



| | |
|------------------------------------|---|
| Licence number | L4511/1967/13 |
| Licence Holder | Boral Bricks Western Australia Pty Ltd |
| ACN | 008 674 244 |
| Registered business address | Level 3, 40 Mount Street NORTH SYDNEY NSW 2060 |
| DWER file number | 2012/002146-1 |
| Duration | 31/12/2015 to 30/12/2021 |
| Date of issue | 17/12/2015 |
| Date of amendment | 29/06/2020 |
| Premises details | <p>Part Lot 103 on Plan 54208, Part Lot 87 on Plan 5036, Part Lot 2 on Plan 15380 and Part Lot 5601 on Plan 190183 Great Northern Highway; and Lot 80 on Plan 5036, MIDDLE SWAN WA 6056.</p> <p>Part Lot 1 on Plan 6149, Lots 200 to 205, and Lots 220 and 221 on Plan 10145 Winston Crescent; Lots 214 to 219 on Plan 10145 Bernley Drive; Lot 159 on Plan 9113, Lots 162 to 166 on Plan 9113, and Lots 190 to 198 on Plan 9113 Brentford Avenue; Lots 167 to 169 on Plan 9113 Surrey Court; Lot 158 on Plan 9113, Lots 152 to 157 on Plan 9113, and Lots 160 to 162 on Plan 9113 Somerset Street; Lots 149 to 151 on Plan 9113 York Street; and Lots 142 to 148 on Plan 9113 Cranwood Crescent, VIVEASH 6056, as depicted in Schedule 1</p> |

| Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>) | Assessed production / design capacity |
|--|--|
| Category 41: Clay bricks or ceramic products manufacturing: | 1,000,000 tonnes per year |
| Category 77: Concrete batching or cement products manufacturing | 200 000 tonnes per year |

This amended licence is granted to the licence holder, subject to the attached conditions, on 29/06/2020 by:

A/MANAGER, PROCESS INDUSTRIES

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

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Introduction

This Introduction is not part of the licence conditions.

DWER's industry licensing role

The Department of Water and Environment Regulation (DWER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DWER's purpose is to protect and conserve the state's environment on behalf of the people of Western Australia.

DWER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DWER works with the business owners, community, consultants, industry and other representatives to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DWER also monitor and audit compliance with works approvals and licence conditions, take enforcement action as appropriate and develop and implement licensing and industry regulation policy.

Licence requirements

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

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

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

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

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

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

Licence fees

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non-payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your premises. Operating without a licence is an offence under the Act.

Ministerial conditions

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

Premises description and licence summary

The premises covers an area of 116 ha and is approximately 2.5 km from the Midland Town Centre. A mixture of commercial and residential premises are located nearby and the Swan River runs along the western boundary of the premises. The nearest residences are 340 metres south east of the kiln 11 stack and 450 metres south west of kiln 7 and 8 stacks.

The licensed premises includes:

- Undercover and open raw material stockpile areas;
- Primary and secondary crusher and screens;
- Seven natural gas fired tunnel kilns with associated dryers and plant;
- Kiln exhaust gas abatement plant (dry injection fabric filters);
- Masonry production plant;
- Vehicle, mechanical and electrical workshops to support operations; and
- Fired product storage areas.

Manufacture of bricks involves the following four main stages.

- Clay preparation involves grinding and crushing of clays and shale, blending of different clay types and addition of water. Colorants or materials to improve the aesthetic and mechanical properties of the finished product may also be added.
- Product shaping covers shaping the raw material mix into shapes using moulds or by extrusion. During or after shaping, additives may be applied to the surface of the raw clay shapes to achieve desired colour or texture effects.
- Drying of the product is undertaken by passing them through a dryer, heated by warm air from the cooling zone of the kiln. Exhaust gases from the dryer are vented to atmosphere.
- Firing of the dried product is undertaken in high temperature kilns. As the clay products are heated - fluoride, chloride, sulphur and other elements naturally present in the clays are emitted into the air in the kiln, along with water vapour. The release rates vary over the firing cycle and generally peak at temperatures of around 800°C, depending on the raw material, product and kiln conditions. Some of the raw material additives are also burnt off during firing.

Kiln exhaust gas emissions are discharged to air after being abated through Dry Injection Fabric Filter (DIFF) scrubbers dosed with an alkaline scrubbing reagent, with the exception of Kiln 11 which is single compartment DIFF. The principle emissions to air are acid chloride and fluoride gases, oxides of nitrogen, oxides of sulphur, volatile organic compounds (VOCs) and particulates.

Operational procedures and controls are used to minimise dust emissions from raw materials storage and handling operations.

There are no discharges to water or land from the premises.

This licence is the result of a CEO initiated amendment to extend the expiry date of licence L4511/1967/13 by one year to 30/12/2021. The licensing history for the premises since 27/09/2012 is detailed in the table below:

| Instrument log | | |
|----------------|------------|---|
| Instrument | Issued | Description |
| L4511/1967/12 | 27/09/2012 | Licence reissue |
| L4511/1967/12 | 27/03/2014 | Licence amendment to new format |
| L4511/1967/13 | 17/12/2015 | Licence reissue |
| L4511/1967/13 | 29/06/2020 | CEO initiated amendment to extend the expiry date of the licence by one year. |

Severance

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

END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

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

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

‘the Act’ means the *Environmental Protection Act 1986*;

‘AACR’ means Annual Audit Compliance Report, a report in a format approved by the CEO (relevant guidelines and templates are available on the Department’s website).

‘annual period’ means the inclusive period from 1 July until 30 June in the following year;

‘AS3580.1.1’ means the Australian Standard AS 3580.1.1 *Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment*;

‘AS3580.13.2’ means the Australian Standard AS3580.13.2 *Determination of fluorides - Gaseous and acid-soluble particulate fluorides - Manual, double filter paper sampling*;

‘AS4323.1’ means the Australian Standard AS4323.1 *Stationary Source Emissions Method 1: Selection of sampling positions*;

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

‘CEO’ means Chief Executive Officer of the Department of Water and Environmental Regulation;

‘CEO’ for the purpose of correspondence means:

Chief Executive Officer
Department Administering the *Environmental Protection Act 1986*
Locked Bag 10
JOONDALUP DC WA 6027
Telephone: (08) 6367 7000
Facsimile: (08) 6367 7001
Email: info@dwer.wa.gov.au

‘Licence’ means this Licence numbered L4511/1967/13 and issued under the Act;

‘Licence Holder’ means the person or organisation named as licence holder on page 1 of the licence;

‘NATA’ means the National Association of Testing Authorities, Australia;

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

‘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;

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

‘quarterly’ means the four inclusive periods from 1 July to 30 September, 1 October to 31 December and 1 January to 31 March 1, April to 30 June in the following year;

‘Schedule 1’ means Schedule 1 of this Licence unless otherwise stated;

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

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

‘usual working day’ means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia;

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

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

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

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

1.2 Premises operation

1.2.1 The Licence Holder shall operate and maintain the lime scrubbers and baghouses to the manufacturer’s specification.

2 Emissions

2.1 General

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

2.2 Point source emissions to air

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

| Table 2.2.1: Emission points to air | | | |
|---|----------------|---------------------------|--|
| Emission point reference and location on premises map | Emission Point | Emission point height (m) | Source, including any abatement |
| A1 | Stack 7/8 | 40 m | Kiln 7 and kiln 8 via lime scrubber and bag filter |
| A2 | Stack 9 | 40 m | Kiln 9 via lime scrubber and bag filter |
| A3 | Stack 10 | 40 m | Kiln 10 via lime scrubber and bag filter |
| A4 | Stack 11 | 40 m | Kiln 11 via lime scrubber and bag filter |

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

| Table 2.2.2: Point source emission limits to air | | | |
|--|---|--------------------------------------|--------------------------------|
| Emission point Reference | Parameter | Limit ¹ (including units) | Averaging period |
| A1 – A4 | Total oxides of sulphur (as SO ₂) | 200 mg/m ³ | Stack test (60 minute average) |
| | Hydrogen chloride | 100 mg/m ³ | Stack test (60 minute average) |
| | Hydrogen fluoride | 20 mg/m ³ | Stack test (60 minute average) |

Note 1: The reference conditions of substances in releases to air from the kiln stack are:
Temperature 273.15 K (0°C), pressure 101.3 kPa (1 atmosphere), 18% oxygen, measured dry

3 Monitoring

3.1 General monitoring

3.1.1 The Licence Holder shall record the following information during any non-continuous monitoring:

- (i) the specific brick product being manufactured at the time;
- (ii) the throughput of bricks through the kiln in tonnes per hour, and
- (iii) the fuel consumption rate for the kiln.

3.1.2 The Licence Holder shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.

3.2 Monitoring of point source emissions to air

3.2.1 The Licence Holder shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

| Table 3.2.1: Monitoring of point source emissions to air | | | | | |
|--|---|--------------------------|-----------|------------------------|--------------------------------|
| Emission point reference | Parameter | Units ^{1,2} | Frequency | Method | Averaging period |
| A1-A4 | Total particulates | mg/m ³ g/s | Quarterly | USEPA Method 5 or 17 | Stack test (60 minute average) |
| | Total oxides of sulphur (as SO ₂) | mg/m ³ g/s | Quarterly | USEPA Method 8 | Stack test (60 minute average) |
| | Oxides of nitrogen (NO _x) | mg/m ³ g/s | Quarterly | USEPA Method 7D or 7E | Stack test (30 minute average) |
| | Hydrogen chloride | mg/m ³ g/s | Quarterly | USEPA Method 26 or 26A | Stack test (60 minute average) |
| | Hydrogen fluoride | mg/m ³ g/s | Quarterly | USEPA Method 26 or 26A | Stack test (60 minute average) |
| | Carbon monoxide | mg/m ³ g/s | Quarterly | USEPA Method 10 | Stack test (30 minute average) |
| | | | | | |

Note 1: The reference conditions of substances in releases to air from the kiln stack are: temperature 273.15 K (0°C), pressure 101.3 kPa (1 atmosphere), measured dry

Note 2: Concentration measurements corrected to 18% Oxygen

3.2.2 The Licence Holder shall ensure that sampling required under Condition 3.2.1 of the Licence is undertaken at sampling locations in accordance with the AS4323.1.

3.2.3 The Licence Holder 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.

3.3 Ambient environmental quality monitoring

3.3.1 The Licence Holder shall undertake the monitoring in Table 3.3.1 according to the specifications in that table.

| Table 3.3.1: Monitoring of ambient air quality | | | | | |
|---|------------------------|-------------------|------------------|------------|-------------|
| Monitoring point reference and location on premises map | Parameter ¹ | Units | Averaging period | Frequency | Method |
| AQ1 – AQ2 | Hydrogen fluoride | µg/m ³ | 7 days | Continuous | AS3580.13.2 |

Note 1: Samples can be submitted to a laboratory without current NATA accreditation for the parameter to be measured.

3.3.2 The Licence Holder shall ensure that, where practicable, the sampling required under Condition 3.2.1 of the Licence is undertaken at sampling locations in accordance with AS3580.1.1.

4 Information

4.1 Records

- 4.1.1 All information and records required by the licence shall:
- (a) be legible;
 - (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
 - (c) except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the licence or any subsequent licence; and
 - (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or waters.
- 4.1.2 The Licence Holder shall complete an Annual Audit Compliance Report indicating the extent to which the licence holder has complied with the conditions of the licence, and any previous licence issued under Part V of the Act for the premises for the previous annual period.
- 4.1.3 The Licence Holder shall:
- (a) implement a complaints management system that shall record the following information (if known or provided) about complaints received at the Premises concerning any environmental impact of the activities undertaken at the Premises:
 - (i) name and address of the complainants (if consented);
 - (ii) date and time of complaint;
 - (iii) date and time of alleged incident;
 - (iv) alleged source of the incident;
 - (v) general description of the alleged incident, including any environmental or health impacts reported by the complainant;
 - (vi) wind direction, wind speed and temperature at time of alleged incident;
 - (vii) likely source of the alleged incident; and
 - (viii) actions taken by the Licence Holder to address the complaint, including the outcome of any investigation(s) and action(s) to verify any impacts.
 - (b) Complete an annual analysis and review of complaints recorded under 5.1.3(a) to identify any common factors and root cause of complaints and proposals to address these.

4.2 Reporting

- 4.2.1 The Licence Holder shall submit to the CEO an Annual Environmental Report within 28 calendar days after the end of the annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

| Table 4.2.1: Annual Environmental Report | | |
|--|---|-----------------------|
| Condition or table (if relevant) | Parameter | Format or form |
| - | Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken | None specified |
| 2.2.3 | All abatement plant by-pass events including the date, duration, and reason for the by-pass | None specified |
| Table 3.2.1 | Emissions to air monitoring results | Form AR1 ¹ |
| Table 3.8.1 | Ambient air monitoring results | None specified |
| 4.1.2 | Compliance | AACR |
| 4.1.3 | Complaints summary | None specified |

Note 1: Forms are in Schedule 2

- 4.2.2 The Licence Holder shall ensure that the Annual Environmental Report also contains:
- (a) any relevant process, production or operational data recorded under Condition 3.1.1; and
 - (b) an assessment of the information contained within the report against previous monitoring results and Licence limits..

4.3 Notification

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

| Table 4.3.1: Notification requirements | | | |
|--|--|---|-----------------------------|
| Condition or table (if relevant) | Parameter | Notification requirement ¹ | Format or form ² |
| 2.1.1 | Breach of any limit specified in the Licence | Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable | N1 |

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

Note 2: Forms are in Schedule 2

Schedule 1: Maps

Premises map

The Premises is shown in the map below. The pink line depicts the Premises boundary.

The locations of the emission points in Table 2.2.1 are shown below.

The locations of the monitoring points in Table 3.3.1 are shown below.



Schedule 2: Reporting & notification forms

Licence: L4511/1967/13

Form: AR1

Name: Monitoring of point source emissions to air

Licence Holder: Boral Bricks Western Australia Pty Ltd.

Period:

| Form AR1: Monitoring of point source emissions to air | | | | | | | |
|---|---|-----------------------|-----------------------|--------------------------|------------------|------------------------|---------------------|
| Emission point | Parameter | Limit | Result ⁽¹⁾ | Units | Averaging period | Method | Sample date & times |
| A1 – A4 | Total particulates | - | | mg/m ³ g/s | | USEPA Method 5 or 17 | |
| | Total oxides of sulphur (as SO ₂) | 200 mg/m ³ | | mg/m ³ g/s | | USEPA Method 8 | |
| | Oxides of nitrogen (NO _x) | - | | mg/m ³ g/s | | USEPA Method or 7E | |
| | Hydrogen chloride | 100 mg/m ³ | | mg/m ³ g/s | | USEPA Method 26 or 26A | |
| | Hydrogen fluoride | 20 mg/m ³ | | mg/m ³ g/s | | USEPA Method 26 or 26A | |
| | Carbon monoxide | - | | mg/m ³ g/s | | USEPA Method 10 | |

Note 1: The reference conditions of substances in releases to air from point sources are:
Temperature 273.15 K (0°C), pressure 101.3 kPa (1 atmosphere) 18% oxygen measured dry

Signed on behalf of Boral Bricks Western Australia Pty Ltd: Date:



Form N1:

Licence: L4511/1967/13 Licence Holder: Boral Brick Western Australia Pty Ltd

Form: N1 Date of breach:

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

These pages outline the information that the operator must provide.

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

PART A

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

| Notification requirements for the breach of a limit | |
|---|--|
| Emission point reference/ source | |
| Parameter(s) | |
| Limit | |
| Measured value | |
| Date and time of monitoring | |
| Measures taken, or intended to be taken, to stop the emission | |

| Notification requirements for any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution | |
|---|--|
| Date and time of event | |
| Reference or description of the location of the event | |
| Description of where any release into the environment took place | |
| Substances potentially released | |
| Best estimate of the quantity or rate of release of substances | |
| Measures taken, or intended to be taken, to stop any emission | |
| Description of the failure or accident | |



PART B

| | |
|---|--|
| Any more accurate information on the matters for notification under Part A. | |
| Measures taken, or intended to be taken, to prevent a recurrence of the incident. | |
| Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission. | |
| The dates of any previous N1 notifications for the Premises in the preceding 24 months. | |

| | |
|--|--|
| Name | |
| Post | |
| Signature on behalf of Boral Brick Western Australia Pty Ltd | |
| Date | |