



Licence Number	L5908/1990/11
Licence Holder	Doral Fused Materials Pty Ltd
ACN	009 415 025
Registered business address	1 Alumina Road EAST ROCKINGHAM WA 6168
File Number	DEC1758/2
Duration	13/03/2013 to 14/03/2021
Date of amendment	7 August 2019
Prescribed Premises	Category 8: Mineral sands mining or processing Category 44: Metal smelting or refining Category 70: Screening etc. of metal
Premises	Doral Fused Material Pty Ltd 1 Alumina Road EAST ROCKINGHAM WA 6168 Legal description Lot 6 on Diagram 85297 As defined in Schedule 1

This Licence is granted to the Licence Holder, subject to the following conditions, on 7 August 2019, by:

**Manager Process Industries
Regulatory Services**

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

Amendment June 2019

The CEO initiated an amendment to the type and style of the licence during June 2019 and has issued a revised licence incorporating all of the recent amendment notices. The obligations of the Licensee have not changed in making this amendment. During the consolidation of amendment notice/s; DWER has not undertaken any additional risk assessment of the Premises.

The CEO has:

- incorporated the amendment notices #1 issued in 16 November 2018 as listed below in the instrument log table;
- updated that style and appearance of the Licence;
- deleted the redundant AACR form set out in schedule 1 of the previous licence and directed the Licensee to obtain the form from the Department's website;
- addition of instrument log table and prescribed premises table in the licence and as per previous amendment notices and also listed below;
- correction of condition numbers for numerical consistency and flow; and
- corrected clerical mistakes and unintentional errors

Instrument Log		
Instrument	Issued	Description
L5908/1990/11	13/03/2013	Licence re-issue
L5908/1990/11	29/04/2016	Department initiated amendment of extension of licence duration to 13/03/2021.
L5908/1990/11	29/09/2016	Amendment Notice 1 DWER initiated amendment to correct occupier details and include Annual Audit Compliance Report requirement.
L5908/1990/11	10/05/2017	Amendment Notice 2 Licence Holder initiated amendment for proposal to crush spodumene.
L5908/1990/11	7/08/2019	DWER initiated amendment to consolidate amendment notice 1 and amendment notice 2 in the licence.

Following prescribed activities as listed in Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations).

Classification of Premises	Description
Category 8	Mineral sands mining and processing: premises on which mineral sands ore is mined, screened, separated or otherwise processed.
Category 44	Metal smelting and refining: premises on which metal ore, metal ore concentrate or metal waste is smelted, fused, roasted, refined or processed.
Category 70	Screening etc. of material: premises on which material extracted from the ground is screened washed, crushed, ground, milled, sized or separated.

CONDITIONS OF LICENCE

Definitions:

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

'Annual Audit Compliance Report' means a report in a format approved by the CEO as presented by the Licensee or as specified by the CEO from time to time and published on the Department's website;

'Annual Period' means the inclusive period from 1 January to 31 December in that year year;

'AS' means the Australian Standard;

'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;

'Department' means the department established under s.35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Division 3 Part V of the *Environmental Protection Act 1986*;

'DWER' means Department of Water and Environmental Regulation;

'g/m³' means grams per cubic metres (expressed as dry at) degree Celsius and 1.0 atmospheric pressure (101.325 kilopascals);

'g/s' means grams per seconds;

'Licence Holder' means Doral Fused Materials Pty Ltd;

'NATA' means National Association of Testing Authorities;

'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;

'NO_x concentration' means the total combined concentration of nitric oxide and nitrogen dioxide, (expressed as nitrogen dioxide, dry at 0 degree Celsius and 1.0 atmosphere pressure [101.325 kilopascals]);

'm³/s' means cubic meters per second, (expressed as nitrogen dioxide, dry at 0 degree Celsius and 1.0 atmosphere pressure [101.325 kilopascals]);

'mg/L' means milligrams per litre;

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

‘ppm’ means parts per million;

‘SO₂’ means sulphur dioxide;

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

“USEPA methods 2” means United States Environmental Protection *METHOD 2 - Determination of Stack Gas Velocity and Volumetric Flow Rate*;

“USEPA methods 4” means United States Environmental Protection *METHOD 4 - DETERMINATION OF MOISTURE CONTENT IN STACK GASES*; and

“USEPA methods 6” means United States Environmental Protection *METHOD 6 - DETERMINATION OF SULFUR DIOXIDE EMISSIONS FROM STATIONARY SOURCES*.

All other terms take their meaning from the *Environmental Protection Act 1986*.

GENERAL CONDITIONS

ANNUAL ENVIRONMENTAL REPORTING

- G1 The licensee shall provide to the CEO, by **1 February** each year, an annual environmental report pursuant to:
- (i) A1(a)(iv) particulate monitoring – every three years)
 - (ii) A2(b) emission criteria and monitoring – Zirconia Plant
 - (iii) A2(c) emission criteria and monitoring – Zirconia Plant

The Report shall contain data collected from 1 January to 31 December from the previous calendar year.

- G2 The Licensee shall, by **1 February** each calendar year, provide to the CEO an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence for the period **1 January to 31 December** from the previous calendar year.

- G3 The licensee shall ensure that materials accepted onto the premises listed in column 1 of Table 1 are only subjected to the processes listed in column 2 of Table 1.

Table 1: Material acceptance and processing	
Column 1	Column 2
Material	Process
Spodumene	Grading, crushing and sizing

AIR POLLUTION CONTROL CONDITIONS

DUST MANAGEMENT SYSTEMS

- A1(a) The licensee shall ensure that the dust collectors are maintained and operated in the following manner:
- (i) alarm shall be operational on the discharge locations specified in Column 3 of Table 2, and set to the emission limits specified in Column 4 of Table 2;
 - (ii) alarms shall inform plant operators (both visually and audibly) if there is an exceedance of the emissions limits specified in Column 4 of Table 3;
 - (iii) dust detectors shall be maintained and calibrated to manufactures specifications to ensure their continual and efficient performance; and
 - (iv) stack tests shall be conducted In accordance to AS 4323.2 - 1995 to determine particulate emission levels every 3 years, or when there is a change in process that may result in higher dust generation.

Table 2: Dust Collection Systems				
Unit Number	Unit Description	Discharge Location	Particulate Emission Limits	Alarm Fitted
1	Alumina feed bin	Stack number 01/ Outside the plant confines	0.15g/m ³	Yes
2	Number 1 AWA furnace	Stack number 01/ Outside the plant confines	0.15g/m ³	Yes
3	Number 1 AWA furnace feed bin	Within the enclosed process building	None specified	No
4	Number 2 AWA furnace	Stack number 02/ Outside the plant confines	0.15g/m ³	Yes
5	Number 2 AWA furnace feed bin	Within the enclosed process building	None specified	No
6	AWA Alumina sizing plant	Stack number 03/ Outside the plant confines	0.15g/m ³	Yes
7	AWA Alumina lump sizing plant	Stack number 03/ Outside the plant confines	0.15g/m ³	Yes
8	AWA ball mill	Within the enclosed process building	None specified	No
9	Zirconia plant feed bin	Stack number 04/ Outside the plant confines	0.15g/m ³	No
10	Zirconia furnace	Stack number 05/ Outside the plant confines	0.15g/m ³	Yes
11	Zirconia dryer	Ground level discharge outside the plant confines	0.15g/m ³	No
12	Zirconia sizing plant	Stack number 06/ Outside the plant confines	0.15g/m ³	Yes
13	Zirconia plant-silica fume bin	Roof top vent outside the confines the plant	0.15g/m ³	Yes
14	Zirconia plant – jet mill vent	Stack number 07/ Outside the plant confines	0.15g/m ³	Yes

Note: Dust collection systems 3, 5 and 8 do not have a specified emission limits as they discharge into process plant working areas and have insignificant potential to create dust beyond the boundary of the licensed premises.

- A1(b) The licensee shall ensure that in the event of an exceedance, as per condition A1 (a)(ii), which continues for more than 30 minutes, the operations shall begin to be shut down and not be resumed until the fault is rectified.
- A1(c) The licensee shall cease operation of the material handling equipment immediately if visible dust is being emitted. Operation of such equipment shall not resume until appropriate measures have been taken to minimise the dust emission.
- A1(d) The licensee shall ensure that any spilled materials likely to cause or generate airborne dust is cleaned-up as soon as is practicable.
- A1(e) The licensee shall ensure that all crushing, screening and bagging process operations, and associated materials handling systems, are conducted within enclosed buildings.
- A1(f) The licensee shall ensure that backup power is provided to all dust collection systems to allow continued operation of these systems following the loss of mains power.

EMISSION CRITERIA AND MONITORING - ZIRCONIA PLANT

A2(a) The licensee shall ensure that the zirconia plant is operated such that the concentration of sulphur dioxide (SO₂), in gaseous wastes emitted from stack number 5, does not exceed 0.34 g/m³ (120 ppm).

A2(b) The licensee shall perform, on an annual basis, a source test on stack number 5 in accordance with Table 3.

Table 3: Emission Testing			
Parameter	Frequency	Method	Unit
Moisture content	Annually	USEPA method 4	%
Volumetric flow rate	Annually	USEPA method 2	m ³ /s
Temperature	Annually	N/A	°C
SO ₂ concentration	Annually	USEPA method 6	mg/m ³

Note: *(Mass emission rates (i.e. g/s) are to be calculated using the values derived from the concentration values of SO₂, and the volumetric flow rate. The zirconia production rate over the duration of the test shall also be noted).

A2(c) The licensee shall operate a NO_x monitoring system to record emissions from the zirconia plant. The system shall:

- (i) continuously measure the concentration of NO_x in gases emitted from the plant;
- (ii) be maintained to provide reliable measurements; and
- (iii) be calibrated to manufactures specification and technically verified, so that accurate emissions monitoring results are obtained.

A2(d) The licensee shall operate a Selective Catalytic Reduction System to minimise NO_x from the zirconia plant such that:

- (i) the concentration of NO_x gases emitted from the plant shall not exceed 100 ppm NO_x for 95% of operating time of the plant;
- (ii) the concentration of NO_x gases emitted from the plant shall not exceed 150 ppm NO_x for 99% of the operating time of the plant; and
- (iii) the plant shall be shut down (when it is safe to do so) when the concentration of NO_x gases emitted from the plant exceeds 200 ppm NO_x. The plant shall not be restarted until the Selective Catalytic Reduction System unit is functioning correctly.

WATER POLLUTION CONTROL

WASTEWATER – DISPOSAL

W1 The licensee shall ensure that all wastewaters from cooling water processes are discharged directly to sewer.

SOLID WASTE CONTROL

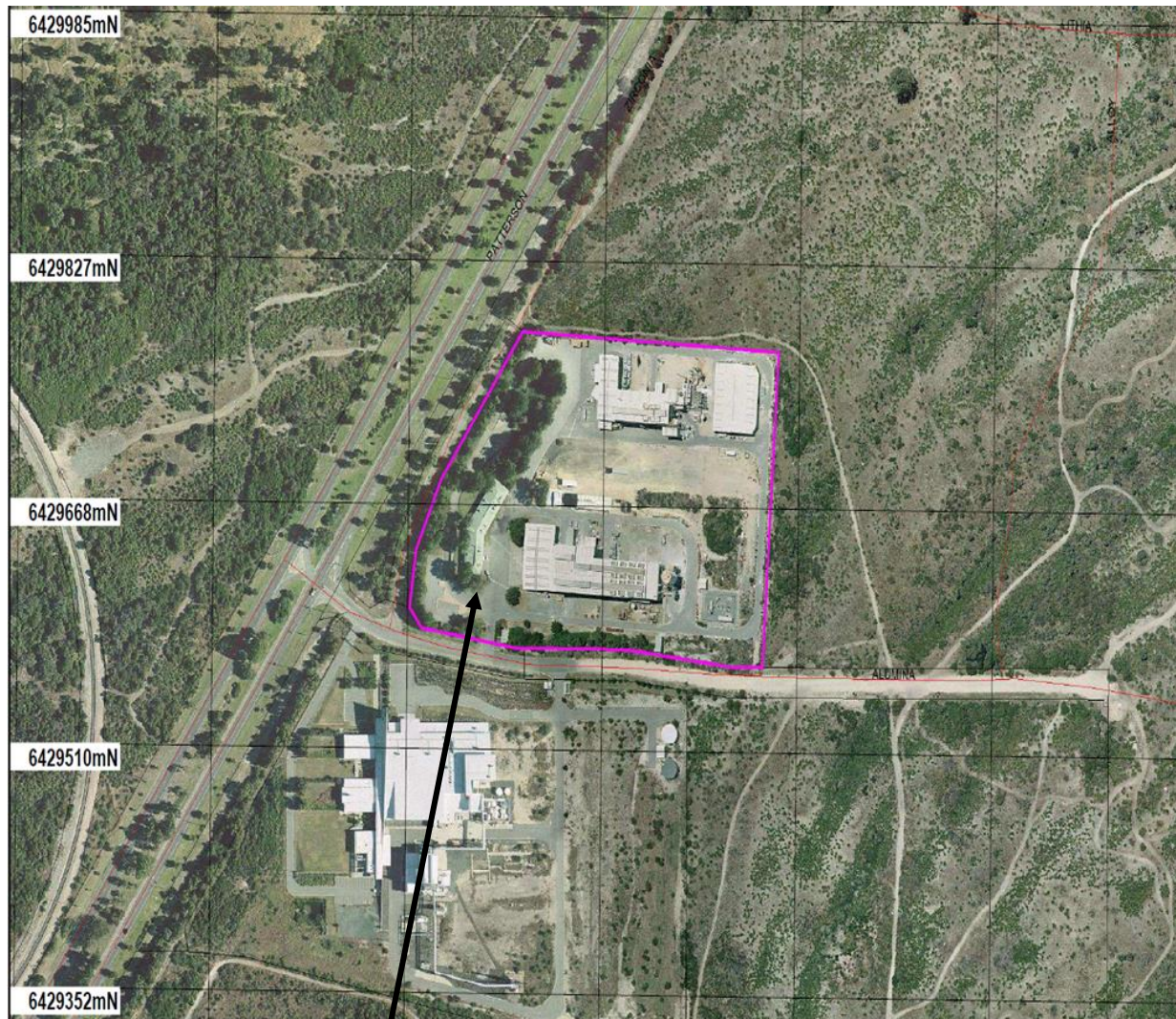
SOLID WASTE DISPOSAL – GENERAL PLANT

W2 The licensee shall ensure that all solid waste is disposed to a licensed facility.

Schedule 1: Maps

Premises map

The Premises Plan are shown in the map below.



Lot 6 Alumina Road.