



Amendment Notice 2

Licence Number	L8571/2011/1
Licence Holder	Boral Resources (WA) Ltd
ACN	008 686 904
File Number:	2012/006913-1
Premises	Seven Mile Hill Quarry Tenement M15/444 KARRAMINDIE WA 6429
Date of Amendment	30/08/2019

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act), as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

MANAGER, PROCESS INDUSTRIES REGULATORY SERVICES

an Officer delegated under section 20 of the *Environmental Protection Act 1986* (WA).

Definitions and interpretation

Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
AER	Annual Environment Report
Amendment Notice	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 JOONDALUP DC WA 6919 info@dwer.wa.gov.au
Delegated Officer	an Officer under section 20 of the EP Act
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
Licence Holder	Boral Resources (WA) Pty Ltd
Minister	the Minister responsible for the EP Act and associated regulations
tpa	tonnes per annum
NEPM	National Environmental Protection Measure
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
Processed RAP	means RAP which has been crushed and/or screened to size for recycling into new asphalt.
RAP	means reclaimed asphalt pavement.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>
UDR	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i>
VOC	Volatile organic compounds

Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend Licence L8571/2011/1 issued under the EP Act as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

Amendment description

Boral Resources (WA) Ltd (the Licence Holder) has applied to amend Licence L8571/2011/1 to install and operate a mobile asphalt plant that may use reclaimed asphalt pavement (RAP) at the Seven Mile Hill Quarry.

The Application seeks approval to include on the licence:

- Category 35 – asphalt manufacturing;
- Category 61A – solid waste facility; and
- associated changes to conditions to facilitate addition of the above two categories to the licence.

The additional categories and the nominated production throughput sought under the Application are shown in Table 2.

Table 2: Additional categories

Category Number	Description	Nominated production throughput
35	Asphalt manufacturing: premises on which hot or cold mix asphalt is produced using crushed or ground rock aggregate mixed with bituminous materials for use at places or premises other than those premises.	75,000tpa ¹
61A	Solid waste facility: premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land.	10,000tpa

Note 1: The asphalt plant is capable of producing 200 tonnes per hour equating to 876,000tpa based on operating 12 hours per day, 365 days per year.

The Seven Mile Hill Quarry is a hard rock quarry located within the Coolgardie Mineral field at Seven Mile Hill, approximately 12km south west of Kalgoorlie. A mobile crushing and screening plant and associated infrastructure are currently used to extract, crush, screen and stockpile raw materials for the local construction market.

Operational aspects

The proposed mobile asphalt plant will operate on a campaign basis servicing major projects as well as local road upgrades and resurfacing works. The plant is a Ciber iNova mobile drum mix plant, that operates on diesel fuel and consists of the infrastructure listed in Table 3. The layout of the plant is shown in

Figure 1.

The Ciber iNova asphalt plant is a modular plant that is used by the Licence Holder around Western Australia on several of its prescribed premises. It is likely to operate only for short periods of time at these premises for a specific local project contract. The Ciber iNova asphalt plant can be brought onto site, assembled, operated and then disassembled and taken elsewhere upon completion of the contract.

In the manufacturing process, high quality graded aggregate and bitumen are heated and mixed to produce hot mix asphalt. Raw materials used in the process include:

- aggregate;
- sand;
- RAP;
- bitumen; and
- fillers (lime or fly-ash).

RAP to be used in the process will be sourced from local road networks and will not contain tar-based products. RAP will not include pavement markers and geotextiles as these materials affect the final quality of products. Further processing of RAP, if required, will be undertaken using existing crushing and screening equipment on site.

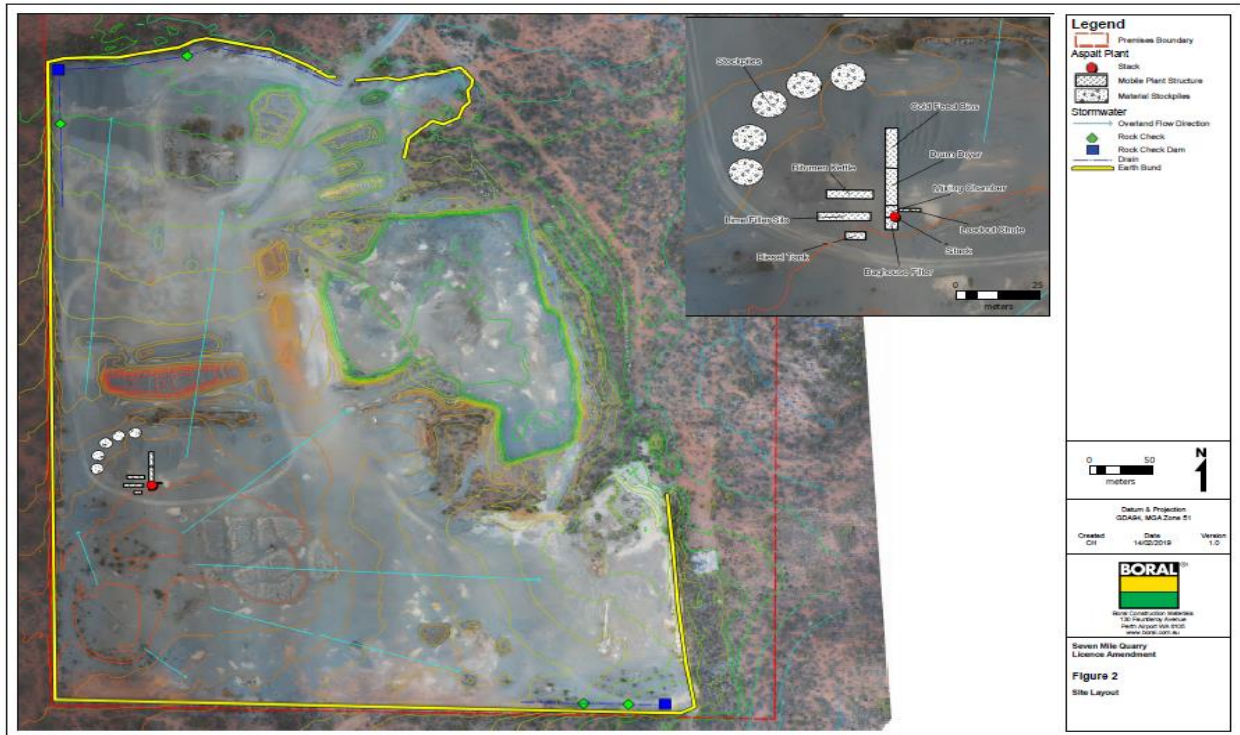
The Ciber iNova plant is equipped with automatic temperature control devices including alarms and auto shut-off mechanism to prevent the overheating of aggregates, bitumen and final asphalt mix.

The initial commissioning process of the Ciber iNova was undertaken at a different licensed premises (L6265/1983/8) in Western Australia. Testing carried out in accordance with L6265/1983/8 demonstrates the baghouse is capable of reducing emissions well below the design specification of 50mg/m³ (Ektimo, 2018).

Table 3: Proposed changes to infrastructure

Asphalt manufacturing plant infrastructure (Ciber iNova 2000 mobile asphalt plant)	
1	Four 10m ³ cold feed bins
2	RAP feed hopper
3	Counter-flow drum dryer with Total Air burner
4	Baghouse (1,091m ² total filter area)
5	Pug mill mixing chamber
6	Enclosed drag elevator and loadout chute
7	Control room
8	75kL split chamber bitumen kettle
9	Horizontal lime/filler storage tank
10	20kL self-bunded diesel storage tank to service the generator a drum drier burner.

Figure 1 : Site layout



Other approvals

The Licence Holder has provided the following information relating to other approvals as outlined in Table 4.

Table 4: Relevant approvals

Legislation	Details	Approval
<i>Mining Act 1978</i>	Commence: 9/10/1989 Expiry 8/10/2031	Mining Lease 15/444 - Mining Tenement Summary Report

Amendment history

Table 5 provides the recent instrument history for L8571/2011/1.

Table 5: Licence amendments

Instrument	Issued	Amendment
L8571/2011/1	15/08/2013	Amendment to convert existing licence to a new format REFIRE licence
L8571/2011/1	29/04/2016	Licence amendment for extension of the Licence duration to 6 July 2029
L8571/2011/1	10/08/2017	Amendment Notice 1 – inclusion of category 63 onto the Licence

Location and receptors **Table 6** below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment. There are no sensitive receptors within 1km of the Premises.

Table 6: Receptors and distance from Premises boundary

Residential and sensitive premises	Distance from Prescribed Premises
Lake Douglas Camp Area	1.1 km east
Kurrawang Aboriginal Community	4.6 km north-west

Table 7 below lists the relevant environmental receptors near the Premises which may be receptors relevant to the proposed amendment.

Table 7: Environmental receptors and distance from Premises boundary

Environmental receptors	Distance from Prescribed Premises	Environmental Value
Kurrawang Nature Reserve	2.3 km north-west	The Reserve features regrowth woodland and bird fauna typical of regrowth.
Lake Douglas Recreational Reserve	1.1 km east	Lake Douglas is man-made wetland supporting a number of water bird species.
Lake Lefroy (salt lake)	2 km south -east	Lake Lefroy is a large ephemeral salt lake with peak biological productivity during large rainfall events.

Risk assessment

Table 8 and Table 9 below describe the Risk Events associated with the proposed works consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to public health or the environment, and therefore requiring regulatory controls.

Table 8: Risk assessment for proposed works during construction

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning
Source or Activity	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
Installation of mobile asphalt plant	Dust	Community 4.6 km north-west of the Premises	Air	Amenity impacts	Slight	Rare	Low	Limited dust is expected as construction involves the assembly of pre-constructed modular (mobile) equipment.
	Noise				Slight	Rare	Low	Limited noise is expected due to minimal construction activity as above and the significant separation distance. The Noise Regulations apply.

Table 9: Risk assessment for proposed works during operation

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning
Source or Activity	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
Operation of mobile asphalt plant	Dust	Community 4.6 km north-west of the Premises	Air	Amenity impacts	Slight	Rare	Low	<ul style="list-style-type: none"> Separation distance to sensitive receptors is large. The Noise Regulations apply. Commissioning testing for particulate emissions complied with the design criteria under the works approval for the Ciber iNova. Expected additional emissions from this activity are not expected to cause a material change to the environmental risk and impacts on the nearest residential premises or other sensitive receptors. Operation of the asphalt plant will be campaign based, rather than continuously operating.
	Noise				Slight	Rare	Low	
	Odour				Slight	Rare	Low	

Decision

The Delegated Officer has reviewed the information provided by the Licence Holder and completed a risk assessment as detailed herein, including consideration for control measures undertaken and to be implemented by the Licence Holder. The Delegated Officer has assessed the licence amendment application as Low risk and acceptable, subject to compliance with the licence conditions, including additional and amended conditions detailed in this Amendment Notice.

Basis for the Decision and Licence Conditions

The modular or mobile Ciber iNova asphalt manufacturing plant is to be located and operated in an area that is well separated from residential areas and within existing premises that are prescribed. The plant is modular or mobile in design and will be periodically located or relocated from time to time. As such, the Ciber iNova plant is only likely to operate for part of each year and in response to securing contract work for targeted operational campaigns.

The conditions attached to the licence relate to the administration and management of a new prescribed activity on an existing site that is licensed, consistent with the Application. The conditions allow for the construction and deconstruction of an emission point and associated plant and equipment. They also provide for regular monitoring and reporting of emissions, consistent with other similar relocatable mobile or modular asphalt plants.

Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 2 August 2019. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 2.

Amendment

1. The 'Prescribed premises category' table on the Licence is amended by the insertion of the red text shown in underline below:

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
12	Screening, etc. of material: premises (other than premises within category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.	50,000 tonnes or more per year	960,000 tonnes per annual period
<u>35</u>	<u>Asphalt manufacturing: premises on which hot or cold mix asphalt is produced used crushed or ground rock aggregates mixed with bituminous or asphaltic materials for use at places or premises other than those premises.</u>	<u>Not applicable</u>	<u>75,000 tonnes per annual period</u>
<u>61A</u>	<u>Solid waste facility: premises (other than premises within category 67A) on which solid was produced on other premises is stored, reprocessed, treated, or discharged onto land.</u>	<u>1,000 tonnes or more per year</u>	<u>10,000 tonnes per annual period</u>
63	Class I inert landfill site: premises on which waste (as determined by reference to the waste types set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the CEO and as amended from time to time) is accepted for burial.	500 tonnes or more per year	10,000 tonnes per annual period

2. The Licence is amended by the insertion of the in red text shown in underline below:

'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 is measured or a monitoring result is obtained;

'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;

'normal operating conditions' means any operation of a particular process (including abatement equipment) excluding start-up, shut-down and upset conditions, in relation to stack sampling or monitoring;

'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;

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

'RAP' means reclaimed asphalt pavement;

'raw materials' means coarse aggregate, fine aggregate, hydrated lime and oxide or other any granular material added to the bitumen making process;

'STP dry' means standard temperature and pressure (0o Celsius and 101.325 kilopascals respectively), dry;

'shut-down' means the period when plant or equipment is brought from normal operating conditions to inactivity;

'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;

'USEPA Method 5' means the United States Environmental Protection Agency 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 United States Environmental Protection Agency Method 10 Determination of carbon monoxide emissions from stationary sources (Instrumental Analyzer Procedure);

'USEPA Method 17' means United States Environmental Protection Agency Method 17 Determination of particulate matter emissions from stationary sources;

3. Table 1.3.1 is amended by the insertion of the red text shown in underlined below:

Table 1.3.1: Waste acceptance		
Waste type	Quantity limit	Specification
Inert Waste Type 1	Combined total of 10,000 tonnes per annual period	Existing concrete waste onsite and concrete waste derived from Boral's Concrete plant located in Kalgoorlie
<u>RAP or Processed RAP</u>	<u>Combined total of 10,000 tonnes per annual period</u>	-

4. The Licence is amended by the insertion of the following Condition 1.3.3:

1.3.3 The Licensee must ensure that raw materials, materials and fuels, listed in Table 1.3.3 shall be subjected to the process in that table unless they comply with the relevant specifications in that table.

Table 1.3.3: Processing of materials		
Material	Process	Specification
<u>Raw Materials</u>	<u>Storage and transport on the Premises</u>	<u>The Licensee shall ensure that:</u> a) <u>granular raw materials, are stored only in ground bins or cold feed bins;</u> b) <u>all bins comprise of at least three sides and be of sufficient capacity to contain the stored materials;</u> c) <u>cold feed bins are roofed;</u> d) <u>at no time shall stored materials in the bins extend beyond the sides or height of the bin walls; and</u> e) <u>materials are kept sufficiently damp through the use of misting water sprays;</u>
<u>RAP</u>	<u>Receipt, storage and processing (crushing and screening)</u>	<u>The Licensee shall only crush and screen RAP if it does not contain any of the following materials:</u> a) <u>granular pavement materials, clay, soil or organic matter;</u> b) <u>bricks, concrete, glass or building materials;</u> or c) <u>tar based products, geotextile fabrics, raised pavement markers or surface treatment such as high friction surfacings.</u>
<u>Processed RAP</u>	<u>Storage and use in the asphalt manufacturing process</u>	<u>None specified.</u>

5. The Licence is amended by the deletion of the following Condition 2.2-2.4.

~~2.2-2.4 Point source emissions to air, surface water and groundwater~~

~~There are no specified conditions relating to point source emissions to air, surface water or groundwater in these sections.~~

6. The Licence is amended by the insertion of the following Conditions 1.3.4, 2.2, 2.2.1 and 2.2.2:

1.3.4 The Licensee is permitted to remove the Ciber iNova asphalt plant from the Premises and relocate it back within the Premises at the location set out in Figure 1.

2.2 Point source emissions to air

2.2.1 The Licensee shall ensure that where waste gases are emitted to air from the emission point in Table 2.2.1 it is done so in accordance with the conditions of this licence.

Table 2.2.1: Emission points to air			
<u>Emission point reference</u>	<u>Emission point</u>	<u>Emission point height (m)</u>	<u>Source, including any abatement</u>
<u>A1</u>	<u>Ciber iNova 2000 Asphalt plant stack</u>	<u>Minimum 6m above ground level</u>	<u>Drum dryer via baghouse dust collector</u>

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

Table 2.2.2: Point source emission limits to air			
<u>Emission point Reference</u>	<u>Parameter</u>	<u>Limit (including units)¹</u>	<u>Averaging period</u>
<u>A1</u>	<u>PM</u>	<u>50 mg/m³</u>	<u>Stack Test (Minimum 60 minute average)</u>

Note 1: All units are referenced to STP dry at 17% O₂

7. Condition 3 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the red text shown in underline below:

~~3~~ 3 Monitoring

~~There are no specified conditions relating to monitoring in this section.~~

3 Monitoring

8. The Licence is amended by the insertion of the following Conditions 3.1, 3.1.1, 3.1.2, 3.1.3, 3.2, 3.2.1, 3.2.2 and 3.2.3:

3.1 General monitoring

3.1.1 The licensee shall ensure that all samples are submitted to a laboratory with current NATA accreditation for the parameters to be measured.

3.1.2 The Licensee shall ensure that annual monitoring is undertaken at least 9 months apart.

3.1.3 The Licensee shall record production or throughput data during any non-continuous sampling undertaken.

3.2 Monitoring of point source emissions to air

3.2.1 The Licensee shall undertake the monitoring under normal operating conditions in Table 3.2.1 according to the specifications in that table.

Table 3.2.1: Monitoring of point source emissions to air

<u>Emission point reference</u>	<u>Parameter</u>	<u>Reporting Units¹</u>	<u>Averaging period</u>	<u>Frequency^{2, 3}</u>	<u>Method</u>
<u>A1</u>	<u>PM</u>	<u>mg/m³ g/s</u>	<u>Stack test (Minimum 60 minutes)</u>	<u>Annually</u>	<u>USEPA Method 5 or USEPA Method 17</u>
	<u>Oxides of nitrogen</u>				<u>USEPA Method 7E</u>
	<u>Carbon monoxide</u>				<u>USEPA Method 10</u>

Note 1: All units are referenced to STP dry at 17% O₂

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

Note 3: Monitoring may be carried out while the Ciber iNova 2000 is located and operating within any other prescribed premises within Western Australia.

3.2.2 The Licensee shall ensure that sampling required under Condition 3.2.1 of the Licence is undertaken at sampling locations in compliance with the AS 4323.1.

3.2.3 The Licensee shall ensure that all non-continuous sampling and analysis undertaken pursuant to condition 3.2.1 is undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

9. Table 5.2.1 is amended by the insertion of the red text shown in underlined below.

Table 5.2.1: Annual Environmental Report

<u>Condition or table (if relevant)</u>	<u>Parameter</u>	<u>Format or form</u>
-	<i>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</i>	<i>None specified</i>
1.3.2	<i>Summary of volumes of waste inputs</i>	<i>None specified</i>
<u>3.1.3 and 3.2.1</u>	<u><i>Submission of the original stack testing and sampling reports from the company/companies that conducted the stack testing and sampling and relevant production data</i></u>	<u><i>None specified</i></u>
5.1.3	<i>Compliance</i>	<u><i>www.dwer.wa.gov.au</i></u>
5.1.4	<i>Complaints</i>	<i>None Specified</i>
-	<i>Measures taken to suppress dust</i>	
-	<i>Measures taken to minimise noise</i>	

10. Schedule1: Maps is replaced with by the two maps following on the next two pages:

Schedule 1: Maps

The premises boundary is shown in the map below in yellow.



Appendix 1: Key documents

	Document title	In text ref	Availability
1	Licence L8571/2011/1 – Seven Mile Hill Quarry	L8571/2011/1	accessed at www.dwer.wa.gov.au
2	Licence amendment application		DWER records (A1766117)
3	Ektimo, 2018: Emission testing report – Ciber iNova Mobile Asphalt Plant, Boral Asphalt (Report Number R006469a), Welshpool, Western Australia	Ektimo, 2018	DWER records (A1766117)
4	Email from Craig Holness (Boral) dated 21 March 2019 Re: Other approvals.	Table 4	DWER records (A1774321)
5	Email from Craig Holness (Boral) dated 29 March 2019 Re: Stormwater & Fuel type		DWER records (A1777158)
6	Emails from Alysia Woodward (360 Environmental) dated 26 and 27 August 2019 on behalf of the Licence Holder Re: Response to draft amendment notice	Appendix 2	DWER records (A1817977)

Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 2 August 2019 for review and comment. The Licence Holder responded on 26 August 2019. The following comments were received on the draft Amendment Notice.

Condition	Summary of Licence Holder comment	DWER response
Table 1.3.3 - Specification of RAP	The Licence Holder recommended removing the specifications under Table 1.3.3(a) and 1.3.3(c) relating to the processing of RAP as the total exclusion of granular pavement materials and tar based products is unavoidable.	Clarification was provided on the materials specified for RAP in Table 1.3.3(a) and 1.3.3(c). A response was received on 27 August 2019 advising the Licence Holder was satisfied with the draft licence amendment. No change required.
Table 3.2.1 – Monitoring of point source emissions to air - Particulate matter (PM)	The Licence Holder requested confirmation on the fraction of PM to be monitored in condition 3.2.1.	Confirmation was provided on the requirement to monitor Total PM not the fraction/s of PM. A response was received on 27 August 2019 advising the Licence Holder was satisfied with the draft licence amendment. No change required.