015.
- PKCT web site ([www.pkct.com.au](http://www.pkct.com.au)) continues to include e-mail and phone contact details ([communitylinks@pkct.com.au](mailto:communitylinks@pkct.com.au)). Community Hotline number font size was increased after request from CCC members.

#### **4 INDEPENDENT EXTERNAL AUDIT 2014- STATUS OF ACTIONS**

An audit was carried out by consultant, AECOM P/L, in March 2014 and an audit report was submitted to the DP&E on 9<sup>th</sup> May 2014.

By email on 29<sup>th</sup> May 2014, DP&E provided a response to the audit submission raising a number of matters requiring PKCT's attention. PKCT sought to address these matters and by email of 10<sup>th</sup> June 2014, PKCT submitted a revised audit report together with a requested Action Plan.

On the 16<sup>th</sup> June 2014, the DP&E provided further feedback and PKCT revised its Action Plan and Audit Report to accommodate the requests of the DP&E.

A summary of the status of the minor Non-Compliances identified in the audit is presented below;

- The auditors identified a dust deposition funnel was not in a gauge located along the Seawall Road as a result of public tampering with the gauge. The auditors recommended installing a locked gate at this location to minimise the likelihood of this reoccurring. A locked enclosure was installed around the two Seawall Road Dust Gauges in December 2014.
- Occasional pH and TSS exceedances have occurred at PKCT's LDP16. The audit identified the exceedances as a minor non-compliance. During the reporting period, PKCT has been working through a number of initiatives to reduce the likelihood of further exceedances. These initiatives include;
  - Gaining funding and beginning major upgrade works at the site's Central Pond - As of December 2015, the Central Pond Upgrade works are progressing and nearing completion.
  - Installation of a controlled discharge pipe to assist with water management at LDP16.
  - Engaging a consultant to undertake a review of a TSS exceedance event to understand the mechanism causing the exceedance.
  - Investigating alternate emergency water clarification methods - PKCT commissioned a coagulant dosing system at the Central Pond to assist with emergency water treatment if required.
  - Reviewing the cleaning process in the Settlement Lagoon – In September 2015, PKCT undertook a dredging program in the Settlement Lagoon, removing sediment from the western end of the Lagoon.
  - In August 2015, a pipeline was installed in the Settlement Lagoon allowing controlled transfer of water from the Lagoon to another pond. This pipeline will minimise the potential for poor quality water discharging to harbour by allowing the water to be redirected to another pond and retreated if required.



## 5 CONCLUSION

Monitoring undertaken during the reporting period did not identify any notable adverse aspects. Further work to be finalised will be reported in the Annual Environmental Management Report due on 31<sup>st</sup> July 2016.

## 6 REFERENCES

Environmental Protection Licence 1625 – Port Kembla Coal Terminal

Major Project Approval 08\_0009 for the Port Kembla Coal Terminal Project

## Attachment A. NOISE MONITORING REPORT - DECEMBER 2015

PORT KEMBLA COAL TERMINAL  
DECEMBER 2015 COMPLIANCE MONITORING

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**Table 5-1 Summary of Monitoring Results – Location 1 – Corner Swan & Kembla Streets**

Date & Start Time	Period	Criteria (dBA)	BarnOwl® L <sub>Aeq</sub> (dBA)		Wind Speed (m/s) and Direction	Stability Class	Compliance	Observations
			PKCT Direction [Est. PKCT Contribution]	All Noise				
08/12/15 4.35-4.50pm	Day	51	46 [<25]	62	2.8 22°	C	YES Not Audible	At residential location: Noise dominated by road traffic and local activities. PKCT activities not audible. On-site: Noise dominated by truck movements and train. Number of truck movements 6.
08/12/15 9.10-9.25pm	Evening	50	41 [<25]	54	2.7 24°	D	YES Not Audible	At residential location: Noise dominated by road traffic and local activities. PKCT activities not audible. On-site: Noise dominated by truck wash. Number of truck movements 0.
08/12/15 10.45-11pm	Night	49	39 [<25]	54	3.1 16°	D	YES Not Audible	At residential location: Noise dominated by road traffic and local activities. PKCT activities not audible. On-site: Noise emanating from truck wash. Number of truck movements 0.
08/12/15 11-11.15pm	Night	49	39 [<25]	54	3.6 3°	D	YES Not Audible	At residential location: Noise dominated by road traffic and local activities. PKCT activities not audible. On-site: Noise emanating from train shed. Number of truck movements 0.

WILKINSON MURRAY

PORT KEMBLA COAL TERMINAL  
DECEMBER 2015 COMPLIANCE MONITORING

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**Table 5-2 Summary of Monitoring Results – Location 2 – Corner Swan & Corrimal Streets**

Date & Start Time	Period	Criteria (dBA)	BarnOwl® L <sub>Aeq</sub> (dBA)		Wind Speed (m/s) and Direction	Stability Class	Compliance	Observations
			PKCT Direction [Est. PKCT Contribution]	All Noise				
08/12/15 4-4.15pm	Day	51	38 [<25]	56	2.2 26°	C	YES Not Audible	At residential location: Noise dominated by road traffic and local activities. PKCT activities not audible. On-site: Noise dominated by truck movements and train. Number of truck movements 6.
08/12/15 9.35-9.50pm	Evening	50	44 [<25]	58	3.5 30°	D	YES Not Audible	At residential location: Noise dominated by road traffic and local activities. PKCT activities not audible. On-site: Noise dominated by truck wash and train. Number of truck movements 0.
08/12/15 10-10.15pm	Night	49	38 [<25]	52	3.7 26°	D	YES Not Audible	At residential location: Noise dominated by road traffic and local activities. PKCT activities not audible. On-site: Noise emanating from train and train shed. Number of truck movements 0.
08/12/15 10.15-10.30pm	Night	49	42 [<25]	54	4.0 19°	D	YES Not Audible	At residential location: Noise dominated by road traffic and local activities. PKCT activities not audible. On-site: Noise emanating from berthed ship. Number of truck movements 0.

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**Attachment “A” Noise Monitoring Report - December 2015 (continued)**

PORT KEMBLA COAL TERMINAL  
 DECEMBER 2015 COMPLIANCE MONITORING

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 REPORT NO. 07355-NM-12 VERSION A

**Table 5-3 Summary of Monitoring Results – Location 3 – Corner Keira & Fox Streets**

Date & Start Time	Period	Criteria (dBA)	BarnOwl® L <sub>Aeq</sub> (dBA)		Wind Speed (m/s) and Direction	Stability Class	Compliance	Observations
			PKCT Direction [Est. PKCT Contribution]	All Noise				
08/12/15 5.05-5.20pm	Day	55	56 [<35]	66	2.1 24°	C	YES Not Audible	At residential location: Noise dominated by road traffic and local activities. PKCT activities not audible. On-site: Noise dominated by truck movements and train. Number of truck movements 6.
08/12/15 8.45-9pm	Evening	49	42 [<25]	61	3.5 23°	D	YES Not Audible	At residential location: Noise dominated by road traffic and local activities. PKCT activities not audible. On-site: Noise dominated by truck wash and train unloading. Number of truck movements 0.
08/12/15 11.30-11.45pm	Night	45	46 [<25]	58	3.3 17°	D	YES Not Audible	At residential location: Noise dominated by road traffic and local activities. PKCT activities not audible. On-site: Noise emanating from truck wash and a front end loader. Number of truck movements 0.
08/12/15 11.45pm-12am	Night	45	46 [<25]	56	3.4 18°	D	YES Not Audible	At residential location: Noise dominated by road traffic and local activities. PKCT activities not audible. On-site: Noise dominated by truck movements and a pump. Number of truck movements 4.

**Attachment B. SUMMARY OF PKCT THROUGHPUT AND RECEIVALS**

**Shiploading and Receptions: July- December 2015**

Shiploading July to December 2015	Coal		Coke	Iron Ore	Total
	Coking	Steaming			
Berth 101: Bulk Products Berth (Tonnes)	0	0	0	0	0
Berth 102: Coal Berth (Tonnes)	3,840,619	1,403,677	0	0	5244296
			<b>Total (tonnes)</b>		<b>5,244,296</b>

Receptions July to December 2015	Private and Public Road
<b>Road Reception (Tonnes)</b>	2,821,239
<b>Rail Reception (Tonnes)</b>	2,058,736
<b>Total Tonnes</b>	<b>4,879,975</b>



**Attachment C. ROAD TRANSPORT COMPLAINTS & INCIDENTS SUMMARY**

**Incidents: July-December 2015**

Company	Incident Summary July to December 2015						Total
	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	
Bulktrans	0	0	0	0	0	0	
Brindles	0	0	0	0	0	0	
Trazblend	0	0	0	0	0	0	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Incident Summary
No on-road incidents reported by transport companies during the reporting period.

**Attachment D. ROAD TRANSPORT REPORT- JULY-DECEMBER 2015**

Monthly Reports Summary FY 15/16	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	FY15/16 Total	Comment
Tonnes - Public Road	410,726	302,964	410,200	287,465	126,183	145,570	1,683,108	Note: Slow market conditions across the reporting period has resulted in lower received tonnes compared to previous years.
Tonnes - Private Road	257,598	258,461	302,274	238,373	28,564	52,861	1,138,131	
Total road tonnes	668,324	561,425	712,474	525,838	154,747	198,431	2,821,239	
Spillage - Public Road	0	0	0	0	0	0	0	
Incident - Other	0	0	0	0	0	0	0	
Impact with other vehicle	0	0	0	0	0	0	0	
Incidents Reported to RTA	0	0	0	0	0	0	0	
Complaints	0	0	0	0	0	0	0	
EPL/ regulatory breaches	0	0	0	0	0	0	0	
Inductions (%)	100	100	100	100	100	100	100	
Hours restrictions breach	0	0	0	0	0	0	0	
Road Transport Providers (RTP): Observations/ Audits	113	84	130	115	61	109	612	
RTP: Number of drivers observed	439	452	518	507	261	332	2,509	
RTP: Trucksafe/NHVAS/Other Audits	31	76	45	54	33	46	285	
CTO / Audits at mine sites (Shippers & PKCT)	0	0	1	0	0	0	1	
CTO / Audits: At PKCT (Shippers & PKCT)	3	1	0	2	3	1	10	
CTO / Audits: Mine to PKCT (Shippers & PKCT)	0	1	2	0	0	1	4	
RTP system audits	0	0	0	0	0	0	0	Includes data from Shippers and Road Transport Provider's

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**Attachment E. AIR QUALITY- MONITORING SITES**

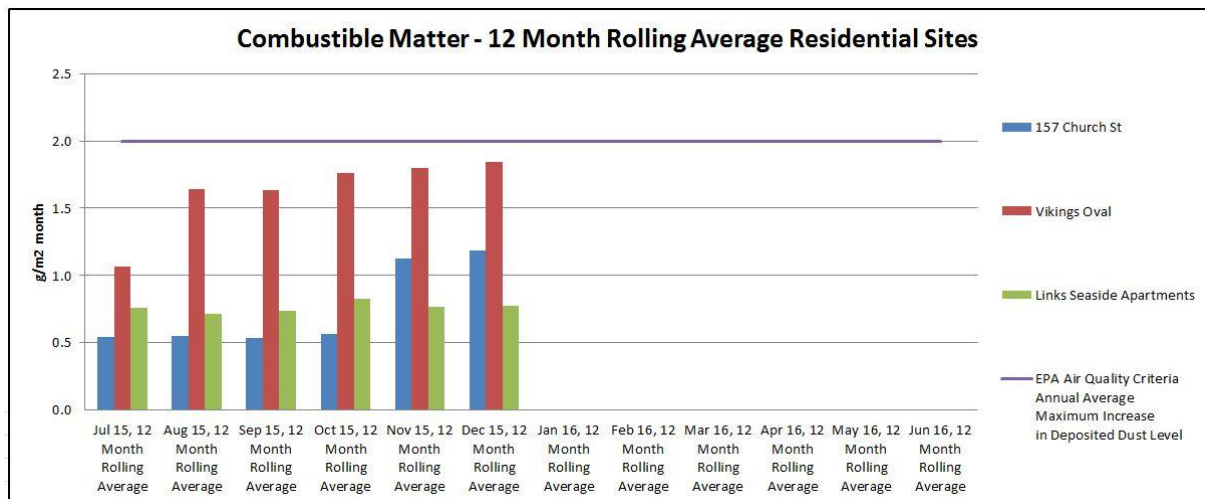
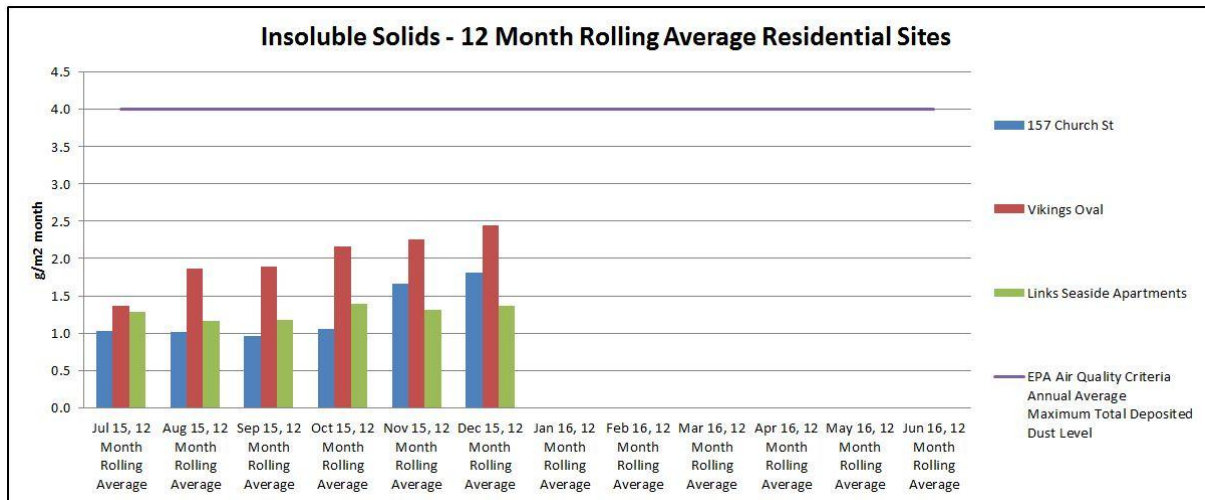


**Location of EPL Air Quality Monitoring Sites**

- Dust Gauges- EPA EPL sites ● BlueScope High Volume Sampler/ EPA EPL P11 ●
- Continuous Dust Monitor Sites ●
- PKCT Site Boundary

**Attachment F. AIR QUALITY: DUST DEPOSITION**

**Residential Sites – 12 month rolling average July to December 2015**





**Attachment G. AIR QUALITY: CONTINUOUS DUST DATA**

**July- December 2015**

**Table 6** Maximum recorded 24-hour average TSP concentrations at the northern PKCT monitoring site during July to December 2015 by month (trigger level of 90 µg/m³)

Monitoring period	Maximum concentration (µg/m³)	Number of exceedances
July 2015	33.4	0
August 2015	47.8	0
September 2015	63.0	0
October 2015	162.0	7
November 2015	126.8	2
December 2015	141.9	5
<b>Total exceedances</b>		<b>14</b>

**Table 7** Maximum recorded 24-hour average PM<sub>10</sub> concentrations at the northern PKCT monitoring site during July to December 2015 by month (air quality standard of 50 µg/m³)

Monitoring period	Maximum concentration (µg/m³)	Number of exceedances
July 2015	20.9	0
August 2015	34.9	0
September 2015	41.5	0
October 2015	107.5	9
November 2015	73.7	6
December 2015	98.4	14
<b>Total exceedances</b>		<b>29</b>

**Table 8** Annual average TSP and PM<sub>10</sub> concentrations at the northern PKCT monitoring site during July to December 2015

Pollutant	Standard/ trigger level (µg/m³)	Rolling annual average January – December 2015 (µg/m³)	Six-month average July – December 2015 (µg/m³)
TSP	90	44.0	43.9
PM <sub>10</sub>	30	29.2	28.9

**Attachment "G" Air Quality: Continuous Dust Data (continued)**

**Table 9 PKCT contribution ratings for exceedance days during July to December 2015**

<b>PKCT contribution rating</b>	<b>Number of TSP exceedance days</b>	<b>Number of PM<sub>10</sub> exceedance days</b>
None	3	9
Minimal (0% to 10%)	7	12
Minor (10% to 30%)	1	3
Moderate (30% to 70%)	0	0
Major (70% to 100%)	0	0
Unclassified (missing data)	0	0
<b>Total exceedance days</b>	<b>14</b>	<b>29</b>



**Attachment “G” Air Quality: Continuous Dust Data (continued)**

Table 12 Proportions of TSP that were made up of PM<sub>10</sub>, PM<sub>2.5</sub> and PM<sub>1.0</sub> for the periods exceeding the TSP trigger level and/or PM<sub>10</sub> air quality standard at the northern PKCT monitoring site during the July to December 2015 period

Date	Trigger level/ standard exceeded	24-hour average TSP concentration (µg/m³)	PM <sub>10</sub> proportion		PM <sub>2.5</sub> proportion		PM <sub>1.0</sub> proportion	
			µg/m³	% of TSP	µg/m³	% of TSP	µg/m³	% of TSP
3 October	TSP, PM <sub>10</sub>	91.3	57.8	63%	13.7	15%	4.6	5%
5 October	TSP, PM <sub>10</sub>	153.3	94.9	62%	15.4	10%	4.0	3%
16 October	TSP, PM <sub>10</sub>	162.0	107.5	66%	42.9	26%	18.1	11%
17 October	TSP, PM <sub>10</sub>	99.7	68.6	69%	31.7	32%	14.2	14%
18 October	PM <sub>10</sub>	80.1	56.8	71%	25.0	31%	11.1	14%
19 October	PM <sub>10</sub>	77.5	52.4	68%	21.5	28%	8.5	11%
20 October	TSP, PM <sub>10</sub>	93.0	61.6	66%	20.7	22%	8.3	9%
21 October	TSP, PM <sub>10</sub>	98.3	61.8	63%	16.8	17%	6.7	7%
26 October	TSP, PM <sub>10</sub>	102.8	67.2	65%	21.4	21%	8.3	8%
6 November	PM <sub>10</sub>	74.7	53.6	72%	26.5	35%	11.9	16%
19 November	PM <sub>10</sub>	88.5	58.3	66%	22.0	25%	9.3	11%
25 November	PM <sub>10</sub>	79.3	52.4	66%	19.0	24%	8.1	10%
26 November	TSP, PM <sub>10</sub>	126.8	73.7	58%	18.7	15%	6.5	5%
28 November	PM <sub>10</sub>	77.5	52.2	67%	17.6	23%	6.8	9%
29 November	TSP, PM <sub>10</sub>	91.1	64.4	71%	26.7	29%	9.1	10%
1 December	TSP, PM <sub>10</sub>	137.4	90.6	66%	22.7	17%	7.1	5%
6 December	PM <sub>10</sub>	77.4	51.3	66%	18.8	24%	8.3	11%
8 December	PM <sub>10</sub>	79.5	54.5	68%	23.5	29%	9.4	12%
9 December	PM <sub>10</sub>	78.1	55.3	71%	28.0	36%	12.8	16%
10 December	TSP, PM <sub>10</sub>	141.9	98.4	69%	40.8	29%	15.9	11%
11 December	PM <sub>10</sub>	82.6	55.0	67%	26.1	32%	11.6	14%

Date	Trigger level/ standard exceeded	24-hour average TSP concentration (µg/m³)	PM <sub>10</sub> proportion		PM <sub>2.5</sub> proportion		PM <sub>1.0</sub> proportion	
			µg/m³	% of TSP	µg/m³	% of TSP	µg/m³	% of TSP
12 December	PM <sub>10</sub>	85.7	60.1	70%	22.4	26%	10.1	12%
13 December	PM <sub>10</sub>	75.6	51.7	68%	18.6	25%	7.6	10%
15 December	PM <sub>10</sub>	82.5	56.1	68%	19.4	24%	6.6	8%
16 December	PM <sub>10</sub>	85.5	56.7	66%	19.3	23%	6.7	8%
19 December	TSP, PM <sub>10</sub>	96.9	66.1	68%	21.4	22%	7.6	8%
20 December	TSP, PM <sub>10</sub>	122.7	85.5	70%	30.2	25%	11.4	9%
21 December	TSP, PM <sub>10</sub>	123.5	87.1	71%	32.1	26%	11.1	9%
26 December	PM <sub>10</sub>	78.2	55.1	70%	22.8	29%	8.5	11%

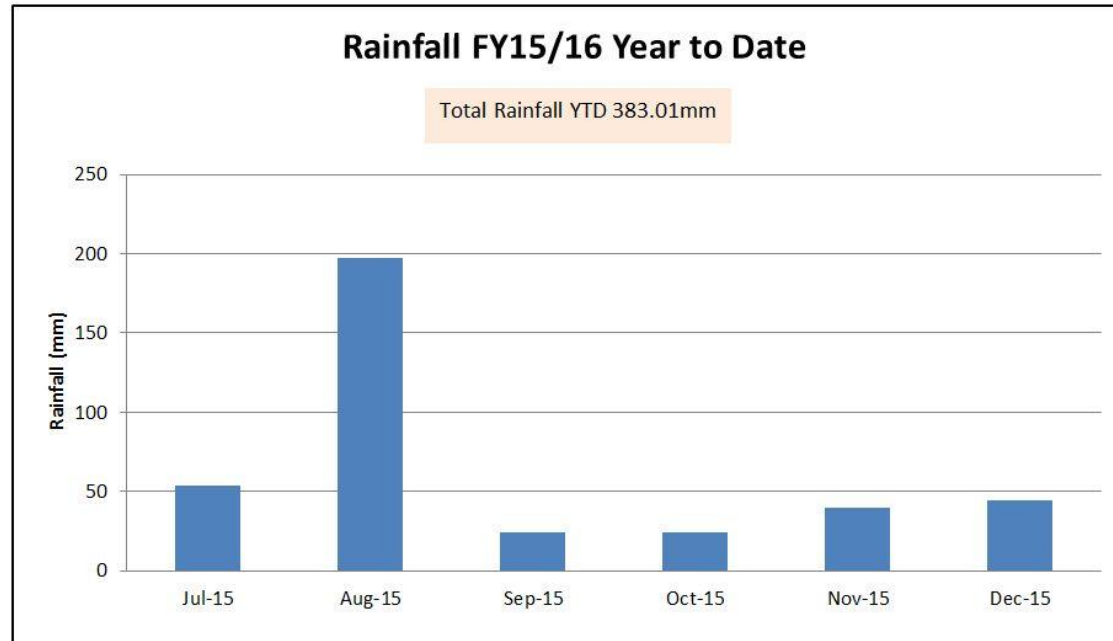
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## Attachment H. WEATHER MONITORING SUMMARY- JULY- DECEMBER 2015



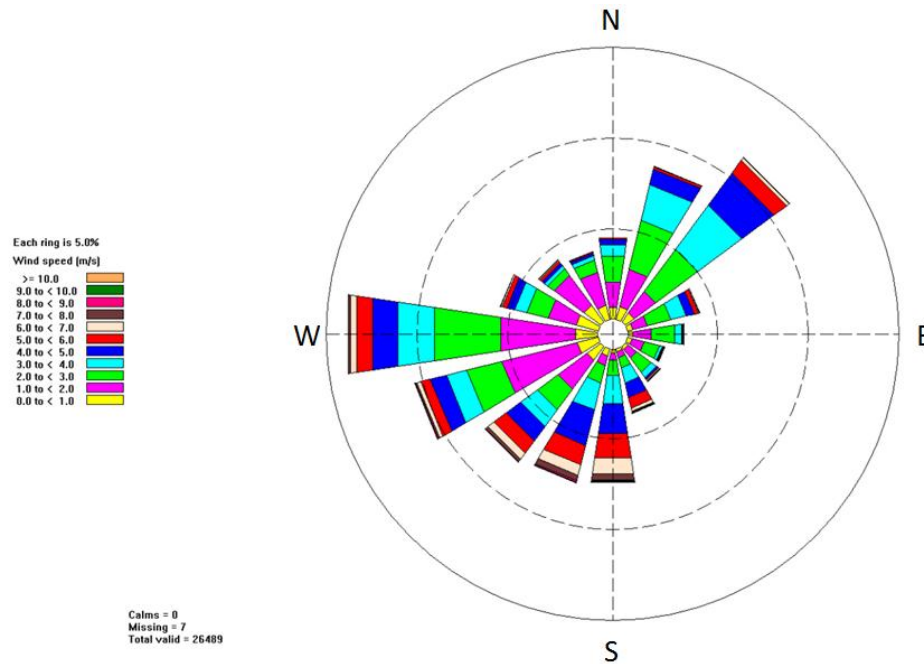
The July to December 2015 period has seen relatively dry conditions with a single significant rainfall event in August. Total rainfall across this reporting period was 383.01mm.

**Attachment “H”- Weather Monitoring Summary- July- December 2015 (continued)**

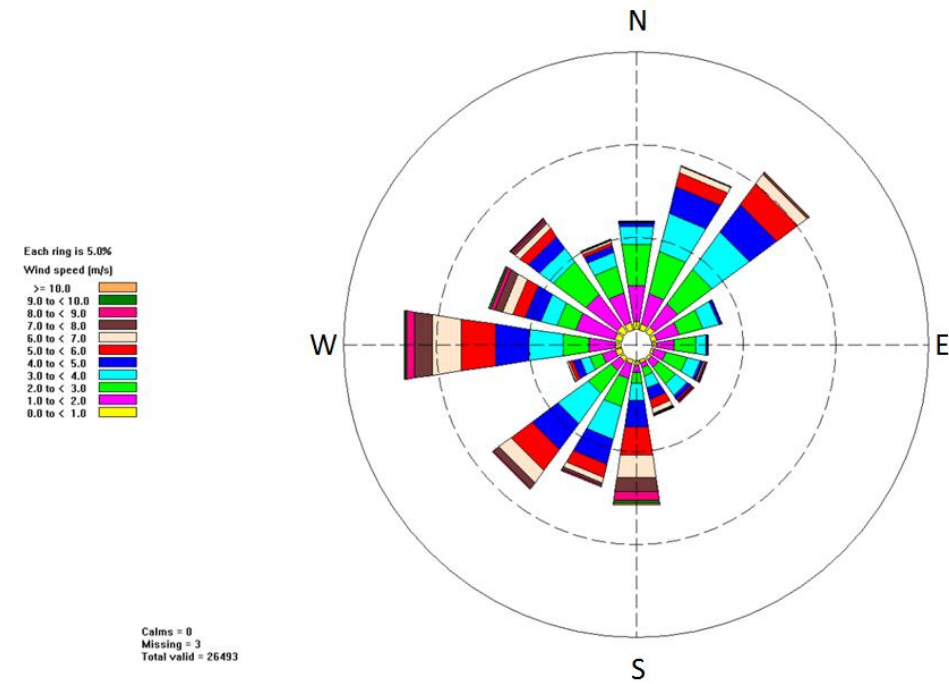
Date	Rainfall (mm)	Maximum Temperature (deg C)	Maximum Wind Speed (m/sec)	Average Wind Speed (m/sec)
Jul-15	53.72	18.6	17.4	5.1
Aug-15	197.35	25.7	18.5	5.3
Sep-15	23.86	27.8	24.5	5.6
Oct-15	24.47	35.1	26.1	5.1
Nov-15	39.35	40.6	30.2	5.3
Dec-15	44.26	32.2	26	5.1

**Wind Rose – Monitors C1 & C2 (refer Attachment “E” for locations)**

**North Rose July to December 2015**

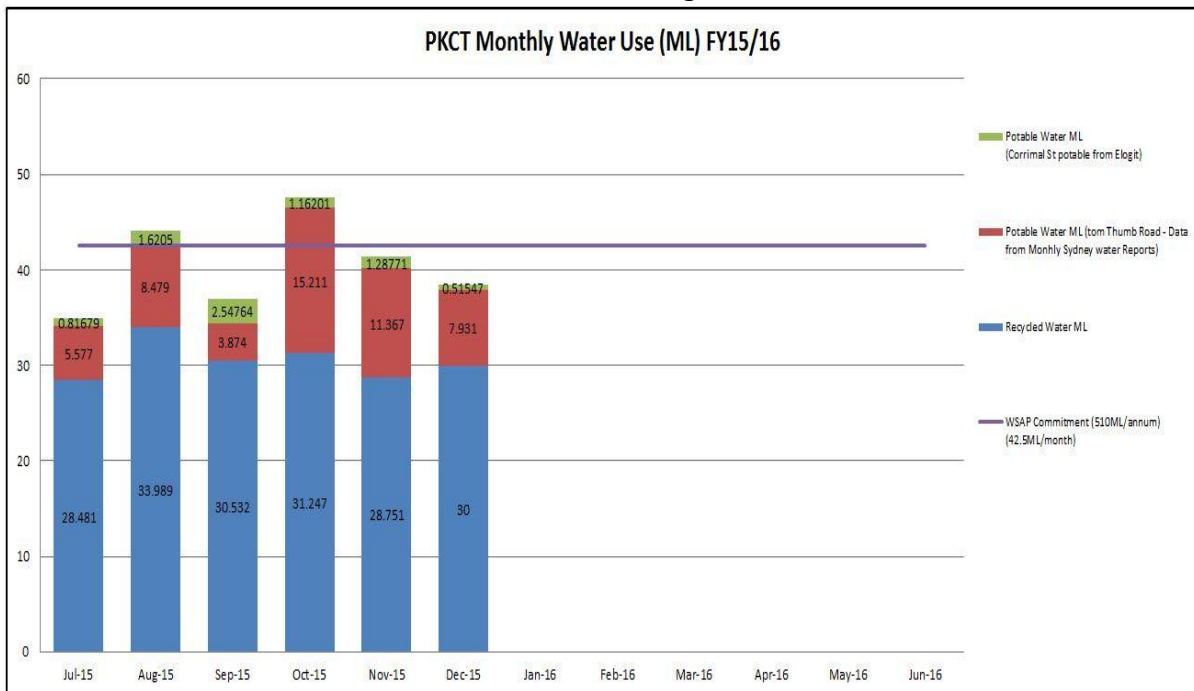


**South Rose July to December 2015**

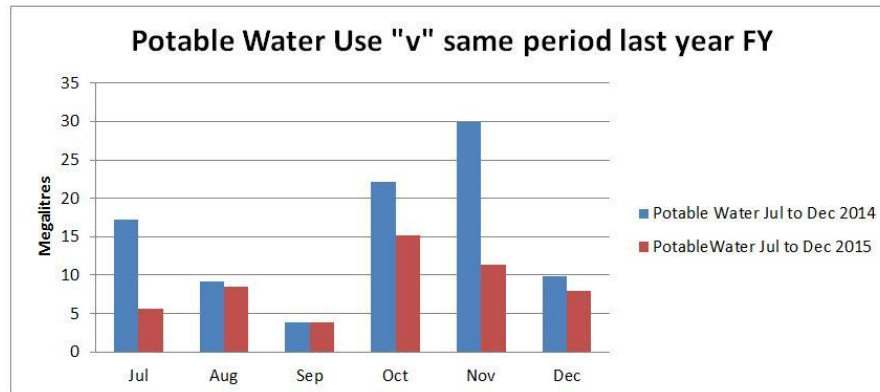
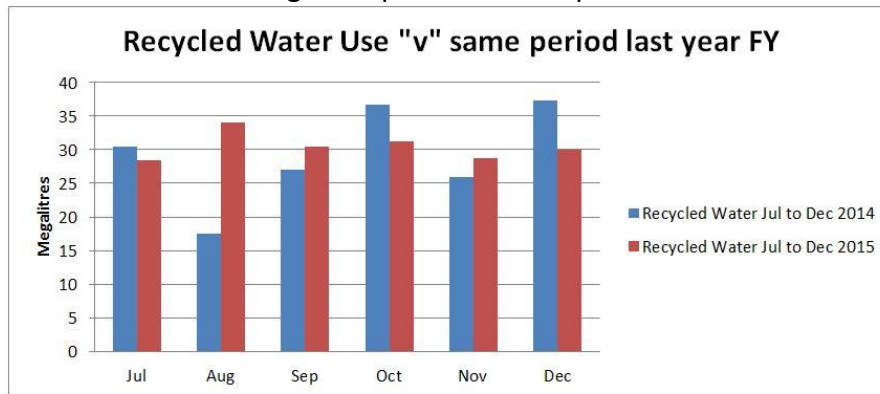


**Attachment I. WATER USAGE REPORT**

YTD water usage



Water usage compared to same period last FY



**Attachment J. SETTLEMENT LAGOON DISCHARGES: JULY-DECEMBER 2015**

SETTLEMENT LAGOON OVERFLOW: ENVIRONMENT PROTECTION LICENCE MONITORING: POINT 16						
Environment Protection Licence: 1625 Type of Monitoring: water quality Frequency: daily grab sample when discharging			water quality parameter		EPL Limit (100 percentile)	Commentary on Results
Sample Date	Date Results Obtained	Date Published	pH		monitoring only	
			pH (pH units)	total suspended solids (milligrams per litre)	less than 50 oil/grease (milligrams per litre) not visible	
23/07/2015	20/08/2015	27/08/2015	8.3	<5	not visible	EPL compliant
06/08/2015	14/09/2015	23/09/2015	7.7	<5	not visible	EPL compliant
12/08/2015	14/09/2015	23/09/2015	8.6	<5	not visible	EPL compliant
20/08/2015	14/09/2015	23/09/2015	8.6	17	not visible	EPL compliant
25/08/2015	14/09/2015	23/09/2015	7.4	22	not visible	EPL compliant
26/08/2015	14/09/2015	23/09/2015	6.8	7	not visible	EPL compliant
27/08/2015	14/09/2015	23/09/2015	6.9	5	not visible	EPL compliant
28/08/2015	14/09/2015	23/09/2015	7.0	8	not visible	EPL compliant
29/08/2015	14/09/2015	23/09/2015	7.2	<5	not visible	EPL compliant
26/09/2015	14/09/2015	16/10/2015	7.6	<5	not visible	EPL compliant
27/09/2015	14/09/2015	16/10/2015	7.5	<5	not visible	EPL compliant
21/10/2015	11/11/2015	13/11/2015	9.4	39	not visible	EPL compliant
22/10/2015	11/11/2015	13/11/2015	9.3	31	not visible	EPL compliant
27/10/2015	11/11/2015	13/11/2015	8.8	45	not visible	EPL compliant
28/10/2015	11/11/2015	13/11/2015	9.8	25	not visible	EPL compliant
29/10/2015	11/11/2015	13/11/2015	9.8	19	not visible	EPL compliant
30/10/2015	11/11/2015	13/11/2015	9.0	20	not visible	EPL compliant
01/11/2015	21/12/2015	22/12/2015	9.4	23	not visible	EPL compliant
02/11/2015	21/12/2015	22/12/2015	9.5	22	not visible	EPL compliant
03/11/2015	21/12/2015	22/12/2015	9.4	12	not visible	EPL compliant
04/11/2015	21/12/2015	22/12/2015	9.4	15	not visible	EPL compliant
05/11/2015	21/12/2015	22/12/2015	7	25	not visible	EPL compliant
06/11/2015	21/12/2015	22/12/2015	7.1	20	not visible	EPL compliant
07/11/2015	21/12/2015	22/12/2015	7.2	<5	not visible	EPL compliant
08/11/2015	21/12/2015	22/12/2015	7.2	10	not visible	EPL compliant
13/11/2015	21/12/2015	22/12/2015	8.9	19	not visible	EPL compliant
14/11/2015	21/12/2015	22/12/2015	8.5	18	not visible	EPL compliant
15/11/2015	21/12/2015	22/12/2015	8.1	11	not visible	EPL compliant
16/11/2015	14/01/2016	15/01/2016	6.4	10	not visible	EPL compliant
18/11/2015	21/12/2015	22/12/2015	8.3	20	not visible	EPL compliant
19/11/2015	14/01/2016	15/01/2016	6.4	13	not visible	EPL compliant
20/11/2015	21/12/2015	22/12/2015	8.4	22	not visible	EPL compliant
22/11/2015	21/12/2015	22/12/2015	8.3	26	not visible	EPL compliant
27/11/2015	21/12/2015	22/12/2015	8.9	8	not visible	EPL compliant
30/11/2015	21/12/2015	22/12/2015	9.5	18	not visible	EPL compliant
02/12/2015	14/01/2016	15/01/2016	8.7	11	not visible	EPL compliant
16/12/2015	14/01/2016	15/01/2016	9.5	12	not visible	EPL compliant
21/12/2016	14/01/2016	15/01/2016	8.7	23	not visible	EPL compliant
22/12/2015	14/01/2016	15/01/2016	8.5	14	not visible	EPL compliant
27/12/2015	14/01/2016	15/01/2016	8.3	6	not visible	EPL compliant
28/12/2015	14/01/2016	15/01/2016	8.7	7	not visible	EPL compliant

NB TSS (total suspended solids) - under EPL, a TSS water quality limit of 50mg/litre pertains. Exceedance of this limit is permitted when discharge occurs solely as a result of rainfall measured at the premises. For discharge to be considered to occur solely as a result of rainfall, the rainfall must exceed a 5 day rainfall depth value of 90 mm over a consecutive 5 day period.

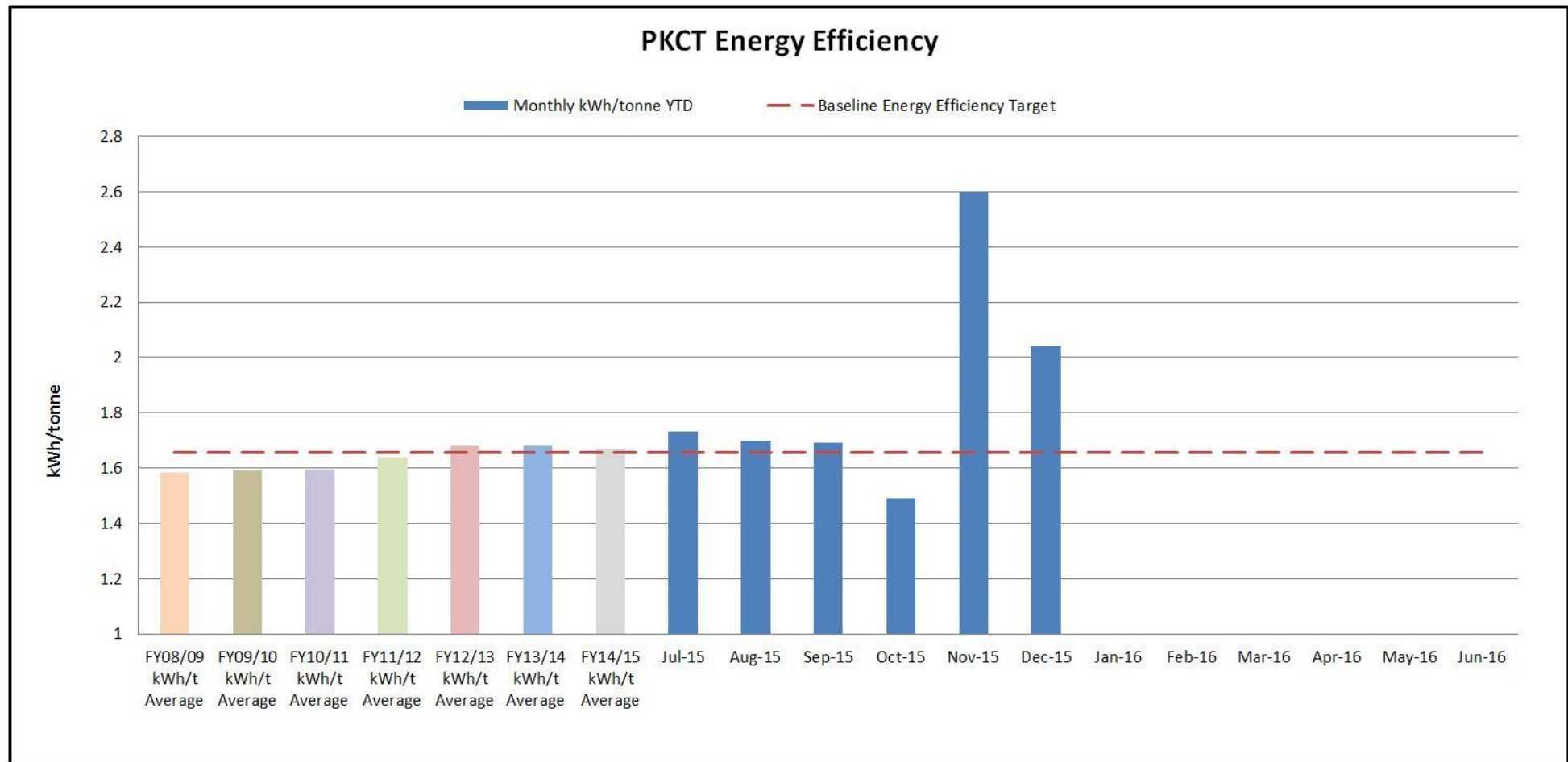


**Attachment K. GREENHOUSE GAS REPORT- JULY- DECEMBER 2015**

2015/2016 FY (July-December)	A		B	C	D	E
	Reporting unit	Amount consumed (reporting unit)	Energy content (GJ per reporting unit)	Emissions factor (kg CO2-e per GJ)	Gigajoules Reportable energy (GJ)	tonnes Reportable emissions (tonnes CO2-e)
<b>Scope 1 – direct emissions</b>						
Diesel oil(transport)	kL	0	38.60	69.90	0	0
Diesel oil (stationary energy)	kL	0	38.60	69.50	0	0
Biodiesel B20 (Transport)	kL	40	30.88	69.51	1235	86
Petrol (transport)	kL	8	34.20	69.60	274	19
Petroleum based oils	kL	0.47	38.80	27.90	18	1
Petroleum based greases	kL	1.24	38.80	27.90	48	1
Acetylene	m3 *	0	0.0393	51.33	0	0
<b>Scope 2 – indirect emissions</b>						
	Reporting unit		Energy content (GJ per kWh)	Emissions factor (kg CO2-e per kWh)		
Electricity	kWh	9,187,975	0.0036	0.89	33077	8177
<b>Total</b>					<b>34652</b>	<b>8284</b>
<b>Threshold</b>					<b>100,000</b>	<b>25,000</b>



**Attachment L. ENERGY EFFICIENCY YTD**



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**Attachment M. WASTE REPORT JULY-DECEMBER 2015**

Waste volumes generated during normal site operations July to December 2015

Waste Volumes	July 2015 to December 2016		
General Waste	48910.5	kg	Landfill
Metal	23.247	kg	Recycled
Cardboard Recycling	2340	kg	Recycled
Waste Rags	1920	L	Recycled
Waste Grease Cartridges	240	L	Recycled
Waste Oil Filters	480	L	Recycled
Waste Pressure Packs	1440	L	Recycled
J120 Waste (oil and hydrocarbons mixed with water)	18720	L	Off Site Treatment

Waste volumes generated by Project July to December 2015

Waste Volumes by Project - July to December 2015			
Project	Type	Quantity	Disposal method
Central Pond Upgrade	Concrete	91.81 t	Recycled
Southern Demolition Project	Steel	11.30 t	Recycled
Southern Demolition Project	Asbestos Soil	7.20 t	Landfill
Southern Demolition Project	Concrete	446.66 t	Recycled
Stockyard Rails Phase 2	General Waste	18.04 t	Landfill
Stockyard Rails Phase 3	Concrete	910.74 t	Recycled
Stockyard Rails Phase 4	Steel	40.00 t	Recycled
Stockyard Rails Phase 5	Asbestos	26.44 t	Landfill

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AUTHORISED BY Alex Chalk, Risk Manager

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