Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: Simcoa Operations Pty Ltd

Licence: L6341/1988/10

Registered office: 973 Marriott Road
WELLESLEY WA 6233

ACN: 009 064 653

Premises address: Kemerton Silicon Smelter
973 Marriott Road
WELLESLEY WA 6233
Being Lot 5548 on Plan 188561 and Lot 5549 on Plan 188562,
as depicted in Schedule 1.

Issue date: Thursday, 9 October 2014

Commencement date: Monday, 13 October 2014

Expiry date: Saturday, 12 October 2019

Prescribed premises category
Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
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.	10 tonnes or more per year	26,000 tonnes per year
44	Metal smelting or refining: premises on which metal ore, metal ore concentrate or metal waste is smelted, fused, roasted, refined or processed.	1,000 tonnes or more per year	50,000 tonnes per year

Conditions
This Licence is subject to the conditions set out in the attached pages.

Date signed: 31 December 2015
.....
Jonathan Bailes
Manager Licensing (Process Industries)
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Contents

Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role
The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements 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/Licensee 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:
http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html

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.

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 Kemerton Silicon Smelter is a silicon metal production plant located 17 km north of Bunbury and within the industrial core of 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.

This amendment is to allow brackish wastewater from the reverse osmosis plant and settling pond to be pumped to effluent ponds at the adjacent Kemerton Titanium Dioxide Processing Plant's, from where it will be discharged to the environment via an ocean outfall. The disposal of the wastewater via ocean outfall is regulated under Licence L8870/2014/1 operated by Cristal Pigment Australia Ltd. Other administrative changes have also been made to the licence.

The licences and works approvals issued for the Premises since 1995 are:

Instrument log		
Instrument	**Issued**	**Description**
L6341	26/10/1995	Licence issue.
L6341/1	05/10/1998	Licence reissue.
L6341/2	16/03/1999	Licence reissue.
L6341/3	07/10/1999	Licence reissue.
L6341/4	06/10/2000	Licence reissue.
L6341/5	09/10/2001	Licence reissue.
L6341/6	27/09/2002	Licence reissue.
L6341/6	04/03/2003	Licence amendment.
L6341/7	27/10/2003	Reissue.
L6341/8	11/10/2004	Reissue. Issued for 5 years.
W4247/1988/1	04/08/2006	Works approval for construction of a third arc-furnace.
L6341/1988/9	08/10/2009	Reissue. Issued for 5 years.
W4833/2010/1	03/03/2011	Works approval for construction of a secondary crushing plant.
W4247/1988/1	28/07/2011	Works approval amendment to extend expiry date.
L6341/1988/9	02/08/2012	Licence amendment following construction of the third arc furnace.
W5286/2012/1	11/01/2013	Works approval for construction of a wastewater pipeline to the adjacent Cristal Pigment ponds.
L6341/1988/10	09/10/2014	Reissue. Converted to new DER template.
L6341/1988/10	31/12/2015	Amendment to allow wastewater to be transferred to Cristal Pigment Australia's site.

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:

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

'AHD' means the Australian height datum;

'annual period' means the inclusive period from 1 January until 31 December in the same year;

'AS 3580.1.1' means the Australian Standard AS 3580.1.1 *Methods for sampling and analysis of ambient air - Part 1.1: Guide to siting air monitoring equipment;*

'AS 3580.4.1' means the Australian Standard AS 3580.4.1 *Methods of sampling and analysis of ambient air - Determination of Sulfur Dioxide - Direct Reading Instrument Method;*

'AS 3580.9.3' means the Australian Standard AS 3580.9.3 *Methods for sampling and analysis of ambient air - Determination of suspended particulate matter –Total suspended particulate matter (TSP) – High volume sampler gravimetric method;*

'AS 4323.1' means the Australian Standard AS4323.1 *Stationary Source Emissions Method 1: Selection of sampling positions*;

'AS/NZS 5667.1' means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples;*

'AS/NZS 5667.10' means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters;*

'AS/NZS 5667.11' means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters;*

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

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means:

Chief Executive Officer
Department Administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au;

'Licence' means this Licence numbered L6341/1988/10 and issued under the Act;

'Licensee' means the person or organisation named as Licensee 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;

'PM' means total particulate matter including both solid fragments of material and miniscule droplets of liquid;

'PM_{10}' means particles with an aerodynamic diameter of less or equal to 10 µm;

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

'Schedule 1' means Schedule 1 of this Licence unless otherwise stated;

'Schedule 2' means Schedule 2 of this Licence unless otherwise stated;

'six monthly' means the 2 inclusive periods from 1 January to 30 June and 1 July to 31 December in the same year;

'spot sample' means a discrete sample representative at the time and place at which the sample is taken;

'stack test' means a discrete set of samples taken over a representative period at normal operating conditions;

'STP dry' means standard temperature and pressure (0^{o}Celsius and 101.325 kilopascals respectively), dry;

'triennial' means once every three years;

'TSP' means total suspended particles each having an equivalent aerodynamic diameter of less than 50 micrometres;

'USEPA' means United States (of America) Environmental Protection Agency;

'USEPA Method 2' means the USEPA Method 2 *Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)*;

'USEPA Method 5' means the USEPA Method 5 *Determination of Particulate Matter Emissions from Stationary Sources*;

'USEPA Method 6' means the USEPA Method 6 *Determination of Sulfur Dioxide Emissions from Stationary Sources*;

'USEPA Method 6C' means the USEPA Method 6C *Determination of Sulfur Dioxide Emissions from Stationary Sources (Instrumental Analyzer Procedure);*

'USEPA Method 7E' means the USEPA Method 7E *Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrument Analyser Procedure)*;

'USEPA Method 10' means the USEPA Method 10 *Determination of Carbon Monoxide Emissions from Stationary Sources*;

'USEPA Method 201A' the USEPA Method 201A *Determination of PM_{10} Emissions (Constant Sampling Rate Procedure);* and

'µS/cm' means microsiemens per centimetre.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the 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.

1.2 Premises operation

1.2.1 The Licensee shall ensure that waste material is only stored and/or treated within areas or compounds provided with the infrastructure detailed in Table 1.2.1.

Table 1.2.1: Containment infrastructure

Storage vessel or compound	Material	Infrastructure requirements
Settling pond	Brackish wastewater from the RO plant, laboratory and retort sump and treated water from an oil/water separator	Synthetic lined with design capacity of 1000m^3

2 Emissions

2.1 Point source emissions to air

2.1.1 The Licensee shall ensure that where waste is emitted to air from the emission points in Table 2.1.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.1.1: Emission points to air

Emission point reference	Emission Point	Source, including any abatement
A1	Furnace 1 & 2 roof vent	Furnace 1 & 2 via baghouse
A2	Furnace 3 stack	Furnace 3 via baghouse
A3	Charcoal retort stack	Charcoal retort 1 & 2 via incinerator
A4	Emergency venting stacks	Furnace 1 & 2
A5	Emergency venting stacks	Furance 3

2.1.2 The Licensee shall not allow the direct venting of furnace off gases to the atmosphere (bypassing the baghouse), unless necessary for the safe operation of the Premises.

2.2 Emissions to land

2.2.1 The Licensee shall ensure that where waste is emitted to land from the emission points in Table 2.2.1 and identified on the Map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.2.1: Emissions to land

Emission point reference	Description	Source including abatement
L1	Settling pond overflow point that discharges directly onto the ground during overflow events.	Brackish wastewater from the RO plant, laboratory and retort sump and treated water from an oil/water separator.
L2	Infiltration drain and pond that facilitates infiltration of stormwater runoff.	Stormwater runoff from the wood block drying pad and underground drains.
L3	Settling pond contingency discharge point to be used when disposal to Kemerton Titanium Dioxide Processing Plant is unavailable	Brackish wastewater from the RO plant, laboratory and retort sump and treated water from an oil/water separator.

3 Monitoring

3.1 General monitoring

3.1.1 The licensee shall ensure that:
(a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
(b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
(c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11; and
(d) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.

3.1.2 The Licensee shall ensure that:
(a) weekly monitoring is undertaken at least 5 days apart;
(b) six monthly monitoring is undertaken at least 5 months apart;
(c) annual monitoring is undertaken at least 9 months apart; and
(d) triennial monitoring is undertaken at least 2 years and 9 months apart.

3.1.3 The Licensee 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.

3.1.4 The Licensee shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

3.2 Monitoring of point source emissions to air

3.2.1 The Licensee 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]**	**Averaging period**	**Frequency[2]**	**Method**
A2 – A3	Volumetric flow rate	m^3/s	As per method	Annually	USEPA Method 2
	PM	mg/m^3 g/s	Stack test (Minimum 60 minutes)		USEPA Method 5
	PM_{10}				USEPA Method 201A
	Sulfur dioxide		Stack test (Minimum 30 minutes)		USEPA Method 6 or 6C
	NOx				USEPA Method 7E
	Carbon monoxide				USEPA Method 10

Note 1: All units are referenced to STP dry.
Note 2: Monitoring shall be undertaken to reflect normal operating conditions and any limits or conditions on inputs or production.

3.2.2 The Licensee shall ensure that sampling required under Condition 3.2.1 of the Licence is undertaken at sampling locations in accordance with the AS 4323.1.

3.2.3 The Licensee 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 Monitoring of emissions to land

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

Table 3.3.1: Monitoring of emissions to land				
Emission point reference	**Parameter**	**Units**	**Averaging Period**	**Frequency**
L2	pH[1]	pH unit	Spot sample	Weekly when flowing
	Total dissolved solids[2]	mg/L		
	Total suspended solids[2]			
L1 & L3	pH[1]	pH unit		Daily when flowing
	Total dissolved solids[2]	mg/L		
	Total suspended solids[2]			
L3	Volumetric flow rate	m^3	Hourly	Continuous

Note 1: In-field measurement permitted.
Note: 2: Testing in Simcoa laboratory permitted.

3.4 Monitoring of inputs and outputs

3.4.1 The Licensee shall undertake the monitoring in Table 3.4.1 according to the specifications in that table.

Table 3.4.1: Monitoring of inputs and outputs					
Input/Output	**Process Description**	**Parameter**	**Units**	**Averaging period**	**Frequency**
Coal	N/A	Sulfur	% by weight	Monthly weighted average of samples	Quarterly
W1	Wastewater discharged to Kemerton Titanium Dioxide Processing Plant	Volumetric flow rate	m^3	Hourly	Continuous

3.5 Ambient environmental quality monitoring

3.5.1 The Licensee shall undertake the monitoring in Tables 3.5.1 and 3.5.2 according to the specifications in those tables and record and investigate results that do not meet any limit specified.

Table 3.5.1: Monitoring of ambient air quality

Monitoring point reference	Parameter	Limit	Units[1]	Averaging period	Frequency	Method
AQ1 & AQ2[2]	TSP[1]	None specified	µg/m^3	24 hours	Annual, with a minimum of 2 samples between 1 October and 31 May.	AS 3580.9.3
AQ1 & AQ3[3]	Sulfur dioxide	229		24 hours	Triennial	AS 3580.4.1
		572		1 hour		

Note 1: To be sampled using a High Volume Air Sampler.
Note 2: Sampling location is Leschenault Parklands, Leschenault.
Note 3: Sampling location is Leschenault.

3.5.2 The Licensee shall ensure that the siting of ambient air monitoring equipment is in accordance with AS 3580.1.1.

Table 3.5.2: Monitoring of ambient groundwater quality

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
GQ1 – GQ3	Standing water level	m (AHD)	Spot sample	Six monthly
	pH[1]	pH unit		
	Electrical conductivity	µS/cm		
	Total dissolved solids, total organic carbon	mg/L		

Note 1: In-field measurement permitted.

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 Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee 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 Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

4.2 Reporting

4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 31 March in each year. 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[1]**
-	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
Table 3.2.1	Monitoring of point source emissions to air	
Table 3.3.1	Monitoring of emissions to land	
Table 3.4.1	Monitoring of inputs and outputs	
Table 3.5.1	Monitoring of ambient air quality	
Table 3.5.2	Monitoring of ambient groundwater quality	
4.1.3	Compliance	Annual Audit Compliance Report (AACR)
4.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2

4.2.2 The Licensee shall ensure that the Annual Environmental Report also contains an assessment of the information contained within the report against previous monitoring results.

4.2.3 The Licensee shall submit the information in Table 4.2.2 to the CEO according to the specifications in that table.

Table 4.2.2: Non-annual reporting requirements				
Condition or table (if relevant)	**Parameter**	**Reporting period**	**Reporting date (after end of the reporting period)**	**Format or form**
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties
2.2.2	Date, time, duration and explanation for periods of direct venting of furnace off gases	Monthly	28 calendar days	None specified

4.3 Notification

4.3.1 The Licensee 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.

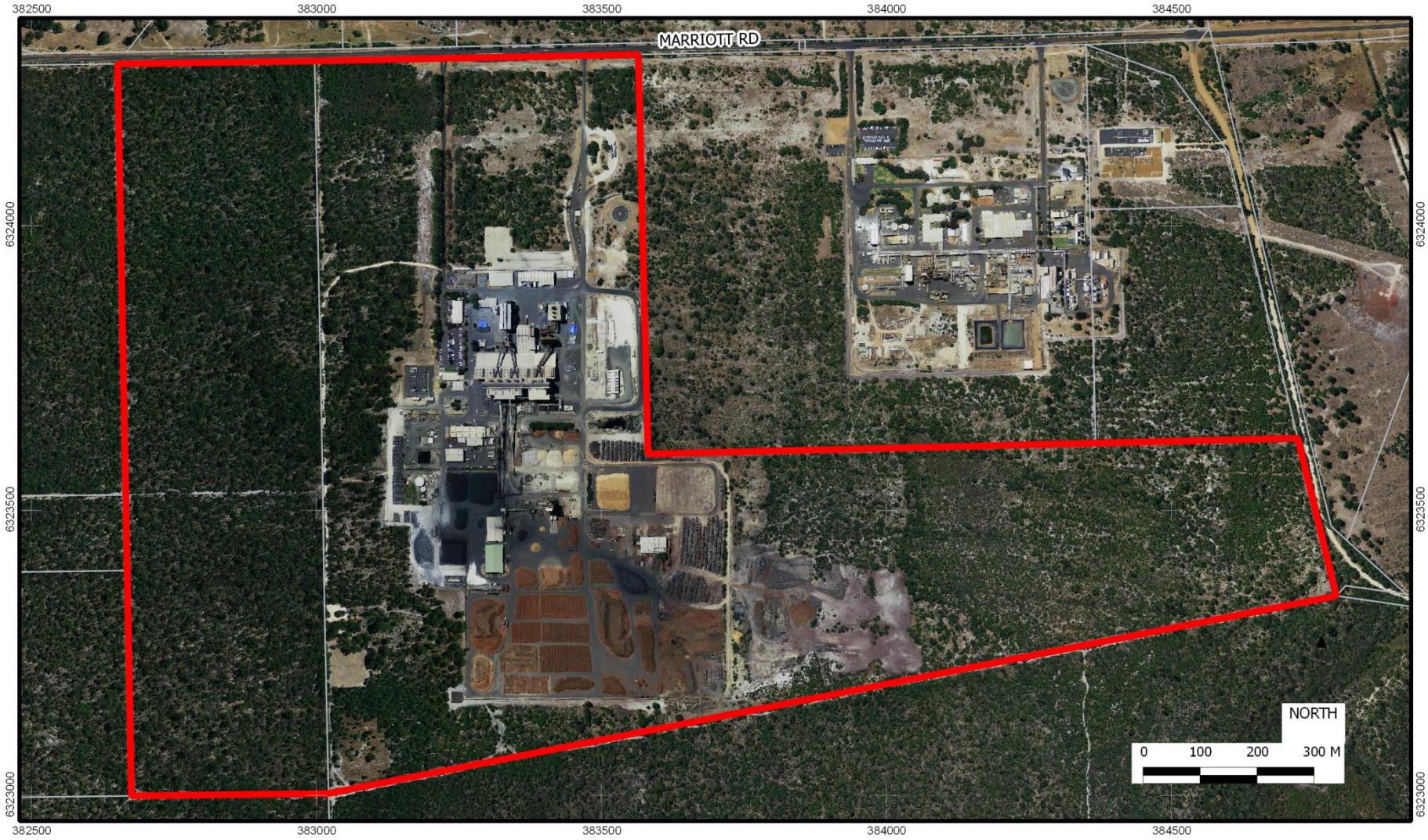
Table 4.3.1: Notification requirements			
Condition or table (if relevant)	**Parameter**	**Notification requirement[1]**	**Format or form[2]**
3.5.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1
3.1.4	Calibration report	As soon as practicable.	None specified

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

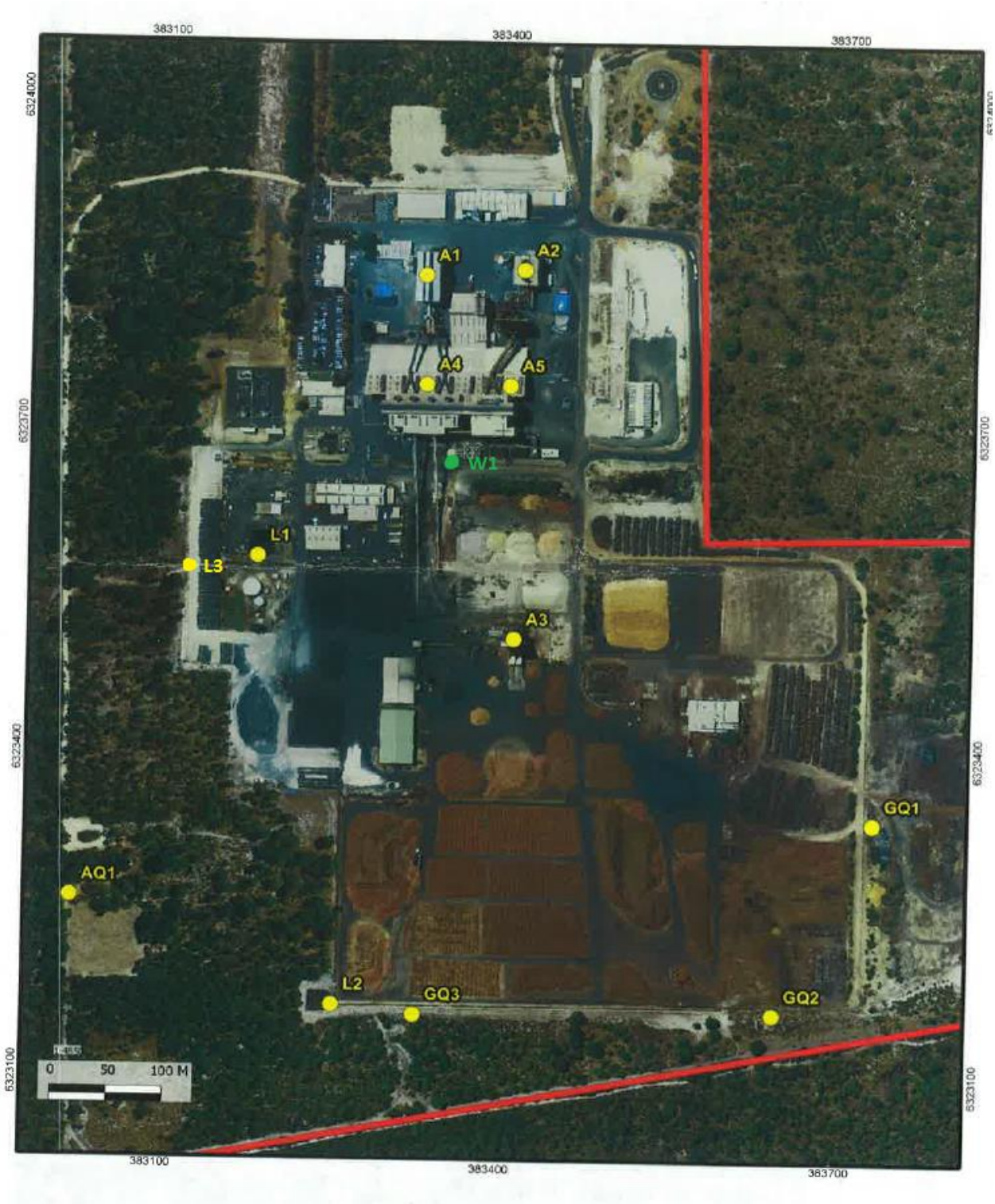
Premises map

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



Map of emission points and Map of monitoring locations

The locations of the emission points defined in Tables 2.1.1 and 2.2.1 are shown below. The locations of the monitoring points defined in Tables 3.3.1, 3.4.1, 3.5.1 and 3.5.2 are shown below.



Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A

LICENCE DETAILS

Licence Number:	Licence File Number:
Company Name: Trading as:	ABN:
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

1. Were all conditions of the Licence complied with within the reporting period? (please tick the appropriate box)

Yes ☐ Please proceed to Section C

No ☐ Please proceed to Section B

Each page must be initialled by the person(s) who signs Section C of this Annual Audit Compliance Report (AACR).

Initial:

SECTION B

DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each Licence condition that was not complied with.

a) Licence condition not complied with:
b) Date(s) when the non compliance occurred, if applicable:
c) Was this non compliance reported to DER?:
☐ Yes ☐ Reported to DER verbally Date _____ ☐ Reported to DER in writing Date _____ ☐ No
d) Has DER taken, or finalised any action in relation to the non compliance?:
e) Summary of particulars of the non compliance, and what was the environmental impact:
f) If relevant, the precise location where the non compliance occurred (attach map or diagram):
g) Cause of non compliance:
h) Action taken, or that will be taken to mitigate any adverse effects of the non compliance:
i) Action taken or that will be taken to prevent recurrence of the non compliance:

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:

SECTION C

SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) may only be signed by a person(s) with legal authority to sign it. The ways in which the AACR must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this AACR is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is		The Annual Audit Compliance Report must be signed and certified:
An individual	□	by the individual licence holder, or
	□	by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf.
A firm or other unincorporated company	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A corporation	□	by affixing the common seal of the licensee in accordance with the *Corporations Act 2001*; or
	□	by two directors of the licensee; or
	□	by a director and a company secretary of the licensee, or
	□	if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or
	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A public authority (other than a local government)	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
a local government	□	by the chief executive officer of the licensee; or
	□	by affixing the seal of the local government.

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of $50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SEAL (if signing under seal)

Licence: L6341/1988/10 Licensee: Simcoa Operations Pty Ltd
Form: N1 Date of breach:

Notification of detection of the breach of a limit

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	

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 Simcoa Operations Pty Ltd	
Date	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Proponent: Simcoa Operations Pty Ltd

Licence: L6341/1988/10

Registered office:	973 Marriott Road WELLESLEY WA 6233
ACN:	009 064 653
Premises address:	Kemerton Silicon Smelter 973 Marriott Road WELLESLEY WA 6233 Being Lot 5548 on Plan 188561 and Lot 5549 on Plan 188562
Issue date:	Thursday, 9 October 2014
Commencement date:	Monday, 13 October 2014
Expiry date:	Saturday, 12 October 2019

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER) has decided to issue an amended licence. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by:	Elizabeth Whisson Licensing Officer
Decision Document authorised by:	Jonathan Bailes Delegated Officer

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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986.* Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

Administrative details		
Application type	Works Approval ☐ New Licence ☐ Licence amendment ☒ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)**	**Assessed design capacity**
	37: Char manufacturing	26 000 tonnes per annum
	44: Metal smelting or refining	50 000 tonnes per annum
Application verified Application fee paid	Date: 24/09/2015 Date: N/A	
Works Approval has been complied with Compliance Certificate received	Yes☒ No☐ N/A☐ Yes☒ No☐ N/A☐	
Commercial-in-confidence claim	Yes☐ No☒	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes☒ No☐	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes☐ No☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Is the proposal subject to Ministerial Conditions?	Yes☒ No☐	Ministerial statement No: 813 EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)?	Yes☐ No☒ Department of Water consulted Yes ☐ No ☐	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes☐ No☒		
Is the Premises subject to any EPP requirements? Yes☐ No☒		

3 Executive summary of proposal and assessment

The Kemerton Silicon Smelter is a silicon metal production plant located 17 km north of Bunbury and within the industrial core of 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.

This amendment is to allow brackish wastewater from the reverse osmosis plant and settling pond to be pumped to effluent ponds at the adjacent Kemerton Titanium Dioxide Processing Plant, from where it will be discharged to the environment via an ocean outfall. The disposal of the wastewater via ocean outfall is regulated under Licence L8870/2014/1 operated by Cristal Pigment Australia Ltd. Other administrative changes have also been made to the licence.

4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	**Condition number** **W = Works Approval** **L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
General Conditions	L1.2.1 – L1.2.5	Conditions L1.2.1 - L1.2.4 (General conditions) have been removed in accordance with administrative changes implemented within DER. Condition 1.2.1 has been removed as it not a condition and contains only explanatory text. Condition 1.2.2 has been removed as it is not sufficiently clear or certain. Conditions 1.2.3 and 1.2.4 have been removed as it is the occupier's responsibility to ensure that they comply with relevant legislative requirements for secondary activities such as the storage and handling of environmentally hazardous materials. Unauthorised discharges of environmentally hazardous materials are subject to the provisions of the *Environmental Protection (Unauthorised Discharges) Regulations 2004*. Emission Description *Emission:* Stormwater run-off from the large hardstand area within the plant. *Impact:* Potential impact on groundwater (depth to groundwater is approximately 7m) and surrounding vegetation. *Controls:* Any spills outside of the bunded areas are contained and cleaned up in accordance with the licensee's standard operating procedure. Any spills greater than 5L in volume are investigated via the licensee's incident reporting system. Stormwater is captured in a series of open channels and underground drains. Run-off from the wood block drying pad is directed to an infiltration drain and pond (Block Pad Dam) which captures mulch and wood dust before allowing the water to infiltrate into the ground. Risk Assessment *Consequence:* Insignificant	Simcoa Operations Pty Ltd – 2014 Kemerton Silicon Smelter Annual Environmental Report, March 2015 Simcoa Operations Pty Ltd – Kemerton Silicon Smelter Works Approval Application – Settling Pond Wastewater Transfer Pipeline, September 2012

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		Likelihood: Unlikely *Risk Rating:* Low Regulatory Controls Condition 1.2.5 has been removed as it is not sufficiently clear or certain. The condition does not specify what stormwater infrastructure is required to be constructed and maintained or what if any specific manage actions are required. The risk of stormwater impacting on the surrounding environment has been assessed as low. Sufficient controls are implemented in the licensee's operational procedures, authorised emission points in condition 2.2.1 and monitoring in condition 3.3.1. The licensee must also comply with the *Environmental Protection (Unauthorised Discharges) Regulations 2004*. Residual Risk *Consequence:* Insignificant *Likelihood:* Unlikely *Risk Rating:* Low	
Premises operation	1.2.1	Condition 1.2.1 has been included to formally recognise the lined settling pond on site that is used to store brackish wastewater from the RO plant, laboratory and retort sump and treated water from an oil/water separator.	Application supporting documentation
Emissions to land including monitoring	L2.2.1 and L3.3.1	Currently, brackish wastewater is disposed to land via overflowing of the settling pond via an unmetered weir (emission point reference L1). The wastewater transfer project, constructed under Works Approval W5286/2012/1, now enables wastewater to be transferred to the adjacent prescribed premises for disposal to an ocean outfall. It is possible that a plant or equipment outage may prevent the disposal of wastewater via the ocean outfall at the neighbouring premises. Therefore, the wastewater will be required to be stored in the existing settling pond onsite at Kemerton Silicon Smelter. The settling pond at the premises can store the wastewater for approximately two days; however, if the maximum storage capacity of	Application supporting documentation

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		the pond is exceeded, wastewater will be pumped into a concrete culvert in the existing open drain (emission point reference L3). A totalising flow meter is installed on the discharge pipe from the settling pond pump so as to monitor the volume of wastewater discharged in this manner. Emission point reference L1, the existing settling pond overflow point, will remain in the licence as an overflow point in case of a failure of the settling pond transfer pump that may result in the pond reaching capacity and overflowing at this point as per current practice. Condition 2.2.1 has been amended to include emission point reference L3 to allow wastewater to be discharged on site when disposal of the wastewater to Kemerton Titanium Dioxide Processing Plant is unavailable. Condition 3.3.1 has been amended to include monitoring of emission point L3 in the event wastewater is required to be pumped to the concrete culvert. Condition 3.3.1 has also been amended to require daily monitoring of the overflow of the settling pond (emission point L1) as opposed to weekly as it is expected discharge at point L1 will only be required on a few occasions for short durations.	
Fugitive emissions	N/A	**Operation** Emission Description *Emission:* Potential for dust emissions through the handling of raw materials, unsealed surfaces, furnace off-gases (direct venting), wood processing and charcoal screening operations, furnace baghouse and crystalline quartz in silica fume. *Impact:* Potential to adversely affect human health, visual amenity and surrounding vegetation and fauna. The closest sensitive premises, residential, are located approximately 1. 7 km from the premises. *Controls:* Separation distance. The licensee minimises dust emissions from the plant using some methods including, but not limited to: - Wetting down raw material stockpiles using fixed and mobile sprinklers before loading or handling raw materials that could generate dust; - Bituminising high traffic areas; - Washing quartz before offloading at Kemerton; - Mulching non-traffic areas of the plant; - Using covered conveyors;	Application Supporting Documentation Simcoa Operations Pty Ltd – Environmental Monitoring and Management Plan, November 2015 Simcoa Operations Pty Ltd – Kemerton Silicon Smelter – Annual Environmental

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		- Enclosing raw material transfer points; - Using mist sprinklers on the charcoal loading hopper at the charcoal retorts and transfer points in the smelter; - Storing materials such as silica fume, charcoal fines and charcoal in sheds, silos and bunkers; - Performing regular preventative maintenance on dust control equipment such as the baghouse and dust collectors; and - Conducting monthly ventilation audits to ensure proper operation of dust control equipment. As per current licence conditions, the licensee monitors total suspended particulates (TSP) using a high volume air sampler at the west boundary (AQ1) and Leschenault parklands (AQ2) twice between 1 October and 31 May each year, with results reported to DER in the annual environment report. The submerged arc furnaces generate large volumes of particulates in the form of amorphous silica fume, which are entrained in the furnace off-gases. During normal operation, these off-gases are cleaned by passing them through fabric filter bags in the smelter baghouse. On rare occasions, the off-gases bypass the baghouse and vent directly to the atmosphere. This may occur if there is a power failure, high-temperature alarm in the baghouse, or failure of the baghouse fans. In these circumstances venting from the smelter building is necessary to protect workers that could be engulfed by dust. When this occurs interlocks immediately cut power to the furnaces and prevent prolonged discharge of dust. The frequency of direct venting has fallen significantly since the cooling radiators of the baghouse fans were upgraded in 2007. This upgrade has minimised most incidents of fan overheating, the most frequent cause of direct venting. The licensee's Environmental Monitoring and Management Plant (EMMP), last updated November 2015, details the source of dust at the premises, how they are managed, monitored, reaction strategies and contingency plans. <u>Risk Assessment</u> *Consequence:* Minor *Likelihood:* Possible	Report 2014, March 2015 *Environmental Protection Act 1986* (EP Act)

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		Risk Rating: Moderate Regulatory Controls In accordance with administrative changes implemented within DER, generic fugitive conditions have been removed. Dust management at the site is implemented through the site's EMMP and continue to be monitored through current licence condition 3.5.1. The licensee is also required to notify DER within 28 calendar days of any period of direct venting of furnace off-gases. Given these controls, no further conditions regulating dust have been included on the licence. The substantive offences of the EP Act provide enforceable prohibitions for dust emissions that result in pollution or environmental harm. Residual Risk *Consequence:* Minor *Likelihood:* Possible *Risk Rating:* Moderate	
Odour	N/A	**Operation** Emission Description *Emission:* Potential offensive odours and vapours from the charcoal retort during operation. *Impact:* Nuisance and potential health impacts. The closest sensitive premises, residential, are located approximately 1. 7 km from the premises. *Controls:* Separation distance. The charcoal retorts have been designed with a double chamber at the top and bottom of the retorts to avoid escape of odorous gases while charging and discharging. The pressure is also automatically controlled slightly lower than atmospheric pressure to prevent gas escape and is electronically monitored. Daily operational checks are carried out to identify potential issues that could cause odorous emissions. In the event of a gas emission due to over pressure or power failure in the retort the gas is automatically diverted to a flare stack, whch incinerates any escaping gas. In the event of power failure, the charcoal plant off-gas incinerator is held online by use of an auxiliary power generator that powers an	Application Supporting Documentation Simcoa Operations Pty Ltd – Environmental Monitoring and Management Plan, November 2015 Simcoa Operations Pty Ltd – Kemerton Silicon Smelter – Annual

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		auxiliary combustion air fan to ensure complete combustion of any odorous volatile matter presenting in the incinerator. Gas emissions and odour are managed by the licensee through their Environmental Monitoring and Management Plan, last updated November 2015. Risk Assessment *Consequence:* Insignificant *Likelihood:* Unlikely *Risk Rating:* Low Regulatory Controls Odour emissions have been assessed as low risk. In accordance with administrative changes implemented within DER, generic odour conditions have been removed as the risk is low and the substantive offences of the EP Act provide enforceable prohibitions for odour emissions that result in pollution or environmental harm. Potential odour impacts will continue to be managed through the site's EMMP. Residual Risk *Consequence:* Insignificant *Likelihood:* Unlikely *Risk Rating:* Low	Environmental Report 2014, March 2015 *Environmental Protection Act 1986* (EP Act)
Monitoring of inputs and outputs	L3.4.1	Wastewater from the settling pond will be pumped to effluent ponds on the adjacent Kemerton Titanium Dioxide Processing Plant, managed by Cristal Pigment Australia Ltd, where it will be disposed of via ocean outfall. The discharge of wastewater to the ocean outfall is regulated by DER under Cristal Pigment Australia Ltd.'s Licence L8870/2014/1, which includes wastewater acceptance conditions, emission limits and monitoring conditions. The licensee has implemented controls to ensure that the transfer of wastewater is managed appropriately. These include continuous monitoring for a variety of parameters, weekly onsite testing of the wastewater, and totalising flow meters at	Application supporting documentation Simcoa Operations Pty Ltd – Kemerton Silicon Smelter – Works Approval Compliance Report, Settling Pond

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		both ends of the pipeline to allow detection of leaks in the transfer pipeline. Conditions 3.4.1 and 4.2.1 have been updated to require the licensee to monitor and report the quantity of wastewater transferred.	Wastewater Transfer Pipeline, November 2015
Information	L5.1.2, L5.2.2(a), L5.3.1	Previous conditions L5.1.2, L5.2.2(a) and part of L5.3.1 have been removed in accordance with administrative changes implemented within DER.	N/A
Licence Duration	N/A	The licence is due to expire on Saturday, 12 October 2019. There have been no changes made to the duration of the licence as a result of this amendment.	N/A

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
03/12/2015	Proponent sent a copy of draft instrument	No comments received	N/A

6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High