Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L5908/1990/12
Licence holder	Doral Fused Materials Pty Ltd
ACN	009 415 025
Registered business address	1 Alumina Road EAST ROCKINGHAM WA 6168
DWER file number	DEC1758/2
Duration	12/03/2021 to 11/03/2041
Date of issue	12/03/2021
Premises details	Doral Fused Materials Pty Ltd 1 Alumina Road EAST ROCKINGHAM WA 6168 Legal description Lot 6 on Deposited Plan 85297 As defined in Schedule 1

Prescribed premises category description (Schedule 1, ***Environmental Protection Regulations 1987***)	**Assessed production capacity**
Category 8: Mineral sands mining or processing: premises on which mineral sands ore is mined, screened, separated or otherwise processed.	5,000 tonnes per annual period
Category 44: Metal smelting or refining: premises on which metal ore, metal ore concentrate or metal waste is smelted, fused, roasted, refined or processed.	24,000 tonnes per annual period
Category 70: Screening etc. of material: premises on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.	20,000 tonnes per annual period

This licence is granted to the licence holder, subject to the attached conditions, on 12/03/2021, by:

Chris Malley
Digitally signed by Chris Malley
Date: 2021.03.12 11:34:36 +08'00'

Manager, Process Industries

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

Licence history

Date	Reference number	Summary of changes
13/03/2013	L5908/1990/11	Licence re-issue
29/04/2016		Department initiated amendment of extension of licence duration to 13/03/2021.
29/09/2016		Amendment notice 1: DWER initiated amendment to correct occupier details and include Annual Audit Compliance Report requirement.
10/05/2017		Amendment notice 2: Licence Holder initiated amendment for proposal to crush spodumene.
7/08/2019		DWER initiated amendment to consolidate amendment notice 1 and amendment notice 2 into the licence.
12/03/2021	L5908/1990/12	Licence renewal and update of the licence into the new format.

Interpretation

In this licence:

(a) the words ‘including’, ‘includes’ and ‘include’ in conditions mean “including but not limited to”, and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice in this licence:

  (i) if dated, refers to that particular version; and

  (ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

Licence conditions

The licence holder must ensure that the following conditions are complied with:

Infrastructure and equipment

1. The licence holder must ensure that the site infrastructure and equipment listed in Table 1 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirements set out in Table 1.

Table 1: Infrastructure and equipment operational requirements

Site infrastructure and equipment	Operational requirement	Infrastructure location
Dust collectors discharging to Stacks 1-7	• The dust collectors must be fitted with dust monitoring systems and alarms which inform plant operators (both visually and audibly) if there is an exceedance of the PM emissions limits specified in Condition 8; • The alarms must be operational on Stacks 1-7, and • The licence holder must ensure that backup power is provided to all dust collection systems to allow continued operation of these systems following the loss of mains power.	Stacks 1 – 7, as shown in Figure 1.
Selective catalytic reduction system	• All emissions discharged from Stack 5 must be treated by the selective catalytic reduction system prior to discharge into the atmosphere.	As shown in Figure 1.

2. The licence holder must ensure that spodumene material accepted onto the premises is only subjected to grading, crushing and sizing.

3. The licence holder must ensure that any spilled materials likely to cause or generate airborne dust are cleaned-up as soon as is practicable.

4. The licence holder must ensure that all crushing, screening and bagging process operations, and associated materials handling systems, are conducted within enclosed buildings.

5. The licence holder must ensure that all wastewaters from cooling water processes are discharged directly to the sewer system.

6. The licence holder must submit to the CEO by no later than 90 days after the issue date of this licence, a report that includes the following:

(a) a comparative assessment of the CEMS used to continuously measure NO_x emissions from Stack 5 in accordance with condition 9, against the CEMS Code (or other applicable CEMS standard) to determine the capability of the Stack 5 CEMS to accurately and reliably measure NO_x emissions from Stack 5; and

(b) if applicable, a plan detailing the measures the licence holder will take to rectify any issues with the Stack 5 NO_x CEMS identified in the comparative assessment and the timeframes required to implement those measures.

Emissions and discharges

7. The licence holder must ensure that the emissions specified in Table 2 are discharged only from the corresponding discharge points and only at the corresponding discharge point location.

Table 2: Authorised emission points

Emission	Description	Discharge Point Identity	Discharge Point Location	
			Easting	Northing
PM	Unit 1 - Alumina feed bin	Stack 1	383,437	6,429,624
	Unit 2 - Number 1 AWA furnace			
	Unit 4 - Number 2 AWA furnace	Stack 2	383,441	6,429,618
	Unit 6 - AWA Alumina sizing plant	Stack 3	383,361	6,429,627
	Unit 7 - AWA Alumina lump sizing plant			
	Unit 9 - Zirconia plant feed bin	Stack 4	383,447	6,429,719
	Unit 11 - Zirconia dryer	Unit 11	383,414	6,429,721
	Unit 12 - Zirconia sizing plant	Stack 6	383,398	6,429,735
	Unit 14 - Zirconia plant jet mill vent	Stack 7	383,393	6,429,725
PM	Unit 10 - Zirconia furnace	Stack 5	383,450	6,429,749
NO_x				
NH_3				
SO_2				

8. The licence holder must ensure that emissions from the discharge points listed in Table 3 for the corresponding parameter do not exceed the corresponding limit when monitored in accordance with condition 9.

Table 3: Emission limits

Discharge point	Parameter	Limit
Stacks 1 - 7 and Unit 11	PM	0.15 g/m^3
Stack 5	SO_2	0.34 g/m^3
	NO_x	200 ppm

Note: Units 3, 5 and 8 do not have specified emission limits as they discharge into process plant working areas and have limited potential to create emissions beyond the boundary of the prescribed premises.

Monitoring

9. The licence holder must monitor emissions:

(a) at the corresponding monitoring location;

(b) for the corresponding parameter;

(c) at the corresponding frequency;

(d) in the corresponding unit; and

(e) using the corresponding method,

as set out in Table 4.

Table 4: Emissions monitoring requirements

Monitoring location	Parameter	Frequency	Reporting Unit[2]	Sampling and Analysis Method[1] and 3
Stacks 1 - 7 and Unit 11	PM	Once in the year 2021 and then every three years	g/s and g/m^3	USEPA Method 5 or USEPA Method 17
Stack 5	Moisture content	Annually	%	USEPA Method 4
	Volumetric flow rate		m^3/s	USEPA Method 2
	Temperature		˚C	N/A
	SO_2		g/s and g/m^3	USEPA Method 6C
	NH_3			USEPA CTM 027
	NO_x		ppm	USEPA Method 7E
Stack 5	NO_x	Continuous	g/s and ppm (as 60 minute averages for each clock hour)	-

Note 1: Duplicate sample runs are to be conducted consecutively on the same sampling day.
Note 2: All units are to be reported as STP dry.
Note 3: Where any US EPA method refers to US EPA Method 1 for the sampling plane, this may be read as a referral to AS4323.1:1995.

10. The licence holder must ensure that the annual emissions monitoring for Stack 5, as set out in Table 4, is undertaken in each annual period such that there are at least 9 months in between the days on which samples are taken in successive years.

11. The licence holder must ensure that all sampling and analysis undertaken pursuant to condition 9, excluding continuous monitoring, is undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

12. The licence holder must record the results of all monitoring activity required by condition 9.

Records and reporting

13. The licence holder must record the following information in relation to complaints received by the licence holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant, (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

(d) the complete details and dates of any action taken by the licence holder to investigate or respond to any complaint.

14. The licence holder must:

(a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and

(b) prepare and submit to the CEO by no later than 60 days after the end of that annual period an Annual Audit Compliance Report (AACR) in the approved form.

15. The licence holder must submit to the CEO by no later than 60 days after the end of each annual period, an Annual Environmental Report for that annual period for the conditions listed in Table 5, and which provides information in accordance with the

corresponding requirement set out in Table 5.

Table 5: Annual reporting requirements

Condition	Requirement	Format or form
Condition 1	Summary of any failure or malfunction of any pollution control equipment or any incidents that have occurred during the year and any action taken.	None specified
Condition's 9 -12	Reports containing the methodology and results of the continuous, annual and triennial monitoring undertaken in accordance with condition 9.	
Condition 13	Complaints summary.	
Condition 14	Compliance.	AACR

16. The licence holder must maintain accurate and auditable books including the following records, information, reports, and data required by this licence:

(a) the calculation of fees payable in respect of this licence;

(b) any maintenance of infrastructure that is performed in the course of complying with this licence;

(c) monitoring programmes undertaken in accordance with conditions 9 to 12 of this licence; and

(d) Complaints received under condition 13 of this licence.

17. The books specified under condition 16 must:

(a) be legible;

(b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;

(c) be retained by the licence holder for the duration of the licence; and

(d) be available to be produced to an inspector or the CEO as required.

Definitions

In this licence, the terms in Table 6 have the meanings defined.

Table 6: Definitions

Term	Definition
ACN	Australian Company Number
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website).
annual period	a 12 month period commencing from 1 January until 31 December of the same year.
AS 4323.2 - 1995	Australian Standard 4323.2-1995: *Stationary source emissions. Method 2: Determination of total particulate matter—Isokinetic manual sampling—Gravimetric method*, as amended from time to time.
°C	degrees Celsius
CEO	means Chief Executive Officer of the Department. "submit to / notify the CEO" (or similar), means either: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
CEMS	means continuous emission monitoring system, the instruments and equipment required to analyse, measure, and provide on a continuous basis, a permanent record of emission and other parameters as established by the CEMS Code.
CEMS Code	means the *Guideline: Continuous Emission Monitoring System (CEMS) Code for Stationary Source Air Emissions*, Published by the Department of Environment Regulation.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
g/m^3	grams per cubic metre.
licence	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within.
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
m^3	refers to cubic metres
m^3/s	cubic metres per second
NH_3	means ammonia
NO_x	means oxides of nitrogen
PM	means particulate matter
ppm	parts per million

Term	Definition
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this licence.
SO_2	means sulphur dioxide
STP dry	means standard temperature and pressure (0˚Celsius and 101.325 kilopascals respectively), dry.
USEPA CTM 027	*United States Environmental Protection Agency Conditional Test Method 27 (CTM-027) – Procedure for collection and analysis of Ammonia in stationary sources*, as amended from time to time.
USEPA Method 2	*United States Environmental Protection Agency Method 2—Determination of stack gas velocity and volumetric flow rate (Type S Pitot Tube)*, as amended from time to time.
USEPA Method 4	*United States Environmental Protection Agency Method 4 - Determination of moisture content in stack gases*, as amended from time to time.
USEPA Method 5	*United States Environmental Protection Agency Method 5 – Determination of particulate matter emissions from stationary sources*, as amended from time to time.
USEPA Method 6C	*United States Environmental Protection Agency Method 6C - Determination of Sulfur Dioxide emissions from stationary sources (instrumental analyzer procedure)*, as amended from time to time.
USEPA Method 7E	*United States Environmental Protection Agency Method 7E – Determination of nitrogen oxides emissions from stationary sources (instrumental analyzer procedure)*, as amended from time to time.
USEPA Method 17	*United States Environmental Protection Agency Method 17 - Determination of particulate matter emissions from stationary sources*, as amended from time to time.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises, the site layout and the location of the discharge points are shown in Figure 1.

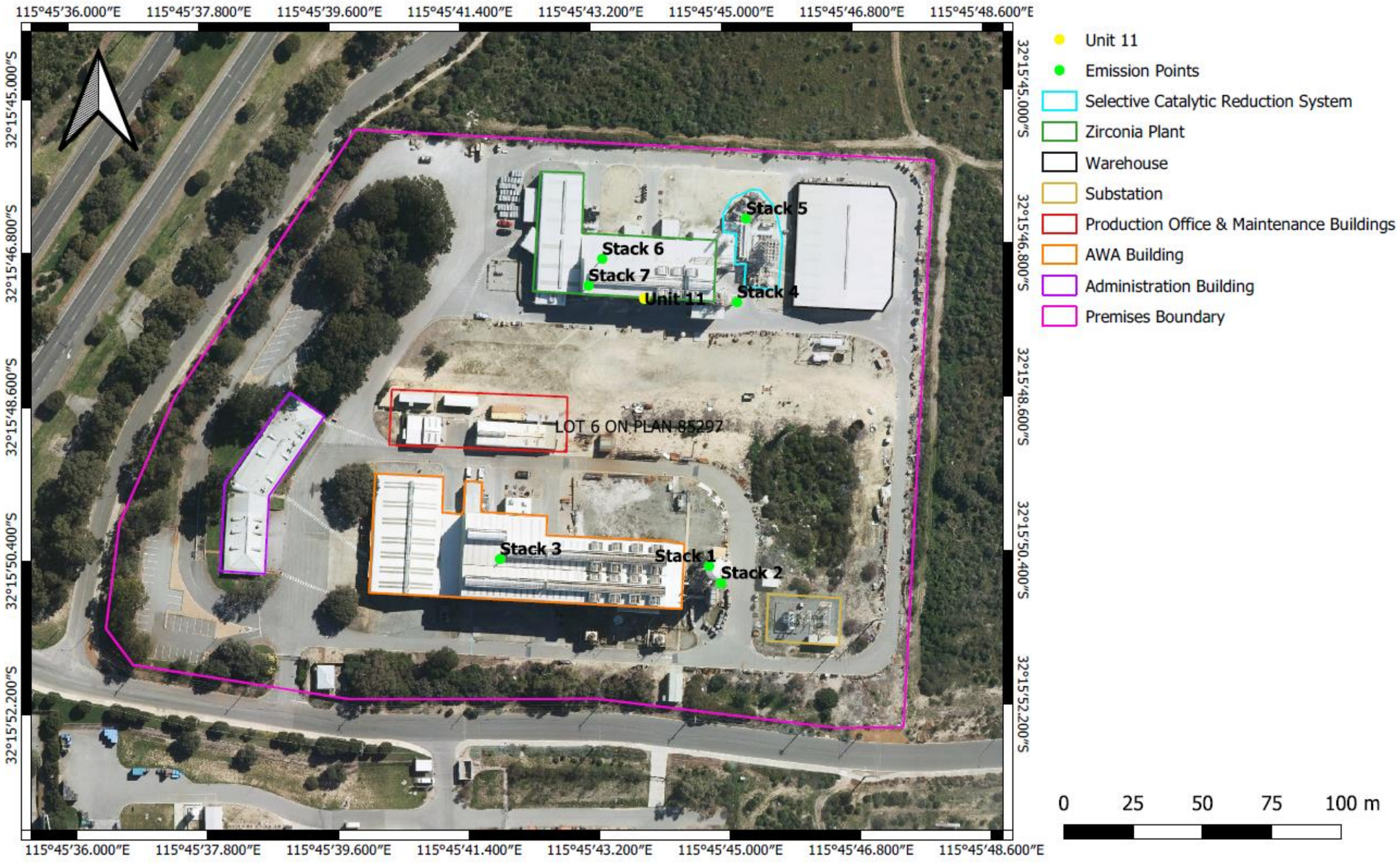

Figure 1: The premises boundary (shown in magenta), which is consistent with the cadastral boundary of Lot 6 on Deposited Plan 85297. The site layout and location of the emission discharge points are also shown in the above Figure.