

# Environment Protection Licence



Licence - 1698

## Licence Details

Number:	1698
Anniversary Date:	01-May

## Licensee

BORAL CEMENT LIMITED

PO BOX 42

WENTWORTHVILLE NSW 2145

## Premises

BERRIMA CEMENT WORKS

TAYLOR AVENUE

NEW BERRIMA NSW 2577

## Scheduled Activity

Cement or Lime works

Extractive Activities

Resource Recovery

## Fee Based Activity

## Scale

Cement or lime production	> 500000 T produced
Land-based extractive activity	> 100000-500000 T extracted, processed or stored
Recovery of general waste	> 0 T recovered

## Region

Metropolitan - Illawarra

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## Information about this licence

### Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

### Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

### Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

### Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

### Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

### Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

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The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

## Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

## Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

## This licence is issued to:

<b>BORAL CEMENT LIMITED</b>
<b>PO BOX 42</b>
<b>WENTWORTHVILLE NSW 2145</b>

subject to the conditions which follow.

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## 1 Administrative Conditions

### A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Cement or Lime works	Cement or lime production	> 500000 T produced
Extractive Activities	Land-based extractive activity	> 100000 - 500000 T extracted, processed or stored
Resource Recovery	Recovery of general waste	> 0 T recovered

### A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
BERRIMA CEMENT WORKS
TAYLOR AVENUE
NEW BERRIMA
NSW 2577
LOT 1013 DP 15995, LOT 1041 DP 15995, LOT 22 DP 582276, LOT 1 DP 582277, LOT 2 DP 774598, LOT 1 DP 1017008

### A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

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## 2 Discharges to Air and Water and Applications to Land

### P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

<i>Air</i>			
<b>EPA identification no.</b>	<b>Type of Monitoring Point</b>	<b>Type of Discharge Point</b>	<b>Location Description</b>
2	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	No.6 Kiln Stack on map entitled Site Environmental Layout - Drawing 40405 Rev C, dated 14 March 2006, provided to the EPA on 15 March 2006.
4	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	No.6 Cement Mill Stack on map entitled Site Environmental Layout - Drawing 40405 Rev C, dated 14 March 2006, provided to the EPA on 15 March 2006.
5	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	No.6 Kiln Cooler Stack on map entitled Site Environmental Layout - Drawing 40405 Rev C, dated 14 March 2006, provided to the EPA on 15 March 2006.
7	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	No.5 Cement Mill Stack on map entitled Site Environmental Layout - Drawing 40405 Rev C, dated March 2006, provided to the EPA on 15 March 2006.
10	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	No.7 Cement Mill Stack on map entitled Site Environmental Layout, Drawing 40405 Rev C, dated 14 March 2006, provided to the EPA on 15 March 2006.
11	Dust monitoring		Dust deposition gauge labelled as 1 in aerial photograph of Boral Cement Berrima premises attached to Boral letter dated 28 September 2012 and held on EPA file LIC06/331-27.
12	Dust Monitoring		Dust deposition gauge labelled as 2 in aerial photograph of Boral Cement Berrima premises attached to Boral letter dated 28 September 2012 and held on EPA file LIC06/331-27.
13	Dust Monitoring		Dust deposition gauge labelled as 3 in aerial photograph of Boral Cement Berrima premises attached to Boral letter dated 28 September 2012 and held on EPA file LIC06/331-27.
14	Dust Monitoring		Dust deposition gauge labelled as 5 in aerial photograph of Boral Cement Berrima premises attached to Boral letter dated 28 September 2012 and held on EPA file LIC06/331-27.
15	Dust Monitoring		Dust deposition gauge labelled as 7 in aerial photograph of Boral Cement Berrima premises attached to Boral letter dated 28 September 2012 and held on EPA file LIC06/331-27.

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16	Dust Monitoring	Dust deposition gauge labelled as 8 in aerial photograph of Boral Cement Berrima premises attached to Boral letter dated 28 September 2012 and held on EPA file LIC06/331-27.
17	Dust Monitoring	Dust deposition gauge labelled as 9 in aerial photograph of Boral Cement Berrima premises attached to Boral letter dated 28 September 2012 and held on EPA file LIC06/331-27.

P1.2 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.3 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

### *Water and land*

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
9	Discharge to waters Effluent quality monitoring.	Discharge to waters Effluent quality monitoring.	Lake Quality Overflow Sampling on map entitled Site Environmental Layout - Drawing 40405 Rev C, dated 14 March 2006, provided to the EPA on 15 March 2006.

## 3 Limit Conditions

### L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

### L2 Load limits

L2.1 The actual load of an assessable pollutant discharged from the premises during the reporting period must not exceed the load limit specified for the assessable pollutant in the table below.

Note: An assessable pollutant is a pollutant which affects the licence fee payable for the licence.

L2.2 The actual load of an assessable pollutant must be calculated in accordance with the relevant load calculation protocol.

Assessable Pollutant	Load limit (kg)
Coarse Particulates (Air)	60000.00
Fine Particulates (Air)	240000.00



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Lead (Air)	
Mercury (Air)	
Nitrogen Oxides (Air)	3500000.00
Sulfur Oxides (Air)	1600000.00

## L3 Concentration limits

L3.1 For each monitoring/discharge 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.

L3.2 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\&s.

L3.3 Air Concentration Limits

### POINT 2

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Mercury	milligrams per cubic metre	0.1	Dry, 273K, 101.3kPa	10%	as per test method
Hazardous substances	milligrams per cubic metre	1.0	Dry, 273K, 101.3kPa	10%	as per test method
Solid Particles	milligrams per cubic metre	95	Dry, 273K, 101.3kPa	10%	see Note below
Nitrogen Oxides	milligrams per cubic metre	1000	Dry, 273K, 101.3kPa	10%	as per test method
Cadmium	milligrams per cubic metre	0.1	Dry, 273K, 101.3kPa	10%	as per test method

### POINT 4

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Solid Particles	milligrams per cubic metre	100	Dry, 273K, 101.3kPa		as per test method

### POINT 5

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Solid Particles	milligrams per cubic metre	100	Dry, 273K, 101.3kPa		as per test method

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## POINT 7

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Solid Particles	milligrams per cubic metre	100	Dry, 273K, 101.3kPa		as per test method

## POINT 10

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Total Solid Particles	milligrams per cubic metre	20	Dry, 273K, 101.3kPa		as per test method

Note: 24 hour average calculated from hourly averages of CEMS data as agreed to by the EPA for continuous monitoring; as per test method for campaign monitoring.

- L3.4 The limits specified in the table above apply to the burning of coal, coke fines, natural gas, fuel oil and diesel only in kiln 6.
- L3.5 The limits specified in the table below apply to the burning of Non-Standard Fuels in conjunction with Standard Fuels in kiln 6 only.
- L3.6 For each monitoring/discharge point or utilisation area specified in table below (by a point number), the concentration of a pollutant/parameter discharged at that point, or applied to that area, must not exceed the concentration limits specified to that pollutant/parameter in the table.

Pollutant	Units of measure	100 percentile concentration limit
Cadmium + Thallium	milligrams per cubic metre	0.05
Chlorine	milligrams per cubic metre	200
Dioxins and Furans	nanograms per cubic metre	0.1
Hazardous substances	milligrams per cubic metre	0.5
Hydrogen chloride	milligrams per cubic metre	10
Hydrogen fluoride	milligrams per cubic metre	1
Mercury	milligrams per cubic metre	0.05
Nitrogen oxides	milligrams per cubic metre	800
Solid particles	milligrams per cubic metre	30
Sulphur dioxide	milligrams per cubic metre	50
Sulphuric acid mist and/or sulphur trioxide	milligrams per cubic metre	100
Volatile organic compounds	parts per million	20

Note: For the purpose of this condition, Hazardous substances are defined as an aggregate of Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn and V.  
Volatile organic compounds may be replaced by Total organic carbon (TOC) or other equivalents as agreed by the EPA.

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- L3.7 For the purposes of compliance with condition L3.7, for each pollutant/parameter specified in the above table, the reference conditions and averaging period of pollutant discharged/ parameter measured must be reported according to the reference conditions and averaging periods specified for that pollutant/parameter in the following table, or as agreed to by the EPA.

Pollutant/Parameter	Reference Conditions	Averaging Period
Solid particles	Dry, 273K, 101.3kPa, 10%O <sub>2</sub>	As per test method (for campaign monitoring)
Solid particles	Dry, 273K, 101.3kPa, 10%O <sub>2</sub>	24-hour average per method agreed to by the EPA (for continuous monitoring)
Nitrogen oxides	Dry, 273K, 101.3kPa, 10%O <sub>2</sub>	1-hour average per method agreed to by the EPA (for continuous monitoring)
Dioxins and Furans	Dry, 273K, 101.3kPa, 10%O <sub>2</sub>	As per test method
All other air pollutants	Dry, 273K, 101.3kPa, 10%O <sub>2</sub>	As per test method
All other air pollutants	Dry, 273K, 101.3kPa, 10%O <sub>2</sub>	As agreed to by the EPA (for continuous monitoring)
Nitrogen oxides	Dry, 273K, 101.3kPa, 10%O <sub>2</sub>	As per test method (for campaign monitoring)

## L4 Volume and mass limits

- L4.1 Except as provided by any other condition of this licence, the licensee is permitted to use the following Non-Standard Fuels only up to the maximum quantity per annum as specified against each of the Non-Standard Fuels, for energy production in the upgraded kiln 6.
- i) Hi CAL 50 (spent aluminium electrode carbon) – up to 10,000 tonnes.
  - ii) AKF 1 (liquid oil residues comprising of recovered oil from the treatment of wash waters, oils, dewatered sludges and grease trap emulsions) – up to 20,000 tonnes.
  - iii) AKF 5 (used and unwanted tyres) – up to 30,000 tonnes.

## L5 Waste

- L5.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by a condition of this licence.
- L5.2 Except as provided by any other condition of the licence, the licensee must assess, classify and dispose of all wastes generated as result of the use of Non-Standard fuels in accordance with the EPA's *Environment Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes*.

## L6 Noise limits

- L6.1 Noise generated at the premises must not exceed the noise limits presented in the table below. Note the

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noise limits below relate to the noise contribution from the Kiln 6 upgrade project only.

Location	Day LAeq(15 minute)	Evening LAeq(15 minute)	Night LAeq(15 minute)
4 Melbourne St	37	37	37
Chelsey Park Farm	30	30	30
Candowrie Farm House	37	37	37

L6.2 Noise generated at the premises must not exceed the noise limits presented in the table below. Note the noise limits below relate to the noise contribution from the Cement Mill No.7 only.

Location	Day LAeq(15minute)	Evening LAeq(15 minute)	Night LAeq(15 minute)
Adelaide Street, near Taylor Avenue, New Berrima	43	43	40
Argyle Street, near Taylor Avenue, New Berrima	43	43	40
Candowrie Farm House	43	43	40

L6.3 For the purposes of Conditions 6.1 and 6.2:

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays;
- Evening is defined as the period 6pm to 10pm; and
- Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays.

L6.4 Noises from the premises is to be measured at the most affected point or within the residential boundary or at the most affected point within 30m of the dwelling (rural situations) where the dwelling is more than 30 m from the boundary to determine compliance with the Lnoise limits in conditions 6.1 & 6.2. Aeq(15 minute)

Where it can be demonstrated that direct measurement of noise from the premises is impractical, EPA may accept alternative means of determining compliance. (See Chapter 11 of the NSW Industrial Noise Policy).

The modification factors presented in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.

L6.5 The noise emission limits identified in conditions L6.1 and L6.2 apply under meteorological conditions of:

- Wind speeds up to 3m/s at 10 metres above the ground; or
- Temperature inversion conditions of up to 3°C/100m and wind speeds up to 3m/s at 10 metres above the ground.

## 4 Operating Conditions

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## **O1 Activities must be carried out in a competent manner**

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

## **O2 Maintenance of plant and equipment**

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

## **O3 Dust**

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

## **O4 Waste management**

O4.1 TYRES

O4.2 The total quantity of used, rejected or unwanted tyres (including shredded tyres and tyre pieces) stockpiled at the premises must not exceed 1,000 tonnes at any time.

O4.3 The licensee must store AKF5 (used, rejected or unwanted tyres) at the premises in accordance with the New South Wales Fire Brigades' (Fire Safety Division) Guidelines for Bulk Storage of Rubber Tyres.

## **O5 Other operating conditions**

O5.1 REINSTATEMENT OF NON-STANDARD FUEL USE

Following reinstatement of the Non-standard Fuels program authorised by Notice No 1092083 the licensee must give prior written advice to the EPA on the date of commencement of Non-standard Fuel use in Kiln 6.

O5.2 APPROVED FUELS

O5.3 Except as permitted by any other condition of this licence, the following fuels only are permitted to be fed to Kiln 6 string at the firing rates or proportions as specified in the table below.

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Fuel	Category	Tonnes per annum	Tonnes per hour	Percent of total fuel (by mass)
Natural gas, Fuel oil, Diesel	Standard Fuel	-	No Limit	-
Coal	Standard Fuel	No limit	No limit	equal to or greater than 60.0
Coke Fines	Standard Fuel	No limit	equal to or less than 10.0	equal to or less than 30.0
Hi Cal 50	Non-Standard Fuel	10000	equal to or less than 1.0	equal to or less than 6.0
AKF1	Non-Standard Fuel	20000	equal to or less than 1.3	equal to or less than 4.7
AKF5	Non-Standard Fuel	30000	equal to or less than 4.5	equal to or less than 21.0

O5.4 Only standard fuels are permitted to be used in kiln 6 during start-up and shut-down.

## O5.5 PROCESS PARAMETERS

The licensee shall not burn Non-Standard Fuels in kiln 6 unless:

- the feed rates for Non-Standard Fuels are maintained at a steady controlled rate to provide combustion in a proper and efficient manner; and
- a temperature of above 850°C is maintained in the zone where Non-Standard Fuels are fired at the main-firing end of the kiln; and
- a temperature of above 800°C is maintained in the zone where Non-Standard Fuels are fired at or in the vicinity of the pre-calciner/de-Nox system of the kiln; and
- a temperature of above 300°C is maintained at the outlet of the pre-heater strings of the kiln; and
- a temperature of below 200°C is maintained at the inlet to the electrostatic precipitator and fabric filter of the kiln; and
- the continuous measurements required by the licence show that all maximum allowable discharge concentration limit values specified in the Limit Conditions of this licence are complied with. The licensee shall cease to use Non-Standard Fuels immediately in the kiln if any maximum allowable discharge concentration limit is exceeded.

## O5.6 ABNORMAL OPERATING CONDITIONS

Without prejudice to the above condition titled "Process Parameters", Kiln 6 shall under no circumstances continue to burn Non-Standard fuels for a period of more than 4 hours uninterrupted where emission limits are exceeded; and the cumulative duration of operation under such conditions over a period of one year shall be less than 60 hours.

Note: This condition refers to abnormal operating conditions associated with technically unavoidable stoppages, disturbances, trips, or failures of the kiln or its pollution control or pollutant measurement equipment, during which the concentrations in discharges of regulated substances into the air briefly exceed the prescribed emission limit values.

## O5.7 ALTERNATIVE RAW MATERIALS

O5.8 Except as provided by any other condition of this licence, the licensee is permitted to use the following alternative raw materials in the No 6 Cement Kiln only at the maximum quantity specified:

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Alternative Raw Material	Source	Maximum Rate (Tonnes per annum)	Reference Documents located on EPA File LIC06/331
BOS Secondary Fines	BlueScope Steel Ltd Port Kembla	80000	Recovered Resource Specification BOS Secondary Baghouse Fines version 0.02, 9 October 2005 and Specific Immobilisation Approval 2006-S-03. Approved for trial by EPA Notice No. 1055405 31 March 2006 and approved for use on 18 January 2008.
Mill Scale	BlueScope Steel Ltd Port Kembla, OneSteel Pty Ltd Newcastle	50000	Approved by EPA for use as separate input in Berrima cement kiln January 2005. Recovered Resource Specification for Mill Scale January 2005.
Steel Slag	BlueScope Steel Pty Ltd Port Kembla	190000	Recovered Resource Specification for Steel Slag 20 May 2004. Approved by EPA Notice No. 1038051 23 June 2004.
Spent Fluidised Cracking Catalyst	Shell Refining (Australia) Pty Ltd - Corio (Vic) and Mobil Refining Australia Pty Ltd - Altona (Vic)	10000	Specific Immobilisation Approvals No. 2005-S-17 valid till 31 March 2015 and No. 2013-S-03 valid until 31 March 2015 and Specific Resource Recovery Exemption "The Boral Cement spent FCC exemption 2013"
Cement Fibre Board	James Hardie Australia Pty Ltd Rosehill; CSR Wetherill Park	80000	General Resource Recovery Exemption "The cement fibre board exemption 2008"
Coal Washery Reject	West Cliff and North Cliff Collieries - Wedderburn Road, Dendrobium Mine - Cordeaux Road, Appin Colliery - off Appin Road	150,000	Specific Resource Recovery Exemption, Alternate Raw Material "The Boral Cement (Berrima) coal washery reject exemption 28 June 2012"
Blast Furnace Slag	Australian Steel Mill Services (ASMS)	150,000	Specific Resource Recovery Exemption "The Boral Cement blast furnace slag alternative raw material exemption 2012".

Note: 1. Gypsum produced from the Port Kembla Steelworks Sinter Plant sulphur rich gas stream was approved on 24 July 2007 as an additive to clinker. Approval filed on EPA file LIC07/908.

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Note: The licensee may also receive uncontaminated non-conforming, off-specification or surplus cement or lime for blending with raw meal and recycling in the No 6 kiln.

## 5 Monitoring and Recording Conditions

### M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- in a legible form, or in a form that can readily be reduced to a legible form;
- kept for at least 4 years after the monitoring or event to which they relate took place; and
- produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- the date(s) on which the sample was taken;
- the time(s) at which the sample was collected;
- the point at which the sample was taken; and
- the name of the person who collected the sample.

### M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Air Monitoring Requirements

#### POINT 2

Pollutant	Units of measure	Frequency	Sampling Method
Cadmium	milligrams per cubic metre	Yearly	TM-12, TM-13 & TM-14
Carbon dioxide	percent	Yearly	TM-24
Dry gas density	kilograms per cubic metre	Yearly	TM-23
Hazardous substances	milligrams per cubic metre	Yearly	TM-12, TM-13 & TM-14
Mercury	milligrams per cubic metre	Yearly	TM-12, TM-13 & TM-14
Moisture content	percent	Yearly	TM-22
Molecular weight of stack gases	grams per gram mole	Yearly	TM-23
Nitrogen Oxides	milligrams per cubic metre	Yearly	TM-11



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Opacity	percent Opacity	Continuous	CEM-1
Oxygen (O2)	percent	Yearly	TM-25
Solid Particles	milligrams per cubic metre	Continuous	No method specified
Temperature	degrees Celsius	Yearly	TM-2
Total Solid Particles	milligrams per cubic metre	Yearly	TM-15
Velocity	metres per second	Yearly	TM-2
Volumetric flowrate	cubic metres per second	Yearly	TM-2

**POINT 4**

Pollutant	Units of measure	Frequency	Sampling Method
Solid Particles	milligrams per cubic metre	Yearly	TM-15

**POINT 5**

Pollutant	Units of measure	Frequency	Sampling Method
Solid Particles	milligrams per cubic metre	Yearly	TM-15

**POINT 7**

Pollutant	Units of measure	Frequency	Sampling Method
Solid Particles	milligrams per cubic metre	Yearly	TM-15

**POINT 10**

Pollutant	Units of measure	Frequency	Sampling Method
Solid Particles	milligrams per cubic metre	Yearly	TM-15

**POINT 11,12,13,14,15,16,17**

Pollutant	Units of measure	Frequency	Sampling Method
Insoluble solids	grams per square metre per month	Monthly	Australian Standard 3580.10.1-2003

Note: LDP 2 - Continuous Solid Particle monitoring must be carried out in accordance with 'Performance Standard 11' (PS-11)

## M2.3 Water and/ or Land Monitoring Requirements

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## POINT 9

Pollutant	Units of measure	Frequency	Sampling Method
Biochemical oxygen demand	milligrams per litre	Each overflow event	Grab sample
Oil and Grease	milligrams per litre	Each overflow event	Grab sample
pH	pH	Each overflow event	Grab sample
Total suspended solids	milligrams per litre	Each overflow event	Grab sample

M2.4 For each monitoring/discharge point of utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant/parameter specified in column 1. The licensee must use the sampling method, units of measure, and sample at the frequency specified opposite in the other columns.

This monitoring requirement is applicable only when Non-Standard Fuels combined with Standard Fuels are used in Kiln 6.

Pollutant / Parameter	Units of measure	Frequency	Sampling Method
Antimony (Sb)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Arsenic (As)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Beryllium (Be)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Cadmium (Cd)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Carbon dioxide	percent	Special Frequency 1 and Continuous	CEM-3
Carbon monoxide	percent	Special Frequency 1 and Continuous	CEM-4
Chlorine	milligrams per cubic metre	Special Frequency 1	TM-7 & 8
Chromium (Cr)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Cobalt (Co)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Copper (Cu)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Dioxins and Furans	nanograms per cubic metre	Special Frequency 1	TM-18
Dry gas density	kilograms per cubic metre	Special Frequency 1	TM-23
Hazardous substances	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Hexavalent chromium (Cr 6+)	milligrams per cubic metre	Special Frequency 1	OM-4
Hydrogen chloride	milligrams per cubic metre	Special Frequency 1	TM-8
Hydrogen fluoride	milligrams per cubic metre	Special Frequency 1	TM-9
Lead (Pb)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Manganese (Mn)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Mercury (Hg)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14

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Moisture content	percent	Special Frequency 1 and continuous	As agreed to by the EPA
Molecular weight of stack gases	gram per gram molecule	Special Frequency 1	TM-23
Nickel (Ni)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Nitrogen oxides (as NO <sub>2</sub> )	milligrams per cubic metre	Special Frequency 1 and continuous	CEM-2
Opacity	percent opacity	Continuous	CEM-1
Oxygen (O <sub>2</sub> )	percent	Special Frequency 1 and continuous	CEM-3
Selenium (Se)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Solid Particles	milligrams per cubic metre	Special Frequency 1 and continuous	As agreed to by the EPA
Sulphur dioxide	milligrams per cubic metre	Special Frequency 1 and continuous	CEM-2
Sulphuric acid mist and/or sulphur trioxide	milligrams per cubic metre	Special Frequency 1	TM-3
Temperature	degrees celcius	Special Frequency 1 and continuous	As agreed to by the EPA
Thallium	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Tin (Sn)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Vanadium (V)	milligrams per cubic metre	Special Frequency 1	TM-12, 13 & 14
Velocity	metres per second	Special Frequency 1 and continuous	As agreed to by the EPA
VOC	parts per million	Special Frequency 1 or continuous	As agreed to by the EPA
Volumetric flowrate	cubic metres per second	Special Frequency 1 and continuous	As agreed to by the EPA

Note: For the purpose of this condition,

- i) Hazardous substances are defined as an aggregate of Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn and V.
- ii) Volatile organic compounds may be replaced by Total organic carbon (TOC) or other equivalents as agreed by the EPA.
- iii) Special frequency 1 is defined as a round of air emission monitoring (for each of the pollutant/parameter nominated for a discharge point) conducted:
  - every 3 months for a minimum of 12 months, and
  - if no pollutant/parameter exceeds its relevant limit (if any) for 4 consecutive 3-monthly tests over 12 months, thereafter bi-annually for a minimum of 12 months, and
  - if no pollutant/parameter exceeds its relevant limit (if any) for 2 consecutive bi-annual test for over 12 months, thereafter as agreed to by EPA.

M2.5 The selection of sampling plane position for all air emissions monitoring must be carried out in accordance with test method TM-1.

M2.6 Continuous monitoring equipment for emissions, temperature and fuel feed rate, as required to meet the conditions of this licence and as agreed to by EPA must be installed prior to receipt of and use of Non-Standard Fuels in Kiln 6.

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## M3 Testing methods - concentration limits

- M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
- a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
  - b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
  - c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2010* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

- M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

## M4 Testing methods - load limits

Note: Clause 18 (1), (1A) and (2) of the Protection of the Environment Operations (General) Regulation 1998 requires that monitoring of actual loads of assessable pollutants listed in L2.1 must be carried out in accordance with the testing method set out in the relevant load calculation protocol for the fee-based activity classification listed in condition A1.2.

Note: Division 3 of the *Protection of the Environment Operations (General) Regulation 2009* requires that monitoring of actual loads of assessable pollutants listed in L2.2 must be carried out in accordance with the relevant load calculation protocol set out for the fee-based activity classification listed in the Administrative Conditions of this licence.

## M5 Recording of pollution complaints

- M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.
- M5.2 The record must include details of the following:
- a) the date and time of the complaint;
  - b) the method by which the complaint was made;
  - c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
  - d) the nature of the complaint;
  - e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
  - f) if no action was taken by the licensee, the reasons why no action was taken.

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M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

## **M6 Telephone complaints line**

M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M6.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

## **M7 Other monitoring and recording conditions**

### **M7.1 MONITORING OF PROCESS PARAMETERS**

The licensee must continuously monitor gas temperatures at the following process locations:

- a) in the zone where Non-Standard Fuels are fired at the main-firing end of Kiln 6;
- b) in the zone where Non-Standard Fuels are fired at or in the vicinity of the pre-calciner/de-Nox system of Kiln 6;
- c) at the outlet of the pre-heater strings of Kiln 6; and,
- d) at the inlet to the electrostatic precipitator and fabric filter.

## **6 Reporting Conditions**

### **R1 Annual return documents**

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:  
a) a Statement of Compliance; and  
b) a Monitoring and Complaints Summary.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:

- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and

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b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:

- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
- b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- a) the licence holder; or
- b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R1.8 Where the licensee is unable to complete a part of the Annual Return by the due date because the licensee was unable to calculate the actual load of a pollutant due to circumstances beyond the licensee's control, the licensee must notify the EPA in writing as soon as practicable, and in any event not later than the due date. The notification must specify:

- a) the assessable pollutants for which the actual load could not be calculated; and
- b) the relevant circumstances that were beyond the control of the licensee.

## R2 Notification of environmental harm

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

## R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:

- a) where this licence applies to premises, an event has occurred at the premises; or
- b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the

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carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

- R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.
- R3.3 The request may require a report which includes any or all of the following information:
- a) the cause, time and duration of the event;
  - b) the type, volume and concentration of every pollutant discharged as a result of the event;
  - c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
  - d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
  - e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
  - f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
  - g) any other relevant matters.
- R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

## 7 General Conditions

### G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

### G2 Other general conditions

#### G2.1 Completed Pollution Studies and Reduction Programs (PRPs)

PRP	Description	Completed Date
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PRP 2: Alternative Fuels Program	BCSC is being given one year to trial specified alternative fuels with the objectives of reducing their TSP limit to 100mg/m <sup>3</sup> and Haz Subs to 1mg/m <sup>3</sup> . The PRP becomes invalid if the kiln upgrade is approved prior to the end date. A reduction in emissions from the main cement clinker kiln while utilising alternative fuel sources and conserving fossil fuels.	23-December-2003
PRP 1: Develop Site Specific Emission Limits	Original Title: Development of Site Specific Emission Concentration Limits. Desktop study to determine site specific emission factors appropriate to the stack from kiln 6 to protect ambient levels and meet ground level concentration criteria. Determine appropriate emission limits for key pollutants	11-December-2003
PRP 3: Cementitious Waste Management Plan	Original Title: Long Term Management Plan for Cementitious Wastes in Dry Tip Area. Control of environmental risk from potential asbestos contamination in waste cementitious aggregates in dry pit area. Better environmental controls.(&)	30-April-2008
PRP 6: Control of Fugitive Dust	The aim of this pollution reduction program is to minimise the local impact of fugitive dust emissions from the site by developing a management plan to address fugitive dust controls.	30-September-2011
PRP 8 Fugitive Dust Action Plan	Agreed actions from Dust Management Plan	28-September-2012

## 8 Pollution Studies and Reduction Programs

### U1 PRP 4: Analysis of CEMS Data

#### U1.1 Purpose

The aim of the investigation is to determine if there is a statistical basis, from analysis of historical and future CEMS data, to enable the licensee to achieve its No 6 kiln stack discharge limits for Total Solid Particles (TSP) using a shorter averaging period than the current 24 hour averaging period.

U1.2 Within 8 months of the date of re-commencement of NSF use specified by Condition O4.1 the licensee must submit a report to the EPA which analyses historical CEMS emissions data and future CEMS data (following the commencement of NSF use) to calculate TSP concentrations for a selected range of discrete averaging periods (less than 24 hours) based on hourly averages.

U1.3 The report referred to in U1.2 must include:

- analysis of CEMS data indicating past performance in TSP concentrations in stack discharges calculated on the basis of a range of reduced averaging periods. The recommended averaging periods to be used in data analysis are the 1, 4, 6, and 12 hour averages based on hourly averages.
- a similar analysis of CEMS data must also be carried out on the basis of reduced averaging periods for at least a six month period following re-commencement NSF use. The recommended averaging periods are as stated in the analysis of historical CEMS data
- a comparison of historical and future TSP performance using 1, 4, 6, and 12 hourly averages with the



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current licence limits for TSP emissions for standard fuels and NSF.

- any conclusions that can be drawn from the data analysis of Kiln 6 performance in respect of the technical capability of consistently achieving licence TSP limits calculated on the basis of averaging periods shorter than 24 hours.

Note: THE LICENSEE'S NON-STANDARD FUEL PROGRAM HAS BEEN SUSPENDED BY THE LICENSEE INDEFINITELY. THIS STATUS REMOVES THE LICENSEE'S OBLIGATION TO COMPLETE THIS PRP UNTIL FURTHER NOTICE.

## U2 PRP 5: NOx Reduction Investigation

### U2.1 Purpose:

The aim of the PRP is to provide a staged process to investigate NOx generation in the No 6 kiln and to install control equipment or implement process control modifications to reduce NOx emissions to enable compliance with the NOx emission limit of 800 mg/m<sup>3</sup> when burning non-standard fuels.

### U2.2 Stage 1: Investigation.

The licensee must engage a suitable consultancy to undertake a comprehensive study to investigate the mechanisms of NOx generation and to provide recommendations on available technical and process control options to reduce NOx emissions in No 6 kiln stack discharges.

A report on an analysis of recommended options and a technical justification for the licensee's preferred option must be provided to the Wollongong office of the EPA by June 30 2009.

### U2.3 Stage 2: Feasibility Studies.

*The licensee must undertake detailed design of economically achievable capital works associated with its preferred option and/or carry out trials of process improvements to assess the technical feasibility of proposed measures.*

*A report on the licensee's assessment of trials of process improvements and final design of economically achievable capital works must be provided to the Wollongong office of the EPA by June 30 2010.*

### U2.4 Stage 3: Installation and Validation.

The licensee must install the economically achievable capital works and undertake assessment of NOx emissions performance.

A final report confirming the commissioning of economically achievable capital works and summarising the results of NOx emissions performance when burning non-standard fuels must be submitted to the Wollongong office of the EPA by June 30 2011.

Note: The EPA will review the timeframes for each stage as this program progresses and if necessary will amend the above completion dates as agreed with the licensee.

Note: THE LICENSEE'S NON-STANDARD FUELS PROGRAM HAS BEEN SUSPENDED BY THE LICENSEE INDEFINITELY. THIS STATUS REMOVES THE LICENSEE'S OBLIGATION TO COMPLETE THIS PRP UNTIL FURTHER NOTICE. A REPORT ON STAGE 2 INVESTIGATIONS HAS BEEN SUBMITTED TO THE EPA ON 30 JUNE 2010.

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## U3 PRP 7: Project Specific Noise Limits

U3.1 The licensee must engage a suitably qualified and experienced acoustic consultant to undertake background noise monitoring and establish Project Specific Noise Levels in respect of operational noise from the premises for all time periods (eg day, evening and night) that activities are carried on at the premises. The noise assessment must be undertaken in accordance with the EPA's Industrial Noise Policy (2000). A report detailing the background noise monitoring undertaken and determination of Project Specific Noise Levels at defined residential locations must be provided in writing to the EPA's Regional Manager Metro/Illawarra.

*Date for completion - 31 January 2012*

Note: It is the EPA's intention to use the Project Specific Noise Levels as the basis for limit conditions on the licence following agreement of appropriate timeframes for a program of capital works necessary to achieve these limits. The noise limits will replace the existing noise limits specified for the No 6 kiln upgrade and will require a compliance noise assessment to be undertaken annually during periods of normal operations.

## U4 PRP 9: Landscape and Rehabilitation Works

U4.1 Purpose: Implement the Landscape and Rehabilitation Plan for Boral Cement Berrima as outlined in the plan submitted to the EPA dated 28 September 2012 and letter dated 7 March 2013. The works include the progressive sealing or revegetation of unsealed surfaces and the creation of vegetative screens to minimise windblown dust generation from the premises.

### U4.2 Stage 1 - High Priority

Complete the plantings and works as outlined in the Landscape and Rehabilitation Plan, Drawing 1a dated 20 September 2012 and letter dated 7 March 2013. Stage 1 includes approx 3500 plantings at a density of approx 1100 per hectare in the areas shown on the plan.

Completed.

### U4.3 Stage 2 - Medium Priority

Complete the plantings and works as outlined in the Landscape and Rehabilitation Plan, Drawing 1a dated 20 September 2012 and letter dated 7 March 2013. Stage 2 includes approx 12,330 plantings at a density of approx 1100 per hectare in the areas shown on the plan.

Completed.

### U4.4 Stage 3 - Lower Priority

Complete the plantings and works as outlined in the Landscape and Rehabilitation Plan, Drawing 1a dated 20 September 2012 and letter dated 7 March 2013. Stage 3 includes approx 9375 plantings at a density of approx 1100 per hectare in the areas shown on the plan.

Completion Date: 31 March 2016.

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## 9 Special Conditions

### E1 Resource Recovery Investigation - BOS Secondary Fines in Kiln No.6

E1.1 This trial has been completed to the satisfaction of the EPA and continued use of BOS Secondary Fines as an alternative raw material feedstock in kiln 6 is approved under Condition O9.

Specific Immobilisation Approval 2006-S-03 for BOS Secondary Fines issued to BlueScope Steel Ltd to allow transport and processing at the licensee's New Berrima cement works is valid until 30 June 2010.

### E2 Ambient Air Quality Monitoring Program

E2.1 Prior to the commencement of the use of Non-Standard Fuels in kiln 6, the licensee shall establish an Ambient Air Quality Monitoring Program in consultation with, and to meet the requirements of, the EPA. The monitoring program shall be consistent with the EPA's Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales. The ambient monitoring program shall include -

a) an ambient air quality monitoring station which shall:

I. be placed at a location near New Berrima, but away from the immediate influence of the plant in terms of air pollution; and

II. monitor TSP, PM10 and listed pollutants with sampling to be undertaken for a period of one year from the commencement of using Non-Standard Fuels, for a 24 hour period every six days.

b) generation of suitable continuously sampled meteorological data including wind speed, wind direction, temperature and variability of wind direction (sigma theta) in accordance with the Australian Standard AS2923 – 1987.

The ambient air monitoring program will be reviewed by the EPA after analysis of first year's results and the monitoring may be discontinued thereafter on agreement with the EPA.

### E3 Coal Washery Reject Air Emissions Assessment Reporting (RRE 28 June 2012)

E3.1 BACKGROUND:

The Environment Protection Authority wrote to the licensee on 3 November 2011, in response to a desk top assessment of air emissions, carried out to support the Boral proposal to use Coal Washery Rejects as an Alternative Raw Material (ARM) at Berrima Kiln.

The EPA review of this report agreed with the licensee conclusion that there would be no significant change in air emissions from the partial substitution of Medway Coal by Coal Washery Reject (CWR) sourced from the wash plants operated by BHP Billiton Illawarra Coal, up to 40:60, CWR:Medway Coal, blend ratio. The use of CWR reduces the amount of virgin shale added to the kiln.

The licensee submitted an application dated 22 May 2012 in support of a Resource Recovery Exemption (RRE)(Alternative Raw Material) for the use of CWR at the Berrima Kiln.

The EPA provided the licensee a draft RRE on 15 June 2012 (DOC12/23182). In this letter the EPA also

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stated the EPA would change Environment Protection Licence 1698 prior to the use of CWR at the premises.

The licensee commented on the draft RRE on 27 June 2012 accepting the conditions of the proposed RRE.

The EPA issued *'The Boral Cement (Berrima) coal washery reject exemption 2012'* on 28 June 2012 (DOC12/25808)

## TRIAL USE OF CWR:

At a Boral/EPA meeting held on 11 July 2012 the licensee stated the following:

- initial use of CWR is proposed to be in the order of 10-15,000 tonnes/annum
- it is proposed to increase CWR use up to 30,000 - 40,000 tonnes/annum after natural gas supply is augmented to the kiln. This will result in reduced coal volumes leaving capacity in the coal mill. It is proposed to use this coal mill capacity to process Alternative Raw Material - Coal Washery Reject. This Natural Gas project is likely to be completed in Q1/Q2 2013.
- In the future, the amount of CWR used at Berrima may increase to 150,000 tonnes/annum.

The Licensee must notify the EPA when CWR use commences.

## CWR EMISSIONS ASSESSMENT REPORTING:

The licensee must provide the EPA with two *'CWR Emissions Assessment Reports'*. The purpose of the reports is to assess any changes to air emissions from Licenced Discharge Point 2 - No 6 Kiln Stack, by reviewing monitoring data obtained under licence conditions L3.4 and M2, against the findings in the desk top assessment of air emissions study completed in 2011

1) *'CWR Emissions Assessment Report Number 1'*: Due Date: 7 Months after commencement of CWR use.

2) *'CWR Emissions Assessment Report Number 2'*: Due Date: 14 Months after commencement of CWR use.

1) *'CWR Emissions Assessment Report Number 1'*:

- Review and assess Total Solid Particle CEMs data, comparing emissions data from 12 month period prior to use of CWR, and 6 month period when CWR was used
- Report information on use rates of CWR over the trial period
- Provide graphs that report TSP emissions when CWR not in use, and when CWR was in use
- Provide a narrative that describes the emissions graph(s) and any differences in the emissions data
- Compare the monitored air emissions data, against the predicted air emissions data provided in the 2011 desk top assessment of air emissions report.

2) *'CWR Emissions Assessment Report Number 2'*:

- Review, assess and compare emissions data for all analytes from Annual Stack test data report for 2012 - before use of CWR, and 2013 - after commencement of CWR use.

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- Report information on use rates of CWR over the trial period
- Provide graphs that report emissions when CWR not in use, and when CWR was in use
- Provide a narrative that describes the emissions graph(s) and any differences in the emissions data
- Compare the monitored air emissions data, against the predicted air emissions data provided in the 2011 dest top assessment of air emissions report.

## E4 Special Dictionary - Non-Standard Fuel

E4.1 In this licence, unless the contrary is indicated, the terms below have the following meanings:

Word	Meaning
AKF1	A Non-Standard Fuel, being liquid oily residues comprising of recovered oil from the treatment of wash waters, oils, dewatered sludges and grease trap emulsions, that is approved as a Non-Standard Fuel by the EPA and in accordance with the requirements of development consent MOD-2-1-2004-i.
AKF5	A Non-Standard Fuel, being used and unwanted tyres, that is approved for use as a Non-Standard Fuel by the EPA and in accordance with the requirements of development consent MOD-2-1-2004-i.
HICAL 50	A Non-Standard Fuel, being spent aluminium electrode carbon, that is approved for use as a Non-Standard Fuel by the EPA and in accordance with the requirements of development consent MOD-2-1-2004-i.
Non-standard Fuel	Any fuel that does not meet the criteria for Standard Fuel.

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## Dictionary

### General Dictionary

<b>3DGM [in relation to a concentration limit]</b>	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
<b>Act</b>	Means the Protection of the Environment Operations Act 1997
<b>activity</b>	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
<b>actual load</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>AM</b>	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>AMG</b>	Australian Map Grid
<b>anniversary date</b>	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>annual return</b>	Is defined in R1.1
<b>Approved Methods Publication</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>assessable pollutants</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>BOD</b>	Means biochemical oxygen demand
<b>CEM</b>	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>COD</b>	Means chemical oxygen demand
<b>composite sample</b>	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
<b>cond.</b>	Means conductivity
<b>environment</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>environment protection legislation</b>	Has the same meaning as in the Protection of the Environment Administration Act 1991
<b>EPA</b>	Means Environment Protection Authority of New South Wales.
<b>fee-based activity classification</b>	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
<b>general solid waste (non-putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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<b>flow weighted composite sample</b>	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
<b>general solid waste (putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>grab sample</b>	Means a single sample taken at a point at a single time
<b>hazardous waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>licensee</b>	Means the licence holder described at the front of this licence
<b>load calculation protocol</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>local authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>material harm</b>	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
<b>MBAS</b>	Means methylene blue active substances
<b>Minister</b>	Means the Minister administering the Protection of the Environment Operations Act 1997
<b>mobile plant</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>motor vehicle</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>O&amp;G</b>	Means oil and grease
<b>percentile [in relation to a concentration limit of a sample]</b>	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
<b>plant</b>	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
<b>pollution of waters [or water pollution]</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>premises</b>	Means the premises described in condition A2.1
<b>public authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>regional office</b>	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
<b>reporting period</b>	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>restricted solid waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>scheduled activity</b>	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
<b>special waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>TM</b>	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

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<b>TSP</b>	Means total suspended particles
<b>TSS</b>	Means total suspended solids
<b>Type 1 substance</b>	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
<b>Type 2 substance</b>	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
<b>utilisation area</b>	Means any area shown as a utilisation area on a map submitted with the application for this licence
<b>waste</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>waste type</b>	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Mr Niall Johnston

Environment Protection Authority

(By Delegation)

Date of this edition: 17-November-2000



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## End Notes

- 1 Licence transferred through application 140469, approved on 03-Jun-2002, which came into effect on 15-Jun-2001.
- 2 Licence varied by notice 1017975, issued on 23-Sep-2002, which came into effect on 25-Sep-2002.
- 3 Licence varied by notice 1021197, issued on 11-Jun-2003, which came into effect on 11-Jun-2003.
- 4 Licence varied by notice 1033484, issued on 24-Dec-2003, which came into effect on 18-Jan-2004.
- 5 Licence varied by notice 1038051, issued on 23-Jun-2004, which came into effect on 18-Jul-2004.
- 6 Licence varied by notice 1055405, issued on 31-Mar-2006, which came into effect on 25-Apr-2006.
- 7 Licence varied by notice 1063377, issued on 27-Jul-2006, which came into effect on 27-Jul-2006.
- 8 Licence varied by notice 1076344, issued on 03-Aug-2007, which came into effect on 03-Aug-2007.
- 9 Licence varied by notice 1079995, issued on 17-Dec-2007, which came into effect on 17-Dec-2007.
- 10 Licence varied by notice 1082098, issued on 16-Jun-2008, which came into effect on 16-Jun-2008.
- 11 Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
- 12 Licence varied by notice 1092083, issued on 02-Dec-2008, which came into effect on 02-Dec-2008.
- 13 Licence varied by notice 1104214, issued on 08-Jul-2010, which came into effect on 08-Jul-2010.
- 14 Licence varied by correction to Scheduled Activity name, issued on 04-Nov-2010, which came into effect on 04-Nov-2010.
- 15 Licence varied by notice 1126350, issued on 03-May-2011, which came into effect on 03-May-2011.
- 16 Licence varied by notice 1502347 issued on 03-Nov-2011
- 17 Licence varied by notice 1503064 issued on 30-Mar-2012
- 18 Licence varied by notice 1505791 issued on 30-Apr-2012
- 19 Licence varied by notice 1507292 issued on 16-Jul-2012

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20	Licence varied by notice	1508990 issued on 25-Sep-2012
21	Licence varied by notice	1509568 issued on 18-Mar-2013
22	Licence varied by notice	1514371 issued on 31-May-2013
23	Licence varied by notice	1523277 issued on 14-Jul-2015