

# Annual Environmental Management Report



1<sup>st</sup> July 2013 to 30<sup>th</sup> June 2014

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AUTHORISED BY Peter Green, General Manager

Date Authorised: 30.7.14



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## 1.0 INTRODUCTION

### 1.1 Purpose

The purpose of this Annual Environment Management Report (AEMR) is to provide the Department of Planning and Environment (DP&E) and other stakeholders a report of Port Kembla Coal Terminal's (PKCT's) environmental performance together with actions taken in relation to environmental control and regulatory compliance across the July 2013 to June 2014 reporting period.

### 1.2 Scope

This AEMR provides information on PKCT's compliance with the requirements of the PKCT Major Project Approval 08\_0009 which was granted on the 12<sup>th</sup> June 2009. The approval requires PKCT to prepare an annual AEMR. By letter of 25<sup>th</sup> March 2010, The DP&E (formerly the Department of Planning and Infrastructure (DP&I)) approved a PKCT request for the submission date to be the 31<sup>st</sup> July annually to facilitate financial year reporting.

This report has been prepared with reference to the NSW Department of Primary Industries Guidelines and Format for Preparation of an Annual Environmental Management Report dated January 2006.

This report will be submitted to the DP&E. Following DP&E feedback, it will be forwarded to the Environment Protection Authority (EPA) and the Department of Trade and Investment (DT&I) or as required by the respective agencies. A copy of this AEMR will also be made available to the public via the [PKCT website](#).

### 1.3 Background

PKCT is located on Lot 22 in DP 1128396 on the northern side of the Inner Harbour of Port Kembla, Wollongong. On the 31<sup>st</sup> May 2013, NSW Ports acquired a long term lease for Port Kembla and Port Botany through which the current leasing arrangement with PKCT remains. Land is leased to PKCT under a 20 year, plus 20 year option. The lease commenced in August 1990 and PKCT has executed this option taking the lease period to 2030.

Six equal shareholders, namely BHP Billiton Illawarra Services Proprietary Limited (BHPB), Oakbridge Proprietary Limited (Xstrata Coal), Centennial Coal Company Limited, Tahmoor Coal and Metropolitan Collieries Proprietary Limited (Peabody) and Wollongong Coal Limited (formerly Gujarat NRE), form the Board of PKCT. BHPB, reporting to the PKCT Board, has managed PKCT since 1990. PKCT is the major coal intermodal facility in southern NSW for the transfer of coal from rail and road to ship.

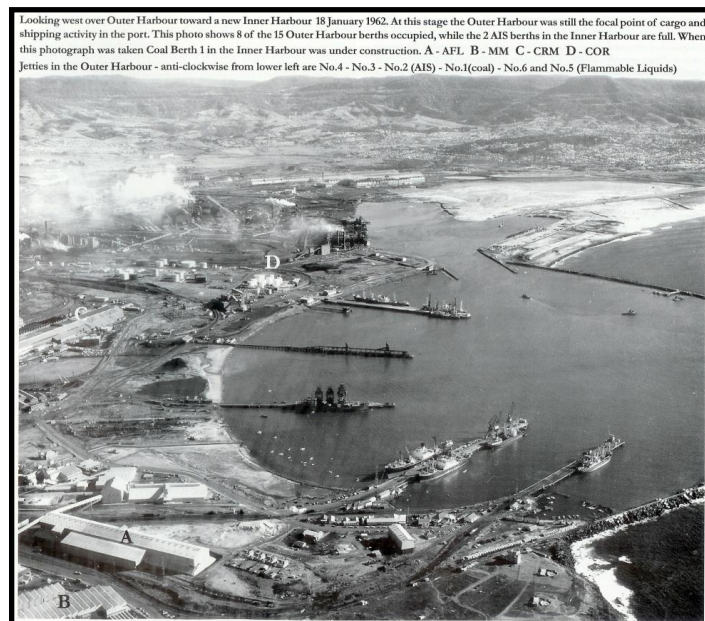
PKCT is responsible for receiving, assembling and loading coal from the southern and western NSW coalfields, for transport by ship to international and domestic markets. PKCT has two bulk handling facilities; a high capacity Coal Berth (Berth 102) that handles the loading of coal, and a Bulk Products Berth (Berth 101) that loads and unloads a range of bulk products. See Figure 1.





**Figure 1: PKCT Site plan and land uses**

The Bulk Products Berth was constructed in the early 1960’s after construction of Port Kembla Inner Harbour, see Figure 2. The Coal Berth was constructed in the early 1980’s.



**Figure 2: Early image of Port Kembla Inner Harbour. Image referenced from “Roadstead to World Class Port”, Port Centenary Committee 1999.**

PKCT entered the lease to operate the facility in accordance with a development consent from Wollongong City Council (WCC) and EPA Environment Protection Licence (EPL) number 1625.

In 2008, PKCT commenced preparation of a Major Project Application under Part 3A of the Environmental Planning and Assessment Act (EPAA) 1979 seeking consent to alter coal receival arrangements by public road.

Consultation with the DP&E resulted in the remit of the application with the scope being increased to include consent for PKCT's existing operations. The Environmental Assessment (EA) submitted with the Major Project Application included an assessment of all environmental impacts associated with the current and ongoing PKCT activities.

In June 2009 the DP&E conditionally approved PKCT's Major Project Application (08\_0009) for Existing Operations & Increased Road Receival Hours. This consent replaces the previous development approval from WCC and sets new conditions for environmental impacts, management and reporting.

#### 1.4 Objectives

The objective of this AEMR is to provide a report that outlines the environmental monitoring, mitigation, assessments and management actions undertaken by PKCT over the July 2013 to June 2014 reporting period.

#### 1.5 Environment Management

PKCT has an Environment Management System (EMS) in place to meet its environmental obligations. The EMS is certified to AS/NZS ISO 14001 and is supported by policies, standards, an environment management strategy, management plans and procedures. Key documents of the EMS include the following.

- [Sustainable Development Policy PO.BM.291](#)
- [Environment Policy PO.HS.85](#)
- [Quality Policy PO.BM.236](#)
- [Environment Management Strategy MP.HS.464](#)
- [Noise Management Plan MP.HS.387](#)
- [Air Quality Management Plan MP.HS.386](#)
- [Driver Code of Conduct Implementation Plan MP.BM.453](#)
- [Water Management Plan MP.HS.462](#)
- [Green and Golden Bell Frog Management Plan MP.HS.109](#)
- [Landscape Management Plan MP.HS.470](#)
- [Greenhouse Gas and Energy Efficiency Management Plan MP.HS.461](#)
- [Waste Management Plan MP.HS.460](#)
- [Fire Management Plan MP.HS.459](#)



Policies are published on [PKCT's web site](#). Management Plans required under Project Approval 08\_0009 are also published once DP&E approval is obtained.

**1.6 Terminal Contact**

Figure 3 below identifies relevant contacts at PKCT.

PKCT Employee & Position	Contact Details
Mr. Peter Green General Manager	(02) 4228 0288 <a href="mailto:Peter.Green@pkct.com.au">Peter.Green@pkct.com.au</a>
Mr. Alex Chalk Risk Manager	(02) 4221 1877 <a href="mailto:Alex.Chalk@pkct.com.au">Alex.Chalk@pkct.com.au</a>
Mr. Luke Pascot Environmental Specialist	(02) 4221 1155 <a href="mailto:Luke.Pascot@pkct.com.au">Luke.Pascot@pkct.com.au</a>
Community Hotline	1800 111 448 <a href="mailto:communitylinks@pkct.com.au">communitylinks@pkct.com.au</a>

**Figure 3: PKCT contacts**

**1.7 Actions Arising From Previous AEMR Review**

The DP&E reviewed PKCT's 2012/2013 AEMR and by letter dated 25<sup>th</sup> March 2014 provided a list of actions to be included in the 2013/2014 AEMR. These actions are listed below in Figure 4.

Actions required from previous AEMR review	Where dealt with in this AEMR
The Department has reviewed the document and is generally satisfied that it addresses the requirements of Schedule 4, Condition 4 with the exception of the requirements relating to conditions 4(f) and 4(h) specifically: <ul style="list-style-type: none"> <li>• Comparison of the monitoring results for noise and air quality with the results from previous years; and</li> <li>• Identification of any trends in noise, air quality and waste monitoring results</li> </ul>	<ul style="list-style-type: none"> <li>• Section 3.1.3 Trends in Noise Emissions and Section 3.3.3 Trends in Air Quality.</li> <li>• Section 3.1.3 Trends in Noise Emissions, Section 3.3.3 Trends in Air Quality and Section 3.8.3 Trends in Waste.</li> </ul>
The requirements of conditions 4(f) and 4(h) must be addressed in the 2013/2014 AEMR for <u>all</u> parameters that are required to be monitored under the Project Approval and reported in the AEMR.	PKCT has amended the layout of the 2013/2014 AEMR to satisfy the requirements of conditions 4 (f) and 4 (h).
You are reminded that pursuant to Schedule 4, Condition 4, a copy of the plan must be forwarded to all relevant agencies.	Noted

**Figure 4: Actions from previous AEMR review**



## 2.0 ADMINISTRATIVE CONDITIONS

Under Schedule 2 of PKCT’s Major Project Approval 08\_0009, PKCT has 14 Administrative Conditions. The Administrative Conditions are listed under the headings outlined in Figure 5. The following section outlines PKCT’s compliance with these across the reporting period.

Administrative Condition	AEMR Section
Obligation to Minimize Harm to the Environment	Section 2.1
Terms of Approval	Section 2.2
Limits on Approval	Section 2.3
Management Plans / Monitoring Programs	Section 2.4
Surrender of Consents	Section 2.5
Structural Adequacy	Section 2.6
Demolition	Section 2.7
Operation of Plant and Equipment	Section 2.8
Dispute Resolution	Section 2.9

**Figure 5: Administrative conditions**

### 2.1 Obligation to minimize harm to the Environment

1. The Proponent shall implement all reasonable and feasible measures to prevent and/or minimize any harm to the environment that may result from the operation of the project.

The condition is consistent with PKCT’s policies and management standards including a commitment to meet legal and other requirements.

PKCT has in place an Environmental Aspects and Impacts Register. This document provides a framework whereby PKCT identifies, records, risk-ranks and provides controls for activities associated with the operation that have the potential to cause harm to the environment.

### 2.2 Terms of Approval

2. The Proponent shall carry out the project generally in accordance with the:
  - (a) EA;
  - (b) Response to Submissions;
  - (c) Statement of Commitments (See Appendix 2); and
  - (d) Conditions of this approval
3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.
4. The Proponent shall prepare revisions of any strategies, plans or programs required under this consent if directed to do so by the Director-General. Such revisions shall be prepared to the satisfaction of, and within a timeframe approved by, the Director-General.
5. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department’s assessment of:
  - (a) Any reports, plans, programs, strategies or correspondence that are submitted in accordance with this approval; and

- (b) The implementation of any actions or measures contained in these reports, plans, programs, strategies or correspondence.

The requirements of this condition were met across the reporting period. The Environment Management Strategy (EMS) has been developed to facilitate the means by which DP&E approval conditions are met. The AEMR provides an annual compliance report.

### 2.3 Limits on Approval

6. The Proponent shall not receive more than 7.5 million tonnes of coal and bulk products at the site by public road in any calendar year without the written approval of the Director-General. In Seeking this approval, the Proponent shall submit a report to the Director-General that:
- reviews the transport related impacts associated with the trucks being used to deliver coal and bulk products to the terminal;
  - demonstrates that these impacts are generally consistent with the predicted and/or approved impacts; and
  - examines whether there are any other reasonable and feasible measures that could be implemented to minimise these impacts.
- Once this approval has been obtained, the Proponent shall not receive more than 10 million tonnes of coal and bulk products at the site by public road in any calendar year.
7. The Proponent shall only receive coal dispatched from NRE No 1 Colliery at Russell Vale if that coal has been dispatched between the hours of:
- 7 am to 10 pm Monday to Friday; and
  - 8 am to 6 pm Saturday and Sunday or Public Holidays
- Unless in accordance with a project approval granted to that Colliery under Part 3A of the EP&A Act.
8. Subject to conditions 6 and 7 of this schedule, coal and bulk products may be received by the Proponent at the site by road delivery twenty four hours per day, seven days per week.

PKCT did not receive more than 7.5 million tonnes of coal and bulk products during the 2013/2014 reporting period.

With regard, Schedule 2, Condition 6, PKCT application to the Director General to receive 10 million tonnes per annum was approved on the 29<sup>th</sup> September 2013 subject to conditions.

### 2.4 Management Plans / Monitoring Programs

9. With approval of the Director-General, the proponent may submit any management plan or monitoring program required by this approval on a progressive basis.

No management plans were submitted to the DP&E during the 2013 – 2014 reporting period.

## 2.5 Surrender of Consents

10. Within 12 months of the date of this approval, the Proponent shall surrender all existing development consents and existing use rights associated with operations at the site in accordance with clause 97 of the EP&A Regulation.

Applicable consents have been surrendered. No action was required in this reporting period.

## 2.6 Structural Adequacy

11. The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Facilities maintenance is carried out onsite in accordance with legal and other requirements including applicable Australian Standards and the Building Code of Australia.

## 2.7 Demolition

12. The Proponent shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

PKCT did not undertake any demolition projects required to conform to *Australian Standard AS2601-2001* in this reporting period.

## 2.8 Operation of Plant & Equipment

13. The Proponent shall ensure that all plant and equipment used onsite is:
  - (a) maintained in a proper and efficient condition; and
  - (b) operated in a proper efficient manner.

PKCT management and staff have a responsibility to maintain equipment to ensure correct operation and efficiency. PKCT ensures all personnel are suitably qualified, trained and competent to ensure that equipment is operated in a proper and efficient manner.

## 2.9 Dispute Resolution

14. In the event that the Proponent and the Council or a Government agency, other than the Department, cannot agree on the specification or requirements of this approval, the matter may be referred by either party to the Director-General for resolution, whose determination of the disagreement shall be final and binding on the parties.



PKCT accepts the dispute resolution process. This condition is referenced in the PKCT Environment Management Strategy.

There were no disputes during the reporting period.

### 3.0 SPECIFIC ENVIRONMENTAL CONDITIONS

This section provides a summary of the Specific Environmental Conditions outlined in Schedule 3 of the PKCT Major Project Approval 08\_0009 and, how PKCT complies with these requirements.

Figure 6 below provides an overview of each of the Specific Environmental Conditions and a reference to their location in the AEMR.

Specific Environmental Condition	AEMR Section
Noise	Section 3.1
Transport	Section 3.2
Air Quality	Section 3.3
Meteorological Monitoring	Section 3.4
Surface Water	Section 3.5
Biodiversity	Section 3.6
Visual Amenity	Section 3.7
Greenhouse and Energy Efficiency	Section 3.8
Waste	Section 3.9
Hazards	Section 3.10
Fire Control	Section 3.11

**Figure 6: Specific environmental condition overview**

### 3.1 Noise

#### 3.1.1 Noise Standards and Performance Measures

EPL 1625 and Major Project Approval 08-0009 pertain to noise emissions from PKCT’s premises. Noise criteria are outlined as follows;

Impact Assessment Criteria		
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.		
<i>Table 1: Noise impact assessment criteria dB(A) LAeq (15 min)</i>		
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



<b>Cnr Keira St/ Fox St</b>	Night	49
	Day	55
	Evening	49
	Night	45

**Notes:**

- (a) To determine compliance with the LA<sub>eq, (15 min)</sub> 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.

**Noise Monitoring Program**

- 2. The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the Director-General. This program must:
  - (a) be developed in consultation with DECC;
  - (b) 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; and
  - (c) include a:
    - o combination of attended and unattended noise monitoring measures;
    - o noise monitoring protocol for evaluating compliance with the noise impact assessment criteria in this approval; and
    - o reasonable and feasible best practice noise mitigation measures to ensure project specific noise criteria are met.

**Continuous Improvement**

- 3. The Proponent shall:
  - (a) continue to implement all reasonable and feasible best practice noise mitigation measures;
  - (b) continue to investigate ways to reduce the noise generated by the project, including maximum noise levels which may result in sleep disturbance; and
  - (c) report on these investigations and the implementation and effectiveness of these measures in the AEMR to the satisfaction of the Director-General.

**3.1.2 Noise Monitoring**

**3.1.2.1 Noise Monitoring Methodology**

PKCT utilises a noise consultant, Wilkinson Murray, for noise monitoring surveys associated with its operations. Due to the complex nature of the noise environment, which involves numerous industrial sources, sub-arterial roadways and close proximity to the Wollongong town centre, traditional noise monitoring with a sound level meter cannot adequately





measure the noise contribution from PKCT due to elevated background noise levels. Wilkinson Murray utilises a BarnOwl® directional noise monitoring system to conduct attended noise monitoring. Directional noise monitoring provides source detection and analysis of noise from PKCT and excludes operator discretion in the attended monitoring.

Noise monitoring is undertaken three times across the day, Day (7:00am to 6:00pm), Evening (6:00pm to 10:00pm) and Night (10:00pm to 7:00am), and utilising the BarnOwl®, at three off-site monitoring locations. One on-site location is used. Monitoring Locations utilised in the PKCT Noise Monitoring Program are presented in Appendix A.

**3.1.2.2 Noise Monitoring Results and Compliance 2013/2014**

A routine noise monitoring survey was undertaken across December 18<sup>th</sup> and 19<sup>th</sup> 2013 by noise consultant, Wilkinson Murray. Monitoring was undertaken across day, evening and night time periods as stipulated in Project Approval 08\_0009, Schedule 3, Condition 1. A summary of the estimated LAeq noise levels measured using the BarnOwl® in the direction of PKCT is presented below in Figure 7.

Monitoring Period	Range of directional Noise Levels Measured	Noise Impact Criteria
Day	41 to 53dBA	51-55dBA
Evening	41 to 51dBA	49-50dBA
Night	28 to 46dBA	45-49dBA

**Figure 7: Estimated noise levels from PKCT direction using BarnOwl - December 2013**

The measured noise levels from the direction capturing PKCT (and any other noise in that direction) were within criteria for all times at all locations with the exception of the day and evening measurements for location 3. A review of the site activity logs by Wilkinson Murray and from observations by the survey team onsite confirmed that no unusual site activities occurred.

On the basis that noise from the site was deemed inaudible and that no unusual site activities were witnesses, it can be concluded that the additional noise measured in the direction of PKCT was not associated with PKCT operations.

The monitoring was undertaken during “typical” operations with road and rail receipt occurring in most of the monitoring periods. A ship arrived during the survey, however, no Shiploading occurred during the noise monitoring. On the basis that noise from the site was deemed inaudible and that no unusual site activities were witnessed, it was concluded that additional noise in the direction of PKCT is not associated with PKCT operations.

A full summary of monitoring results of the December 2013 survey is presented in Appendix B.

**3.1.3 Trends in Noise Emissions**

PKCT has undertaken nine noise surveys since September 2009. On all occasions, the consultant has concluded that “noise from PKCT was inaudible at all times during all

measurements”. Figure 8 below compares the overall noise monitoring compliance for each of the noise monitoring surveys beginning in September 2009.

Following a review by Wilkinson Murray, December was identified as the best month to assess noise impacts at the specified residential monitoring sites. The second noise survey planned for the end of this reporting period was completed on the 28<sup>th</sup>-29<sup>th</sup> July 2014. The results will be include in the Interim Environment Report covering the July to December 2014 reporting period then subsequently in the 2014/2015 AEMR.

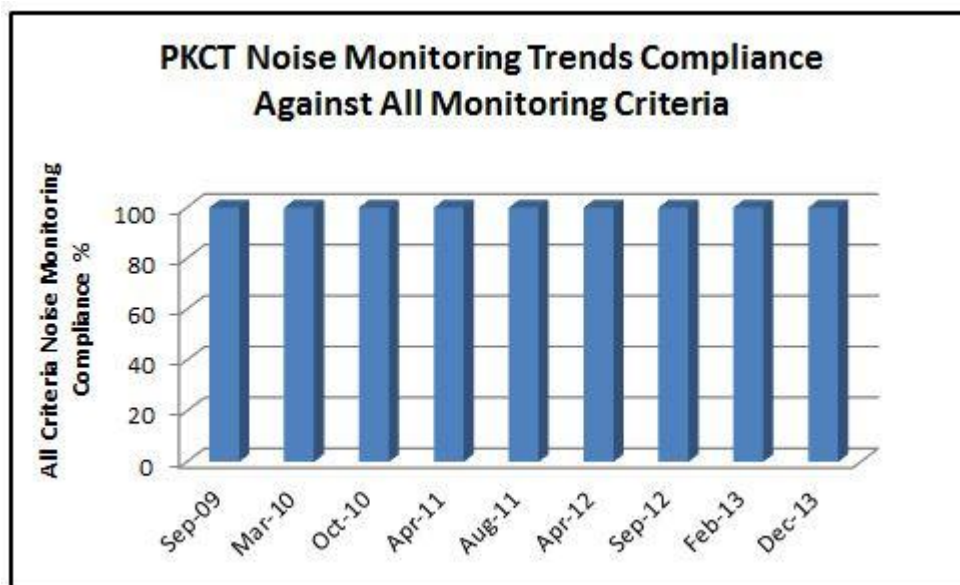


Figure 8: PKCT noise monitoring trends, compliance against all monitoring criteria.

**3.1.4 Noise –Activities undertaken During 2013/2014 Reporting Period**

A summary of the actions undertaken for the 2013/2014 reporting period related to noise is presented below. PKCT continues to look for opportunities to improve noise levels across its operations.

- PKCT undertook a routine noise monitoring survey on December 18<sup>th</sup> and 19<sup>th</sup> 2013.

**3.1.5 Noise - Activities Planned for 2014/2015 Reporting Period**

A summary of the actions proposed to be undertaken in the 2014/2015 reporting period is presented below.

- An Opportunity for Improvement identified in the 2014 AECOM independent Audit is to review and update the PKCT NMP to include discussions on the use of the BarnOwl for noise monitoring. This review would include further analysis of the monitoring results of the BarnOwl to ensure they are not adversely impacting the findings of the Noise Monitoring Reports.
- PKCT’s noise monitoring consultant recommended that noise surveys are best done at PKCT in December. Further to the noise survey completed in July 2014, surveys are scheduled for December 2014 and June 2015 in this reporting period.

## 3.2 Transport

### 3.2.1 Transport Standards and Performance Measures

#### Monitoring of Coal Transport

3. 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

4. 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

5. 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.

### 3.2.2 Transport Monitoring

#### 3.2.2.1 Transport Monitoring Methodology

Shippers to PKCT are signatories to the PKCT Drivers Code of Conduct (DCC). This document was developed in consultation with the PKCT road receipt customers, and their associated road transport providers, Roads and Traffic Authority (now Roads and Maritime Services), EPA, and the PKCT Community Consultative Committee (CCC).

The document outlines specific measures focusing on opportunities to minimise, mitigate and manage traffic volume, traffic safety and acoustic impacts. Among others, it specifically covers items such as haulage routes, compression braking, road delivery standards, truck washing, queuing on Springhill Road, load covering and incident management and reporting.

A Heavy Haulage Induction manual and induction program and a Drivers Code of Conduct Implementation Plan are in place to support DCC implementation.

PKCT monitors compliance against the DCC via an audit program. The auditing of delivery vehicles is undertaken by PKCT personnel, by the haulage customers and their associated road transport providers. Audits are undertaken at the mine site, on route and at PKCT. Monthly compliance reports are supplied to PKCT.

DCC audits across the reporting period did not identify any instances of trucks queuing on Springhill Road.



**3.2.2.2 Transport Monitoring Results and Compliance 2013/2014**

In accordance with Schedule 3, Condition 4, PKCT is required to keep records of the amount of coal and bulk products received at the site each year. Figure 9 below provides a summary of throughput and receipt over the reporting period.

Shiploading July to December 2014	Coal		Coke	Iron Ore	Total
	Coking	Steaming			
Berth 101: Bulk Products Berth (Tonnes)	32,000	0	153,516	59,647	245,163
Berth 102: Coal Berth (Tonnes)	6,865,798	5,544,012	0	0	12,409,810
<b>Total (tonnes)</b>					<b>12,654,973</b>

Receivals July to December 2014	Private Road	Public Road	Total
Road Receipt (Tonnes)	2,391,352	3,039,785	5,431,137
Rail Receipt (Tonnes)			6,878,028
<b>Total Tonnes</b>			<b>12,309,165</b>

**Figure 9: Summary of PKCT throughput 2013/2014**

PKCT’s road receipt customers, their associated road transport providers and PKCT personnel undertook a total of 1254 DCC audits across the 2013/2014 reporting period. This included auditing of at least 5576 individual drivers.

A summary of the auditing results is presented in Appendix C.

As part of the monitoring regime, PKCT records and responds to complaints and incidents associated with coal transport to and from the terminal where required. A summary of complaints and incidents is presented in Appendix D.

**3.2.3 Trends in Transport**

Road receipt at PKCT has fallen by approximately 1.6 million tonnes compared to last year with a total of 5,431,137 million tonnes of combined private and public road receipts across 2013/2014, Figure 10. The lower receipt is a factor of operational issues at PKCT’s feeder mines as well as an overall decline in the coal industry across the reporting period.

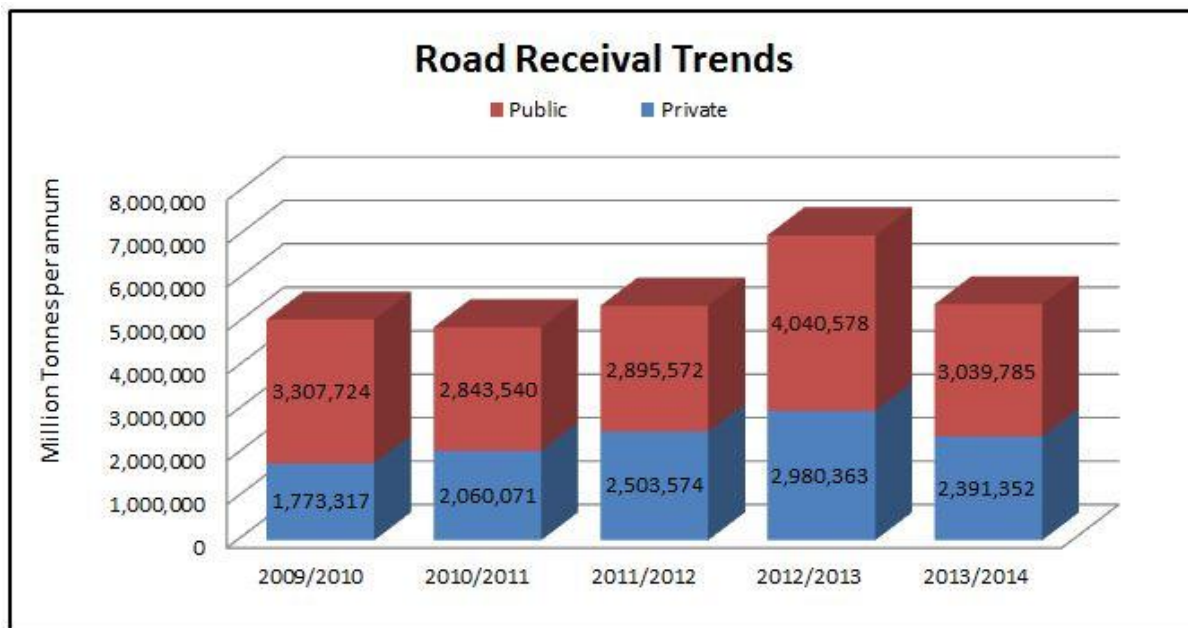


Figure 10: Road receipt trends

**3.2.4 Traffic –Activities Undertaken During 2013/2014 Reporting Period**

A summary of the actions undertaken for the 2013/2014 reporting period related to traffic is presented below.

- Northern Truckwash Upgrade is nearing completion. Some issues have been identified with the sand filters periodically clogging. These are being worked through with the manufacturer.
- DCC system audits were undertaken on two road transport providers, Brindles and Bulktrans in December 2013. Both companies showed a high level of adherence to the requirements of the DCC and DCC Implementation Plan. A summary of the findings were presented to both companies.
- RFID Project – This project entails the installation of a system for monitoring trucks passing through the North Truckwash to ensure trucks obey traffic lights and pass through at the appropriate speed. This will contribute to effective truck washing. The system will be able to identify the truck and will enable compliance management. The system is in progress and expected to be completed by the end of August 2014.

**3.2.5 Traffic - Activities Planned for 2014/2015 Reporting Period**

A summary of the planned actions related to the 2014/2015 reporting period related to Traffic is presented below.

- Pollution Reduction Plan (PRP) PRP11 – Install Northern Truckwash Upgrades. Implementation is nearing completion. The sand filter system is being upgraded to increase its capacity. Water quality monitoring has shown an improvement trend in the water moving through the truckwash since the sand filters were installed. The PRP includes a requirement to undertake an effectiveness review. A report to the EPA is due at the end of September 2014.



- The 2014 AECOM Independent Audit identified a number of Opportunities for Improvement around the DCC. Reference was made to updating the DCC, the DCC Implementation Plan and the Drivers Summary Sheets being used. The various actions are outlined in Appendix E.

### 3.3 Air Quality

#### 3.3.1 Air Quality Standards and Performance Measures

EPL 1625 and Major Project Approval 08-0009 pertain to air quality and emissions from PKCT’s premises. Air quality criteria are outlined as follows;

##### 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.

##### Operations

8. The Proponent shall:
  - (a) ensure any visible air pollution generated by the project is both minimised and recorded, and that operations are modified as required to minimise any resultant air quality impacts on nearby residences;
  - (b) ensure that the real-time air quality monitoring and meteorological monitoring data is assessed regularly; and
  - (c) where dust is generated by the project, that operations are modified and/or stopped as required to ensure compliance with the relevant air quality criteria to the satisfaction of the Director-General.
9. During carrying out of the project, the Proponent shall ensure that:
  - (a) all loaded trucks entering or leaving the site have their loads covered; and
  - (b) trucks associated with the project pass through a truck wash before entering the public road network to the satisfaction of the Director-General.

**Air Quality Monitoring Program**

10. The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General. This program must:
- (a) be developed in consultation with DECC;
  - (b) 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; and
  - (c) include:
    - o real-time sampling to monitor the dust emissions of the project;
    - o an air quality monitoring protocol for evaluating compliance with the air quality impact assessment criteria in this approval; and
    - o reasonable and feasible best practice emissions mitigation measures to ensure project specific assessment criteria are met.

**3.3.2 Air Quality Monitoring and Compliance****3.3.2.1 Air Quality Monitoring Methodology**

PKCT has an Air Quality Management Plan (AQMP) in place and is operational as follows;

- The AQMP, developed in consultation with the EPA, was submitted to DP&E by the due date of 9<sup>th</sup> December 2009. The DP&E approved the AQMP by letter of 25<sup>th</sup> March 2010.
- The EPA assisted in developing the AQMP though did not add any new air quality criteria to EPL 1625.
- PKCT's AQMP contains dust monitoring, assessment, reporting and mitigation and management provisions to ensure necessary actions are undertaken and that dust from PKCT's premises does not exceed the criteria in the Impact Assessment Criteria outlined above.
- PKCT provides 24/7 site operational control via the Main Control Room (MCR). MCR operators monitor site conditions and weather forecasts. If dust is observed, action is taken through the operation of sprays or other available controls. Dust events observed which emanate beyond the immediate source with a potential to have off site impacts are entered into PKCT's event management system, requiring investigation and corrective action. PKCT also has an auditing process in place which includes site observations of dust, dust associated with tuck movements and the assessment of associated controls.
- PKCT has a total of 14 depositional dust gauges (11 Industrial and 3 residential) located on site and on adjacent port and residential areas, and two continuous dust monitors located to the north and south of the site, see Figure 11 below. These locations are specified in the EPL and Project Approval 08\_0009. Dust Samples from each dust deposition gauge are collected on a monthly basis by an environmental contractor and sample analysis is performed at a NATA accredited laboratory. Results from the residential depositional gauges are analysed on a monthly basis and compared to the

EPA amenity criteria of 4 grams/m<sup>2</sup>/month. The results are reported on the [PKCT website](#).

PORT KEMBLA COAL TERMINAL  
DUST & WEATHER MONITOR LOCATIONS

30<sup>th</sup> October 2012



EPL No.	PKCT No.	Dust Monitor Location Description
1	P1	25m south of Bulk Products Berth (BPB)
2	P2	40m south of Bulk Products Berth stockyard
3	P3	40m east of Bulk Products Berth stockyard
4	P4	40m east Coal Berth stockyard
5	P5	Northern Pond (Pond No.1)
6	P6	40m west Coal Berth stockyard
7	P7	250m west of Coal Berth stockyard
8	P8	PKCT north truckwash
9	P9	Wollongong Wastewater Treatment Plant
15	P10	North of PKCT Planning Office
17	P11	Entry Gate to BlueScope Ro Ro (Berth 109)
12	R1	157 Church Street (two gauges)
19	R2	Vikings Oval, Wollongong (two gauges)
TBA	R3	Linkside Apartments, Ross Street
	C1	Continuous Dust Monitor 1
	C2	Continuous Dust Monitor 2

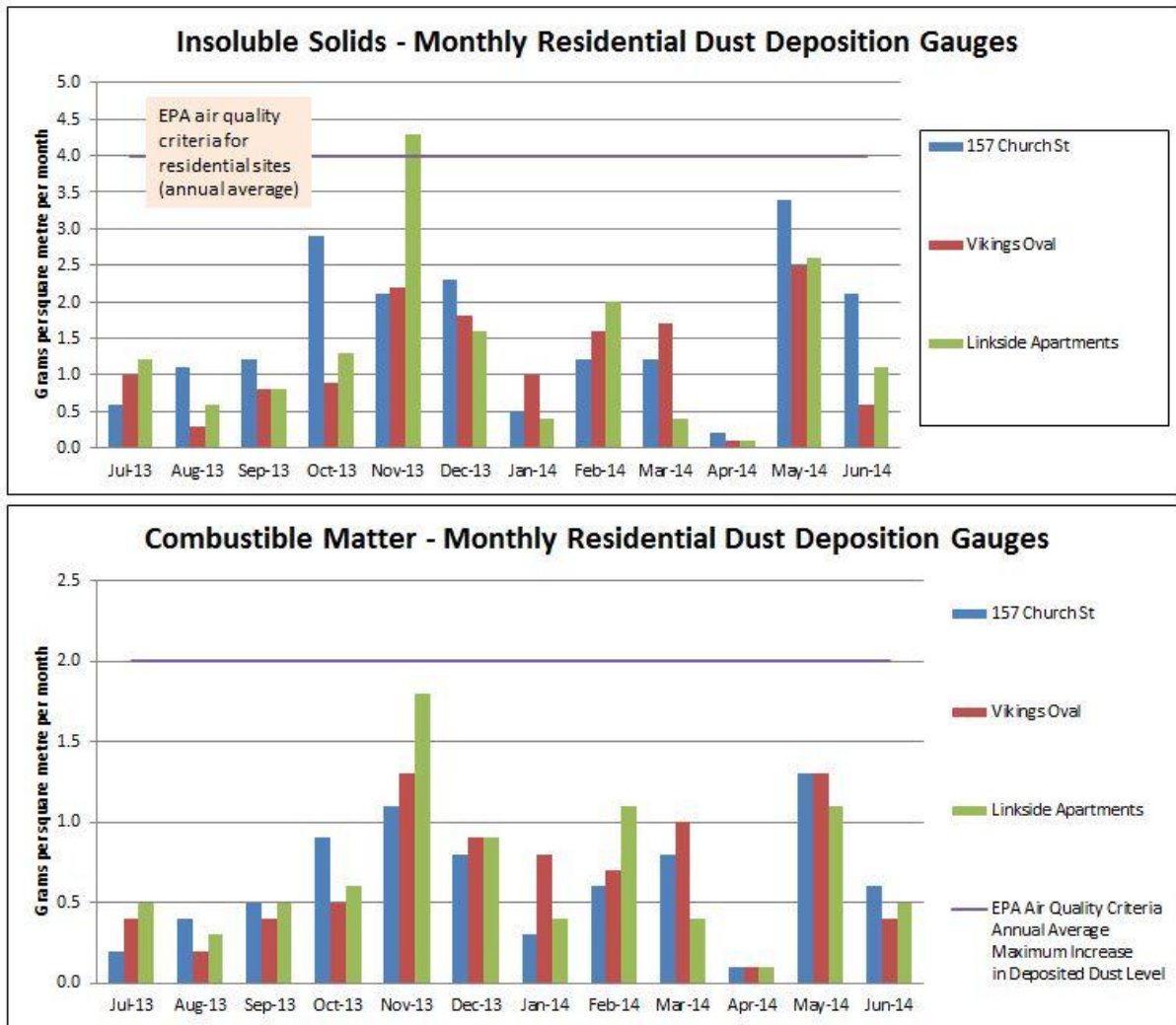
- # refer PKCT Environment Protection Licence(EPL) No. 1625 (EPA ID No.)
- Dust Gauges- Environment Protection Licence monitoring sites  
Sites denoted "P": industrial; "R": residential
- Continuous Dust Monitor Sites- additional
- (a) BlueScope High Volume Sampler & dust gauge  
(b) PKCT EPL Monitoring Site R2 (2 gauges)
- Weather stations
- (a) at each continuous dust monitor site ●
- (b) PKCT Main Control Room ●

**Figure 11: PKCT air quality monitoring sites**

**3.3.2.2 Air Quality Monitoring Results and Compliance 2013/2014**

PKCT collects monthly depositional dust records at three residential sites and 11 industrial sites located on or near the PKCT premises. Monthly dust deposition results for the three residential dust gauges are presented in Figure 12 below.





**Figure 12: PKCT residential depositional dust gauges**

Dust deposition levels for insoluble solids across the reporting period were within the assessment criteria of (4 g/m<sup>2</sup>/month). It should be noted that the assessment criteria is an annual average. Only one monthly reading at one gauge (Linkside Apartments) in November 2013 was above 4 g/m<sup>2</sup>/month i.e. 4.3 g/m<sup>2</sup>/month. It is noted that the combustible matter component was below 2 g/m<sup>2</sup>/month.

The insoluble solids level at the Linkside gauge in November 2014 was inconsistent with the levels measured at the other sites for this month. It is possible that this was due to local effects such as earth works which was being undertaken on the golf course during that period. Depositional dust levels measured at the PKCT site gauges for the month of November are generally low and do not suggest PKCT was a contributor.

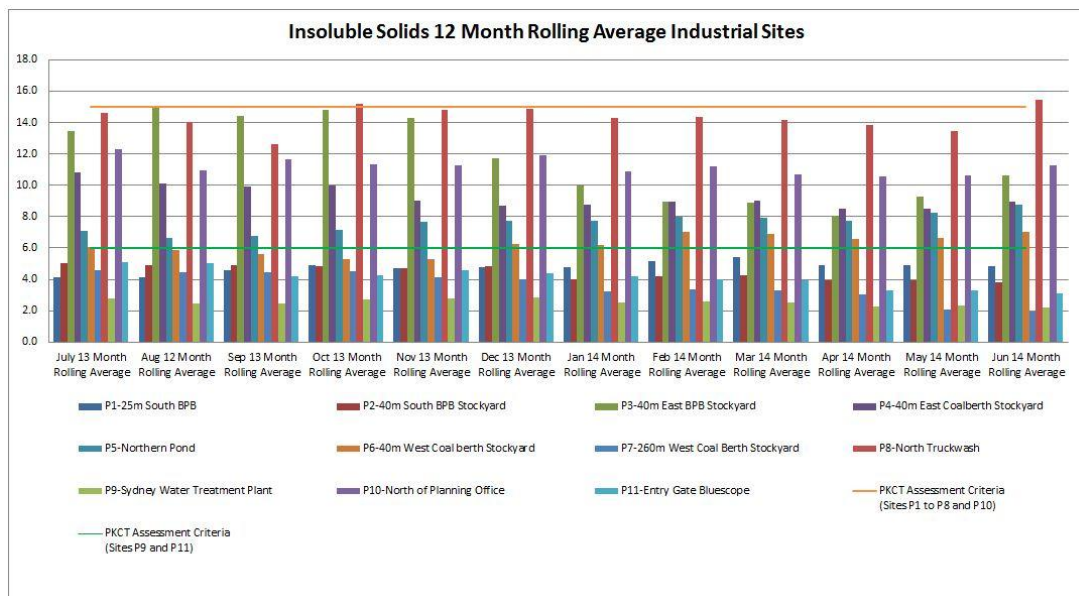
Dust deposition results for combustible matter across the reporting period were within the assessment criteria (2 g/m<sup>2</sup>/month).

Twelve month rolling average Insoluble Solids results for the 11 PKCT industrial dust gauges are presented below in Figure 13. Results for ten of the monitoring sites recorded fell within

the assessment criteria. One site, P8 located near the Northern Truckwash recorded results slightly outside the assessment criteria in October and June.

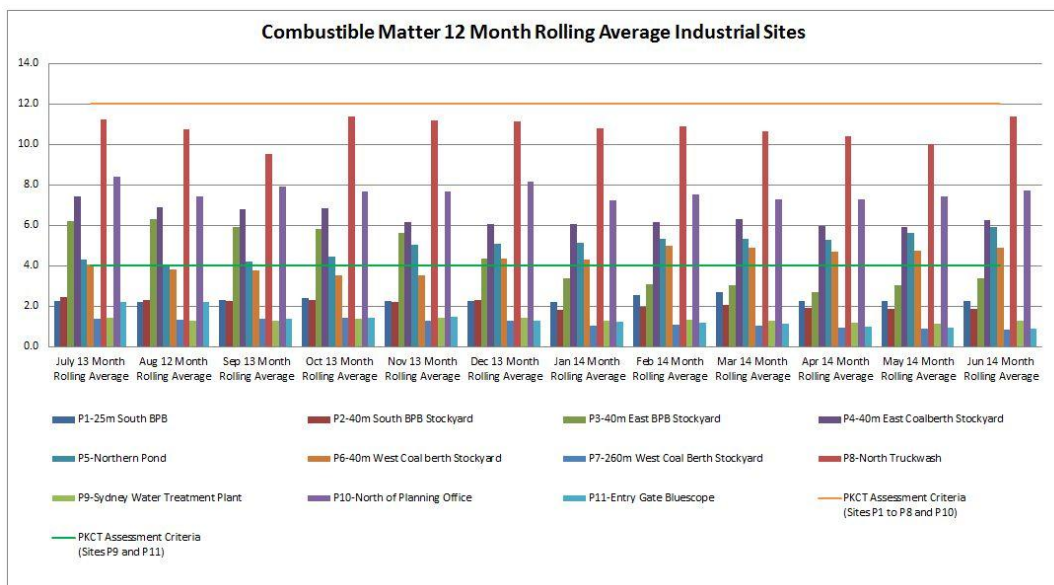
The elevated levels recorded in October occurred in a month where significant fires and very strong north westerly winds were observed. There were 6 days during the month where regional PM10 or PM2.5 exceeded the NSW OEH standards. Additionally, 5 days were recorded where visibility standards for NSW were exceeded. The Northern Truckwash was operational during the month with further commissioning work underway as part of the Northern Truckwash Upgrade project. It is likely that all of the described factors contributed to the elevated deposited dust in October at Site P8.

In May and June 2014, further works associated with the upgrade of the Northern Truckwash were undertaken. It is likely that elevated dust levels measured in June were associated with these works.



**Figure 13: PKCT industrial dust deposition gauges insoluble solids 12 month rolling average.**

Twelve month rolling average Combustible Matter results for the 11 PKCT industrial dust gauges are presented below in Figure 14. All results were within the PKCT assessment criteria for the reporting period.



**Figure 14: PKCT industrial dust deposition gauges combustible matter 12 month rolling average.**

PKCT has two continuous dust monitors located to the south and north of the site. Data from these monitors is captured and analysed by specialist air quality consultants for PKCT. A summary of the information gathered by the continuous dust monitors and reported by PKCT’s consultant is presented below. Data and exceedances related to the northern monitor are presented with wind data in Appendix F.

The annual average concentrations of TSP and PM10 at the PKCT northern monitoring site were below the trigger level of 90 µg/m<sup>3</sup> (TSP) and air quality standard of 30 µg/m<sup>3</sup> (PM10).

At the northern PKCT monitoring site the trigger level of 90 µg/m<sup>3</sup> for the 24-hour average TSP concentration was exceeded on 32 occasions during the July 2013 to June 2014 period, while the 24-hour average PM10 air quality standard of 50 µg/m<sup>3</sup> was exceeded on 34 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 30 of the 32 exceedances of the 24-hour average TSP trigger level at the PKCT northern monitoring site. PKCT was identified as having made a moderate contribution (30% to 70%) on the remaining exceedance days, 21 December 2013 and 10 February 2014.

PKCT was identified as having made, at most, a minor contribution (i.e. less than 30%) to 32 of the 34 exceedances of the 24-hour average PM10 criterion at the PKCT northern monitoring site. PKCT was identified as having made a moderate contribution (30% to 70%) on the remaining exceedance days, 21 December 2013 and 10 February 2014.

On average, PKCT was estimated to have contributed 13% 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 8% to PM10 levels at the PKCT northern monitoring site on days when exceedances of the PM10 standard occurred.

**3.3.3 Trends in Air Quality**

Comparative data for the PKCT residential depositional dust gauges is presented in Figure 15 below. Each year, 12 samples are collected at each gauge. As is shown in the Figure, the number of exceedances occurring across each year is low and no significant trend is observable in the current data set.

Of the exceedances recorded, two at the Vikings Oval gauge in the 2012/2013 and one at Linkside Apartments in 2013/2014, all were likely resulting from local effects i.e. landscaping and lawn mowing known to be occurring during the time of exceedance. None of the exceedances are likely a result of operations at PKCT.

Residential Air Quality Criteria Number of Exceedances - Insoluble Solids				
		2011/2012	2012/2013	2013/2014
Linkside Apartments	Criteria 4 g/m <sup>2</sup> /month	0	0	1
Vikings Oval	Criteria 4 g/m <sup>2</sup> /month	0	2	0
157 Church Street	Criteria 4 g/m <sup>2</sup> /month	0	0	0

Residential Air Quality Criteria Number of Exceedances - Combustible Matter				
		2011/2012	2012/2013	2013/2014
Linkside Apartments	Criteria 2 g/m <sup>2</sup> /month	0	0	0
Vikings Oval	Criteria 2 g/m <sup>2</sup> /month	0	2	0
157 Church Street	Criteria 2 g/m <sup>2</sup> /month	0	0	0

**Figure 15: Annual residential depositional dust gauge trends**

A summary of the 2013/2014 depositional and continuous dust gauge data compared to historical records is presented below in Figure 16. As is shown, all data falls within the various criteria and in most cases the annual average has fallen compared to last year’s results.

PKCT’s Environmental Assessment on Air Quality undertaken in 2008 predicted that impacts to air quality from PKCT would be well below relevant DECC criteria based on existing PKCT operations and the proposal to receive coal by road over a 24/7 period up to a maximum of 10mtpa. Annual average results for the three depositional dust gauges show that for both total insoluble solids and for combustible matter, levels are well within the DECC guidelines on all occasions, see Figure 16. This aligns with the predictions in the Environmental Assessment.

Annual average results recorded at the continuous dust gauges are within the relevant DECC guidelines on all occasions except for the PM10 annual average in FY2013, see Figure 16. The continuous dust monitors used to record this information cannot discern where the dust source is from, however the data is analysed by a consultant on behalf of PKCT and assesses the likely contribution by PKCT to the results.



For the FY2013 period, PKCT was assessed as having made a moderate contribution (i.e. 30% to 70%) to the PM10 levels on seven days and a major contribution (i.e. greater than 70%) to the PM10 levels on one occasion. It is considered unlikely that this would have had a material contribution to the elevated annual average PM10 level recorded. The calibration and performance of the continuous monitor was investigated but the results were inconclusive as to whether the elevation was instrument related.

PKCT continues to utilise the collected data to minimise and manage dust from its operations.

Location	Standard	FY 2011	FY 2012	FY 2013	FY 2014
		Annual Average	Annual Average	Annual Average	Annual Average
<b>Residential Depositional Gauges</b>					
<b>Total Insoluble Solids</b>					
Vikings Oval (d)	4 g/m <sup>2</sup> month	1.4	1.4	1.6*	1.2
Church Street (d)	4 g/m <sup>2</sup> month	3.5	1.5	1.3	1.6
Ross Street (d)	4 g/m <sup>2</sup> month	-	1.6	1.4	1.4
<b>Combustible Matter</b>					
Vikings Oval (d)	2 g/m <sup>2</sup> month	0.8	0.8	0.8*	0.7
Church Street (d)	2 g/m <sup>2</sup> month	0.8	0.6	0.6	0.6
Ross Street (d)	2 g/m <sup>2</sup> month	-	0.8	0.6	0.7
<b>Continuous Dust Monitor</b>					
<b>TSP</b>					
Northern (c)	90 ug/m <sup>3</sup>	32.2	34	62	44.3
<b>PM10</b>					
Northern (c)	30 ug/m <sup>3</sup>	25.8	27	47	24.8

Data for FY 2013 (July 2012 and January 2013) has been omitted for the residential depositional gauge at Vikings Oval. The results received were well outside normal values for this location. Subsequent petrographic analysis confirmed that the main constituents of the sample were plant matter and not related to PKCT operations.

**Figure 16: Summary of continuous dust data for 2013/2014**

**3.3.4 Air Quality –Activities Undertaken During 2013/2014 Reporting Period**

A summary of the actions undertaken for the 2013/2014 reporting period related to Air Quality is presented below.

- Road Receptacle Dust Suppression Sprays – In November 2013, a project was completed at the road receptacle to improve the effectiveness of dust control in the area. The project entailed automating the existing system by utilising the onsite weather station parameters such as humidity, wind speed, rain and previous spray operation to rate dust control needs so that sprays activate only when required. Further, a new style of nozzle was used which gives more effective spray coverage to the receptacle hardstand areas, see Figure 17 below. This replaced the older system whereby water was sprayed based on a set time. Initial monitoring during the project suggests the new system will save an estimated 17.1 mega litres of water per annum, will also realise a cost saving and provide improved dust control.



**Figure 17: Road Receptacle dust suppression sprays**

- Road Sweeper – A new road sweeping contract was negotiated and implemented in February 2014. The contract change included use of a new 2013 VT651 MacDonald Johnson road sweeper which delivers improved machine and sweeping performance, see Figure 18 below. The machine meets the Emission Controls to Euro 5 Standard, which is an improvement on the older machine. There has been a visible improvement to the cleanliness of the road surface at PKCT since the introduction of the new sweeper.



**Figure 18: New road sweeper**

- Trial of continuous dust monitor alert system – PKCT has begun trialling an automatic email dust alert system based on readings from PKCT’s two continuous dust monitors. The alerts take into account wind direction and potential PKCT contribution. The alerts are trigger based and will notify the MCR operators of elevated dust levels approaching PKCT’s air quality criteria.
- A permanent dust deposition gauge was established at the Ross Street location (Linkside Apartments)

### 3.3.5 Air Quality - Activities Planned for 2014/2015 Reporting Period

The 2014 AECOM Independent Audit identified one minor non-conformance associated with air quality monitoring. A summary of the planned actions related to the 2014/2015 reporting period related to air quality is presented below.

- 2014 AECOM Independent Audit identified that one of the depositional dust gauges used in the dust monitoring program had been vandalised. The audit findings recommended installing a fence around the gauges to prevent public access. PKCT will investigate options to prevent further vandalism of the monitoring equipment.
- Continuous dust monitor alert system – subject to the outcomes of the trial, PKCT will implement the continuous dust monitor alert system.
- PKCT has completed some preliminary benchmarking with other Coal Terminals on automated dust suppression spray systems. PKCT will investigate improving the functionality and automation of the current stockpile dust suppression system.
- An Opportunity for Improvement identified in the 2014 AECOM Independent Audit is for PKCT to conduct an internal dust review for rail dust and site dust emissions. PKCT will undertake this across the 2014/2015 reporting period.
- PKCT will progress development of a project scope and seek approval to install a 3<sup>rd</sup> continuous dust monitor at the Viking's Oval site on the residential boundary. This action has been carried over from last reporting period and was not completed in the 2013/2014 reporting period due to other priorities associated with the water collection system.

## 3.4 Meteorological

### 3.4.1 Meteorological Monitoring Standards and Performance Measures

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.

### 3.4.2 Meteorological Monitoring

#### 3.4.2.1 Meteorological Monitoring Methodology

PKCT primarily utilises an on-site weather station to measure, monitor and record weather variables. The station measures wind speed and direction, rainfall, air pressure, temperature and humidity continuously at the site.

Additionally, PKCT operates two continuous dust monitors which measure PM10, PM2.5, TSP, wind speed and wind direction.

Data from the monitoring stations is used by PKCT personnel to assist with environmental management on site.



**3.4.2.2 Meteorological Monitoring Results and Compliance 2013/2014**

A summary of the meteorological data recorded at PKCT across the 2013/2014 reporting period is presented below in Figure 19 and Figure 20. An annual wind summary from the northern and southern continuous dust monitors is presented in Appendix F.

Year/Month	Rainfall (mm)	Temperature Mean °C	Wind Max Speed metres/ sec	Wind Average Speed metres/ sec
Jul-13	33.2	14.7	18.7	1.8
Aug-13	28.9	15.1	21.1	4.1
Sep-13	11.2	17.8	24.8	5.8
Oct-13	182.1	18.7	28.4	4.9
Nov-13	9.5	18.5	27.1	5.5
Dec-13	377.0	20.7	24.6	6.0
Jan-14	77.1	21.1	27.6	5.6
Feb-14	55.1	21.1	21.2	5.3
Mar-14	67.1	21.5	19.5	5.0
Apr-14	342.7	17.9	20.1	4.5
May-14	0.0	15.6	10.1	5.3
Jun-14	71.5	14.9	14.7	4.4

Figure 19: PKCT weather station monitoring data 2013/2014

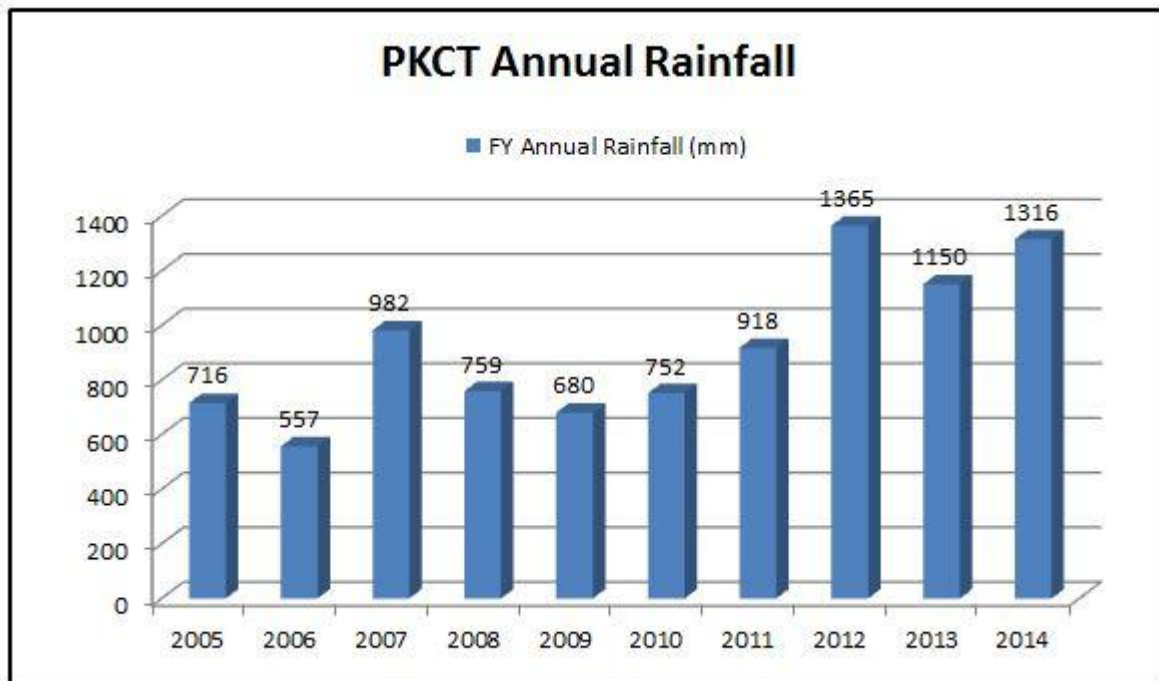


Figure 20: PKCT annual rainfall (financial year)



### 3.4.3 Trends in Weather

As is shown in Figure 20 above, the 2013/2014 reporting period was the second wettest year since 2005 with a total precipitation of 1316mm recorded. The general observation across the reporting period was that of extended periods of minimal precipitation followed by high intensity, short duration downpours.

## 3.5 Surface Water

### 3.5.1 Surface Water Standards and Performance Measures

EPL 1625 and Major Project Approval 08-0009 pertain to water quality and discharge limits from PKCT's premises. Water quality criteria are outlined as follows;

#### 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*.

#### Water Management Plan

13. The Proponent shall prepare and implement a Water Management Plan to the satisfaction of the Director- General. This Plan must:
- (a) be prepared in consultation with DECC;
  - (b) be submitted to the Director-General for approval within 12 months of this approval or as otherwise agreed by the Director-General; and
  - (c) include:
    - a site water balance, which includes details of sources of water supply, on-site water use and management and off-site water discharges and investigates and describes measures to minimise water use by the project;
    - a sediment control plan for surface works on the site that is consistent with the requirements of the *Managing Urban Stormwater: Soils and Construction Manual* (Landcom 2004, or its latest version);
    - a surface water monitoring program that includes:
      - stormwater effluent discharge criteria;
      - a monitoring protocol for evaluating compliance with the stormwater effluent discharge criteria; and
      - reasonable and feasible mitigation measures to ensure the stormwater effluent discharge criteria are met.

### 3.5.2 Surface Water Monitoring

#### 3.5.2.1 Surface Water Monitoring Methodology

PKCT has a Water Management Plan MP.HS.462 (WMP) which is in operation and DP&E approved. This plan was submitted to the DP&E within 12 months of Project Approval 08\_0009.

This Plan outlines the processes operating currently with regard to water monitoring, assessment, reporting, mitigation and management provisions to ensure necessary actions are undertaken in accordance with DP&E approval conditions.

The WMP includes reference to PKCT's Water Savings Action Plan (WSAP). This Plan has been in place since 2006 and has most recently been revised in June 2012. PKCT has now



met its regulatory obligations and no further reporting is required. PKCT will continue the process internally as a management tool to seek further water savings.

PKCT also operates under EPL 1625. Under this licence, PKCT is required to measure water quality at its Licenced Discharge Point 16 (LDP16). Daily grab samples are taken from LDP16 when harbour discharges occur.

On a monthly basis, PKCT collates and reviews water usage across the site and discharge water quality. LDP16 discharge monitoring data is uploaded to the [PKCT website](#) as required under Schedule 4, Condition 9 of Project Approval 08\_0009.

**3.5.2.2 Surface Water Monitoring Results 2013/2014**

Under EPL 1625, PKCT has a 100 percentile discharge limit for pH, Total Suspended Solids (TSS), and Oil and Grease. The respective limits for each are shown below in Figure 21.

Monitoring Parameter	100 percentile limits
pH	6.5 to 9.5
TSS	50 mg/litre
Oil and Grease	10 mg/litre

**Figure 21: EPL 1625 water quality parameter limits and compliance.**

Across the FY2013/2014 reporting period, PKCT recorded a total of 91 discharges from LDP16. Of these discharges, 85 were compliant for pH, 86 for TSS and 91 for Oil and Grease. A single sample was missed in November 2013. A full summary of the measured water usage for the site compared to the WSAP is presented below in Figure 22 and Appendix G.

Monitoring Parameter	Number of Overflows	Maximum recorded value	Minimum recorded value	Mean recorded value	Compliant Samples (%)
pH	91	9.8	6.5	8.0	93
TSS (mg/l)	91	410	<5	21	95
Oil and Grease (mg/l)	91	<5	<5	<5	100

**Figure 22: Water quality monitoring summary for LDP16 discharges**

PKCT monitors water usage across the site on a monthly basis. A summary of the water usage for the site compared to the WSAP is presented below in Figure 23.

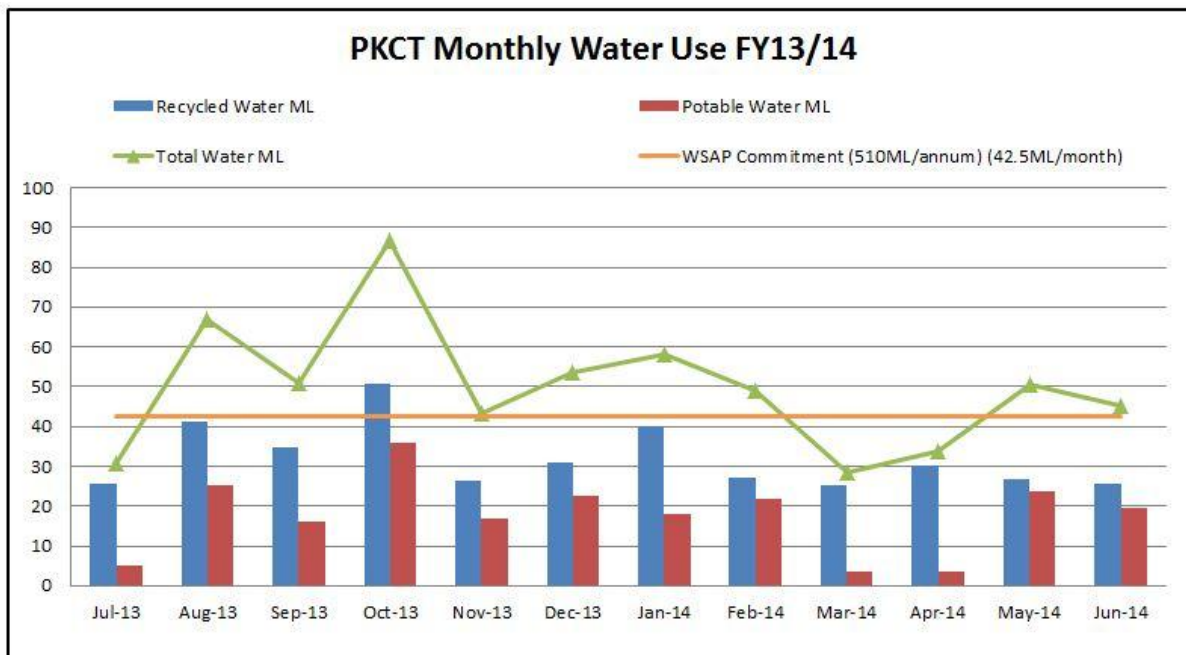


Figure 23: PKCT monthly water use for 2013/2014 reporting period

**3.5.2.3 Surface Water Monitoring Compliance**

PKCT has been working with the EPA to improve the consistency and quality of LDP16 discharge water across the 2013/2014 reporting period. A summary of the programs and measures is presented below;

- PKCT recorded six pH results marginally above the upper limit of 9.5 in the 2013/2014 reporting period. These were reported as non-compliances in the 2013/2014 Annual Return. These exceedances occurred after prolonged dry, hot weather in September and October 2013. pH fluctuations occurred in the Settlement Lagoon as a result of algal fluctuations. PKCT has trialed a number of programs to reduce the algal levels in the Settlement Lagoon and reduce the pH levels. In 2013, PKCT gained approval from the EPA to trial a proprietary product called Ecotabs as a method for reducing algal blooms in the Lagoon under Pollution Reduction Program 13 (PRP13).

The trial involved the introduction of natural bacteria to the Settlement Lagoon across October to February. The bacteria contained in the Ecotabs are suggested to consume nutrients from the water at a rapid rate, which over time would out-compete the algae for food and reduce the severity of blooms.

PKCT completed the trial and submitted a report to the EPA on 31<sup>st</sup> March 2014. The findings of the trial indicated that some reduction in nutrient levels was observed, however pH or algae levels did not significantly reduce. PKCT identified throughout the trial that water management through controlled discharges was the most effective

control method for managing pH levels in the lagoon. PKCT has committed to further investigate methods for pH reduction in the Settlement Lagoon.

- PKCT recorded five TSS results above the upper limit of 50mg/litre in the 2013/2014 reporting period. These were reported as non-compliances in the 2013/2014 Annual Return. These exceedances occurred across a single event in March 2014 where the site experienced an intense rainfall event over a short duration and high TSS levels were measured in the Settlement Lagoon. PKCT reported the results to the EPA and subsequently undertook an investigation into the cause of the elevated TSS levels. Records from the event suggest that all pumping equipment was operational and that the Settlement Lagoon dosing system was operational. History has shown that when the dosing unit is operational, TSS levels are well below the 50mg/litre limit.

The investigation found that water in the Southern Pond was not effectively floccing, however the cause of this was not identified. Full chemical water analysis tests were undertaken in various collection ponds across the site to ascertain whether a contaminant was present on the site. No contaminant was identified.

PKCT has engaged a water chemistry specialist to undertake a full review of the event and identify the root cause of the high TSS levels. Work is progressing.

- A single water sample was not taken at LDP 16 during discharge on 16<sup>th</sup> November 2013. This was recorded as a non-compliance against EPL1625 and reported in the 2013/2014 Annual Return. The missed sample occurred across an eight day discharge period from 14<sup>th</sup> to 21<sup>st</sup> November 2013. Of the seven water samples taken, all parameters were well within the licence limits for pH, TSS and Oil and Grease. There is no indication that the water quality of the missed sample was outside any of the specified limits.

An investigation into the cause of the missed sample was undertaken. The root cause was found to be distraction and lack of training of the acting Team Coordinator who failed to take the sample. The event was communicated to all teams on site, further training of the team involved in the non-compliance was undertaken and the Team Coordinator involved participated in the PKCT performance management process.

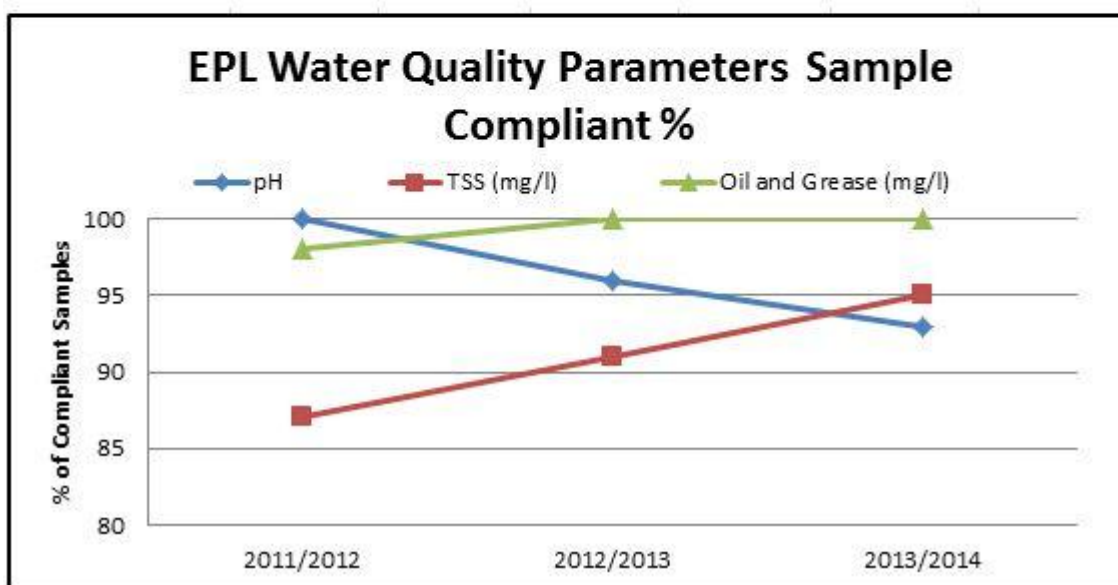
### 3.5.3 Trends in Surface Water Monitoring

Figure 24 below highlights the trends in compliance measured at LDP16 for EPL 1625 water quality parameters of pH, TSS and Oil and Grease. As is shown in the Figure 24, compliance has increased for both TSS and Oil and Grease over the past three reporting periods. The improvement in TSS compliance is attributed to progressive modification of the Settlement Lagoon polymer dosing unit and installation of a backup dosing unit.

pH compliance has decreased marginally over the past three reporting periods. pH variability continues to be an issue in the Settlement Lagoon and PKCT is working to resolve the issue in consultation with the EPA.



Monitoring Parameter	2011/2012		2012/2013		2013/2014	
	Number of Overflows	Compliant Samples %	Number of Overflows	Compliant Samples %	Number of Overflows	Compliant Samples %
pH	97	100	68	96	91	93
TSS (mg/l)		87		91		95
Oil and Grease (mg/l)		98		100		100



**Figure 24: Trends in water EPL water quality data at LDP16**

Site water use as a whole has increased across the 2013/2014 reporting period compared to the 2012/2013 reporting period, see Figure 25 below. Total water used increased from 573 ML (2012/2013) to 597 ML (2013/2014) however a reduction in the volume of potable water was realised, 226 ML (2012/2013) and 211ML (2013/2014).

Recycled water as a percentage of the total increased from 60% (2012/2013) to 64% (2013/2014).

Overall, the use of recycled water is seen as a benefit to the environment and while total water used increased on last reporting period, the amount of potable water used fell. PKCT continues to look for water savings across its operations.

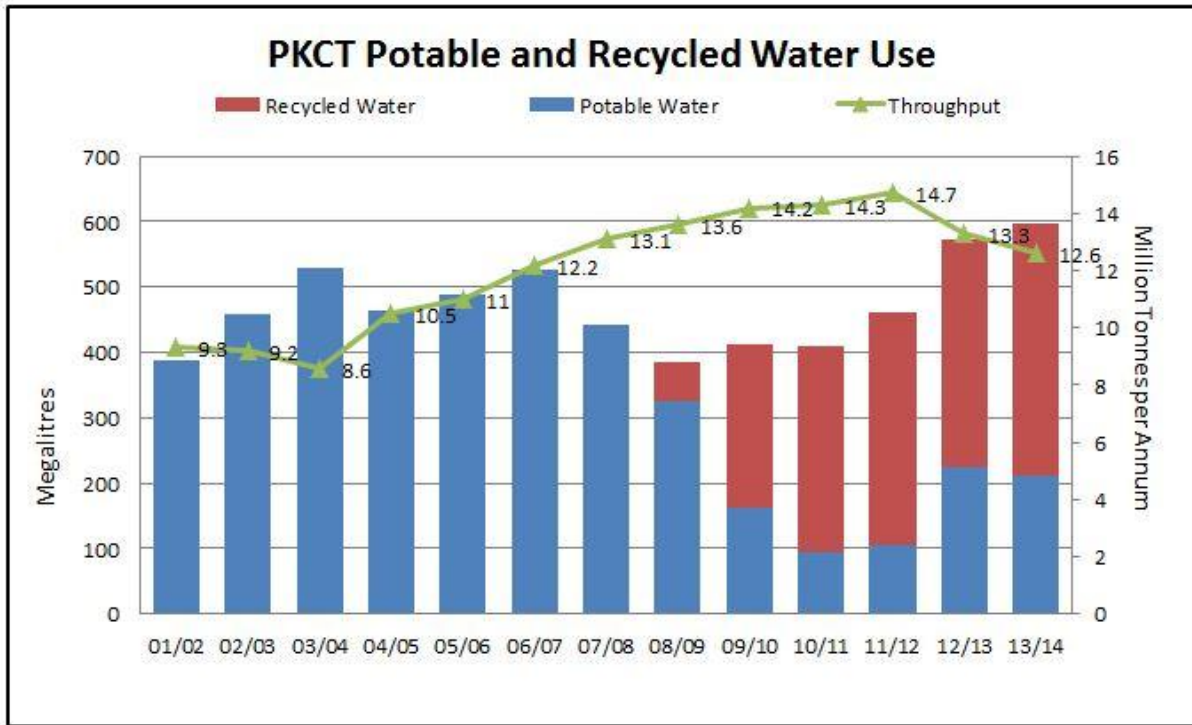


Figure 25: Trends in Potable and Recycled water use at PKCT

3.5.4 Surface Water –Activities Undertaken During 2013/2014 Reporting Period

A summary of the actions undertaken for the 2013/2014 reporting period related to surface water is presented below.

- Installation of concrete block-wall in the Central Pond in September 2013 to assist with sediment capture and cleaning, see Figure 26 below.



Figure 26: Installation of concrete blocks in Central Pond

- Trial of Ecotabs as an algal control method in the Settlement Lagoon, see Surface Water Monitoring Results and Compliance Section for details.
- Purchase of pH, Electrical Conductivity and Turbidity meter for on-site real-time water quality measurements, see Figure 27 below.



**Figure 27: pH, Electrical Conductivity and Turbidity meters.**

- An upgrade of Elogit online monitoring system was undertaken to better define PKCT's water use across its site. The implementation of this upgrade has allowed PKCT to quickly identify pipe leaks via an automated alarm system as well as improve the understanding of water use across the site.
- PKCT engaged a consultant to undertake a contaminated water pumping system review. Stage 1, the investigation phase, was completed with the consultant providing a report to PKCT. Stage two, prioritising system improvements will be undertaken across the next reporting period. Stage three will involve updating documentation and site strategies.

### 3.5.5 Surface Water - Activities Planned for 2014/2015 Reporting Period

The 2014 AECOM independent Audit identified 4 minor non-conformances associated with surface water. These were related to pH and TSS exceedances measured in the Settlement Lagoon. PKCT will continue to ensure that the surface water standards and performance measures are considered during any planning of any future restoration and improvement works. A summary of the planned actions for the 2014/2015 reporting period is presented below.

- Continue investigations on improving Settlement Lagoon pH and TSS compliance. This includes further investigation on algal control trials identified under PRP9 and actions identified in the 2014 AECOM Independent Audit.
- Investigate dewatering methods for the Settlement Lagoon to assist desilting operations.
- Complete work on PRP12 – Implement upgrades to stormwater pollution control system. This may include commencement of Central Pond upgrade works pending funding approval.
- Continue to identify and implement opportunities for improvement related to surface water at PKCT as they arise.
- Updating the PKCT WMP was identified as an opportunity for improvement in the 2014 AECOM independent Audit. This will be completed during the 2014/2015 reporting period.

## 3.6 Biodiversity

### 3.6.1 Biodiversity Standards and Performance Measures

#### 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.

### 3.6.2 Biodiversity Monitoring

#### 3.6.2.1 Biodiversity Monitoring, Results and Compliance

A Green and Golden Bell Frog Management Plan MP.HS.109 (GGBFMP) is implemented, in operation and DP&E approved. The GGBFMP has been developed in consultation with the EPA and PKCT is continuing to work closely with the authority as matters arise.

PKCT personnel are periodically provided with GGBF information including information on the associated legal and other obligations. A GGBF update was presented to the Shift Teams in December 2013, see Appendix H.

PKCT undertook a GGBF survey on the 27<sup>th</sup> February 2014. The survey was supervised by an expert consultant from NICHE Environment and Heritage, with assistance provided by the PKCT Environmental Specialist and Risk Manager. Evening and night surveys confirmed that GGBF are not currently present on site.

Workers at PKCT are instructed to report and record any GGBF (or other frog) sightings throughout the year. Sightings are recorded in a site database. No GGBF's have been identified by the PKCT workforce in the 2013/2014 reporting period.

#### 3.6.3 Trends in Biodiversity

PKCT undertakes GGBF surveys and records all sightings in a register. PKCT personnel have not identified any GGBF during normal operations or as a result of focused surveys since 2011. Figure 28 below shows the trend in GGBF sightings at PKCT back to the 2007/2008 financial year.



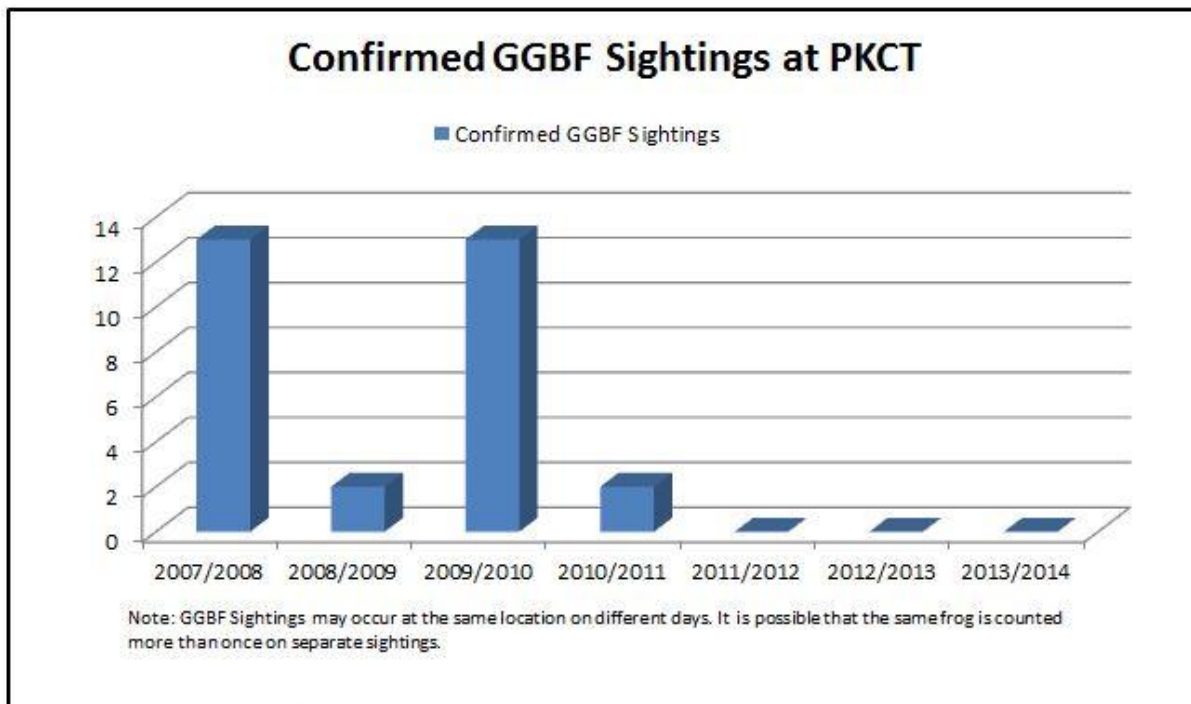


Figure 28: GGBF sightings at PKCT

**3.6.4 Biodiversity –Activities Undertaken During 2013/2014 Reporting Period**

A summary of the actions undertaken for the 2013/2014 reporting period related to biodiversity is presented below.

- GGBF survey undertaken on 27<sup>th</sup> February 2014.
- Awareness communications on GGBF responsibilities were conducted for PKCT personnel in December 2013 through team meetings.

**3.6.5 Biodiversity - Activities Planned for 2014/2015 Reporting Period**

The 2014 AECOM independent Audit identified one Opportunity for Improvement associated with biodiversity. PKCT will continue to ensure that the biodiversity standards and performance measures are considered during any planning for future restoration and improvement works. A summary of the planned actions related to the 2014/2015 reporting period related to biodiversity is presented below.

- Continued monitoring for GGBF populations at PKCT during normal operations and Project Works.
- As identified in the 2014 AECOM independent Audit, PKCT will review the GGBFMP and update as necessary.

### 3.7 Visual Amenity

#### 3.7.1 Visual Amenity Standards and Performance Measures

##### Lighting Emissions

15. The Proponent shall:
- (a) ensure no external lights shine above the horizontal;
  - (b) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*, or its latest version, and
  - (c) take all reasonable and feasible measures to mitigate off-site lighting impacts from the project to the satisfaction of the Director-General.

##### Landscape Management Plan

16. The Proponent shall prepare and implement a Landscape Management Plan to the satisfaction of the Director-General. This Plan must:
- (a) be submitted to the Director-General for approval within 12 months of this approval, or as otherwise agreed by the Director-General; and
  - (b) include;
    - details of screening trees to be planted on the road receive earth bund and along the northern site boundary; and
    - an implementation program.

#### 3.7.2 Visual Amenity Monitoring

##### 3.7.2.1 Visual Amenity Monitoring, Results and Compliance.

PKCT is not aware of any off site lighting impacts. Since PKCT commenced operations in 1990, there has been no community complaints associated with lighting. Should any reports or complaints be received on this topic, PKCT will take immediate action to assess and resolve the matter.

A consultant, Lightpoint Consulting Services, undertook a review of site lighting and assessment against the standard in 2011. A report of 4<sup>th</sup> October 2011 concluded that PKCT was in compliance with AS 4282 and no evidence of any detrimental impact was found on residential areas.

Obligations associated with lighting emissions have been communicated to personnel involved in plant modifications and upgrades and the requirements are taken into account in project development.

PKCT's Landscape Management Plan MP.HS.470 (LMP) is in operation and DP&E approved. This document includes details of proposed tree planting. Implementation is staged and processed through PKCT's project approval process.

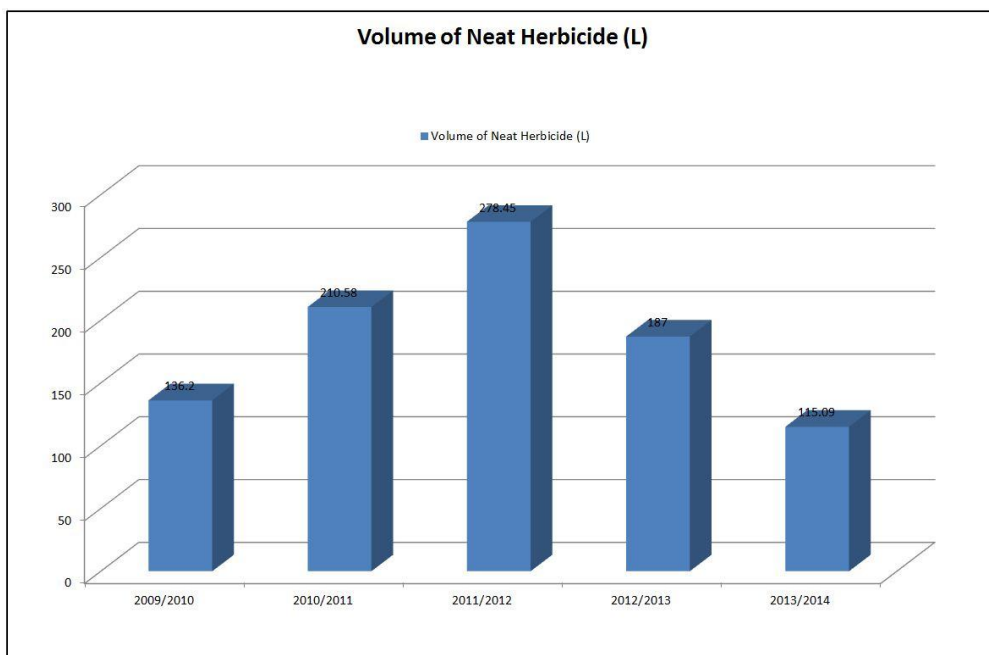
PKCT utilises a landscaping contractor to maintain lawns and gardens and control weeds on site. Landscape contractor staff are trained in chemical application and use non residual herbicides (Glyphosate 360 – trademark Roundup). All weed spraying undertaken considers prevailing weather conditions and locations and PKCT is provided with a Weed Spraying

Notification Form (WSNF) each time an herbicide is used on site. See Appendix I for an example of a WSNF.

**3.7.3 Trends in Visual Amenity**

PKCT’s lighting survey in 2011 did not identify any offsite lighting impacts associated with the PKCT operation. There have been no recorded community complaints relating to lighting since PKCT commenced operations in 1990.

Chemical is applied on site to control weeds. Figure 29 below shows the volume of herbicide used on site across respective reporting periods. The 2013/2014 reporting period saw the smallest chemical volume used since the 2009/2010 reporting period.



**Figure 29: Volume of neat herbicide used for weed spraying at PKCT**

**3.7.4 Visual Amenity –Activities Undertaken During 2013/2014 Reporting Period**

A summary of the actions undertaken for the 2013/2014 reporting period related to visual amenity is presented below.

- Ongoing maintenance of the landscaped area near the northern transfer station. The garden is now well established in this area, see Figure 30 below.



**Figure 30: Landscaped area near Northern Transfer Station**

**3.7.5 Visual Amenity - Activities Planned for 2014/2015 Reporting Period**

The 2014 AECOM independent Audit identified one Opportunity for Improvement associated with visual amenity. PKCT will continue to ensure that visual amenity and landscape management is considered during any planning for future restoration and improvement works.

- As identified in the 2014 AECOM independent Audit, PKCT will review and update if necessary the LMP.

**3.8 Greenhouse and Energy Efficiency**

**3.8.1 Greenhouse and Energy Efficiency Standards and Performance Measures**

**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.



### 3.8.2 Greenhouse and Energy Efficiency Monitoring

#### 3.8.2.1 Greenhouse and Energy Efficiency Monitoring Methodology

In accordance with Condition 18, a Greenhouse Gas and Energy Efficiency Management Plan MP.HS.461 (GGEEMP) was included in the 0910 AEMR submission to DP&E. It outlines the monitoring and management processes in place, including PKCT’s Energy Savings Action Plan (Established under the Energy Administration (Water and Energy Savings) Act 2005), and regulated by EPA).

The GGEEMP is in operation and DP&E approved.

In accordance with legal advice, PKCT, having operational control, is deemed to be the reporting entity under the referenced legislation. Accordingly, PKCT is currently under the reporting threshold.

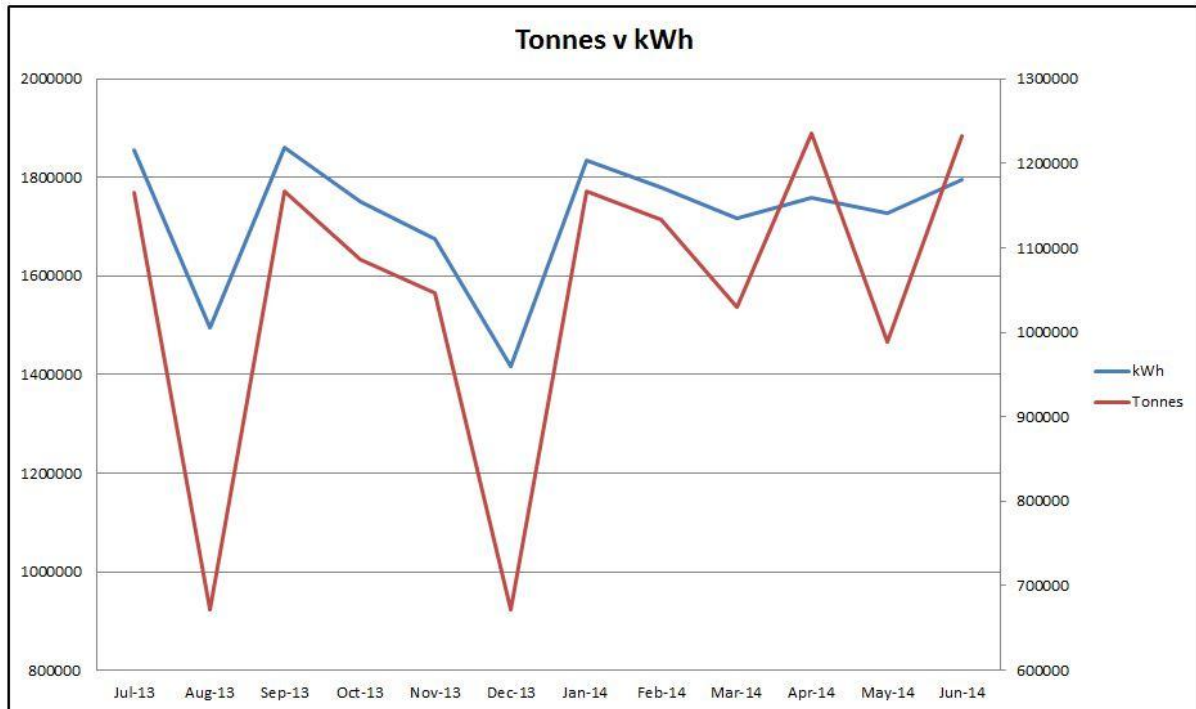
A consultant was engaged to advise on applicable site activities and energy aspects and to develop a monitoring format. The format developed has been implemented. Though not reporting at this stage, PKCT is recording data and monitoring energy use and greenhouse gas generation. Figure 31 below outlines the volumes of reportable emissions from PKCT operations across the reporting period.

2013/2014 FY (July-June)	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	10	38.60	69.90	386	27
Diesel oil (stationary energy)	kL	0	38.60	69.50	0	0
Biodiesel B20 (Transport)	kL	111	30.88	69.51	3428	238
Petrol (transport)	kL	20	34.20	69.60	684	48
Petroleum based oils	kL	3	38.80	27.90	116	3
Petroleum based greases	kL	5.18	38.80	27.90	201	6
Acetylene	m3 *	53	0.0393	51.33	2	0
<b>Scope 2 – indirect emissions</b>						
Electricity	Reporting unit kWh	20,663,855	Energy content (GJ per kWh) 0.0036	Emissions factor (kg CO2-e per kWh) 0.89	74390	18391
<b>Total</b>					79207	18713
<b>Threshold</b>					100,000	25,000

Figure 31: Greenhouse gas report 2013/2014

#### 3.8.2.1 Greenhouse and Energy Efficiency Monitoring, Results and Compliance.

Energy use is measured at PKCT on a monthly basis. Energy use generally follows the same trend as throughput at the site, i.e. when there is an increase in throughput, energy use also increases. Figure 32 below provides monthly energy consumption and tonnes for the 2013/2014 reporting period.



Month	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14
kWh	1855559	1494239	1859328	1751124	1675051	1415593	1833917	1779192	1717458	1758105	1728014	1796275
Tonnes	1165889	672441	1167342	1086215	1046596	671246	1166812	1133677	1030189	1234714	988690	1231900

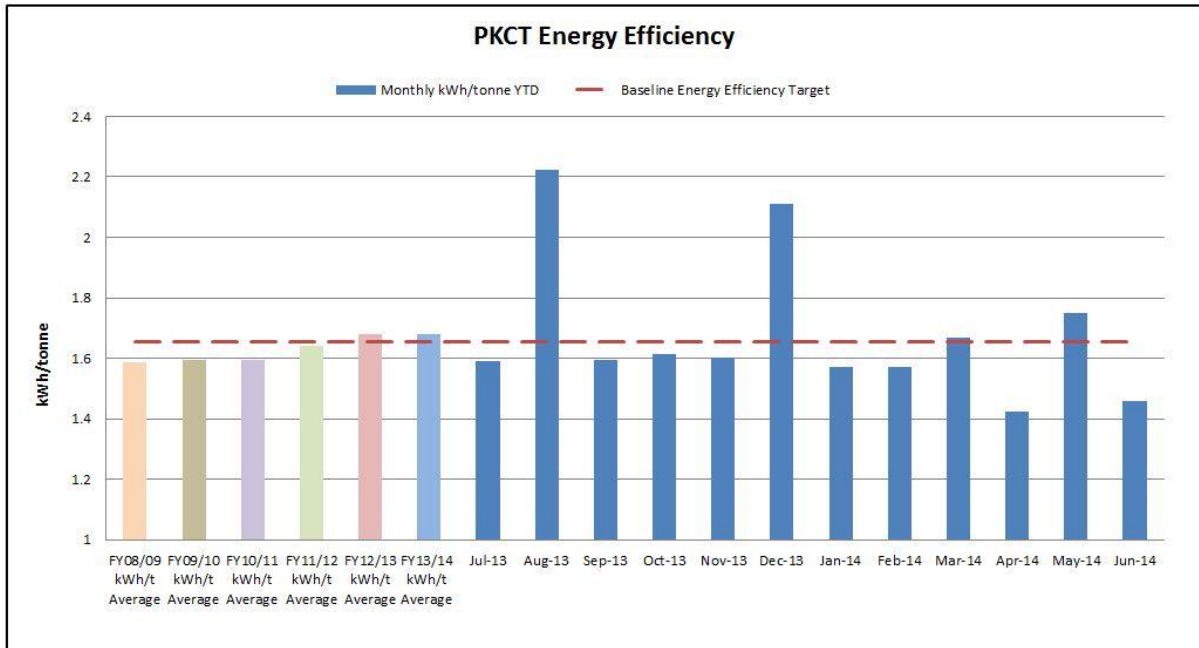
Figure 32: PKCT tonnes v kWh

**3.8.3 Trends in Energy Efficiency**

PKCT measures energy efficiency against its baseline energy efficiency target of 1.655 kWh/tonne. This figure is calculated by dividing the energy used at the premises (kWh) by throughput (tonnes). The 2013/2014 reporting period saw four months where monthly kWh/tonne exceeded the baseline energy efficiency target, see Figure 33 below. These records correspond with low throughput months, in particular during the months of August and December 2013.

Overall, the kWh/tonnes for the 2013/2014 reporting period was marginally above the baseline energy efficiency target of 1.655kWh/tonne (1.68kWh/tonne) which is comparable to the 2012/2013 financial year.

A negative trend has been observed in energy efficiency in recent years relating to the operating ship loading and receival rates of material handling equipment. PKCT’s business improvement process is tracking these parameters seeking to reverse the trend through remedial and upgrade works.



**Figure 33: PKCT energy efficiency trends**

PKCT monitors greenhouse gas generated by the site annually. At this stage, greenhouse gas emissions and reportable energy are below the legislated reporting thresholds, see Figure 31. Reportable energy consumption and greenhouse gas emissions have declined at PKCT over the past two reporting periods. Energy use and therefore emissions follow throughput. Figure 34 below shows this declining emissions trend.

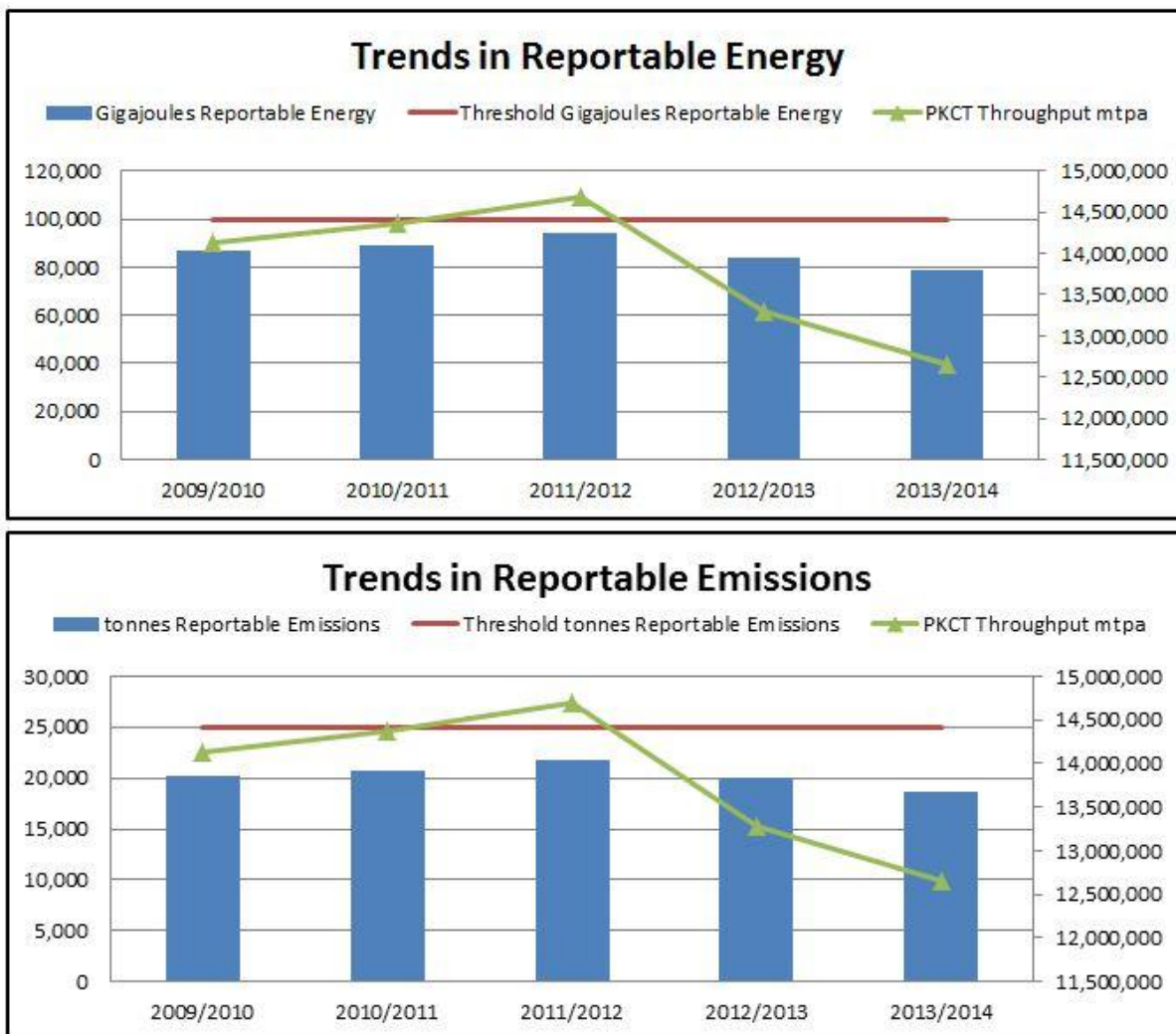


Figure 34: Trends in reportable energy and greenhouse gas emissions

**3.8.4 Energy Efficiency –Activities Undertaken During 2013/2014 Reporting Period**

A summary of the actions undertaken for the 2013/2014 reporting period related to Energy Efficiency is presented below.

- PKCT undertook an Energy Efficiency Study. The scope of the study was to measure the power consumption of all conveyor systems, determine the characteristics of the conveyor systems at different feed rates and to use this information to look for areas to improve efficiency and save on energy costs. The study determined that significant energy and cost savings can be achieved by operating each conveyor at different feed rates. The information has been routinely communicated to the workforce across monthly team meetings encouraging efficient operation of material handling equipment.
- PKCT continues to hold regular review meetings to monitor energy usage trends and to assess energy use at the site.



- PKCT continues to consider energy efficiency measures as part of the development of new projects. In this regard, no projects of note were implemented across the reporting period.

### 3.8.5 Energy Efficiency - Activities Planned for 2014/2015 Reporting Period

The 2014 AECOM independent Audit identified one Opportunity for Improvement associated with energy efficiency. PKCT will continue to ensure that energy efficiency is considered during any planning for future restoration and improvement works.

- As identified in the 2014 AECOM Independent Audit, PKCT will review and update if necessary the GGEEMP

## 3.9 Waste

### 3.9.1 Waste Standards and Performance Measures

#### Operating Conditions

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

### 3.9.2 Waste Monitoring

#### 3.9.2.1 Waste Monitoring Methodology

PKCT's Waste Management Plan MP.HS.460 (WSMP) was submitted to DP&E with the 0910 AEMR. The plan is in operation. The WSMP contains waste monitoring, assessment, reporting, and mitigation and management provisions to ensure necessary actions are undertaken and that waste from PKCT premises comply with the criteria in the condition above.

The objectives of the WSMP are to;

- Identify waste streams from PKCT normal operations.
- Review waste streams to identify opportunities to reduce waste generation.
- Categorise identified waste streams into reuse, recycle, recovery or disposal.
- Provide a framework for managing waste and educating staff to reduce disposal.
- Provide methodology for waste handling to ensure implementation of framework.
- Ensure availability of waste related data for the PKCT AEMR.
- Monitor the success of the WSMP and continually improve it based on results



- Ensure suitable PKCT Managerial review of the waste management process leading to consideration and/or implementation of suitable improvement opportunities.

**3.9.2.2 Waste Monitoring Results and Compliance 2013/2014**

PKCT records and tracks waste as it is generated across the site. Waste streams at PKCT are tracked via normal operations and through project specific operations. A summary of the waste generated through various projects at PKCT is presented below in Figure 35.

PROJECT WASTE 2013/2014						
Project	Waste Type	Unit	Project Total	On Site	Recycled	Landfill
Berth 101 Timber Fender Repairs	Timber	Tonnes	12	0	2	10
Berth 101 Pile Refurbishment	Concrete	Tonnes	60	0	60	
Berth 101 Bollard Refurbishment	Concrete	Tonnes	1	0	1	
Berth 102 Pile Refurbishment	Concrete	Tonnes	30	0	30	
Berth 102 Shiploader Rail Repairs	Tar/Bitumen	Tonnes	2	0	2	
TS8 Pile Refurbishment	Concrete	Tonnes	3	0	3	
BPB Stockpile Removal	Concrete	Tonnes	130	0	130	

**Figure 35: Project generated waste 2013/2014**

General site waste is managed by a waste contractor. A summary of the waste generated at PKCT across the reporting period is presented below in Figure 36. PKCT transitioned to a new waste service provider in late May.

Waste	Unit	2013						2014						Total	Disposal Method
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
General Waste - Front Lift Bins - Main Carpark/Admin Building/Workshop/Contractors Shed/Road Reveal	tonnes	0.00	0.00	0.00	7.08	3.84	4.55	5.91	4.04	3.34	1.01	4.58	5.26	39.61	Landfill
Cardboard Recycling Bin - Admin and Workshop	tonnes	0.00	0.00	0.00	0.17	0.06	0.17	0.17	0.23	0.17	0.11	0.23	0.17	1.48	Recycled
Asbestos - all areas	tonnes	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.00	Landfill
Copper Wire Bin	tonnes	1.245	1.86	0	0	0.00	0	0	0	0	0	0	0	3.11	Recycled
Waste Steel Removal - all areas	tonnes	0	0	21.26	0	0	12.5	0	0	0	14.6	0	0	48.36	Recycled
Grease Cartridges	tonnes	205	205	0	615	0	205	0	0	200	0	0	240	1670	Recycled
Oil Filters	litres	0	0	200	200	0	200	0	0	200	0	0	240	1040	Recycled
Oily Rags	litres	0	400	200	400	0	400	0	0	600	0	0	920	2920	Recycled
Coolant	litres	150	0	0	0	0	0	0	0	0	0	0	0	150	Recycled
Oil/Grease	litres	410	205	205	615	0	410	0	0	0	0	0	0	1845	Recycled
Liquid Waste J120	litres	6280	0	0	0	0	24900	0	3360	0	0	3080	0	37620	Off Site Treatment
Parts Washer Solvent	litres	120	0	121	0	0	0	180	0	0	0	0	0	421	Off Site Treatment

**Figure 36: Waste Summary FY2013/2014**

**3.9.3 Trends in Waste**

Figure 37 below shows trends in three different waste streams generated at PKCT, steel, general waste and cardboard. The 2013/2014 reporting period has seen a decline in all three waste streams compared to the last reporting period. PKCT continues to educate its workforce on waste reduction through periodic awareness communications.

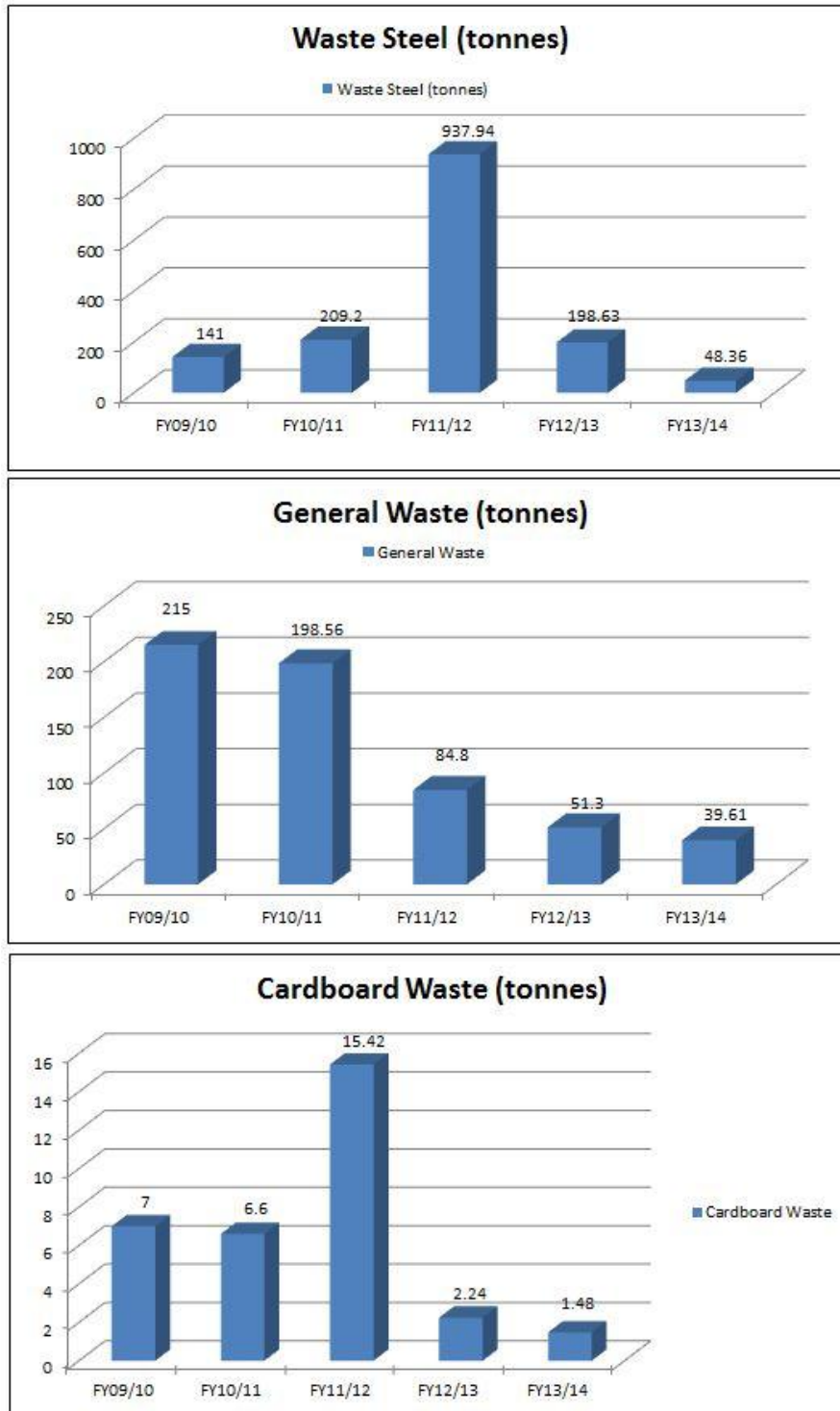


Figure 37: Waste trends at PKCT

**3.9.4 Waste –Activities Undertaken During 2013/2014 Reporting Period**

A summary of the actions undertaken for the 2013/2014 reporting period related to waste is presented below.

- PKCT undertook a review of contractual arrangements and changed waste management firms during the reporting period. This has resulted in an improved waste monitoring and tracking system at the site.
- 8572 tonnes of spillage coal was returned to customers as part of spillage screening and recycling activities during the reporting period.
- PKCT updated its asbestos register to an online format, providing a more user friendly system.
- General refurbishment works were carried out south of Berth 101. See Figure 38 below.



**Figure 38: Removal of concrete from laydown area near Berth 101**

### 3.9.5 Waste - Activities Planned for 2014/2015 Reporting Period

The AECOM Independent Audit did not identify any actions associated with waste. A summary of the actions planned for the 2014/2015 reporting period is presented below.

- The ISO 14001 Surveillance Audit undertaken by Lloyds in December 2013 identified a need to review the waste management plan and procedures. This will be undertaken in the 2014/2015 reporting period.

### 3.10 Hazards

#### 3.10.1 Hazards Standards and Performance Measures

##### 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*.

#### 3.10.2 Hazards Monitoring

##### 3.10.2.1 Hazards Monitoring, Results and Compliance.

PKCT is aware of all dangerous goods onsite and ensures personnel are suitably trained to handle these. Any substances onsite are stored in accordance with AS1940 & AS1596.

PKCT utilises a proprietary chemical database system called ChemAlert to record information on chemicals at the site. Substance Data Sheets (SDS) and substance evaluation forms are available electronically from ChemAlert.

Regular environmental auditing is undertaken in the Main Store and Workshop areas to ensure compliance with relevant standards.

PKCT continues to look for opportunities to improve the storage of dangerous or hazardous goods on site. During the 2013/2014 reporting period, PKCT introduced an aerosol storage cabinet into the Store, see Figure 39 below.



Figure 39: Aerosol storage cabinet introduced to store in 2013/2014 reporting period

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AUTHORISED BY Peter Green, General Manager

Date Authorised: 30.7.14

PKCT continues to utilise a mobile refuelling system for its plant machinery and does not store any fuel on site. In February 2014, PKCT decommissioned the underground fuel storage tanks and completed remediation of the site. Figure 40 below shows this work being undertaken.



**Figure 40: Decommissioning of underground fuel storage tanks**

### 3.11 Fire Control

#### 3.11.1 Fire Control Standards and Performance Measures

**Fire Control**

- 21. During the project, the Proponent shall:
  - (a) ensure that it maintains suitable equipment to respond to any fires onsite; and
  - (b) assist the fire and emergency services as much as possible if there is a fire onsite.
  
- 22. The Proponent shall ensure that it maintains a Fire Management Plan for the site.



### 3.11.2 Hazards Monitoring

#### 3.11.2.1 Fire Control Monitoring, Results and Compliance.

PKCT has a Fire Management Plan MP.HS.459 (FMP) in place which outlines the processes in place pertaining to fire management associated with the PKCT operations.

#### 3.11.3 Fire Control –Activities Undertaken During 2013/2014 Reporting Period

PKCT had three minor fires across the reporting period. Figure 41 below outlines the fires and PKCT’s response.

Date	EMS number	Summary	Description
14/07/2013	EV-00939	Collapsed roller caught on fire on NC11	Fire was put out with extinguisher and then cooled with fire hose. Rollers replaced.
26/08/2013	EV-00983	Fire and subsequent damage to NC14 motor brake assembly	Controlled fire by stopping belt and using fire hose.
25/10/2013	EV01034	Tail drum fire on boom belt of shiploader #2	Fire was put out, machine taken out of service.

**Figure 41: Fires recorded at PKCT in the 2013/2014 reporting period**

A summary of further activities undertaken associated with fire control across the reporting period is presented below.

- Ongoing servicing and compliance checks of fire-fighting systems in line with relevant standards.
- Testing and implementation of an improved fire alarm system in high noise areas such as transfer stations and road and rail receival areas.
- Relocation of inergen bottles from inside the switch room to outside in a stainless steel enclosed cabinet for TS5 and TS6 switch room.
- PKCT has formalised a new service level agreement with Wormald updating service levels to AS1851-2012. Associated with this update, PKCT has updated its Computer Maintenance System (CMMS) and Works and Asset Management (WAM) to incorporate alternated scheduled maintenance tasks.

#### 3.11.4 Fire Control - Activities Planned for 2014/2015 Reporting Period

The AECOM Independent Audit did not identify any actions associated with fire control. PKCT will continue to utilise its FMP and ensure it complies with the stipulated fire control standards and performance measures.



**4.0 ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING**

**4.1 Environmental Management Performance Measures and Compliance**

Environmental Management (Schedule 4, Condition 1)	Relevant section of PKCT EMS
The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must:	Refer to the PKCT EMS
a) be submitted to the Director-General for approval within 12 months of this project approval or otherwise agreed by the Director-General	EMS was submitted to the DP&E with eth 2009/2010 AEMR by the due date of 31 <sup>st</sup> July 2010
b) provide for the strategic context for the environmental management of the project;	Refer to Section 5
c) identify the statutory requirements that apply to the project;	Refer to Section 6
d) describe the procedures that would be implemented to: <ul style="list-style-type: none"> <li>• keep the local community and relevant agencies informed about the operation and environmental performance of the project</li> <li>• receive, handle, respond to, and record complaints;</li> <li>• resolve any disputes that may arise during the course of the project;</li> <li>• respond to any non-compliance;</li> <li>• manage cumulative impacts; and</li> <li>• respond to emergencies;</li> </ul>	Refer to Section 11  Refer to Section 11 Refer to Section 11.3  Refer to Section 7.6 Refer to Section 7.3 Refer to Section 8.1
e) include an environmental monitoring program for the project that includes all the monitoring requirements of the approval;	Refer to Section 9
f) describe how the various incident and approval reporting requirements of the project would be integrated into a single reporting system; and	Refer to Section 9
a) describe the role, responsibility, authority and accountability of all the key personnel involved in the environmental management of the project.	Refer to Section 4

**Figure 42: EMS compliance in the AEMR**

PKCT has in place an approved Environmental Management Strategy (EMS). The EMS was submitted with the 2009/2010 AEMR to the DP&E. The EMS details how PKCT complies which each line item of Schedule 4, Condition 1, Environmental Management of Project Approval 08\_0009. Figure 42 above references the specific EMS Sections that PKCT utilises for compliance with Schedule 4, Condition 1.

**4.2 Reporting - Incident Reporting**

<p><b>Incident Reporting</b></p> <p>2. Within 24 hours of detecting the occurrence of an incident that causes (or may cause) material harm to the environment, the Proponent shall notify the Department and other relevant agencies of the incident.</p> <p>3. Within 21 days of notifying the Department and other relevant agencies of such an incident, the Proponent shall provide the Department and these agencies with a written report that:</p> <ul style="list-style-type: none"> <li>a) Describes the date, time, and nature of the incident;</li> <li>b) Identifies the cause (or likely cause) of the incident</li> <li>c) Describes what action has been taken to date: and</li> <li>d) Describes the proposed measures to address the incident.</li> </ul>
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Requirements associated with Schedule 4, Conditions 2 and 3 are referenced in PKCT's EMS and Event Management Procedure. There were no reportable incidents across the 2013/2014 reporting period.

### 4.3 Reporting - Annual Reporting

#### Annual Reporting

4. Within 12 months of this approval, and annually thereafter, the Proponent shall submit and AEMR to the Director-General and all relevant agencies. This report must:
- a) Identify the standards and performance measures that apply to the project
  - b) Describe the works carried out in the last 12 months;
  - c) Describe the works planned to be carried out in the next 12 months;
  - d) Include a summary of the complaints received during the past year; and compare this to complaints received in the previous years;
  - e) Include a summary of the monitoring results for the project during the past year;
  - f) Include an analysis of these monitoring results against the relevant:
    - Impact assessment criteria/limits;
    - Monitoring results from previous years; and
    - Predictions in the EA or other documents listed in condition 2 of schedule 2;
  - g) Identify and discuss all exceedances of approval and licence conditions and other applicable standards and performance measures;
  - h) Identify any trends in the monitoring results over the life of the project;
  - i) Identify any non-compliance during the previous year; and
  - j) Describe what actions were, or are being, taken to ensure compliance.

PKCT has revised the structure of the 2013/2014 AEMR to better align with the requirements of Schedule 4, Condition 4. Submission of this AEMR, with its changes satisfies the requirements of the Condition. This has been undertaken after DP&E provided feedback to PKCT on the format of the 2012/2013 AEMR.

### 4.4 Independent Environmental Audit

#### Independent Environmental Audit

5. By 31 March 2011 and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an independent Environmental Audit of the Project. This audit must:
- a) Be conducted by a suitable qualified, experienced, and independent team of experts whose appointment has been endorsed by the Director-General;
  - b) Include consultation with the relevant agencies;
  - c) assess the environmental performance of the project and whether it is complying with the relevant requirements in this approval and any relevant EPL (Including any strategy, plan or program required under these approvals); and
  - d) review the adequacy of strategies, plans and/or programs required under these approvals; and, if appropriate
  - e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.

*Note: This audit team should be led by a suitably qualified auditor, and include experts in the field of noise, air quality, and*

*traffic management.*

6. Within 6 weeks of completing this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General with a response to any recommendations contained in the audit report.
7. Within 3 months of submitting the audit report to the Director-General, the Proponent shall review and if necessary revise the strategies/plans/programs required under this approval, to the satisfaction of the Director-General.

As required under Schedule 4, Condition 5 of Project Approval 08\_0009, PKCT undertook its Triennial Independent External Audit on 28<sup>th</sup> March 2014. The auditor, AECOM, was approved by the Director-General by letter dated 27<sup>th</sup> February 2014.

PKCT completed the audit and submitted an audit report the DP&E on 9<sup>th</sup> May 2014. By email of 29<sup>th</sup> May 2014, the 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 (Version 3) together with a requested PKCT Action Plan.

The DP&E provided further feedback by two emails on 16<sup>th</sup> June 2014. Clarification on some items was sought together with suggested changes to the AECOM Audit Report. A revised action plan and clarification of the requested points was submitted to the DP&E by the due date of 23<sup>rd</sup> June 2014.

Of the 96 conditions contained in the MCoA (including Statement of Commitments), 85 conditions applied to the audit, of which PKCT complied with 84 conditions. There was one non-compliance (classified as minor) and 18 opportunities for improvement.

Of the 84 conditions contained in the EPL, 47 conditions applied to the audit, of which PKCT complied with 38 conditions. There were four non-compliances (classified as minor) and five opportunities for improvement.

The final, revised Action Plan with further details on the minor non-compliances is presented in Appendix E. PKCT is currently working on completing the required actions of the plan.

#### 4.5 Access to Information

##### Access to Information

8. Within 3 months of the approval of any strategy/plan/program required under this approval (or any subsequent revision of these strategies/plans/programs), or the completion of the audits or AEMR, required under this approval, the Proponent shall:
  - a) provide a copy of the relevant document/s to the relevant agencies
  - b) place a copy of the document/s on its website; and
  - c) remove superseded copies of strategies/plans/programs from its website.
9. During the project, the Proponent shall:
  - a) make a summary of monitoring results required under this approval publically available on its website; and
  - b) Update these results on a regular basis (at least every 6 months).



Actions arising from the 2014 Triennial Independent Audit include updating of a number of PKCT Management Plans, refer to Appendix E. Once updated and approved by the relevant agencies, these plans will be uploaded the PKCT website, [www.pkct.com.au](http://www.pkct.com.au).

As required under Condition 9, PKCT makes a summary of its monitoring results publically available on its website. Both the PKCT 2012/2013 AEMR and the 2013/2014 interim EMR can be found on [www.pkct.com.au](http://www.pkct.com.au).

## 5.0 STATEMENT OF COMMITMENTS

PKCT prepared and submitted a Statement of Commitments as part of the Environmental Assessment submitted to the DP&E for the 08\_0009 Major Project Application. The DP&E accepted these commitments and they now form “Appendix 2” of the Approval.

PKCT’s compliance with these commitments across the 2013/2014 reporting period is outlined in the following sections.

### 5.1 Statement of Commitments -Traffic and Transportation

Objective	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> <li>Safety standards to be maintained by trucks following designated routes procedures</li> <li>Internal PKCT roadways to be maintained to minimize coal and bulk products spillage and carry over onto public roadways.</li> </ul>	<ul style="list-style-type: none"> <li>Public road haulage of coal and bulk products to PKCT will not exceed 10 million tonnes per annum.</li> <li>Publication of annual throughput tonnes including in-loading method (i.e. road and rail received coal and bulk products).</li> <li>All trucks delivering coal and bulk products to PKCT must follow designated heavy vehicle transport routes.</li> <li>A driver’s code of conduct will be utilized for all transport companies delivering product to PKCT.</li> <li>Review effectiveness of truckwash facilities to be undertaken.</li> <li>Unless further or alternative Approval for NRE No 1 Colliery at Russell Vale is in place, PKCT will only receive coal from the NRE No 1 Colliery if that coal has been dispatched from that Colliery by public road between the hours of 7am to 10pm Monday to Friday and 8am to 6pm Saturday and Sunday or Public Holidays.</li> </ul>

A summary of actions undertaken across the 2013/2014 reporting period specific to this Statement of Commitments is presented below. Further details related to the Traffic and Transportation Statement of Commitments are found under Section 3.2 of the AEMR.

- Public road receivals for the reporting period were 3.03mtpa.
- An interim Environment Management Report and AEMR are published on the PKCT website every 6 months, making throughput records publically available.



- PKCT and its associated road transport providers utilise an auditing program to ensure compliance with the PKCT DCC. This includes monitoring of trucks adherence to the specified travel routes.
- The truckwash upgrade project is being implemented. An effectiveness review will be undertaken as part of the project.
- PKCT receives monthly DCC compliance reports from Brindles who provide coal haulage for Wollongong Coal. Wollongong Coal must ensure that coal is dispatched within the designated dispatch hours. The reports highlight any breaches to the designated dispatch hours. No breaches were reported to PKCT, or observed in the 2013/2014 reporting period.

## 5.2 Statement of Commitments -Air Quality

Objective	Commitment
<ul style="list-style-type: none"> <li>• Minimise dust emissions from activities carried out on the PKCT site.</li> </ul>	<ul style="list-style-type: none"> <li>• Installation of two continuous dust monitors to monitor airborne dust emissions.</li> <li>• Maintain appropriate dust suppression systems on site to effectively manage dust both on stockpiles and roadways.</li> </ul>

A summary of actions undertaken across the 2013/2014 reporting period specific to this Statement of Commitments is presented below. Further details related to the Air Quality Statement of Commitments are found under Section 3.3 of the AEMR.

- PKCT has two continuous dust monitors. These remained operational throughout the reporting period.
- PKCT has a preventative maintenance system in place (Works and Assets) which provides for the routine inspection and maintenance of environmental equipment including existing dust suppressions systems, stockpile sprays, truck wash and water cart. Operations shift teams monitor and operate the equipment and, where necessary, provide a breakdown response.

## 5.3 Statement of Commitments -Water Management

Objective	Commitment
<ul style="list-style-type: none"> <li>• Minimise use of potable water on site.</li> <li>• Effective management of on-site stormwater.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction of freshwater use on site to be achieved through the implementation of recycled water (Tertiary Treated Effluent) for dust suppression on stockpiles and other non-domestic uses e.g. fire, spillage washdown, conveyor sprays. Staged approach to be implemented which will result in a 360 Megalitre per annum reduction by the end of 2010.</li> </ul>



A summary of actions undertaken across the 2013/2014 reporting period specific to this Statement of Commitments is presented below. Further details related to the Water Management Statement of Commitments are found under Section 3.5 of the AEMR.

- Recycled water use has continued at PKCT across the reporting period. Full details and summary of volumes are presented in Section 3.5.

**5.4 Statement of Commitments -Noise Management**

Objective	Commitment
<ul style="list-style-type: none"> <li>• Responsible management of PKCT site operational noise.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that ongoing compliance is maintained to the NSW Industrial Noise policy.</li> <li>• Development and implementation of a noise management plan for the PKCT site.</li> </ul>

A summary of actions undertaken across the 2013/2014 reporting period specific to this Statement of Commitments is presented below. Further details related to the Noise Management Statement of Commitments are found under Section 3.1 of the AEMR.

- PKCT has developed and implemented Noise Management Plan MP.HS.387. The plan references the NSW Industrial Noise Policy. Relevant PKCT personnel have been made aware of the compliance requirement.

**5.5 Statement of Commitments -Community Relations**

Objective	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>

A summary of actions undertaken across the 2013/2014 reporting period specific to this Statement of Commitments is presented below.

- PKCT utilises its Community Consultative Committee (CCC) as a forum for updating the community on its operations and receiving and providing feedback from local residents. PKCT held 3 meetings across the reporting period on 31<sup>st</sup> July 2013, 27<sup>th</sup> November 2013 and 11<sup>th</sup> April 2014. PKCT will continue to hold these forums at least on a 4 monthly basis.
- PKCT did not receive any community complaints specific to its site operations across the reporting period. A summary of all complaints, including road related complaints is presented in Appendix D.
- PKCT continues to utilise its telephone hotline. The hotline and general contact details for the site are located on the PKCT website, [www.pkct.com.au](http://www.pkct.com.au).



- The 2014 AECOM Independent Audit identified an Opportunity for improvement associated with Community Relations. PKCT will investigate options to include details of the CCC on its website.

**5.6 Statement of Commitments – Environmental monitoring**

Objective	Commitment
<ul style="list-style-type: none"> <li>• To ensure compliance to the conditions of PKCT’s Department of the Environment and Climate Change licence.</li> </ul>	<ul style="list-style-type: none"> <li>• Development and implementation of a management plan which documents the environmental monitoring requirement of PKCT.</li> </ul>

PKCT has in place Environmental Monitoring Strategy MP.HS.464. The Strategy outlines the various monitoring requirements together with references to applicable management plans. General descriptions of PKCT monitoring and monitoring methodology are found throughout the AEMR. Figure 43 below outlines the sections of the AEMR describing Environmental Monitoring.

<i>Environmental Monitoring Area</i>	<i>Section of AEMR</i>
Noise	Section 3.1
Transport	Section 3.2
Air Quality	Section 3.3
Meteorological	Section 3.4
Surface Water	Section 3.5
Biodiversity	Section 3.6
Visual Amenity	Section 3.7
Greenhouse Gas and Energy Efficiency	Section 3.8
Waste	Section 3.9
Hazards	Section 3.10
Fire Control	Section 3.11

**Figure 43: Environmental monitoring area and reference in AEMR**

**5.7 Statement of Commitments – Environmental Management System**

Objective	Commitment
<ul style="list-style-type: none"> <li>• PKCT to maintain certification o ISO 140001.</li> </ul>	<ul style="list-style-type: none"> <li>• PKCT will continue to be certified to ISO 14001 and will be externally audited against the certification criteria on an annual basis.</li> </ul>

A summary of actions undertaken across the 2013/2014 reporting period specific to this Statement of Commitments is presented below.



- PKCT participated in one ISO 14001 external surveillance audit across the reporting period. The audit was undertaken by Lloyds on the 19<sup>th</sup> and 20<sup>th</sup> December 2013. PKCT continues to be certified under ISO 14001. See Appendix J for Certification Certificate.
- On 28<sup>th</sup> March 2014, PKCT completed its triennial independent audit. Findings from the audit are presented in the Action Plan in Appendix E.

**5.8 Statement of Commitments – Greenhouse Gases**

Objective	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>

PKCT undertook a greenhouse gas emission and energy use assessment of the Terminal following the Major Project Approval. The report found that PKCT’s use of electricity for powering coal handling infrastructure is by far the largest energy user. As a result, 97% of PKCT GHG emissions are Scope 2 emissions associated with electricity generated by power stations.

Opportunities for energy reduction are pursued when purchasing new equipment and considered when developing improvements. Energy usage is monitored on a monthly basis and reported to site in the Monthly Environment Report.

Further details related to the Greenhouse Gas and Energy Efficiency Statement of Commitments are found under Section 3.8 of the AEMR.

**5.9 Statement of Commitments – Landscaping**

Objective	Commitment
<ul style="list-style-type: none"> <li>• Improve the visual amenity of PKCT on the surrounding community.</li> </ul>	<ul style="list-style-type: none"> <li>• Improve onsite soft landscaping through the planting of trees on the road receival earth bund and along the northern site boundary.</li> </ul>

With reference to the Landscape Management Plan MP.HS.460 (LMP), PKCT has developed a Landscape Concept Plan along the northern boundary. During this reporting period, maintenance of Stage 2 has continued and the area is now well established, see Figure 30 in Section 3.7 for progress of landscaping.

The nature and timing of further landscaping works requires consideration of major remedial works in development and PKCT’s strategic planning to ensure their compatibility. Stage 3 Road Receival landscaping remains on hold currently.



**5.10 Statement of Commitments – Flora and Fauna**

Objective	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>

A Green and Golden Bell Frog Management Plan MP.HS.109 (GGBFMP) is in place. It was developed in consultation with the EPA and is DP&E approved.

A GGBF survey was undertaken by specialist consultants on 27<sup>th</sup> February 2014. No GGBF’s were found on site.

Further details related to the Flora and Fauna Statement of Commitments are found under Section 3.6 of the AEMR.

**5.11 Statement of Commitments – Waste**

Objective	Commitment
<ul style="list-style-type: none"> <li>Minimise waste generated at the site to reduce the volume of waste requiring disposal to landfill.</li> <li>Prevent dispersal of waste from the site to receiving environments.</li> </ul>	<ul style="list-style-type: none"> <li>Develop a Waste Management Plan for the site.</li> </ul>

PKCT has a Waste Management Plan MP.HS.459 (WSMP) which identifies the various waste streams generated at PKCT. The Plan outlines the methods used to minimise waste via reuse, recycling and suitable disposal of waste when necessary.

Further details related to the Waste Statement of Commitments are found under Section 3.9 of the AEMR.

**6.0 ENVIRONMENTAL PROTECTION LICENCE 1625**

PKCT holds EPL 1625 under the Protection of the Environment Operations Act 1997. This stipulates the emission criteria that PKCT must not exceed. Criteria are outlined for water, noise and dust. Pollution Reduction Programs (PRPs) are attached to the EPL to identify aspects which may require improvement.

PKCT is required to submit an Annual Return to the EPA reporting performance against licence requirements. The 2013/2014 Annual Return was submitted to the EPA on the 27<sup>th</sup> May 2014. An extract of the 2013/2014 Annual Return is included in Appendix K. The extract highlights and discusses PKCT’s non-compliances for the Annual Return Reporting Period.

As the specific criteria for water, noise and dust are common to both the EPL and Project Approval 08\_0009, all data and discussion associated with these criteria are outlined in other sections in the AEMR.





Figure 44 below provides a summary of the EPL conditions, Project Approval 08\_0009 requirements and the section of the AEMR that discusses the criteria.

Component	Reference area in Project Approval 09_0009	Reference area in EPL 1625	Relevant Section of AEMR
Noise	Schedule 3, Condition 1, Condition 2 and Condition 3.	Limit Condition L4, L4.1	Section 3.1
Air	Schedule 3, Condition 7, Condition 8, Condition 9 and Condition 10.	Monitoring and Recording Conditions M2, M2.1, M2.2	Section 3.3
Water	Schedule 3, Condition 12 and Condition 13.	Limit Condition L2, L2.1, L2.2, L2.3, L2.4 And Monitoring and Recording Condition M2.3.	Section 3.5

**Figure 44: Common requirements of Project Approval 08\_0009 and EPL1625**

**6.1 Other EPL Matters in the 2013/2014 Reporting Period**

New requirements have been introduced under the Protection of the Environment Legislation Amendment Act 2011. PKCT has implemented actions to address the new requirements as follows;

- New reporting incident requirements have been communicated to PKCT site personnel and reporting processes have been updated.
- PKCT’s operations personnel were re-trained in PKCT’s Pollution Incident Response Management Plan during staff training days in February 2014. A desktop emergency drill was undertaken as part of the training package, satisfying the requirement to undertake annual testing of the Plan.
- PKCT has continued to update its website with monthly monitoring data summaries throughout the reporting period.

Other EPA matters are reported as follows:-

- PKCT completed PRP 13 – Algae control trial in the Settlement Lagoon. See Section 3.5 of the AEMR for details. A closeout report was submitted to the EPA and PRP13 was subsequently removed from the EPL.
- PKCT began working with the EPA on the five-yearly EPL review. This process will be finalised in the 2014/2015 reporting period.
- EPA is implementing new risk based licencing legislation and has selected PKCT to form part of a pilot program. The EPA has carried out a risk assessment of PKCT’s operation.

- EPA undertook a legal compliance audit of PKCT's rail receipt operation focusing on rail wagon dust and coal residue drag out. PKCT is awaiting the EPA's draft report.
- C9 Pump Overflow – On 5<sup>th</sup> June 2014, during a storm event, the pit sump "Pump 9 Sump" overflowed to Port Kembla Harbour for a short duration after the pump was found not to be operational. The event was not considered "material". The event was reported to the EPA via email and an incident report was provided. The EPA is currently reviewing the report.
- TS1 Pond – On 28<sup>th</sup> February 2014, PKCT personnel identified a possible leak in the overflow pipe of the TS1 Pond. The EPA was notified as a precaution via its Environment Line and the pond was lowered for further investigation. Subsequent investigation identified a small hole in the overflow pipe. The investigation identified that the initial water observed in the pipe was tidal. Inspection, water sampling and testing of receiving waters didn't detect any pollution. The pipe has been repaired. A summary of the incident was provided to the EPA and no further action has been taken.
- Small coal spill on incoming side of Port Kembla Road - On 23<sup>rd</sup> June 2014, a small coal spill of approximately ½ a box trailer was identified on the incoming side of Port Kembla Road. The spill was immediately cleaned, however the cause of the spill was unidentified. The spill was reported to the EPA via its Environment Line. EPA advised that no further action would be taken.
- High TSS in Settlement Lagoon – Following a significant storm event on the 24<sup>th</sup> March 2014, discharge occurred from Point 16 (Settlement Lagoon) which exceeded EPL limits for total suspended solids. The discharge occurred over three consecutive days on 25<sup>th</sup>, 26<sup>th</sup> and 27<sup>th</sup> March. In the days following, further discharge occurred resulting in another two non-compliant samples on 4<sup>th</sup> and 6<sup>th</sup> April. The event was reported to the EPA at the time and an incident report was submitted. Event was also included in the 2013/2014 EPL Annual Return (refer Appendix "K"). Verbal advice from the EPA has indicated that PKCT will receive a formal warning. A consultant has been engaged to investigate and recommend corrective actions.

## 7.0 RESULTS COMPARED TO THE ENVIRONMENTAL ASSESSMENT 2008

An environmental assessment was undertaken as part of PKCT's application associated with Project Approval 08\_0009 and submitted to the DPE in a report titled "Environmental Assessment- Existing Operations and increased Road Receipt Hours for Port Kembla Coal Terminal 2008" (EA) .

This EA focussed on the key environmental issues of PKCT proposal to increase road deliveries to 24/7 for a maximum of 10mtpa. It has also addressed secondary environmental issues to ensure there was a rigorous review of PKCT's existing and proposed operations. It showed that existing and proposed PKCT operations have a small environmental footprint,

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which is minimised through existing environmental impact mitigation measures. The assessment included predications for environmental aspects such as noise and dust.

Monitoring results obtained over the 2013/2014 reporting period align with predications made in the EA. Traffic and noise studies undertaken associated with PKCT’s application to the DPE for 7.5 MTPA to 10 MTPA approval also aligned.

Air quality monitoring results are compared to the predictions of the EA in Section 3.3 of the AEMR.

**8.0 COMPLAINTS**

Schedule 4, Condition 4d requires PKCT to include a summary of the complaints received during the past year, and compare this to complaints received in previous years. Figure 45 below provides a summary of complaints recorded at PKCT and reported to PKCT by road transport providers.

As can be seen in Figure 45, total complaints have remained relatively consistent over the past 4 reporting periods. PKCT continues to record all complaints in its Event Management System and responds appropriately when a complaint is received. PKCT continues to work with its shippers and road transport providers to ensure complaints are recorded and handled appropriately.

A full summary of complaints is presented in Appendix D.

Complaints	Number of Complaints recorded by PKCT			
	FY10/11	FY11/12	FY12/13	FY13/14
General (PKCT)	2	2	3	0
Drivers Code of Conduct related	19	19	20	5
<b>Total</b>	<b>21</b>	<b>21</b>	<b>23</b>	<b>5</b>

**Figure 45: PKCT and DCC complaints.**

**9.0 CONCLUSION**

This Annual Environmental Management Report (AEMR) identifies PKCT’s approval and licence conditions and explains how PKCT complies with these requirements. It meets the specific AEMR requirements in Major Project Approval 08\_0009 Condition 4 of Schedule 4.

This AEMR demonstrates that PKCT has undertaken appropriate actions to manage its environmental impacts with the overall aim of minimising harm to the environment. This report forms part of PKCT’s environmental management system which is directed by PKCT’s Environmental Management Strategy. PKCT provides this AEMR to the DP&E and other stakeholders using information taken from environmental monitoring, assessment and reporting activities undertaken on a regular basis through the reporting period.

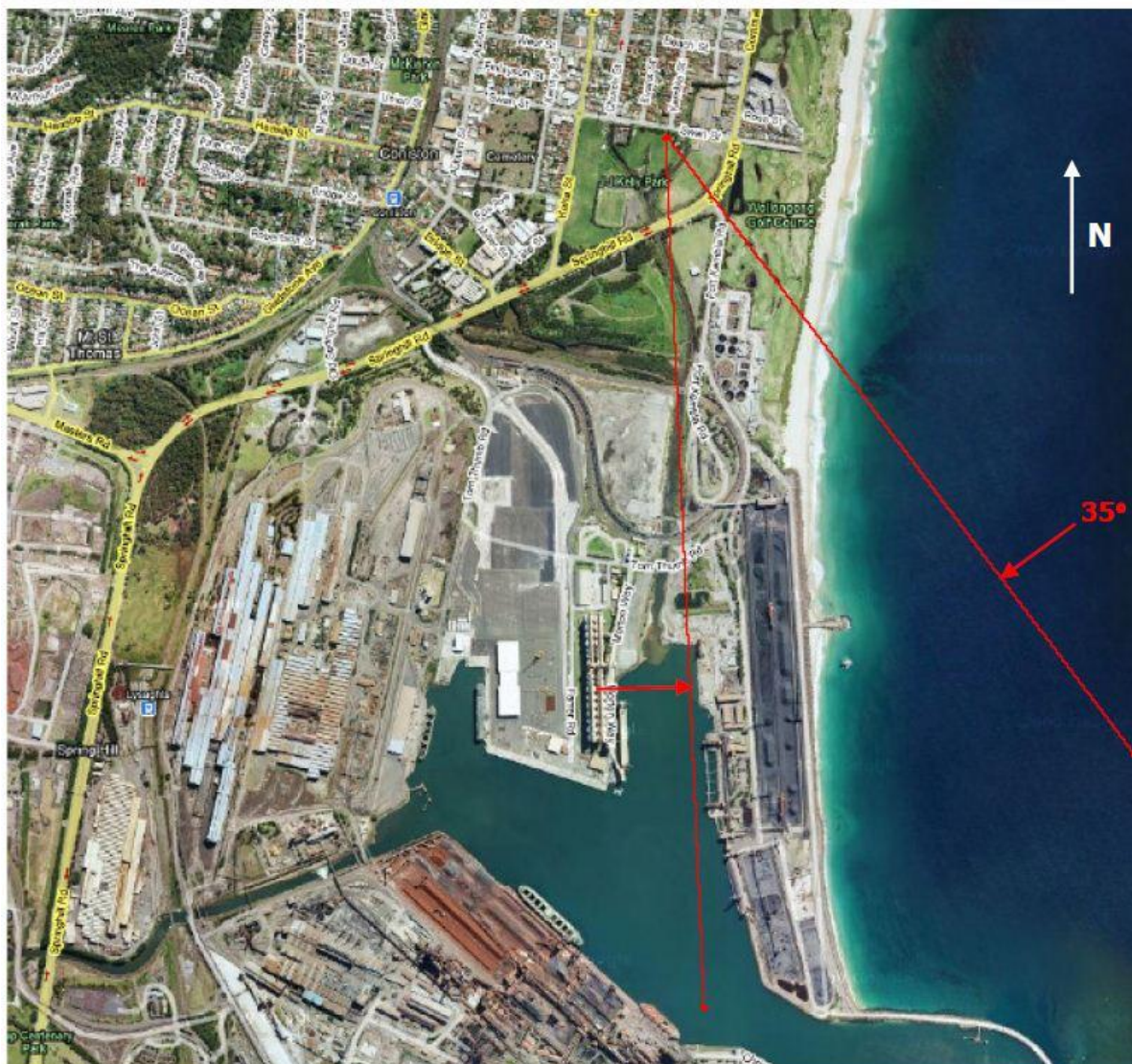


This AEMR does not raise any concerns regarding the ongoing ability of PKCT to comply with environmental requirements in the Major Project Approval, Environment Protection Licence 1625 and other regulatory requirements. Further, this AEMR confirms PKCT's commitment to continual improvement in the mitigation of environmental impacts.

10.0 APPENDIX

10.1 Appendix A

Figure 4-1 Monitoring Location 1 – Corner Swan & Kembla Streets



The angle of 35° is obtained by setting BarnOwl® to measure between angles 140° to 175°.

Figure 4-2 Monitoring Location 2 – Corner Swan & Corrimal Streets



The angle of 25° is obtained by setting BarnOwl® to measure between angles 170° to 195°.

Figure 4-3 Monitoring Location 3 – Corner Keira & Fox Streets



The angle of 40° is obtained by setting BarnOwl® to measure between angles 125° to 165°.

Figure 4-4 Monitoring Location – Receipts







10.2 Appendix B

Port Kembla Coal Terminal  
December 2013 Compliance Monitoring

Page 12  
Report No. 07355-NM-8 Version A

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

Date & Start Time	Period	Criteria (dBA)	BarnOwl® PKCT Direction LAeq (dBA)	BarnOwl® All Noise LAeq (dBA)	SLM LA90 (dBA)	Wind Speed (m/s) and Direction	Stability Class	Compliance	Observations
19/12/13 12.15-12.30pm	Day	51	< 49 (≈ 41)	64	55	6.1 - 6.4 m/s 38 -43 Deg	C	YES Not Audible	At measurement location noise dominated by road traffic and wind. PKCT activities not audible. On-site typically 7 truck movements. No other notable site noise.
18/12/13 18.35-18.50pm	Evening	50	< 55 (≈ 47)	70	48	3.4 - 3.6 m/s 34 - 36 Deg	D	YES Not Audible	At measurement location noise dominated by road traffic. PKCT activities not audible. On-site typically 8 truck movements. Train arrival during measurement and remained idling throughout.
19/12/13 12.30-12.45am	Night	49	≈ 31	45	38	0.8 - 1.1 m/s 303 - 330 Deg	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site typically 13 truck movements. No other notable site noise.
19/12/13 2.40-2.55am	Night	49	< 29 (≈ 28)	44	36	1.6 - 1.9 m/s 346 - 349 Deg	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site typically 11 truck movements. Slow moving train and intermittent clangs from shed measured at 65dBA on site.



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

Start Date & Time	Period	Criteria (dBA)	BarnOwl® PKCT Direction L <sub>Aeq</sub> (dBA)	BarnOwl® All Noise L <sub>Aeq</sub> (dBA)	SLM L <sub>A90</sub> (dBA)	Wind Speed (m/s) and Direction	Stability Class	Compliance	Observations
19/12/13 1.00-1.15pm	Day	51	< 46 (≈ 43)	61	54	6.2m/s 35 - 38 Deg	C	YES Not Audible	At measurement location noise dominated by road traffic and wind. PKCT activities not audible. On-site typically 23 truck movements. Entering trucks backed up in a queue for long periods.
18/12/13 19.15- 19.30pm	Evening	50	< 44 (≈ 41)	59	50	3.2 - 3.6m/s 34 - 36 Deg	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site typically 4 truck movements. Slow train pass by throughout.
19/12/13 1.10-1.25am	Night	49	< 34 (≈ 32)	49	37	1.2 - 1.3m/s 344 - 357 Deg	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site typically 17 truck movements. No other notable site noise.
19/12/13 3.05-3.20am	Night	49	< 34 (≈ 29)	46	37	3.2 - 3.6m/s 339 - 347 Deg	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site typically 6 truck movements. Slow moving train and intermittent clangs from shed measured at 65dBA on site.





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

Start Date & Time	Period	Criteria (dBA)	BarnOwl® PKCT Direction L <sub>Aeq</sub> (dBA)	BarnOwl® All Noise L <sub>Aeq</sub> (dBA)	SLM L <sub>A90</sub> (dBA)	Wind Speed (m/s) and Direction	Stability Class	Compliance	Observations
19/12/13 1.40-1.55pm	Day	51	≈ 53 <sup>1</sup>	64	55	5.9 – 6.8m/s 34 – 37 Deg	D	YES Not Audible	At measurement location noise dominated by road traffic and wind. PKCT activities not audible. On-site typically 18 truck movements. No other notable site noise.
18/12/13 19.50- 20.05pm	Evening	50	≈ 51 <sup>2</sup>	61	46	2.8 - 3.1m/s 28 – 31 Deg	D	YES Not Audible	At measurement location noise dominated by road traffic. PKCT activities not audible. On-site typically 11 truck movements. No other notable site noise.
19/12/13 1.55-2.10am	Night	49	≈ 46	53	34	1.3 – 1.4m/s 351 – 357 Deg	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site typically 11 truck movements. Slow moving train and intermittent clangs from shed measured at 65dBA on site.
19/12/13 3.30-3.45am	Night	49	≈ 39	46	35	1.7 – 2.1m/s 342 – 352 Deg	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site typically 5 truck movements. Train arrival during measurement and remained idling throughout.

<sup>1</sup> Measurement impacted by heavy winds and significant traffic in the direction of Port Kembla Terminal.

<sup>2</sup> Measurement impacted by significant traffic noise in the direction of Port Kembla Terminal.



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10.3 Appendix C

Monthly Reports Summary FY 13/14	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	FY14 Total	Comment
Tonnes - Public Road	208,504	133,501	245,472	277,253	236,992	251,254	284,330	263,576	236,491	236,016	356,007	310,389	3,039,785	
Tonnes - Private Road	230,679	84,746	103,412	255,748	158,924	176,268	218,793	235,630	209,953	245,391	223,567	248,241	2,391,352	nb primarily rail delivered tonnes to Bluescope then internal road to PKCT
Total road tonnes	439,183	218,247	348,884	533,001	395,916	427,522	503,123	499,206	446,444	481,407	579,574	558,630	5,431,137	
Total Road Tonnes Iron Ore	5,992	0	0	0	0	0	8,799	9,899	0	0	0	0	24,690	
Spillage - Public Road	0	0	0	2	0	0	0	0	0	0	0	1	3	
Incident - Other	4	0	0	2	1	4	2	0	2	0	0	4	19	
Impact with other vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0	
Incidents Reported to RTA	0	0	0	0	0	0	0	0	0	0	0	0	0	
Complaints	0	0	0	0	0	0	0	0	3	0	1	1	5	
EPL/ regulatory breaches	0	0	0	0	0	0	0	0	0	0	0	0	0	
Inductions (%)	100	100	100	100	100	100	100	100	100	100	100	100	1,200	
Hours restrictions breach	0	0	0	0	0	0	0	0	0	0	0	0	0	
Audits	47	51	55	55	67	110	103	96	73	55	72	88	872	
RTP: Number of drivers observed	26	271	347	305	333	674	684	563	547	535	676	615	5,576	
RTP: Trucksafe/NHVAS/Other Audits	68	102	16	11	26	19	39	6	5	40	57	55	444	
CTO / Audits at minesites (Shippers & PKCT)	0	0	1	0	0	0	0	0	0	0	0	242*	243	Includes data from Shippers * data supplied by Illawarra Coal not month specific
CTO / Audits: At PKCT (Shippers & PKCT)	0	7	3	5	6	5	2	7	5	0	2	89*	131	* data supplied by Illawarra Coal not month specific
CTO / Audits: Mine to PKCT (Shippers & PKCT)	2	0	1	0	0	0	0	1	3	0	0	1	8	
RTP system audits	0	0	0	0	0	2	0	0	0	0	0	0	2	Includes data from Shippers and Road Transport Providers

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**10.4 Appendix D**

FY13/14 Complaints Summary - PKCT Site Related Complaints					
Date	Reporting Period	PKCT Event Number	Company	Summary	PKCT Action
No complaints were received in the 2013/2014 reporting period associated with PKCT Operations					
Complaints Recorded by Road Transport Providers					
Date	Reporting Period	Event Number	Company	Summary	Action
08/03/2014	FY13/14	n/a	Bulktrans - IC Reported	Car incident on Mt Ousley	
24/03/2014	FY13/14	n/a	Brindles - Brindles Reported	Speed Complaint	Toolbox talk given on using middle lanes where possible to reduce noise.
30/03/2014	FY13/14	n/a	Brindles - Brindles Reported	Noise Complaint	Satellite speed tracking checked.
29/05/2014	FY13/14	n/a	Bulktrans - IC Reported	Truck complaint, windscreen	
27/06/2014	FY13/14	n/a	Bulktrans - IC Reported	Windscreen damage, Appin Road	

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FY13/14 Incidents					
Date	Reporting Period	Event Number	Company	Summary	Action
03/07/2013	FY13/14	EV-00926	Bulktrans - Bulktrans Reported	Trailer separated on turntable at road hopper on contractor vehicle.	Area made safe, vehicle towed.
17/07/2013	FY13/14	n/a	Bulktrans - IC Reported	Wheel loss at Lodden Bridge.	
17/07/2013	FY13/14	EV-00943	Bulktrans - PKCT Reported	Coal truck struck give way sign on Tom Thumb Rd.	Road runner was contacted and suggested he would give an incident report to PKCT.
25/07/2013	FY13/14	EV-00954	Bulktrans - PKCT Reported	Coal truck carting wet coal from washery with water spillage coming out onto road. Spillage along road from Tom Thumb gate.	Driver pulled up, driver spoken to and Westcliff was contacted and they changed stockpiles to a drier coal.
06/10/2013	FY13/14	n/a	Bulktrans - PKCT Reported	Tailgate opened on trailer and caused some spillage of coal on corner of Springhill and Masters Roads.	Spill cleaned.
28/10/2013	FY13/14	EV-01046	Bulktrans - PKCT Reported	Coal spillage on the driveway of the treatment works from coal truck tail gate (approx 2 ton).	Report to Tower, bulk trans road runner cleaned spill. IC was contacted and asked to ensure drivers' report all spills.
07/11/2013	FY13/14	EV-01050	Bulktrans - PKCT Reported	Driver ran red light at Springhill/Port Kembla road intersection.	Reported to IC, driver questioned investigated by Bulktrans. Driver added to the PKCT 3 strike list.
01/12/2013	FY13/14	n/a	Brindles - Brindles Reported	Driver drove through red light at truckwash.	
10/12/2013	FY13/14	EV01094	Bulktrans - PKCT Reported	Driver talking on mobile phone at Springhill and Port Kembla Road Intersection.	Reported to Bulktrans, driver was investigated.
12/12/2013	FY13/14	n/a	Bulktrans - Bulktrans Reported	Hoist stuck in up position after tipping, hoist then free fell to chassis position, driver received a jolt in cabin.	Trailer taken out of service and hoist replaced.
16/12/2013	FY13/14		Bulktrans - IC Reported	Windscreen damage.	
08/01/2014	FY13/14	n/a	Bulktrans - IC Reported	Truck hit on Mt Ousley.	
13/01/2014	FY13/14	n/a	Bulktrans - IC Reported	Unplanned activation of tailgate.	
13/03/2014	FY13/14	n/a	Bulktrans - Bulktrans Reported	Driver of Flt 140 not wearing seatbelt.	
13/03/2014	FY13/14	n/a	Bulktrans - Bulktrans Reported	Driver of Flt 5122 not wearing seatbelt.	
09/06/2014	FY13/14	EV-01267	Bulktrans - PKCT Reported	Truck ran red light at Northgate traffic light intersection.	No follow up - reported to PKCT manager.
23/06/2014	FY13/14	EV-01282	Unknown	Coal spillage on Port Kembla Road, approx 1/2 box trailer load.	Spillage cleaned, reported to truck companies and requested follow up through toolbox talks. EPA notified, no further action
25/06/2014	FY13/14	IC reported	Bulktrans - IC Reported	Truck accident on Mt Ousley Road.	
30/06/2014	FY13/14	IC reported	Bulktrans - IC Reported	Light vehicle clipped truck.	

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10.5 Appendix E

**AECOM INDEPENDENT EXTERNAL AUDIT 2014: PKCT RESPONSE TO RECOMMENDATIONS AND ACTION PLAN JUNE 2014**

Item No.	Approval	Condition/ Number	Topic/ Requirement	Audit Finding/ Comment	Recommendation	Response/Action
1	MCoA	Schedule 3, Condition 12	<p>Discharge Limits</p> <p>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.</p>	<p>Non-compliance (minor)</p> <p>Exceedances of pH and TSS criteria outlined in PKCT's EPL occurred over the reporting period, though they were minor and few. However, due to these exceedances PKCT does not comply with this condition.</p>	<p>It is recommended that PKCT:</p> <ul style="list-style-type: none"> <li>- Continue with undertaking controlled discharges after rain events.</li> <li>- Undertake sediment testing of sediment within the Settlement Lagoon to assess nutrient loading. Subject to test results, conduct maintenance of Settlement Lagoon to clear sediment.</li> <li>- Undertake further investigations into algae control options and trial.</li> <li>- If necessary and relevant, expand investigations regarding water quality controls and treatment beyond algal controls (e.g. study the receiving environment to determine potential environmental impacts of alkaline water entering this system).</li> </ul>	<p>PKCT has been working with the EPA regarding measures and strategies to be implemented to reduce TSS and pH discharge exceedances at EPL Monitoring Point 16. In late 2013, two Pollution Reduction Programs (PRP), PRP 12 and PRP 13, were prepared in consultation with the EPA. These PRP's were approved and a licence variation was received on the 22<sup>nd</sup> November 2013.</p> <p>The intent of PRP12 is to improve stormwater controls at PKCT which will ultimately reduce sediment reporting to EPL discharge Point 16, and reduce the likelihood of future TSS exceedances. Work is currently underway on the PRP with a completion date of 30<sup>th</sup> June 2014.</p> <p>PRP13 was completed and a final report submitted to the EPA on 31<sup>st</sup> March 2014. The report identified a number of recommendations and further actions to reduce pH levels in site discharges. PKCT is awaiting a response from the EPA on the report and its recommendations.</p> <p>In the interim and noting the actions recommended</p>

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Item No.	Approval	Condition/ Number	Topic/ Requirement	Audit Finding/ Comment	Recommendation	Response/Action
					<p>- If further control options are exhausted and prove ineffective in lowering pH levels to within EPA-defined limits, engage in consultation with EPA regarding pH range and associated percentile compliance (noting permissible seasonal fluctuations if necessary).</p> <p>- Alternatively, engage in consultation with Sydney Water regarding potential water treatment options prior to distribution to PKCT.</p>	<p>in the Independent External Audit, PKCT has continued to undertake controlled discharges from the Settlement Lagoon after rain events.</p> <p>A specialist consultant has been engaged to review the available data and reports and to provide recommendations on methods to reduce pH levels in the discharge waters. Sediment testing has been undertaken in the Lagoon to assess the nutrient loading.</p> <p>Action by: PKCT Environmental Specialist</p> <p>Completed by: Specialist consultant report will be provided by the 8<sup>th</sup> August 2014. It is expected further actions will ensue from the recommendations and associated EPA consultation.</p>
2	EPL	Schedule L1 Condition 1	<p>Pollution of waters</p> <p>Except as may be expressly provided in any other condition of this licence, the licensee must comply with</p>	<p>Non-compliance (minor)</p> <p>Refer to Item No.1 comment</p>	Refer to Item No.1 recommendations	Refer to Item No.1 response and actions

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Item No.	Approval	Condition/ Number	Topic/ Requirement	Audit Finding/ Comment	Recommendation	Response/Action
			section 120 of the Protection of the Environment Operations Act 1997.			
3	EPL	Schedule L2, Condition 1	Concentration Limits For each monitoring/disch arge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Non-compliance (minor)  Refer to Item No.1 comment	Refer to Item No.1 recommendations	Refer to Item No.1 response and actions
4	EPL	Schedule L2, Condition 2	Concentration Limits  Where a pH	Non-compliance (minor)  Refer to Item No.1 comment	Refer to Item No.1 recommendations	Refer to Item No.1 response and actions

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Item No.	Approval	Condition/ Number	Topic/ Requirement	Audit Finding/ Comment	Recommendation	Response/Action
			quality limits specified in the table, the specified percentage of samples must be within the specified ranges.			
5	EPL	Schedule M3, Condition 1	<p>Testing Methods, Concentration Limits</p> <p>Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:</p> <p>(a) any methodology which is required by or under the Act to be used for the testing of the concentration of</p>	<p>Non-compliance (minor)</p> <p>Monitoring method was confirmed to be appropriate. Only non-conformance noted was due to a Dust Deposition Gauge funnel at point P4 found not to be in the Dust Deposition Gauge bottle when observed during the audit. This was investigated and</p>	<p>It is recommended that PKCT:</p> <ul style="list-style-type: none"> <li>- Install a locked cage at this monitoring site to avoid future tampering, and undertake regular monitoring at this site to verify tampering has not occurred and the device is still functional.</li> </ul>	<p>Public access to this dust monitoring site is recognised as an issue. PKCT accepts the recommendation by AECOM and will investigate options, including those recommended, for improving security.</p> <p>Action by: PKCT Environmental Specialist</p> <p>Completion Date: A solution to the security issue at this monitoring site will be determined by the 8<sup>th</sup> August 2014 together with an implementation date.</p>

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			the pollutant.	was thought to be due to tampering by the public. There has been anecdotal history of tampering and a locked cage has been recommended for this site.		

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
6	MCoA	Schedule 3, Condition 13	Water Management Plan (WMP)	<p>It is recommended that PKCT:</p> <ul style="list-style-type: none"> <li>- Review and update the WMP at least annually so that the document reflects the current state of operations on site.</li> <li>- In particular, the WMP needs to include most recent EPL discharge criteria and exceedances, reference to new PRPs and investigations/trials undertaken to date.</li> </ul>	<p>In noting the non-compliance (minor) associated with pH and TSS, an initial WMP review will be undertaken within three months of the Independent Audit report submission date in accordance with Schedule 4, Condition 7.</p> <p>The document review will be tracked in PKCT's Event Management System (EMS) and is record "COR-00140".</p> <p>An annual review for this document has been entered into the EMS. The review is scheduled for 3<sup>rd</sup> March 2015 and is record "RR-00024".</p> <p>Action by: PKCT Risk Manager.</p> <p>Completion Date: 8<sup>th</sup> August 2014</p>

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
7	MCoA	Schedule 3, Condition 14	Green and Golden Bell Frog Management Plan (GGBFMP)	It is recommended that PKCT: - Review and update the GGBF Management Plan at least annually so that the document reflects the current state of operations on site. If no changes are made to the document, review date at least should be noted on the document to track reviews.	<p>Findings and recommendations noted. PKCT accepts that a periodic review of Management Plans is necessary. However the reviews should be appropriate to the specific Plan and the frequency of change. The current review process for the GGBF is bi-annual. Internal and external events can trigger an earlier review under change management.</p> <p>The next document review is scheduled for 3<sup>rd</sup> October 2014. An action has also been entered in the EMS and is record "RR-00025"</p> <p>Action by: PKCT Risk Manager.</p> <p>Completion Date: 30<sup>th</sup> November 2014.</p>

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
8	MCoA	Schedule 3, Condition 14	Landscape Management Plan (LMP)	<p>It is recommended that PKCT:</p> <ul style="list-style-type: none"> <li>- Review and update the LMP at least annually so that the document reflects the current state of operations on site, including ongoing maintenance of landscaping on site.</li> </ul>	<p>Findings and recommendations noted. PKCT accepts that a periodic review of Management Plans is necessary. However the reviews should be appropriate to the specific Plan and the frequency of change. The current review process for the LMP is bi-annual. Internal and external events can trigger an earlier review under change management.</p> <p>The next document review is scheduled for 29<sup>th</sup> August 2015. An action has also been entered in the EMS and is record "RR-00026".</p> <p>Action by: PKCT Risk Manager.</p> <p>Completion Date: 30<sup>th</sup> September 2015</p>

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
9	MCoA	Schedule 3, Condition 18	Greenhouse and Energy Efficiency Plan (GGEE)	<p>It is recommended that PKCT:</p> <ul style="list-style-type: none"> <li>- Review and update the GGEE Management Plan at least annually so that the document reflects the current state of operation on site.</li> <li>- In particular, the GGEE needs to include reference to the most recent relevant legislation, NGERs data and a summary of information gathered through the ESAPs.</li> </ul>	<p>Findings and recommendations noted. PKCT accepts that a periodic review of Management Plans is necessary. However the reviews should be appropriate to the specific Plan and the frequency of change. The current review process for the GGEE is bi-annual. Internal and external events can trigger an earlier review under change management.</p> <p>The next review is scheduled for 31<sup>st</sup> July 2015. An action has also been entered in the EMS and is record "RR-00027".</p> <p>Action by: PKCT Risk Manager.</p> <p>Completion Date: 31<sup>st</sup> August 2015.</p>

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
10	EPL	Operating Conditions, O4.1	Sedimentation Ponds	It is recommended that PKCT: - Complete, finalise and implement Settlement Lagoon Cleanout Process document. Document/record implementation of document implementation (e.g. staff training and maintenance schedules).	<p>Recommendation is accepted. An action has been entered in the EMS and the record is "COR-00138".</p> <p>Action by: PKCT Environmental Specialist.</p> <p>Completion Date: 25<sup>th</sup> September 2014.</p>

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
11	EPL	Pollution Studies and Reduction Programs U1.1	EIP - install northern truck wash upgrades	<p>It is recommended that PKCT ensure that the following part of the condition is completed by 30 June:</p> <p>By 30 June 2014 the licensee must carry out a review of the environmental performance of the Northern Truck Wash, and provide a written report describing the review to the EPA. This report must include information on how the issues identified in the PKCT Northern Truck Wash Review as per requirements in EPL 1625 PRP NO.10 Port Kembla Coal Terminal July 2011' and the EPA letter to the licensee dated 16 August 2011 have been addressed. In particular the review must include, but not be limited to, how the following key elements have been addressed:</p> <ul style="list-style-type: none"> <li>- water treatment</li> <li>- spray pressure</li> <li>- spray volume</li> <li>- spray orientation</li> <li>- spray drift</li> <li>- vehicle speed</li> <li>- truckwash management</li> <li>- truckwash maintenance</li> <li>- truck wash auditing, and</li> </ul>	<p>Draft report is complete. PKCT has met with the EPA and submitted a request for an extension to the 30.9.14. The upgrade is practically complete but some further modifications impacting on truck performance still need to be carried out.</p> <p>Action by: PKCT Risk Manager.</p> <p>Completion Date: 30<sup>th</sup> June 2014 subject to an extension to 30<sup>th</sup> September 2014.</p>

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
12	MCoA	Statement of Commitments	Community Relations	<p>- water/dust carryover</p> <p>It is recommended that PKCT: - Include details of CCC on PKCT website.</p>	<p>Recommendation is noted. An action has been entered in the EMS and the record is "COR-00139". Community information on the website will be reviewed and changes discussed with the Community Consultative Committee.</p> <p>Action by: PKCT Environmental Specialist.</p> <p>Completion Date: 31<sup>st</sup> October 2014</p>

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
13	EPL	Operating Conditions, O3.1	Dust	<p>It is recommended that PKCT:</p> <ul style="list-style-type: none"> <li>- Conduct an internal review relating to dust emissions beyond the boundary of the site.</li> <li>- Review the train receival system to ensure all reasonable and feasible measures are employed to prevent or minimise dust impacts beyond the rail loop.</li> </ul>	<p>Findings and recommendations are noted. Considerable effort is required for these undertakings and this is reflected in the completion date below.</p> <p>An internal review will be undertaken by PKCT relating to dust emissions beyond the boundary of the site.</p> <p>PKCT is participating in a NSW Minerals Council facilitated review of mine to port coal train operations in Newcastle and the Illawarra. The study's focus is on fugitive emissions from coal trains and includes an industry survey which will audit existing practices and identify potential improvements. Action by: PKCT Risk Manager.</p> <p>Completion Date: 30<sup>th</sup> June 2015</p>

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
14	EPL	Operating Conditions, O3.2	Dust	As above	As above
15	MCoA	Schedule 3, Condition 6	Implementation Program for the Driver's Code of Conduct	<p>It is recommended that PKCT:</p> <ul style="list-style-type: none"> <li>- Review and update the Implementation Program for the DCC at least annually, so that the document reflects the current state of operations on site.</li> <li>- Update the Implementation Program for the DCC to strengthen and specify PKCT's disciplinary process in instances of non-compliances.</li> <li>- Establish and implement a monitoring/auditing schedule for undertaking CTO's and intensive periods of monitoring of driver behaviour, within and external to the PKCT site, and document this monitoring program in the Implementation Program for DCC</li> </ul>	<p>Recommendation is accepted. In accordance with Schedule 4, Condition 7, the Implementation Plan for DCC will be reviewed and revised as appropriate.</p> <p>An action has been entered in the EMS and the record is "RR-0031". An annual review for DCC Implementation Plan has been entered into the EMS and the record is RR-00028.</p> <p>A monitoring schedule will be established and implemented as part of the review.</p> <p>Action By: PKCT Environment Specialist</p> <p>Completion Date: 8<sup>th</sup> August 2014</p>

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
16	DCC	Driver Summary Sheet	Road Delivery Standards – Hold a valid driver’s licence	It is recommended that PKCT: - Include in monthly reporting template an opportunity for road transport providers to confirm that all drivers hold valid licences for the reporting period.	Recommendation is accepted. Action is complete.  Monthly Reporting Template has been updated and distributed to relevant road transport providers via email on 3 <sup>rd</sup> June 2014.
17	DCC	Driver Summary Sheet	Road Delivery Standards - Not apply compression brakes at Port Kembla and Springhill Road	It is recommended that PKCT: - Stipulate to relevant road road transport providers that this criteria be adequately covered and specifically referenced in their audit forms. This will allow PKCT to better monitor compliance with this aspect of the PKCT DCC.	Recommendation is being progressed individually with relevant road transport providers.  Action by: PKCT Environmental Specialist.  Completion Date: 30 <sup>th</sup> September 2014

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
18	DCC	Driver Summary Sheet	Road Delivery Standards – Utilise truckwash at PKCT after tipping.	<p>It is recommended that PKCT:</p> <ul style="list-style-type: none"> <li>- Update DCC at least annually to ensure the document accurately reflects current operations and requirements.</li> <li>- Specifically update the DCC to include changed truckwash operations as a result of the upgrade.</li> <li>- Update the CTO to include specific criteria regarding the new truckwash (e.g. stops on signals, travels through truckwash at no more than 5km/hr etc.)</li> </ul>	<p>Recommendation is accepted. In accordance with Schedule 4, Condition 7, the DCC will be reviewed and revised, including the Driver Summary sheet as appropriate.</p> <p>An action has been entered in the EMS and the record is “RR-0030”.</p> <p>An annual review for DCC has been entered into the EMS and the record is “RR-00029”.</p> <p>CTO recommendation is accepted and the action is complete (3<sup>rd</sup> June 2014). PKCT CTO form updated to include reference to traffic signals and speed restrictions at new truckwash.</p> <p>Action by: PKCT Environmental Specialist</p> <p>Completion Date: 8<sup>th</sup> August 2014.</p>

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
19	DCC	Driver Summary Sheet	Road Delivery Standards – Have the load covered from the mine to PKCT road receival area	It is recommended that PKCT: - Pass on recommendations to Bulktrans to complete audit forms in a thorough manner, including all criteria relevant at the time of the audit.	This recommendation accepted. An action has been entered in EMS and the record is “COR-00145”.  Action by: PKCT Environmental Specialist.  Completion Date: 8 <sup>th</sup> August 2014.
20	DCC	Driver Summary Sheet	Road Delivery Standards – Operate the vehicle in a manner that minimises vehicle noise	It is recommended that PKCT: - Stipulate to relevant road road transport providers that this criteria be adequately covered and specifically referenced in their audit forms. This will allow PKCT to better monitor compliance with this aspect of the PKCT DCC.	Recommendation is accepted.  Refer to Item No. 17 response and actions.

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
21	DCC	Driver Summary Sheet	Road Delivery Standards – All trucks are to pass through a truckwash at mine and at PKCT	<p>It is recommended that PKCT:</p> <ul style="list-style-type: none"> <li>- Update DCC at least annually to ensure the document accurately reflects current operations and requirements.</li> <li>- Specifically update the DCC to include changed truckwash operations as a result of the upgrade.</li> <li>- Update the CTO to include specific criteria regarding the new truckwash (e.g. stops on signals, travels through truckwash at no more than 5km/hr etc.)</li> </ul>	<p>Recommendation is accepted.</p> <p>Refer to Item No. 18 response and actions.</p>
22	DCC	Driver Summary Sheet	Road Delivery Standards – drivers must ensure tailgates are locked.	<p>It is recommended that PKCT:</p> <ul style="list-style-type: none"> <li>- Stipulate to relevant road transport operators that this criterion be adequately covered and specifically referenced in their audit forms. This will allow PKCT to better monitor compliance with this aspect of the PKCT DCC.</li> </ul>	<p>Recommendation is accepted.</p> <p>Refer to Item No. 17 response and actions.</p>

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
23	DCC	Driver Summary Sheet	Road Delivery Standards – No queuing is permitted on Springhill road	It is recommended that PKCT: - Stipulate to relevant road road transport providers that this criteria be adequately covered and specifically referenced in their audit forms. This will allow PKCT to better monitor compliance with this aspect of the PKCT DCC.	Recommendation is accepted.  Refer to Item No. 17 response and actions.
24	DCC	Routes	All trucks travelling to and from PKCT will do so by using major arterial roads as outlined in the PKCT Driver's Code of Conduct.	It is recommended that PKCT: - Stipulate to relevant road transport operators that this criteria be adequately covered and specifically referenced in their audit forms. This will allow PKCT to better monitor compliance with this aspect of the PKCT DCC.	Recommendation is accepted.  Refer to Item No. 17 response and actions.
25	DCC	Routes	Appin Road - Special care should be taken when crossing Loddon River bridge which is narrow.	It is recommended that PKCT: - Stipulate to relevant road road transport providers that this criteria be adequately covered and specifically referenced in their audit forms. This will allow PKCT to better monitor compliance with this aspect of the PKCT DCC	Recommendation is accepted.  Refer to Item No. 17 response and actions.

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
26	DCC	Haulage Routes	Masters Rd - Compression braking on this route should be avoided due to community disturbance.	It is recommended that PKCT: - Stipulate to relevant road road transport providers that this criteria be adequately covered and specifically referenced in their audit forms. This will allow PKCT to better monitor compliance with this aspect of the PKCT DCC.	Recommendation is accepted.  Refer to Item No. 17 response and actions.
27	DCC	Haulage Routes	Springhill Rd - Compression brakes are not to be used on the approach to the lights at Springhill and Port Kembla Road.	It is recommended that PKCT: - Stipulate to relevant road road transport providers that this criteria be adequately covered and specifically referenced in their audit forms. This will allow PKCT to better monitor compliance with this aspect of the PKCT DCC.	Recommendation accepted.  Refer to Item No. 17 response and actions.

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
28	MCoA	Schedule 3, Condition 2	Noise	<p>It is recommended that PKCT:                      Update the Noise Management and Monitoring Plan to include discussion regarding the limitations posed by, and appropriateness of using the Barn Owl Noise Monitoring System.                      Conduct further analysis of the measurement results to verify whether the limitations of the Barn Owl system do not adversely impact the findings of the report.</p>	<p>Recommendation is accepted.</p> <p>PKCT's noise consultant, Wilkinson Murray, will be engaged to address the matters raised.</p> <p>Action by: PKCT Risk Manager</p> <p>Completed by 31<sup>st</sup> October 2014.</p>
29	DCC	Driver Summary Sheet	Travel Time – Road haulage of coal is permitted to PKCT between 7am and 10pm Monday to Friday and 8am to 6pm on Saturday and Sunday	<p>It is recommended that PKCT:                      Review the Driver Summary Sheet to ensure that all obligations within the DCC are included and provided to road transport companies and road transport providers, in the form of an updated DCC. Align the DCC obligations to the MCoA, in particular to truck dispatch times from NRE to PKCT.</p>	<p>Recommendation is accepted.</p> <p>Refer to Item No. 18 response and actions.</p>

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Item No.	Doc.	Condition	Topic	Opportunity for Improvement	PKCT Response/ Actions
30	EPL	Schedule R1, Condition 5	Deadline for Annual Return. The Annual Return for the reporting period must be supplied to the EPA by registered post no later than 60 days after the end of the reporting period	It is recommended that PKCT: Keep records of lodgement of Annual Returns for documentation and quality assurance purposes.	Recommendation is accepted.  Action complete.  PKCT has recently submitted the 2013/2014 Annual Return. Records of lodgement have been filed.

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Item No.	Doc.	Condition	Topic	Requirement	PKCT Response
31	P&I Letter reference 12/08896-1 Dated: 25/09/2013	Schedule 2, Condition 6	Limits on Approval	<p>PKCT is approved to increase road transportation of coal and bulk products up to 10 mtpa subject to;</p> <p>The DCC or where more appropriate, the DCC Implementation Plan being updated to include;</p> <ul style="list-style-type: none"> <li>- The Code related recommendations in the document Port Kembla Coal Terminal – Independent Environmental Audit Report (AECOM, 2011) and</li> <li>- Measures for encouraging and facilitating drivers to report poor road conditions that may increase noise impacts on sensitive receivers and traffic light timing and sequencing that causes unnecessary braking noise along haulage routes</li> </ul>	<p>Requirements are noted.</p> <p>PKCT will ensure that any outstanding recommendations related to the Code are included in the revision of the DCC and/or DCC Implementation Plan during the review process.</p> <p>Measures for encouraging and facilitating drivers to report poor road conditions that may increase noise impacts on sensitive receivers and traffic light timing and sequencing that causes unnecessary braking noise haulage routes will be investigated and included in the DCC and DCC Implementation Plan review.</p> <p>Action by: Environmental Specialist</p> <p>Completion Date: 8<sup>th</sup> August 2014.</p>

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Item No.	Doc.	Condition	Topic	Requirement	PKCT Response
32	P&I Letter reference 12/08896-1 Dated: 25/09/2013	Schedule 2, Condition 6	Limits on Approval	<p>PKCT is approved to increase road transportation of coal and bulk products up to 10 mtpa subject to;</p> <ul style="list-style-type: none"> <li>- A copy of the document 10 Mtpa Road Transport Monitoring Trial, NSW DP&amp;E Submission Report – Condition 6 of “Major Project Approval 08_0009” (Revision 3, dated May 2013, Port Kembla Coal Terminal/Cardno) being placed on Port Kembla Coal Terminal Limited’s website</li> </ul>	Requirement noted, action complete. Document has been placed on PKCT Website.

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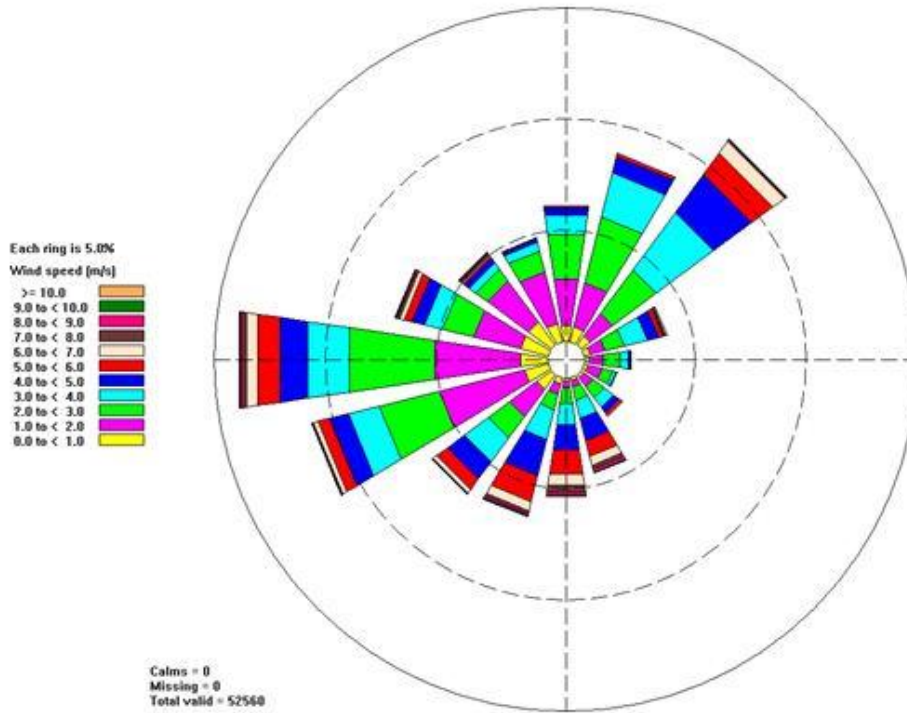
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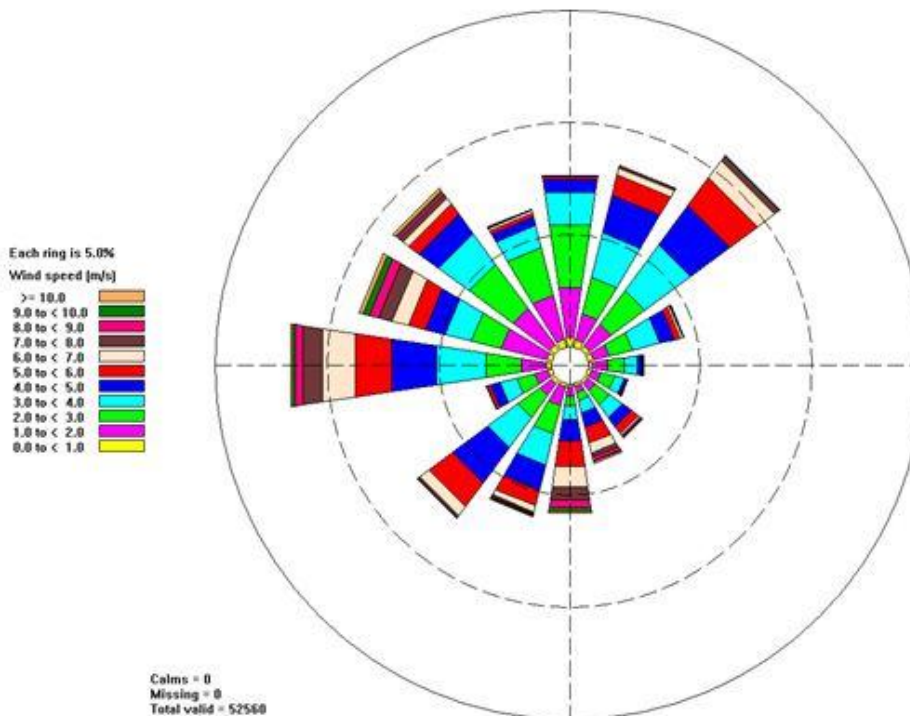
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10.6 Appendix F

Annual Wind Summary – Northern Monitor



Annual Wind Summary – Southern Monitor





**Table 11 Exceedances of the 24-hour average TSP trigger level of 90 µg/m³ at the northern PKCT monitoring site during the July 2013 to June 2014 period**

Date of exceedance	24-hour average TSP concentration (µg/m³)	Likelihood of PKCT contributing to exceedance levels <sup>a</sup>	Percentage of winds from direction of PKCT (south) during period	Contribution of PKCT to the exceeding 24-hour concentration <sup>b</sup>			Wind speed (m/s) <sup>c</sup>	
				µg/m³	%	Rating	Maximum	Average
6 September	134.9	Possible	41.0%	20.0	15%	Minor	4.9	2.0
20 October	125.7	Unlikely	1.4%	4.3	3%	Minimal	5.3	2.5
21 October	198.0	Possible	18.8%	27.5	14%	Minor	5.2	1.8
22 October	100.1	Possible	32.6%	6.5	7%	Minimal	5.7	3.1
2 November	96.5	Possible	3.5%	2.5	3%	Minimal	5.6	2.1
8 November	106.1	Possible	9.7%	8.6	8%	Minimal	6.0	2.7
22 November	117.6	Unlikely	0.7%	0.4	0%	Minimal	8.4	3.8
28 November	130.5	Possible	6.9%	16.2	12%	Minor	6.9	3.1
4 December	97.1	Possible	9.0%	3.4	3%	Minimal	6.9	3.1
8 December	104.6	Unlikely	2.8%	See Table Note d		None	6.9	3.2
9 December	171.3	Possible	9.7%	13.9	8%	Minimal	4.5	1.9
20 December	157.0	Possible	1.4%	3.8	2%	Minimal	4.1	2.7
21 December	106.3	Possible	93.8%	66.0	62%	Moderate	8.8	5.3
22 December	137.2	Possible	8.3%	25.9	19%	Minor	4.3	2.2
23 December	193.9	Possible	60.4%	26.5	14%	Minor	8.4	3.1
2 January	122.2	Possible	41.0%	28.9	23.7%	Minor	8.4	2.3
3 January	122.8	Unlikely	2.1%	2.0	1.6%	Minimal	5.0	3.0
4 January	94.6	Possible	51.4%	20.0	21.2%	Minor	7.7	4.0
5 January	107.5	Unlikely	0.7%	0.4	0.3%	Minimal	7.9	3.6
15 January	102.3	Unlikely	0.0%	0.0	0%	None	5.4	3.0
16 January	118.6	Unlikely	4.2%	3.6	3.1%	Minimal	4.2	2.0
18 January	94.8	Possible	9.7%	10.5	11.1%	Minor	4.8	2.8
29 January	94.8	Possible	18.1%	16.3	17.2%	Minor	4.5	3.0
30 January	98.1	Possible	19.4%	14.5	14.8%	Minor	7.0	3.6
31 January	96.9	Possible	15.3%	16.9	17.4%	Minor	5.7	3.1
3 February	106.3	Unlikely	0.0%	0.0	0%	None	6.7	3.9
4 February	105.5	Possible	88.2%	31.1	29.5%	Minor	7.9	4.5
10 February	99.6	Possible	93.1%	50.5	50.7%	Moderate	8.6	4.2
11 February	99.4	Possible	44.4%	22.4	22.5%	Minor	4.1	1.9
12 February	116.9	Unlikely	3.5%	1.3	1.1%	Minimal	2.8	1.2
13 February	104.5	Unlikely	3.5%	0.7	0.6%	Minimal	5.2	2.2





Date of exceedance	24-hour average TSP concentration (µg/m <sup>3</sup> )	Likelihood of PKCT contributing to exceedance levels <sup>a</sup>	Percentage of winds from direction of PKCT (south) during period	Contribution of PKCT to the exceeding 24-hour concentration <sup>b</sup>			Wind speed (m/s) <sup>c</sup>	
				µg/m <sup>3</sup>	%	Rating	Maximum	Average
16 February	116.1	Possible	58.3%	20.7	17.8%	Minor	6.9	3.1

Table notes:  
<sup>a</sup> Identified using scatter plots of 10-minute average TSP concentration versus wind direction and wind speed  
<sup>b</sup> Identified using scatter plots, percentage of winds from direction of PKCT (south) during exceedance period, and comparison of northern and southern TSP concentrations over periods when the wind is from the south. Contribution based on percentage of total 24-hour average TSP concentration (0% = no cont, 0-10% = minimal, 10-30% = minor, 30-70% = moderate, >70% = major)  
<sup>c</sup> Maximum and average 10-minute average wind speed recorded at the northern PKCT monitoring site during 24-hour exceedance period  
<sup>d</sup> For this exceedance day the pollutant concentration decreased on average during periods when the wind passed from the south over the PKCT site

**Table 12 Exceedances of the 24-hour average PM<sub>10</sub> air quality standard of 50 µg/m<sup>3</sup> at the northern PKCT monitoring site during the July 2013 to June 2014 period**

Date of exceedance	24-hour average PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Likelihood of PKCT contributing to exceedance levels <sup>a</sup>	Percentage of winds from direction of PKCT (south) during period	Contribution of PKCT to the exceeding 24-hour concentration <sup>b</sup>			Wind speed (m/s) <sup>c</sup>	
				µg/m <sup>3</sup>	%	Rating	Maximum	Average
6 September	74.4	Possible	41.0%	7.3	10%	Minimal	4.9	2.0
20 October	73.8	Unlikely	1.4%	1.7	2%	Minimal	5.3	2.5
21 October	110.5	Possible	18.8%	11.0	10%	Minimal	5.2	1.8
22 October	57.6	Possible	32.6%	0.8	1%	Minimal	5.7	3.1
2 November	57.0	Possible	3.5%	0.8	1%	Minimal	5.6	2.1
8 November	59.8	Possible	9.7%	2.8	5%	Minimal	6.0	2.7
22 November	68.7	Unlikely	0.7%	0.2	0%	Minimal	8.4	3.8
28 November	73.1	Possible	6.9%	7.9	11%	Minor	6.9	3.1
4 December	55.3	Possible	9.0%	Table note d		None	6.9	3.1
8 December	57.0	Unlikely	2.8%	Table note d		None	6.9	3.2
9 December	92.8	Possible	9.7%	4.6	5%	Minimal	4.5	1.9
20 December	84.6	Possible	1.4%	1.9	2%	Minimal	4.1	2.7
21 December	59.6	Possible	93.8%	25.5	43%	Moderate	8.8	5.3
22 December	78.9	Possible	8.3%	12.3	16%	Minor	4.3	2.2
23 December	112.3	Possible	60.4%	9.8	9%	Minimal	8.4	3.1
29 December	50.3	Possible	88.9%	11.6	23%	Minor	9.7	5.6
2 January	68.1	Possible	41.0%	10.8	16%	Minor	8.4	2.3
3 January	71.5	Unlikely	2.1%	0.6	1%	Minimal	5.0	3.0
4 January	54.9	Possible	51.4%	6.9	13%	Minor	7.7	4.0
5 January	62.9	Unlikely	0.7%	Table note d		None	7.9	3.6
15 January	58.4	Unlikely	0.0%	0.0	0%	None	5.4	3.0



Date of exceedance	24-hour average PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Likelihood of PKCT contributing to exceedance levels <sup>a</sup>	Percentage of winds from direction of PKCT (south) during period	Contribution of PKCT to the exceeding 24-hour concentration <sup>b</sup>			Wind speed (m/s) <sup>c</sup>	
				µg/m <sup>3</sup>	%	Rating	Maximum	Average
16 January	65.8	Unlikely	4.2%	1.1	1.7%	Minimal	4.2	2.0
18 January	52.8	Possible	9.7%	4.5	8.6%	Minimal	4.8	2.8
29 January	54.7	Possible	18.1%	6.5	12.0%	Minor	4.5	3.0
30 January	57.4	Possible	19.4%	4.4	7.7%	Minimal	7.0	3.6
31 January	54.6	Possible	15.3%	7.7	14.1%	Minor	5.7	3.1
2 February	50.8	Unlikely	0.0%	0.0	0%	None	6.7	3.3
3 February	60.8	Unlikely	0.0%	0.0	0%	None	6.7	3.9
4 February	62.1	Possible	88.2%	10.2	16.3%	Minor	7.9	4.5
10 February	59.4	Possible	93.1%	18.6	31.3%	Moderate	8.6	4.2
11 February	58.0	Possible	44.4%	6.7	11.6%	Minor	4.1	1.9
12 February	66.9	Unlikely	3.5%	0.1	0.1%	Minimal	2.8	1.2
13 February	58.7	Unlikely	3.5%	Table note d		None	5.2	2.2
16 February	66.7	Possible	58.3%	6.7	10.1%	Minor	6.9	3.1

Table note:  
<sup>a</sup> Identified using scatter plots of 10-minute average PM<sub>10</sub> concentration versus wind direction and wind speed  
<sup>b</sup> Identified using scatter plots, percentage of winds from direction of PKCT (south) during exceedance period, and comparison of northern and southern PM<sub>10</sub> concentrations over periods when the wind is from the south. Contribution based on percentage of total 24-hour average PM<sub>10</sub> concentration (0% = no cont, 0-10% = minimal, 10-30% = minor, 30-70% = moderate, >70% = major)  
<sup>c</sup> Maximum and average 10-minute average wind speed recorded at the northern PKCT monitoring site during 24-hour exceedance period  
<sup>d</sup> For these exceedance days the pollutant concentration decreased on average during periods when the wind passed from the south over the PKCT site

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## 10.7 Appendix G

Date	pH (pH units)	TSS (mg/litre)	Oil and Grease (mg/litre)
15/07/2013	7.0	5	5
21/07/2013	6.8	5	5
31/07/2013	7.1	5	5
01/08/2013	7.6	5	5
05/08/2013	7.3	5	5
13/08/2013	8.5	5	5
15/08/2013	7.8	6	5
16/08/2013	8.1	6	5
17/08/2013	8.4	5	5
19/08/2013	8.0	5	5
29/08/2013	9.4	11	5
03/09/2013	9.7	10	5
14/09/2013	8.7	12	5
15/09/2013	8.8	10	5
16/09/2013	8.6	10	5
17/09/2013	8.6	21	5
18/09/2013	8.2	23	5
19/09/2013	6.5	5	5
01/10/2013	9.3	11	5
03/10/2013	9.0	8	6
05/10/2013	9.0	5	5
06/10/2013	9.2	5	5
07/10/2013	9.4	5	5
08/10/2013	9.3	5	5
09/10/2013	9.6	8	5
10/10/2013	9.8	8	5
11/10/2013	9.6	5	5
12/10/2013	9.6	8	5
4-11-13	9.8	23	5
10-11-13	8.5	24	5
11-11-13	8.3	16	5
12-11-13	7.7	7	5
14-11-13	7.5	11	5
15-11-13	7.6	5	5
17-11-13	7.4	22	5
18-11-13	7.5	13	5
19-11-13	6.7	8	5
19-11-13	6.7	12	5

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Date	pH (pH units)	TSS (mg/litre)	Oil and Grease (mg/litre)
21-11-13	7.3	11	5
25-11-13	7.1	5	5
27-11-13	6.5	5	5
29-11-13	6.9	8	5
30-11-13	6.9	5	5
4-12-13	8.1	5	5
5-12-13	7.8	5	5
6-12-13	8.2	6	5
10-12-13	7.5	7	5
11-12-13	8.6	11	5
17-12-13	8.6	14	5
25-12-13	9.2	9	5
26-12-13	8.7	9	5
27-12-13	8.1	5	5
28-12-13	7.5	12	5
30-12-13	8.2	5	5
31-12-13	7.7	11	5
3-1-14	6.5	5	5
8-1-14	7.8	32	5
9-1-14	7.8	13	5
10-1-14	8.8	8	5
13-1-14	7.6	8	5
30-1-14	7.8	16	5
31-1-14	8.1	11	5
1-2-14	8.7	16	5
2-2-14	9.0	15	5
3-2-14	9.2	22	5
4-2-14	9.3	36	5
10-2-14	8.6	48	5
11-2-14	8.2	50	5
1-3-14	7.9	13	5
2-3-14	7.1	11	5
4-3-14	7.1	5	5
5-3-14	7.1	5	5
6-3-14	7.2	5	5
7-3-14	6.5	5	5
11-3-14	7.8	10	5
25-3-14	7.5	410	5
26-3-14	7.2	190	5
27-3-14	7.1	150	5

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Date	pH (pH units)	TSS (mg/litre)	Oil and Grease (mg/litre)
4-4-14	8.0	110	5
6-4-14	7.7	96	5
7-4-14	7.8	50	5
11-4-14	7.1	24	5
13-4-14	7.4	24	5
16-4-14	7.5	17	5
17-4-14	7.4	8	5
5-6-14	9.2	11	5
6-6-14	9.2	5	5
9-6-14	8.7	6	5
10-6-14	8.8	5	5
24-6-14	7.8	6	5
25-6-14	7.8	6	5


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10.8 Appendix H





## Environment & Community

LP Last updated 30/12/13

### Green and Golden Bell Frog

- **When** - Mobile during Spring/Summer/Autumn – **now**
- **What do they look like?** - Size can vary from 4.5cm to 10cm and colour varies. Usually pea-green with brassy brown or golden splotches. **Where is the imposter Peron tree frog photo?**
- **Why do we need to be aware?** - GGBF is listed as an endangered species (NSW threatened Species Conservation Act 1995) and it is an offence to harm them or their habitat. Significant penalties apply.
- **Where have they been seen before at PKCT?** - In 2009, a cluster north of the Store, 2010 in the Settlement Lagoon Reeds, 2010, in Transfer Station 1 basement.
- **Where may we see them now?** – Same areas as previous or other habitat including reeds, rocky areas in and around ponds
- **What we can do** – Be aware that they may be around. Any sightings, dead or alive should be reported to Team Coordinator and Environmental Team. Take a photo if you can. Don't try to capture or move unless it is in danger.
- [Refer to the GGBF Management Plan MP.HS.109](#)







10.9 Appendix I

**Notification of Weed Spraying**

Transpacific Industrial Solutions - Johnsons Landscapes

Date	9/5/13
Person/s Responsible	IAN WILCOX / DANIEL MULLER
Area to be sprayed	ALL AREAS
Start time	0730
Estimated duration	3HRS
Weather	FINE
Comments	

Total amount of litres sprayed	140 LITRES (HAND SPRAYING)
Type of spray used	Glyphosate 360 (Trademark Roundup) <input checked="" type="checkbox"/> Yes / No
Other Type of spray used	_____

**SIGN OFF: WORK COMPLETED**

Date: 9/5/13 .....  
 Time: 1440 .....  
 Signature: *[Signature]* ..... Print Name: IAN WILCOX .....

10.10 Appendix J







**10.11 Appendix K**

**Extract from 2013/2014 EPA Annual Return. Statement of Compliance- C2: Details of non-compliance with licence.**

1.1 Non Compliance Description: Water quality parameter TSS exceeded EPL limit
(a) Licence condition number not complied with:
<p>L2 - Concentration Limits</p> <p>L2.1 - Monitoring Point 16- the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified.</p>
(b) Summary of the particulars of the non-compliance.
<p>1) Three samples from 106 samples exceeded the specified concentration limits for TSS across the reporting period.</p>
(c) Further details on particulars of the non-compliance
<p>1) During a severe wet weather event commencing on the 25<sup>th</sup> March 2014, three overflow samples recorded TSS levels above EPL limit (100 mg/litre n.b. rainfall &gt; 90 mm). This occurred on 25<sup>th</sup> March 2014 (410 mg/litre), 26<sup>th</sup> March 2014 (190 mg/litre) and 27<sup>th</sup> March 2014 (150 mg/litre). An event report associated with these measurements was submitted to the EPA.</p>
(d) Dates when the non-compliances occurred
<p>1) 25<sup>th</sup> March 2014, 26<sup>th</sup> March 2014 and 27<sup>th</sup> March 2014.</p>
(e) Causes of the non-compliance
<p>Historically, the water collection system has been able to perform within EPL limits providing the dosing unit and associated equipment is operational. Though the equipment was operational across this event, the flocculant wasn't effective in reducing the TSS to the required EPL limit levels.</p> <p>Nalco investigation has indicated that water sampled from the southern end of the site required addition of a coagulant in combination with the flocculant to accelerate settlement. This has not previously been necessary. Testing has failed to identify any source which may have been the cause of this.</p> <p>Further investigations with Nalco are underway. A specialist consultant has been</p>



engaged to review the event and identify a root cause.

(f) Actions taken or will be taken to mitigate any adverse effects of the non-compliance.

Various actions were undertaken during the course of the event relating to the high TSS readings. These actions are discussed in detail in the full Annual Return

(g) Actions taken or will be taken to prevent recurrence of the non-compliance.

A detailed summary of the actions undertaken are presented in the full Annual Return



**1.2 Non Compliance Description: Water quality parameter pH exceeded EPL limit**

**(a) Licence condition number not complied with:**

L2 - Concentration Limits

L2.2 - Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

**(b) Summary of the particulars of the non-compliance.**

- 1) Eight samples from 106 samples across the reporting period recorded pH values outside of the 6.5-9.5 range.

**(c) Further details on particulars of the non-compliance**

- 1) Over a single discharge period spanning six days from the 3<sup>rd</sup> April 2013 to the 8<sup>th</sup> April 2013, two pH readings were measured marginally below the 6.5 concentration limit. The pH readings were; 6.4 on the 7<sup>th</sup> April 2013 and 6.2 on the 8<sup>th</sup> April 2013. These readings followed a four day rain event where 58.4mm of rain fell at PKCT.
- 2) A single pH reading of 9.7 was recorded on 3<sup>rd</sup> September 2013.
- 3) Over a single discharge period spanning eight days from the 5<sup>th</sup> October 2013 to 12<sup>th</sup> October 2013, four pH readings were measured above the 9.5 concentration limit. These readings were; 9.6 on the 9<sup>th</sup> October 2013, 9.8 on the 10<sup>th</sup> October 2013, 9.6 on the 11<sup>th</sup> October 2013 and 9.6 on the 12<sup>th</sup> October 2013.
- 4) A single pH reading of 9.8 was recorded on 4<sup>th</sup> November 2013

**(d) Dates when the non-compliances occurred**

- 1) 7<sup>th</sup> April 2013 and 8<sup>th</sup> April 2013.
- 2) 3<sup>rd</sup> September 2013.
- 3) 9<sup>th</sup> October 2013, 10<sup>th</sup> October 2013, 11<sup>th</sup> October 2013, 12<sup>th</sup> October 2013.
- 4) 4<sup>th</sup> November 2013.

**(e) Causes of the non-compliance**

pH fluctuations have been observed at PKCT since the introduction of recycled water in 2009. Consultants have been engaged to ascertain the cause of the pH fluctuations and evidence to date has suggested that algal blooms in the Settlement Lagoon are a causative factor of the pH fluctuations. Further monitoring was recommended. Across the reporting period, further detailed monitoring was undertaken.

As part of an improvement action aimed at stabilising pH in the discharge waters, PKCT investigated various algal control methods and through the initiation of Pollution Reduction Program 13, a proprietary product (EcoTabs) was trialled in the Settlement Lagoon across the Summer months.

The product as used in the trial proved to be unsuccessful at reducing the algae and pH levels significantly in the Settlement Lagoon.

A written report submitted discussing the findings of the EcoTab trial was submitted to the EPA on 31<sup>st</sup> March 2014. The recommendations in the report will be actioned throughout the coming months.

(f) Actions taken or will be taken to mitigate any adverse effects of the non-compliance.

Actions taken to limit the discharge of high pH waters from the Settlement Lagoon included;

- Purchase of water quality monitoring equipment to enable real time monitoring of water quality in the Settlement Lagoon and early identification of pH issues prior to overflow events.
- Isolation of site pumps to prevent inflow to the Settlement Lagoon when pH levels were identified outside of the specified limits.
- A system of controlled discharge was designed and utilised across the reporting period to enable lowering of the Settlement Lagoon when water quality was within the specified limits. Utilising this system decreased the overall number of discharge days and minimised the discharge of water with pH outside the specified limits.
- A review of measures to prevent and treat algal growth in the Settlement Lagoon including a trial of a proprietary product.

(g) Actions taken or will be taken to prevent recurrence of the non-compliance.

PRP13 has recently been completed and the written report submitted to the EPA. Within this report, a number of recommendations were identified and will be progressed across the coming reporting period. These recommendations include;

- Investigate the benefits and feasibility of installing a permanent pump at the discharge point in the Settlement Lagoon to assist with water level management and discharging water when conditions are favourable.
- Routine cleaning of the “neck” of the Settlement Lagoon was undertaken after the trial. Cleaning of the main area of the Lagoon remains difficult due to design factors. Early data since the clean has shown a small decline in pH levels measured in the Lagoon, as well as a longer lag-time between algal blooms. It is proposed to investigate sediment removal methods for the main area of the Lagoon. This may include dredging.
- It is hypothesised that the sediment blanket in the Lagoon contributes to the nutrient load of the water column and may be contributing to algal growth. Further analysis and investigation into the sediment is proposed.
- Progression of the Central Pond Project (Pollution Reduction Plan 12) may assist in reducing coal fines delivery to the Settlement Lagoon. This may in turn help to reduce



sediment load in the Lagoon and assist with nutrient reduction.

- Investigate the current monitoring arrangements and assess whether it meets real time data needs.
- Further consider algae controls identified in previous studies and trial where appropriate.



1.3 Non Compliance Description: Requirement to monitor concentration of pollutants discharged

(a) Licence condition number not complied with:

M2 - Requirement to monitor concentration of pollutants discharged.

M2.1 - Monitoring Point 16 – The licensee must use the sampling method, units of measure, and sample at the frequency specified.

(b) Summary of the particulars of the non-compliance.

- 1) A single water sample was not taken at Point 16 during discharge on 16<sup>th</sup> November 2013.

(c) Further details on particulars of the non-compliance

- 1) A single water sample was not taken at Point 16 during discharge on 16<sup>th</sup> November 2013. The missed sample occurred across an eight day discharge period from 14<sup>th</sup> to 21<sup>st</sup> November 2013. Of the seven water samples taken, all parameters were well within the licence limits for pH, TSS and Oil and Grease. There is no indication that the water quality of the missed sample was outside any of the specified limits.

(d) Dates when the non-compliances occurred

- 1) 16<sup>th</sup> November 2013.

(e) Causes of the non-compliance

Overflow sample was not taken during an overflow event

(f) Actions taken or will be taken to mitigate any adverse effects of the non-compliance.

Overflow samples are required to be taken by the PKCT Shift Coordinators as part of their defined roles. The Coordinator and backup Coordinator were away on the day and a third person who generally does not undertake the role filled in for the day. An internal investigation on the root-cause of the missed sample was undertaken following the event. The root cause was found to be distraction and lack of training of the acting Coordinator. Acting Coordinator on duty participated across the Performance Management Process.

(g) Actions taken or will be taken to prevent recurrence of the non-compliance.

As a result of the non-compliance, the following actions were undertaken;

- Investigation into the cause of the event
- Communication of the event was initiated to all teams and coordinators on site



- Further training of the team involved in the non-compliance
- Coordinator participated across Performance Management Process.