



Application for Licence Amendment

Division 3, Part V *Environmental Protection Act 1986*

Licence Number	L6341/1988/10
Licence Holder	Simcoa Operations Pty Ltd
ACN	009 064 653
File Number	DER2014/001534
Premises	Kemerton Silicon Smelter 973 Marriott Road WELLESLEY WA 6233 Legal description - Lot 5548 on Plan 188561 and Lot 5549 on Plan 188562
Date of Report	05/05/2020
Status of Report	Final

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1. Definitions of terms and acronyms

In this Decision Report, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEMS	Continuous Emissions Monitoring Sensors
Decision Report	refers to this document.
Delegated Officer	an officer under section 20 of the EP Act.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of, and during this Review
Licence Holder	Simcoa Operations Pty Ltd
m ³	cubic metres
PM	Particulate Matter
PM ₁₀	used to describe particulate matter that is smaller than 10 microns (µm) in diameter
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report

2. Licence Amendment

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend licence L6341/1988/10 issued under the EP Act for the Kemerton Silicon Smelter operated by Simcoa Operations Pty Ltd.

Details of the amendment are set out in the form of an amended licence document.

The Licence Holder lodged an application to amend licence L6341/1988/10 on 29 November 2019 requesting amendments to:

1. condition 3.2.1 to alter the prescribed method of measuring particulate matter 10 micrometres or less in diameter (PM₁₀) emissions; and
2. condition 3.3.1 to alter monitoring requirements for emissions to land.

This Amendment Report documents the Delegated Officer's assessment and determination of the Application consistent with DWER's Regulatory Framework. The scope of assessment is limited to the amendments requested by the Licence Holder.

Amendments will include administrative updates to the licence. The licence will also be consolidated with amendments to the licence granted in Amendment Notice 1 granted on 12 June 2017.

2.1 Amendment Description

Table 2 lists the documents submitted during the assessment process.

Table 2: Documents and information submitted during the assessment process

Document/information description	Date received
Application to amend Simcoa Operation Licence L6341/1988/10	29 November 2019

3. Background

The Kemerton Silicon Smelter is a silicon metal production plant located 17 km north of Bunbury and within the Kemerton Industrial Park (KIP), a strategic industrial area for heavy industry covering over 7,500 ha. The distance between the premises boundary and the nearest residential premises outside the KIP buffer (zoned special residential) is approximately 2 km.

Quartzite, mined north of Moora, is transported to the site and is then combined with charcoal, manufactured on-site and other reductants in submerged arc electric furnaces to produce high purity silicon metal.

The metal is then crushed and packaged to customer requirements and shipped primarily through Fremantle. Baghouses are used to cleanse furnace off-gases and the resultant fume is then packaged and sold. The cleaned off gases are then vented to the atmosphere. The key environmental impacts are emissions of noise, dust, water and air emissions, as well as solid wastes.

The smelter is subject to the *Silicon (Kemerton) Agreement Act 1987* for the manufacture of silicon for the State of Western Australia, and Ministerial Statement No. 813 of 2009.

Table 3 lists the prescribed premises categories on the existing Licence.

Table 3: Prescribed Premises Categories in the Existing Licence

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	<i>Approved Premises production or design capacity or throughput</i>
Category 37: Char manufacturing: premises on which wood, carbon material or coal is charred to produce a fuel or material of carbonaceous nature or of enriched carbon content.	26,000 tonnes per year
Category 44: Metal smelting or refining: premises on which metal ore, metal ore concentrate or metal waste is smelted, fused, roasted, refined or processed	53 000 tonnes per year

4. Works approval and licence history

Table 4 summarises the works approval and licence history for the premises.

Table 4: Works approval and licence history

Instrument	Issued	Nature and extent of works approval, licence or amendment
W5286/2012/1	11 January 2012	Construction of the pipeline of settling pond wastewater to the neighbouring prescribed premises.
L6341/1988/10	9 October 2014	Licence re-issue
L6341/1988/10	31 December 2015	Licence Amended
L6341/1988/10	12 June 2017	Amendment Notice 1 Remove limit for triennial SO ₂ ambient air quality monitoring at AQ1 (western boundary) and increase design capacity of category 44 from 50,000 to 53,000 tonnes per year.

5. Risk Assessment

Condition 3.2.1

Condition 3.2.1 currently requires stack monitoring of PM₁₀ using USEPA Method 201A. The Licence Holder provided reasons from its emissions monitoring consultant to explain why the use of USEPA Method 201A was not appropriate for the source of emissions. This included the >250oC stack temperature, low particulate concentrations and the need to modify the sampling ports to fit the large equipment for Method 201A. The sample ports were designed for a historical requirements to monitor using USEPA Method 5 or 29.

The Licence Holder requested to reinstate use of USEPA Method 5 which address the above-mentioned limitations of Method 201A.

Condition 3.3.1

Condition 3.3.1 specifies requirements for the monitoring of emissions to land. Wastewater from premises during normal operation is transferred from the settling pond to the neighbouring Kemerton Titanium Dioxide Processing Plant's Clean Effluent Pond for disposal to an ocean outfall regulated under the Titanium Dioxide Plant's Licence (L8870/2014/1). Waste water transported by pipeline to the neighbouring premises is continuously monitored for pH, electrical conductivity and Turbidity.

The Licence Holder has requested an amendment to the monitoring requirements for emission point reference "L1 & L3" with two options provided:

1. the frequency of sampling for discharges to land from emission points L1 and L3 be changed from daily while flowing to weekly while flowing, or;

2. the parameters for analysis at L1 and L3 be changed from pH, total dissolved solids and total suspended solids to pH, electrical conductivity and turbidity.

The Settling Pond is sampled weekly as part of quality assurance for the CEMS on the discharge pipeline. Table 5 shows the variation of pH, electrical conductivity and turbidity in the settling pond for an 11 month period. Day to day variations are small.

Table 5: 11 month variation of settling pond water

Parameter	Unit	Average	Min	Max
pH	pH Unit	8.1	7.4	8.6
Electrical Conductivity	us/cm	4109.5	2990.0	6746.0
Turbidity	NTU	17.4	4.8	44.7

Table supplied by Simcoa Operations Pty Ltd

Discharge from L3 to a lined concrete culvert for evaporation and discharge to land on the premises will only occur in a period of heavy rain or if the discharge to the neighbouring premises becomes unavailable discharge is to a concrete culvert. Discharges from the weir for the settling pond (L1) will be rare and of short duration. The existing licence does not apply any limits on discharge to land and a review of historical monitoring data does not indicate potential changes to the risk profile.

6. Decision

Condition 3.2.1

The Delegated Officer did not object to a change from USEPA Method 201A to the more appropriate USEPA Method 5. There is no change to the emissions to air risk profile.

Condition 3.3.1

The Delegated Officer did not object to an amendment to the monitoring requirements of condition 3.3.1. Decreasing the sampling frequency for “L1 & L3” from daily when flowing to weekly is not expected to change the risk profile of emissions to land.

Summary of amendments

Table 6 provides a summary of amendments to be included in the licence, including administrative updates and the consolidation of Amendment Notice 1.

Table 6: Summary of amendments including administrative changes

Condition Reference	Grounds
Front Page	Formatted front page to current standard format. Amalgamated amendment notices to include correct expiry date and correct registered business address
Preamble	Deleted information from the preamble that is now available in the <i>Industry Regulation Guide to Licensing</i> available at https://www.der.wa.gov.au/our-work/licences-and-works-approvals/publications .
Amendment Notice 1	The Amendments made in amendment notice 1 have been amalgamated into the licence document.
Condition 1.1.2 Definitions	Updated the CEO definition and contact details
Condition 3.2.1	Amended to prescribe USEPA Method 5 for measuring PM ₁₀ .
Condition 3.5.1	Amended to prescribe weekly testing when flowing for discharge points L1 and L2

7. Applicant's comments

The Licence Holder was provided with a copy of the draft licence amendments and Amendment Report on 7 April 2020 and responded on 28 April 2020 advising of no issues with proposed amendments.

8. Conclusion

This assessment of the risks of activities on the Premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this Amendment Report (summarised in Appendix 1).

Based on this assessment, it has been determined that the Revised Licence will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Chris Malley
A/Manager, Process Industries

Delegated Officer under section 20 of the
Environmental Protection Act 1986

Appendix 1: Key documents

	Document title	Availability
1.	Licence L6341/1988/10	accessed at www.der.wa.gov.au
2.	Licence L6341/1988/10 Amendment Notice 1 12 June 2017	accessed at www.der.wa.gov.au
3.	Application to amend Simcoa Operation Licence L6341/1988/10	DWER records (DWERDT229317)
4.	<i>Guidance Statement: Regulatory Principles (July 2015)</i>	accessed at www.dwer.wa.gov.au
5.	<i>Guidance Statement: Setting Conditions (October 2015)</i>	
6.	<i>Guideline: Decision Making (June 2019)</i>	
7.	<i>Guidance Statement: Risk Assessment (February 2017)</i>	
8.	<i>Guideline: Industry Regulation Guide to Licensing (June 2019)</i>	