



# Licence

## *Environmental Protection Act 1986, Part V*

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**Licensee:** Boral Resources (WA) Ltd

**Licence:** L7037/1997/6

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**Registered office:** Level 3, 40 Mount Street  
NORTH SYDNEY NSW 2060

**ACN:** 008 686 904

**Premises address:** Mt Regal Quarry  
Tenement M47/492 North West Coastal Hwy  
KARRATHA WA 6714  
As depicted in Schedule 1

**Issue date:** Friday, 06 March 2009

**Commencement date:** Tuesday, 07 April 2009

**Expiry date:** Thursday, 06 April 2017

**Prescribed premises category**  
Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
12	Screening etc. of material	50,000 tonnes or more per year	1,000,000 tonnes per annual period
35	Asphalt manufacturing	Not Applicable	50,000 tonnes per annual period
61A	Solid waste facility	1,000 tonnes or more per year	5,000 tonnes per annual period

### Conditions

This Licence is subject to the conditions set out in the attached pages.

.....  
**Alana Kidd**

Manager Licensing – Resources Industries  
Officer delegated under section 20  
of the *Environmental Protection Act 1986*



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## Introduction

This Introduction is not part of the Licence conditions.

### DER's industry licensing role

The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

### Licence requirements

This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link: <http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the regulations.
- *Environmental Protection (Controlled Waste) Regulations 2004* - these regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.
- *Environmental Protection (Noise) Regulations 1997* – these regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.



Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.

### **Licence fees**

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

### **Ministerial conditions**

If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

### **Premises description and Licence summary**

Boral Resources (WA) Ltd (Boral) owns the Mt Regal Quarry on Mining Lease M47/492 approximately 12 kilometres to the south west of Karratha.

The nearest sensitive land use is a Roadhouse on the Northwest Coastal Highway located 6 kilometres (km) from the site. Northwest Coastal Highway borders the Mt Regal Quarry premises to the north. Another quarry neighbours the Mt Regal Quarry to the immediate east.

Groundwater is 10 m or deeper. A drainage line that previously flowed through the tenement has been diverted into the quarry pit for dust suppression. There is no significant flora on the premises or in the vicinity.

Boral was issued works approval W5737/2014/1 on 8 January 2015 to construct and commission an asphalt plant in the quarry, and to increase the throughput for category 12 screening operations from 500,000 to 1,000,000 tonnes per annum (tpa). Boral submitted a works approval compliance document on 13 February 2015 and submitted a commissioning report on 24 August 2015.

A Mobile Asphalt Plant (MAP) and an Aggregate Pre-coating Facility (APF) have been installed on site.

The MAP is a Terex Roadbuilding TEREX E 100P, which is a portable drum type hot asphalt plant with the capacity to produce up to 100 tonnes of asphalt per hour (tph). Boral has notified DER that the Mt Regal facility may store up to 5,000 tonnes per year of processed Recycled Asphalt Product (RAP) on site, for use as an aggregate in the asphalt production process.

The main emissions associated with the operation of the MAP are air emissions via the stack, fugitive dust, odour from bituminous products, and noise.

The APF is used to pre-coat aggregates with a diesel-based product. It consists of a feed hopper, sprayer, screen, conveyors and a diesel driven air compressor. The main emissions associated with the APF are dust and noise. The APF process is cold, so odour is not expected to be an issue.

This Licence is the result of an amendment sought by the Licensee to increase the approved screening throughput to 1,000,000 tonnes per annual period, and to include the prescribed activity of asphalt manufacturing. Conditions relating to asphalt manufacturing have been added to the licence. Category 61A for prescribed activity of storage of processed RAP has been also been added, with a condition for acceptance of waste. No additional conditions are required for the increase in screening throughput.

Due to facility design, management commitments, and distance to sensitive land uses, the environmental risk of emissions and discharges from the Asphalt Plant is considered low.



The licences and works approvals issued for the Premises are:

Instrument log		
Instrument	Issued	Description
L7037/1997/1	14/07/1997	New application
L7037/1997/2	27/07/1998	Licence re-issue
L7037/1997/3	07/04/2003	Licence re-issue
L7037/1997/4	05/04/2004	Licence re-issue
L7037/1997/5	07/04/2005	Licence re-issue
L7037/1997/6	06/03/2009	Licence re-issue
L7037/1997/6	22/03/2013	Licence amendment – conversion to new format
W5737/2014/1	8/01/2015	Works approval for Category 35 and increase Category 12 screening production capacity.
L7037/1997/6	15/09/2015	Licence amendment – to include Categories 35, and 61A, and to increase category 12 screening production capacity.

### Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

### END OF INTRODUCTION



## Licence conditions

### 1 General

#### 1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

**'Act'** means the *Environmental Protection Act 1986*;

**'annual period'** means the inclusive period from 1 January until 31 December in the following year;

**'AS 4323.1'** means the Australian Standard AS4323.1 *Stationary Source Emissions Method 1: Selection of sampling positions*;

**'averaging period'** means the time over which a limit or target is measured or a monitoring result is obtained;

**'CEMS'** means continuous emissions monitoring system;

**'CEO'** means Chief Executive Officer of the Department of Environment Regulation;

**'CEO'** for the purpose of correspondence means:

Chief Executive Officer  
Department Administering the Environmental Protection Act 1986  
Locked Bag 33  
CLOISTERS SQUARE WA 6850  
Email: [info@der.wa.gov.au](mailto:info@der.wa.gov.au)

**'Licence'** means this Licence numbered L7037/1997/6 and issued under the Act;

**'Licensee'** means the person or organisation named as Licensee on page 1 of the Licence;

**'NATA'** means the National Association of Testing Authorities, Australia;

**'NATA accredited'** means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

**'NOx'** means oxides of nitrogen, calculated as the sum of nitric oxide and nitrogen dioxide and expressed as nitrogen dioxide;

**'PM'** means total particulate matter including both solid fragments of material and miniscule droplets of liquid;

**'Premises'** means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

**'Processed RAP'** means RAP which has been crushed and/or screened to size for recycling into new asphalt;

**'RAP'** means Reclaimed Asphalt Pavement which consists of surplus plant mix or the material reclaimed from an asphalt wearing or intermediate course by cold planning;

**'Schedule 1'** means Schedule 1 of this Licence unless otherwise stated;



**‘Schedule 2’** means Schedule 2 of this Licence unless otherwise stated;

**‘stack test’** means a discrete set of samples taken over a representative period at normal operating conditions;

**‘start-up’** means the period when plant or equipment is brought from inactivity to normal operating conditions;

**‘STP dry’** means standard temperature and pressure (0°Celsius and 101.325 kilopascals respectively), dry;

**‘USEPA’** means United States (of America) Environmental Protection Agency;

**‘USEPA Method 2’** means the USEPA Method 2 – Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube);

**‘USEPA Method 5’** means the USEPA Method 5 - Determination of Particulate Matter Emissions From Stationary Sources;

**‘USEPA Method 7E’** means the USEPA Method 7E - Determination of Nitrogen Oxides Emissions From Stationary Sources (Instrumental Analyzer Procedure);

**‘USEPA Method 10’** means the USEPA Method 10 - Determination of Carbon Monoxide Emissions From Stationary Sources (Instrumental Analyzer Procedure);

**‘USEPA Method 17’** means the USEPA Method 17 - Determination of Particulate Matter Emissions From Stationary Sources; and

**‘USEPA Method 18’** means the USEPA Method 18 - Measurement of Gaseous Organic Compound Emissions By Gas Chromatography.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.

1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.

1.1.5 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:

- (a) pollution;
- (b) unreasonable emission;
- (c) discharge of waste in circumstances likely to cause pollution; or
- (d) being contrary to any written law.

## **1.2 General conditions**

1.2.1 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.

1.2.2 The Licensee shall immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system.

1.2.3 The Licensee shall:

- (a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises; and
- (b) treat contaminated or potentially contaminated stormwater as necessary prior to being discharged from the Premises.<sup>1</sup>



Note1: *The Environmental Protection (Unauthorised Discharges) Regulations 2004* make it an offence to discharge certain materials into the environment.

### 1.3 Premises operation

- 1.3.1 The Licensee shall ensure that any discharge of water from the washdown areas shall be discharged via fuel/oil traps and silt traps
- 1.3.2 The Licensee shall ensure that automatic safeguards are incorporated within the process to prevent the ignition of bitumen within the drum.
- 1.3.3 The licensee shall ensure that:
- the baghouse is operational prior to start up of the drier and operated continuously whilst the drier is operating;
  - the baghouse filters are regularly inspected; and
  - when detected, blocked, frayed or leaking, operations cease immediately and do not commence again until baghouse filters are replaced.
- 1.3.4 The Licensee shall only accept waste on to the Premises
- it is of a type listed in Table 1.3.1;
  - the quantity accepted is below any quantity limit listed in Table 1.3.1;
  - it meets any specification listed in Table 1.3.1.

**Table 1.3.1: Waste acceptance**

Waste type	Quantity Limit	Specification <sup>1</sup>
Processed RAP	5,000 tonnes per year	The Licensee shall ensure that Processed RAP does not contain any of the following materials: <ul style="list-style-type: none"><li>granular pavement materials, clay, soil or organic matter;</li><li>bricks, concrete, glass or building materials; or</li><li>laterite asphalt, tar based products, geotextile fabrics, raised pavement markers or surface treatments such as high friction surfacings or green or red pavement markings.</li></ul>



## 2 Emissions

### 2.1 General

- 2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit specified in any part of section 2 of this Licence.

### 2.2 Point source emissions to air

- 2.2.1 The Licensee shall ensure that where waste is emitted to air from the emission points in Table 2.2.1 [and identified on the map of emission points in Schedule 1] it is done so in accordance with the conditions of this Licence.

**Table 2.2.1: Emission points to air**

Emission point reference on Premises map	Emission Point	Emission point height	Source, including any abatement
A1	Stack	7 m	Drum dryer via baghouse

- 2.2.2 The Licensee shall not cause or allow point source emissions to air greater than the limits listed in Table 2.2.2.

**Table 2.2.2: Point source emission limits to air**

Emission point	Parameter	Limits (including units) <sup>1</sup>	Averaging period
A1	PM	50 mg/m <sup>3</sup>	Stack test (Minimum 60 minute average)
	Stack velocity	At least 12 m/s	Stack test (Minimum 30 minute average)

Note 1: All units are referenced to STP dry

Note 2: Concentration units are referenced to 17%% O<sub>2</sub>.



## 3 Monitoring

### 3.1 General monitoring

- 3.1.1 The Licensee shall ensure that annual monitoring is undertaken at least 9 months apart.
- 3.1.2 The Licensee shall record production or throughput data and any other process parameters relevant to any non-continuous or CEMS monitoring undertaken.
- 3.1.3 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.

### 3.2 Monitoring of point source emissions to air

- 3.2.1 The Licensee shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

Table 3.2.1: Monitoring of point source emissions to air					
Emission point reference	Parameter	Units <sup>1,3</sup>	Averaging period	Frequency <sup>2</sup>	Method
A1	Volumetric flow rate	m <sup>3</sup> /s	n/a	Annual	USEPA Method 2
	PM	mg/m <sup>3</sup> g/s	Stack Test (Minimum 60 minute average)		USEPA Method 5 or USEPA Method 17
	NO <sub>x</sub>	mg/m <sup>3</sup> g/s	Stack Test (Minimum 30 minute average)		USEPA Method 7E
	Carbon monoxide	mg/m <sup>3</sup> g/s			USEPA Method 10
	Total Volatile Organic Compounds	mg/m <sup>3</sup> g/s			USEPA Method 18

Note 1: All units are referenced to STP dry.

Note 2: Monitoring shall be undertaken to reflect normal operating conditions and any limits or conditions on inputs or production.

Note 3: Concentration units for A1 are referenced to 17% O<sub>2</sub>.

- 3.2.2 Sampling required to comply with Condition 3.2.1 of this Licence must be undertaken at sampling locations in accordance with the AS 4323.1.
- 3.2.3 All non-continuous sampling and analysis undertaken pursuant to condition 3.2.1 must be undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

### 3.3 Process monitoring

- 3.3.1 The Licensee shall ensure that a broken bag detector is continuously operated to monitor pressure changes within the baghouse.



## 4 Information

### 4.1 Records

4.1.1 All information and records required by the Licence shall:

- (a) be legible;
- (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
- (c) except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
- (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
  - (i) off-site environmental effects; or
  - (ii) matters which affect the condition of the land or waters.

4.1.2 The Licensee shall ensure that:

- (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
- (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.

4.1.3 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.

4.1.4 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

### 4.2 Reporting

4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 60 calendar days after the end of the annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

**Table 4.2.1: Annual Environmental Report**

Condition or table (if relevant)	Parameter	Format or form <sup>1</sup>
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
-	Comparison of the approved production capacities and actual production/throughput for the Annual period.	Brief summary
Table 3.2.1	Point source air emission monitoring results	AR1
Table 3.2.1	An assessment of the monitoring results against previous monitoring results and Licence limits.	Graphical and brief summary.
4.1.3	Compliance	Annual Audit Compliance Report (AACR)
4.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2

4.2.2 The Licensee shall submit the information in Table 4.2.2 to the CEO according to the specifications in that table.

**Table 4.2.2: Non-annual reporting requirements**



Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties

### 4.3 Notification

4.3.1 The Licensee shall ensure that the parameters listed in Table 4.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 4.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement <sup>1</sup>	Format or form <sup>2</sup>
2.1.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day.  Part B: As soon as practicable	N1
-	Intention for the site to recommence normal operations from a care and maintenance status	At least 30 calendar days prior to site recommencing operations	None specified

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act

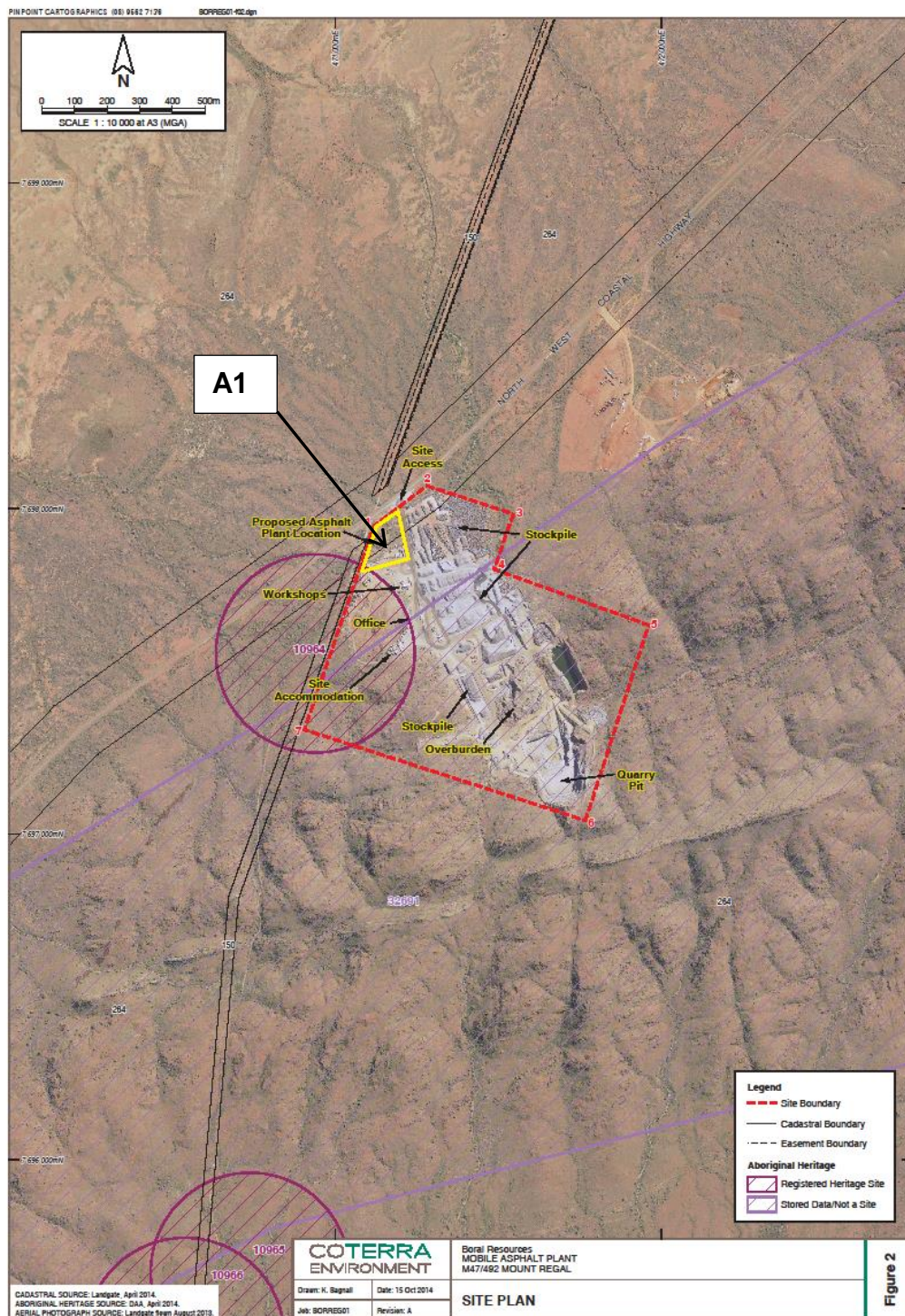
Note 2: Forms are in Schedule 2

## Schedule 1: Maps

### Premises map

The Premises is shown in the map below. The red dashed-line depicts the Premises boundary. The yellow polygon depicts the location of the asphalt plant.

The location of the emission point defined in Table 2.2.1 and monitoring point defined in Table 3.2.1 is also shown below.





## Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

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### ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

#### SECTION A LICENCE DETAILS

Licence Number:	Licence File Number:
Company Name: Trading as:	ABN:
Reporting period: _____ to _____	

#### STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

1. Were all conditions of the Licence complied with within the reporting period? (please tick the appropriate box)
- Yes ☐ Please proceed to Section C
- No ☐ Please proceed to Section B

Each page must be initialled by the person(s) who signs Section C of this Annual Audit Compliance Report (AACR).

Initial:



## SECTION B

### DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each Licence condition that was not complied with.

a) Licence condition not complied with:	
b) Date(s) when the non compliance occurred, if applicable:	
c) Was this non compliance reported to DER?:	
<input type="checkbox"/> Yes <input type="checkbox"/> Reported to DER verbally Date _____ <input type="checkbox"/> Reported to DER in writing Date _____	<input type="checkbox"/> No
d) Has DER taken, or finalised any action in relation to the non compliance?:	
e) Summary of particulars of the non compliance, and what was the environmental impact:	
f) If relevant, the precise location where the non compliance occurred (attach map or diagram):	
g) Cause of non compliance:	
h) Action taken, or that will be taken to mitigate any adverse effects of the non compliance:	
i) Action taken or that will be taken to prevent recurrence of the non compliance:	

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:



## SECTION C

### SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) may only be signed by a person(s) with legal authority to sign it. The ways in which the AACR must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this AACR is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is		The Annual Audit Compliance Report must be signed and certified:
An individual	<input type="checkbox"/> <input type="checkbox"/>	by the individual licence holder, or by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf.
A firm or other unincorporated company	<input type="checkbox"/> <input type="checkbox"/>	by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A corporation	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	by affixing the common seal of the licensee in accordance with the <i>Corporations Act 2001</i> ; or by two directors of the licensee; or by a director and a company secretary of the licensee, or if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A public authority (other than a local government)	<input type="checkbox"/> <input type="checkbox"/>	by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
a local government	<input type="checkbox"/> <input type="checkbox"/>	by the chief executive officer of the licensee; or by affixing the seal of the local government.

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of \$50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE: \_\_\_\_\_

NAME:  
(printed) \_\_\_\_\_

POSITION: \_\_\_\_\_

DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

SEAL (if signing under seal

SIGNATURE: \_\_\_\_\_

NAME:  
(printed) \_\_\_\_\_

POSITION: \_\_\_\_\_

DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_



**Licence:**

**Form:** N1

**Licensee:**

**Date of breach:**

**Notification of detection of the breach of a limit or any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution.**

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

## Part A

Licence Number	
Name of operator	
Location of Premises	
Time and date of the detection	

### Notification requirements for the breach of a limit

Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

## Part B

Name	
Post	
Signature on behalf of Boral Resources (WA) Ltd	
Date	



**Licence:**  
**Form:** AR1  
**Name:** Monitoring of point source emissions to air

**Licensee:**  
**Period :**

Emission point	Parameter	Result <sup>1</sup>	Result <sup>1</sup>	Averaging period	Method	Sample date & times
A1 (Stack)	Volumetric flow rate	m <sup>3</sup> /s				
	PM	mg/m <sup>3</sup>	g/s			
	NOx	mg/m <sup>3</sup>	g/s			
	VOCs	mg/m <sup>3</sup>				

Note 1: All units are referenced to STP dry and relevant Oxygen Correction

Signed on behalf of Boral Resources (WA) Ltd: ..... Date: .....



# Decision Document

## *Environmental Protection Act 1986, Part V*

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**Proponent:** Boral Resources (WA) Ltd

**Licence:** L7037/1997/6

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**Registered office:** Level 3, 40 Mount Street  
NORTH SYDNEY NSW 2060

**ACN:** 008 686 904

**Premises address:** Mt Regal Quarry  
Tenement M47/492  
North West Coastal Hwy  
KARRATHA WA 6714

**Issue date:** Friday, 06 March 2009

**Commencement date:** Tuesday, 07 April 2009

**Expiry date:** Thursday, 06 April 2017

### Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER) has decided to issue an amended licence. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by: Lindy Twycross  
Licensing Officer

Decision Document authorised by: Alana Kidd  
Manager Licensing



## Contents

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## 1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

## 2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/> New Licence <input type="checkbox"/> Licence amendment <input checked="" type="checkbox"/> Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	12	1,000,000 tonnes per annual period
	35	50,000 tonnes per annual period
	61A	5,000 tonnes per annual period
Application verified	Date: N/A	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Compliance Certificate received	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No:



Environmental Protection Act 1986?		Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i> )?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, include details here, eg Site is subject to SO <sub>2</sub> requirements of Kwinana EPP.		

### 3 Executive summary of proposal and assessment

Boral Resources (WA) Ltd (Boral) operates the Mt Regal Quarry on Mining Lease M47/492 in the Pilbara region of Western Australia. The Quarry is licenced as a Category 12 prescribed premises under the *Environmental Protection Act 1986*, licence number L7037/1997/6.

The nearest sensitive land use is a Roadhouse on the Northwest Coastal Highway located 6 kilometres (km) from the site. The Mt Regal Quarry is located on Northwest Coastal Highway and another quarry neighbours the Mt Regal Quarry to the east.

Groundwater is 10 m or deeper. A drainage line that previously flowed through the tenement has been diverted into the quarry pit for dust suppression. There is no significant flora on the premises or in the vicinity.

Boral was issued works approval W5737/2014/1 on 8 January 2015 to construct and commission an asphalt plant in the quarry, and to increase the throughput for category 12 screening operations from 500,000 to 1,000,000 tonnes per annum (tpa). Boral submitted a works approval compliance document on 13 February 2015 and submitted a commissioning report on 24 August 2015.

#### Crushing and Screening

Quarrying activities include drilling, blasting and extraction of hard rock. Screening infrastructure is used to crush, sort and stockpile aggregates for later transportation off the site. The main emissions associated with the quarrying and screening activities are dust and noise.

#### Asphalt Plant

The Asphalt Plant consists of a Mobile Asphalt Plant (MAP) and Aggregate Pre-coating Facility (APF). The MAP is expected to be located at the site for approximately 6 months per year. Boral has notified DER that the Mt Regal facility may store up to 5,000 tonnes per year of processed recycled asphalt product (RAP) for use as an aggregate in the asphalt production process. Storage of more than 1,000 tpa of waste produced on another premises is a prescribed activity - Category 61A: Solid Waste Facility.



The MAP is a Terex Roadbuilding TEREX E 100P, which is a portable drum type plant, consisting of various transportable modules. Throughput of the MAP is 100 tonnes asphalt per hour. The MAP has the capability to process Recycled Asphalt Product (RAP). The following components make up the MAP:

- Cold bins;
- Drum-mixer;
- Baghouse;
- Conveyors;
- Hot silo
- Control cabin;
- Bitumen tanks (3 chambers, total 140,000 Litres(L));
- Oil heater;
- Pumps;
- Generator;
- Self banded diesel tank (20,000 L);
- Workshop/storage area; and
- Laboratory.

The APF consists of a feed hopper, sprayer, screen, conveyors and a diesel driven air compressor which is used to pre-coat aggregates with a diesel-based product. Bitumen will also be used in 'black' pre-coating. Pre-coated aggregates will be stored on site until transported off site as required.

The main emissions that may occur during the operation of the Asphalt Plant include air emissions emitted via the stack, fugitive dust emissions from storage, transfer and loading of materials, odour from hot bituminous products, noise and hydrocarbon spills.

Due to facility design, management commitments and distance to sensitive land uses, the environmental risk of emissions and discharges from the Asphalt Plant are considered low, as outlined in Section 4 below.



## 4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	L1.2.2 L1.2.3	<p><u>Emission Description</u>  <i>Emission:</i> Hydrocarbon and other environmentally hazardous material spill.  <i>Impact:</i> Contamination of surrounding ground, stormwater, surface waters and groundwater.  <i>Controls:</i> Groundwater is 10 m or deeper. A drainage line that previously flowed through the Tenement has been diverted into the quarry pit for water harvesting for dust suppression. Stormwater around the remainder of the site is captured via open drains and directed to a holding pit connected to a 20 kL water tank for use for dust suppression.</p> <p>Boral has stated that environmentally hazardous materials will be stored and handled in accordance with the relevant guidelines including the <i>Dangerous Goods Safety Act 2004</i>; the <i>Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007</i>; and AS 1940-2004.</p> <p>Boral has a <i>Hydrocarbon Storage and Handling</i> procedure and <i>Hydrocarbon Spill Management Plan</i>. Specific risk mitigation strategies include:</p> <ul style="list-style-type: none"> <li>• A designated (bunded) hydrocarbon storage area;</li> <li>• Refuelling activities undertaken in a sealed refuelling pad or similar surface;</li> <li>• Spills kits placed in close proximity to the Asphalt Plant;</li> <li>• Contaminated material/spoil will be recycled through the MAP or disposed of at an appropriate licensed facility;</li> <li>• Bitumen spills will be allowed to set and will be retrieved and recycled back into the mixing process; and</li> </ul>	<p>Application supporting documentation.</p> <p>General Provisions of the <i>Environmental Protection Act 1986</i>.</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</p> <p><i>Dangerous Goods Safety Act 2004</i>.  <i>Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007</i>.            Australian</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<ul style="list-style-type: none"><li>Solid and liquid wastes (e.g. oil filters, oils etc.) are removed as required from this area by a licensed waste contractor - no waste will be stored on-site.</li></ul> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> The previous Licence contained a general condition regarding the storage of dangerous goods below placard quantities or environmental hazardous materials. This condition has been removed. Environmentally hazardous materials above placard quantity (as defined in the <i>Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007</i>) that are classified as dangerous goods are regulated by the Department of Mines and Petroleum (DMP).</p> <p>General Provisions of the <i>Environmental Protection Act 1986</i> apply. The potential discharge of hazardous materials from this operation would be captured by the <i>Environmental Protection (Unauthorised discharges) Regulations 2004</i>.</p> <p>L1.2.2 requires spills to be immediately recovered and removed. L1.2.3 requires measures to be taken to prevent stormwater becoming contaminated, and for contaminated stormwater to be treated before discharged off the premises.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Premises operation	L1.3.1 L1.3.2 L1.3.3 L1.3.4	<p>L1.3.2 and L1.3.3 have been included to manage the risk of point source emissions to air (discussed and assessed under 'point source emissions to air'). These conditions require the occupier to ensure that the asphalt plant is fitted with automatic safeguards to ensure bitumen does not ignite and to ensure general housekeeping and maintenance of the baghouse.</p> <p>Licence condition L1.3.4 has been added to explicitly include Processed RAP as a waste that can be accepted on site.</p>	<p>Application supporting documentation.</p> <p>General Provisions of the <i>Environmental Protection Act 1986</i>.</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</p>
Emissions general	L2.1.1	Limits will be set through conditions of the licence and therefore a condition regarding recording and investigation of exceedances of limits has been included.	NA
Point source emissions to air including monitoring	<b>Stack emissions</b> DER's assessment and decision making are detailed in Appendix A.	<p>Application supporting documentation.</p> <p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</p> <p>Environmental Guidelines on Best Available Techniques (BAT) for the Production of Asphalt Paving Mixes, European Asphalt Pavement Association, 2007.</p>	<p>Application supporting documentation.</p> <p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p><i>Environmental</i></p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
			<i>Protection (Unauthorised Discharges) Regulations 2004.</i>  Environmental Guidelines on Best Available Techniques (BAT) for the Production of Asphalt Paving Mixes, European Asphalt Pavement Association, 2007 documentation
Point source emissions to surface water including monitoring	NA	There will be no point source emissions to surface water during operation of the Asphalt Plant or screening. No conditions are required.	Application supporting documentation.
Point source emissions to groundwater including monitoring	N/A	There will be no point source emissions to groundwater during operation of the Asphalt Plant, or screening. No conditions are required.	Application supporting documentation.
Emissions to land including monitoring	N/A	There will be no emissions to land during operation of the Asphalt Plant, or screening. No conditions are required.	Application supporting documentation.



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
<b>Fugitive emissions</b>	N/A	<p><u>Emission Description</u>  <i>Emission:</i> Fugitive dust emissions from movement of vehicles, transfer of materials and from stockpiles.</p> <p><i>Impact:</i> Dust can impact ambient environmental quality resulting in amenity impacts, reduction in visibility and can smother vegetation. Particulate matter can cause human health impacts. The asphalt plant is located beside North West Coastal Highway and a quarry is located immediately east of the premises.</p> <p><i>Controls:</i>  The nearest sensitive land use is a Roadhouse on the Northwest Coastal Highway six km from the site. There is no significant flora in the local vicinity.</p> <p>Boral has Mt Regal Mobile Asphalt Plant Dust Management Plan and an overarching Mt Regal Quarry Dust Management Plan. Dust management includes:</p> <ul style="list-style-type: none"> <li>• Minespec water cart used for dust suppression;</li> <li>• Minimum 1 x 20,000 litre water tanks to ensure adequate water available;</li> <li>• Even when water cart not required, the truck must be parked up with full tank;</li> <li>• Regular screening plant checks to ensure sprays are misting properly and efficiently;</li> <li>• Ensure final screened product has a minimal drop distance to final stockpile;</li> <li>• Spraying of stockpiled materials as necessary;</li> <li>• Unsealed roads and bare areas watered as required;</li> <li>• Scheduled inspections of baghouse filters and shut down if faulty filters detected; and</li> <li>• In severe wind, Quarry Manager to be prepared to abandon production.</li> </ul> <p><u>Risk Assessment</u>  <i>Consequence:</i> Insignificant  <i>Likelihood:</i> Possible</p>	<p>Application supporting documentation.</p> <p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</p> <p>Mt Regal Quarry Dust Management Plan, Kimberley Quarry Pty Ltd, October 2012</p> <p>Mt Regal Mobile Asphalt Plant Dust Management Plan, Boral Resources (WA), August 2015</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> Risk assessment is Low; therefore no conditions are required (Previous licence conditions L2.6.1 and L2.6.2 have been removed). Should complaints be received, DER may initiate an amendment and require specific dust conditions.</p> <p>General provisions of the <i>Environmental Protection Act 1986</i> apply. The <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> apply.</p>	
Odour	N/A	<p><u>Emission Description</u> <i>Emission:</i> Odour from transfer of bitumen and bituminous products and processing of asphalt. <i>Impact:</i> Nuisance odours resulting in decreased ambient air quality and possible human health concerns. Workers at the neighbouring quarry may be located approximately 400 m distant from the Asphalt Plant.</p> <p><i>Controls:</i> Closest sensitive land user is a Roadhouse 6 km distant. The temperature of the MAP is computer controlled so as to maintain an optimum operating temperature thereby reducing the odour levels associated with process production.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Possible <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> General provisions of the <i>Environmental Protection Act 1986</i> apply.</p> <p><u>Residual Risk</u></p>	<p>Application supporting documentation.</p> <p>General provisions of the <i>Environmental Protection Act 1986</i>.</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><i>Consequence:</i> Minor <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p>	
Noise	N/A	<p><u>Emission Description</u> <i>Emission:</i> Cumulative noise emissions associated with operation of the Asphalt Plant and activities associated with quarrying and screening activities.</p> <p><i>Impact:</i> Noise resulting in amenity impacts and nuisance to persons not on the Premises.</p> <p><i>Controls:</i> The closest sensitive land user is a Roadhouse 6 km distant. Workers next door may be located approximately 400 m distant but are located in a quarry and alongside a major highway (both influencing factors on acceptable levels of receiving noise).</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> No specified conditions relating to noise emissions are required. The <i>Environmental Protection (Noise) Regulations 1997</i> are applicable.</p>	<p>Application supporting documentation. <i>Environmental Protection (Noise) Regulations 1997.</i></p>
Monitoring general	L3.1.1 – L3.1.3	<p>L3.3.1 ensures monitoring frequencies are taken within set timeframes. L3.1.2 ensures that the Licensee is recording production or throughput data at the time of monitoring. L3.1.3 has been included to ensure that equipment is calibrated appropriately as required.</p>	<p>Application supporting documentation.  Environmental</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
			Guidelines on <i>Best Available Techniques</i> (BAT) for the Production of Asphalt Paving Mixes, <i>European Asphalt Pavement Association</i> , 2007
Monitoring of inputs and outputs	N/A	No conditions relating to the monitoring of inputs or outputs are required.	N/A
Process monitoring	L3.3.1	Condition L3.3.1 ensures the baghouse is monitored for bag failure (discussed and assessed under 'point source emissions to air').	Application supporting documentation.
Ambient quality monitoring	N/A	Not required.	N/A
Meteorological monitoring	N/A	Not required.	NA
Improvements	N/A	No improvement conditions required.	N/A
Information	L4	Conditions require submission of an Annual Audit Compliance Report and an Annual Environmental Report which includes and monitoring results.	NA
Licence Duration	-	The licence duration remains five years.	NA



## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
10/09/2015	Proponent sent a copy of proposed instrument	No comments received.	Not applicable.



## 6 Risk Assessment

*Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management*

**Table 1: Emissions Risk Matrix**

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High



## Appendix A

The operation of the Mobile Asphalt Plant will result in point source emissions from a single stack. Boral has notified DER that Processed RAP will be used as an aggregate. Air emissions include Particulates, nitrogen oxides, carbon monoxide, sulphur dioxide and Volatile Organic Compounds (VOC).

To ensure emissions from the Asphalt Plant correspond to the manufacturer's specifications, Boral undertook a stack test during commissioning using methods prescribed by the United States (of America) Environmental Protection Agency (USEPA). The results were compared against the Environmental Guidelines on Best Available Techniques (BAT) for the Production of Asphalt Paving Mixes, European Asphalt Pavement Association, 2007. Monitoring and recording was undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

Commissioning stack test result indicates that the proposed MAP can operate within the BAT guidelines (Table 1).

**Table 1: Stack test air emissions and BAT**

Parameter	Stack test emission during commissioning	EAPA BAT
PM	20* mg/m <sup>3</sup>	10 – 50 mg/m <sup>3</sup>
Sulphur dioxide	27 mg/m <sup>3</sup>	350 - 500 mg/m <sup>3</sup>
Carbon monoxide	190	350 - 1000 mg/m <sup>3</sup>
NOx	67 mg/m <sup>3</sup>	350 - 500 mg/m <sup>3</sup>

\*Average over two test runs

### Emission Description

*Emission:* Stack emissions to air in the form of particulates, nitrogen oxides, carbon monoxide, and Volatile Organic Compounds (VOC).

*Impact:* Reduced local air quality as well as nuisance dust and odour impacts. The asphalt plant is located beside North West Coastal Highway and a quarry is located immediately east.

*Controls:* The nearest sensitive land use is a Roadhouse on the Northwest Coastal Highway 6 km from the site. Commissioning stack test indicates that the proposed MAP can operate within the EAPA BAT guidelines.

Boral has committed to number of air quality management practices to minimise stack air emissions including:

- Baghouse filters are designed to reduce particulate stack emissions to below 50mg/m<sup>3</sup>;
- Automated temperature and flow controls with manual override manage the process;
- Baghouse differential pressure indicators monitor baghouse for malfunctions and bag breaks;
- Regular inspection and maintenance of pollution control equipment; and
- Equipment operated by trained operators.

Processed asphalt product (RAP) will be used as an aggregate material. Moist RAP when heated can produce VOC's. However, in order to be able to process RAP in the asphalt plant, the RAP must have dry or limited moisture content.

### Risk Assessment

*Consequence:* Minor

*Likelihood:* Unlikely

*Risk Rating:* Moderate



#### Regulatory Controls

L2.2.1 locates the stack and specifies minimum stack height to ensure emissions are dispersed from a minimum height.

L2.2.2 places a limit for particulate stack emission of  $50\text{mg/m}^3$  to ensure the baghouse is operating and maintained as per design specifications. A minimum emission velocity is also included to ensure emissions are discharged with velocity. Limits will be verified annually via stack testing.

L3.2.1 requires annual stack testing to allow the efficiency of the plant to be tracked over time to and ensure the emissions are acceptable. Boral has confirmed that low sulphur diesel fuel will be used and so monitoring for SO<sub>x</sub> will not be required. Boral has confirmed that processed RAP will be introduced directly into the mixer/dryer drum. All emissions from the mixer/dryer drum are captured through the baghouse and discharged via the stack. Volumetric flow rate, particulate matter (PM), NO<sub>x</sub>, CO and total VOCs will be monitored and reported annually

L3.2.2 and L3.2.3 ensure sampling and analysis is to the relevant Australian Standards and by a NATA accredited laboratory.

Premises operation conditions L1.3.1 and L1.3.2 ensures the baghouse is operational and maintained, to ensure the filters are operating and at design efficiency. L1.3.3 requires RAP to be crushed and processed before accepted on site and to ensure it does not contain certain materials.

A process monitoring condition L3.3.1 ensures the baghouse is monitored for bag failure.

#### Residual Risk

*Consequence*: Minor

*Likelihood*: Rare

*Risk Rating*: Low