Government of **Western Australia**
Department of **Environment Regulation**

Your ref L5109/1990/13
Our ref DEC5802
Enquiries Jessica French
Phone 9333 7510
Fax 9333 7550
Email Jessica.french@der.wa.gov.au

Mr Juan Valencia
Process Safety Leader
Coogee Chemicals Pty Ltd
PO Box 5051
ROCKINGHAM BEACH WA 6969

Dear Mr Valencia

ENVIRONMENTAL PROTECTION ACT 1986: **LICENCE GRANTED**
Premises: Coogee Chemicals
Licence Number: L5109/1990/13

A licence under the *Environmental Protection Act 1986* {the Act) has been granted for the above premises. The Department of Environment Regulation will advertise the issuing of this licence in the public notices section of *The West Australian* newspaper.

The licence includes attached conditions. Under section 58(1) of the Act, it is an offence to contravene a condition of a licence. This offence carries a penalty of up to $125,000 and a daily penalty of up to $25,000.

In accordance with section 102(1)(c) of the Act, you have 21 days to appeal the conditions of the licence. Under section 102(3)(a) of the Act, any other person may also appeal the conditions of the licence. To lodge an appeal contact the Office of the Appeals Convenor on 6467 5190 or by email at admin@appealsconvenor.wa.gov.au.

Where a licence is issued for more than one year it requires payment of an annual fee and will cease to have *effect* if the fee is unpaid. It is the occupier's responsibility to lodge a fee application and pay the annual fee in sufficient time to avoid incurring a late payment fee and for processing to be completed before the licence anniversary date.

If you have any queries regarding the above information, please contact Jessica French on 9333 7510.

Yours sincerely

Ed Schuller
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Thursday, 4 December 2014

Government of **Western Australia**
Department of **Environment Regulation**

Licence

Environmental Protection Act 1986, Part V

Licensee: Coogee Chemicals Pty Ltd

Licence: L5109/1990/13

Registered office:	4 Kwinana Beach Rd KWINANA BEACH WA 6167
ACN:	008 747 500
Premises address:	Coogee Chemicals 4 Kwinana Beach Rd **KWINANA** BEACH WA 6167 Being Lot 4 on Diagram 79783, Lot 506 on Diagram 61889, Lot 801 on Plan 68876, Lot 12 on Plan 21876, Lot 3 on Diagram 79782 and Part Lot 9002 on Plan 68876 as depicted in Schedule 1.
Issue date:	Thursday, 4 December 2014
Commencement date:	Friday, 5 December 2014
Expiry date:	Monday, 4 December 2017

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
31	Chemical manufacturing: premises (other than premises within category 32) on which chemical products are manufactured by a chemical process.	100 tonnes or more per year	100 000 tonnes per annual period
33	Chemical bending or mixing: premises on which chemicals or chemical products are mixed, blended or packaged in a manner that causes or is likely to cause a discharge of waste into the environment.	500 tonnes or more per year	18 250 tonnes per annual period
73	Bulk storage of chemicals, etc.: premises on which acids, alkalis or chemicals that - (a) contain at least one carbon to carbon bond;and (b) are liquid at STP (standard temperature and pressure), are stored.	1 000 cubic metres in aggregate	180 000 cubic metres in aggregate

Conditions
Thll/{ectt th nd;tlons set out n the attached pages.

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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 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. 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.sip.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
Coogee Chemicals (CC) was established in 1971 and produces a wide range of industrial, agricultural and mineral processing chemicals for supply to Australian and international markets. CG operates the largest Bulk Liquid Terminal in Western Australia. It provides terminals to major fuel customers. It has the capacity to store 180 000 cubic metres of liquid chemicals including hydrocarbon solvents, alcohols, diesel, petrol and caustic soda. The premises contains the largest acid storage facility in the Southern hemisphere, with the ability to store 69 000 tonnes of sulfuric acid.

CC is located on the Swan Coastal Plain, approximately 2.5 km west of Kwinana Townsite and 2.6 km north-east of Rockingham Townsite. 1.3 km to the east is a conservation category wetland and within the premises boundary is an unconfirmed Carnaby's cockatoo feeding area. The premises is within a threatened ecological site buffer. 1.1 km to the west is Cockburn Sound.

The premises encompasses South 3 Terminal at Lot 3, Coogee West Tank Terminal at Lot 12, Dangerous Goods Terminal at Lot 801, chemical manufacturing facilities (sodium aluminate, sodium hydrosulfide solution, sodium silicate, xanthates, sulfur bentonite pastilles, aluminium sulfate, metham sodium and sulfur), associated raw material storage and bulk chemical Tank Terminal at South Area Lot 4 and North Area Lot 506, Coogee Acid Terminal at Lot 4, and a diesel siding area at part of Lot 9002.

The premises holds a Dangerous Goods Site (DG) Licence administered by the Department of Mines and Petroleum for the storage of dangerous goods. Most of the dangerous goods listed on the DG licence are also considered chemicals for the purpose of category 73 of schedule 1 of the *Environmental Protection Regulations 1987* (the EP Regulations).

The bulk fuel terminals are subject to regulation under the *Environmental Protection (Recovery of Vapours from the Transfer of Organic Liquids) Regulations 1995.* The Vapour Recovery Units (VRUs) were upgraded last year and are designed to meet the requirements of the regulations.

The bulk fuel tanks within the premises are currently located within earthen bunds constructed of compacted in situ soils. It is not practicable to retrofit the existing bund with full impervious bunding given the proximity of existing infrastructure and the interlinking nature of the terminal. Alternative preventative and mitigative controls are utilised on most of the tanks:

- A high density polyethylene membrane is laid across the ring beam and sealed to prevent contamination of groundwater from tank floor failures.
- The tanks foundations are fitted with leak detection pipes that have outlets which are clearly visible to provide for the early detection of tank floor leaks.

- The tanks are inspected on a daily basis as part of the operations routine; and the tank inventory is reconciled on a daily basis by the tank gauging system whilst on motor fuel duty and weekly on chemicals duty.
- The tanks are fitted with an independent Hi-Hi alarm system.
- All tanks were constructed in accordance with the requirements and standards of the day.

Given the above controls it is expected that early detection of any losses would be quickly identified to enable minimisation and collection of losses and quick rectification.

The premises contains a new sodium hydrosulfide (NaHS) dissolving facility that produces approximately 50m^3 of 35% NaHS solution per day. The NaHS facility triggers category 33 of schedule 1 of the EP Regulations - chemical blending or mixing. Mono-hydrated sodium hydrosulfide flakes are imported to the premises and are dissolved in water. Sodium hydroxide is initially added in the process which chemically reacts with hydrogen sulfide (H_2S) to prevent air emissions of H_2S. Emissions to air are extracted and discharged to air via a treatment process made up of a primary wet scrubber which consists of a polyethylene scrubber reservoir containing sodium hydroxide solution; and a secondary activated carbon scrubber. The emission point is located above the roof of the plant. Fixed H_2S sensors are located at various points in process to monitor emissions, including after the secondary scrubber.

Any dilute liquors generated by wash down or draining will be collected and recycled to the dissolver for use in the next dissolving batch.

Sections of the premises are classified under the *Contaminated Sites Act 2003* as "contaminated - remediation required". It is believed that the co,:itamination was caused by a number of hydrocarbon, chemical and acid leaks between 1995 and 2005.

This Licence is the successor to licence L5109/1990/12. The licence has been re-issued in DERs new licence format and includes improvement conditions for the purpose of gathering information about the premises emissions and discharges. The licence will require reassessment after one year, to include any improvements that may result from this licence.

The licences and works approvals issued for the Premises since 22 November 2007 are:

Instrument log		
Instrument	**Issued**	**Description**
W4379/2007/1	22/11/2007	Tank Terminal expansion
W5272/2012/1	29/11/2012	NaHS Plant
W5555/2013/1	13/03/2014	1300m^3 storage tank inside earth bund
W5478/2013/1	03/10/2014	Upgrade to VRUs
L5109/1990/11	31/10/2008	Licence re-issue
L5109/1990/12	01/12/2012	Licence re-issue
L5109/1990/13	27/11/2014	Licence re-issue and changes to the licence format.

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;*

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

'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 Environment Regulation;

'CEO' for the purpose of correspondence means;

Manager Licensing (Greater Swan)
Department of Environment Regulation
Locked Bag 33
CLOISTERS SQUARE WA 6850
Telephone: (08) 9333 7510
Facsimile: (08) 9333 7550
Email: grswanbooragoon@der.wa.gov.au;

'code of practice for the storage and handling of dangerous goods' means the document titled "Storage and handling of dangerous goods: Code of Practice" published by the Department of Mines and Petroleum, as amended from time to time;

'dangerous goods' has the meaning defined in the *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007;*

'environmentally hazardous material' means material (either solid or liquid raw materials, materials in the process of manufacture, manufactured products, products used in the manufacturing process, by-products and waste) which if discharged into the environment from or within the premises may cause pollution or environmental harm. Note: Environmentally hazardous materials include dangerous goods where they are stored in quantities below placard quantities. The storage of dangerous goods above placard quantities is regulated by the Department of Mines and Petroleum;

'fugitive emissions' means all emissions not arising from point sources identified in sections 2.6, 2.7 and 2.8;

'Licence' means this Licence numbered L5109/1990/13 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;

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

'SCADA system' means supervisory control and data acquisition system;

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

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

'shut-down' means the period when plant or equipment is brought from normal operating conditions to inactivity;

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

'start-up' means the period when plant or equipment is brought from inactivity to normal operating conditions;

'STP dry' means standard temperature and pressure (0 °Celsius and 101.325 kilopascals respectively), dry;

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

'USEPA Method 8' means the promulgated Test Method 8 - Determination of Sulfuric Acid and Sulfur Dioxide Emissions from Stationary Sources.

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.

1.2 General conditions

1.2.1 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.

1.2.2 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.

1.2.3 The Licensee, except where storage is prescribed in section 1.3, shall ensure that environmentally hazardous materials are stored in accordance with the code of practice for the storage and handling of dangerous goods.

1.2.4 The Licensee shall immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system.

1.2.5 The Licensee shall:

(a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises; and

(b) treat contaminated or potentially contaminated stormwater as necessary prior to being discharged from the Premises.[1]

Note1: *The Environmental Protection (Unauthorised Discharges) Regulations 2004* make it an offence to discharge certain materials into the environment.

1.2.6 The Licensee shall maintain permanent markers along the boundary of the Premises so it can be identified on the ground.

1.3 Premises operation

There are no specified conditions relating to Premises operation in this section.

2 Emissions

2.1 General

2.1.1 The Licensee shall record and investigate the exceedance pf 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 Licensee shall ensure that where waste is emitted to air 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: Emission points to air

Emission point reference and location on Map of emission points	Emission Point	Emission point height (m)	Source, including any abatement
A1	Aluminium sulfate plant stack	14.5	Reactor via aqueous scrubber which is connected to a cooling tower, keeping the scrubber water below 40 °C
A2	Sodium hydrosulfate (NaHS) plant extraction fan	**14.0**	Dissolving tank via polyethylene scrubber reservoir containing sodium hydroxide solution then activated carbon fixed bed adsorber column
A3	Sulfuric acid storage	1.0	Mist eliminator on the surge tanks

2.2.2 The Licensee 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 (including units)[1]	Averaging period
A1	Sulfuric acid mist expressed as SO_3	100 mg/m^3	Stack test (60 minute minimum)

Note 1: All units are referenced to STP dry

2.2.3 The Licensee shall target point source emissions to air at or below the levels specified in Table 2.2.3.

Table 2.2.3: Point source emission targets to air

Emission point Reference	Parameter	Target (including units)[1]	Averaging period
A2	Hydrogen sulfide (H_2S)	1 ppm	Continuous

Note 1: All units are referenced to STP dry

2.2.4 The Licensee shall take the specified management action in the case of an event in Table **2.2.4**

Table 2.2.4: Management actions

Emission point reference	Event	Management action
A2	Any time the sensor is indicating that H_2S emissions exceed the relevant taroet in Table 2.2.3	The Licensee shall take all practical measures to minimise emissions.

2.3 Point source emissions to surface water

There are no specified conditions relating to point source emissions to surface water in this section.

2.4 Point source emissions to groundwater

There are no specified conditions relating to point source emissions to groundwater in this section.

2.5 Emissions to land

There are no specified conditions relating to emissions to land in this section.

2.6 Fugitive emissions

2.6.1 The licensee shall use all reasonable and practicable measures to prevent the generation of dust at the Premises.

2.7 Odour

2.7.1 The Licensee shall ensure that odour emitted from the Premises does not unreasonably interfere with the health, welfare, convenience, comfort or amenity of any person who is not on the Premises.

2.8 Noise

There are no specified conditions relating to noise in this section.

3 Monitoring

3.1 General monitoring

3.1.1 The licensee shall ensure that all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.

3.1.2 The Licensee shall ensure that annual monitoring is undertaken at least 9 months apart.

3.1.3 The Licensee shall record production or throughput data and any other process parameters relevant to any monitoring undertaken.

3.1.4 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 and any relevant Australian standard.

3.1.5 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
A1	Sulfuric acid mist expressed as SO_3	mg/m^3	60 minutes	Annually	USEPA Method 8
A2	H_2S	ppm	Not applicable·	Continuous	H_2S sensor connected to SCADA system

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 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 point source emissions to surface water

There are no specified conditions relating to monitoring of point source emissions to surface water in this section.

3.4 Monitoring of point source emissions to groundwater

There are no specified conditions relating to monitoring of point source emissions to groundwater in this section.

3.5 Monitoring of emissions to land

There are no specified conditions relating to monitoring of emissions to land in this section.

3.6 Monitoring of inputs and outputs

There are no specified conditions relating to monitoring of inputs and outputs in this section.

3.7 Process monitoring

There are no specified conditions relating to process monitoring in this section.

3.8 Ambient environmental quality monitoring

There are no specified conditions relating to ambient quality monitoring in this section.

3.9 Meteorological monitoring

There are no specified conditions relating to meteorological monitoring in this section.

4 Improvements

4.1 Improvement program

4.1.1 The Licensee shall complete the improvements in Table 4.1.1 by the date of completion in Table 4.1.1.

4.1.2 The Licensee, for improvements not specifically requiring a written submission, shall write to the CEO stating whether and how the Licensee is compliant with the improvement within one week of the completion date specified in Table 4.1.1.

Table 4.1.1: Improvement program

Improvement reference	Improvement	Date of completion
IR1	The Licensee shall install permanent markers along the boundary of the Premises so it can be identified on the Qround.	05/06/2015
IR2	The licensee shall submit to the CEO a groundwater monitoring plan that characterises the chemical and physical properties of the superficial aquifer beneath the premises and quantifies the impacts and influences on groundwater from the operations on the premises. The licensee shall implement and adhere to the groundwater monitoring plan as soon as it has been submitted to the CEO.	05/12/2015
IR3	The licensee shall submit to the CEO an environmental management plan (EMP) for the activities undertaken at the premises. The EMP shall include, but not be limited to: (i) sulfur dust emissions management; (ii) stormwater management; (iii) wastewater management; (iv) spill management; and (v) air emissions management. The licensee shall implement and adhere to the EMP as soon as it has been submitted to the CEO.	05/12/2015

5 Information

5.1 Records

5.1.1 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 5.1.1 (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.

5.1.2 The Licensee shall ensure that:

(a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and

(b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.

5.1.3 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.

5.1.4 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.

5.2 Reporting

5.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 60 calendar days after the end of the annual period. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.

Table 5.2.1: 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
-	Throughput of each chemical produced or manufactured in tonnes per annual period	
Table 2.2.2	Limit exceedances	
Table 2.2.3	Targetexceedances	
Table 3.2.1	Sulfuric acid mist monitoring results	AR1
5.1.3	Compliance	Annual Audit Compliance Report (AACR)
5.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2

5.2.2 The Licensee shall ensure that the Annual Environmental Report also contains:
(a) any relevant process, production or operational data recorded under Condition 3.1.3; and
(b) an assessment of the information contained within the report against previous monitoring results and Licence limits and targets.

5.2.3 The Licensee shall submit the information in Table 5.2.2 to the CEO according to the specifications in that table.

Table 5.2.2: Non-annual reporting requirements

Condition or table (if relevant)	Parameter	Reporting period	Reporting date	Format or form
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEO's request	As received by the Licensee from third parties

5.3 Notification

5.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 5.3.1: Notification requirements

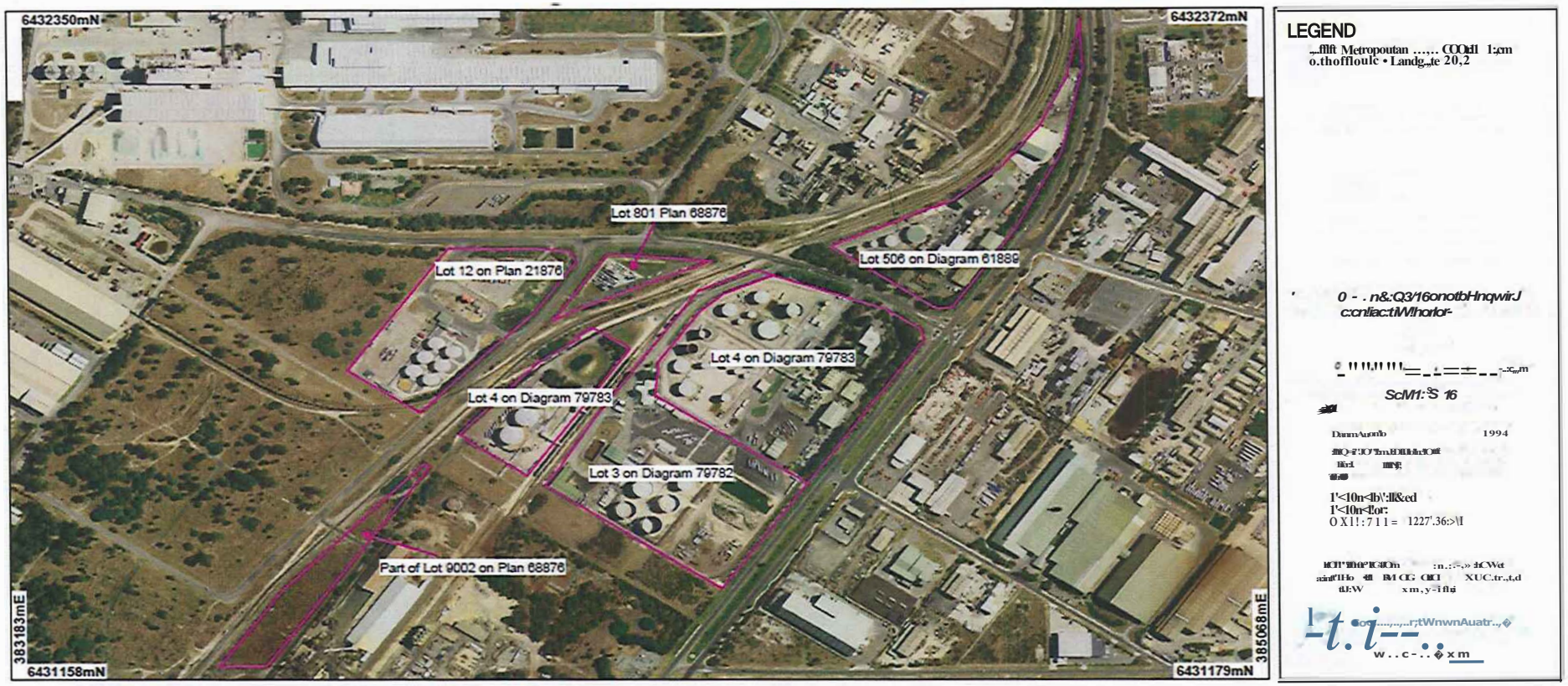
Condition or table (if relevant)	Parameter	Notification requirement[1]	[redacted]
2.1.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day.	N1
-	Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution	Part B: As soon as practicable	
3.1.5	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 pink lines depict the Premises boundary.



Map of emission points

The locations of emission points A1, A2 and A3 as defined in Table 2.2.1 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: L5109/1990/13	Licence File Number: DEC5802
Company Name: Coogee Chemicals Pty Ltd Trading as:	ACN: 008 747 500
Reporting period: 1 January _____ 31 December _____ _____ 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 D Please proceed to Section C

No D 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?:	
D Yes **D** Reported to DER verbally Date _____ D Reported to DER in writing Date _____	D 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 si"ned and certified:
An individual	D D	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	D D	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 Requlation.
A corporation	D D D D D D	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 Requlation.
A public authority (other than a local government)	D D	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	D D	by the chief executive officer of the licensee; or by affixino 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: L5109/1990/13
Form: AR1
Name: Monitoring of point source emissions to air

Licensee: Coogee Chemicals Pty Ltd
Period :

Form AR1: Monitoring of point source emissions to air							
Emission point	**Parameter**	**Limit**	**Result[1]**	**Result[1]**	**Averaging period**	**Method**	**Sample date & times**
A1	Sulfuric acid mist expressed as SO_3	100 mg/m^3	mg/m^3		60 minute minimum	USEPA Method 8	

Note 1: All units are referenced to STP dry

Signed on behalf of Coogee Chemicals Pty Ltd: ..... Date: .....

Licence: L5109/1993/13 Licensee: Coogee Chemicals 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	
Measur.es 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 Coogee Chemicals Pty Ltd	
Date	

Decision Document

Environmental Protection Act 1986, Part V

Licensee: Coogee Chemicals Pty Ltd

Licence: L5109/1990/13

Registered office:	4 Kwinana Beach Rd KWINANA BEACH WA 6167
ACN:	008 747 500
Premises address:	Coogee Chemicals 4 Kwinana Beach Rd **KWINANA** BEACH WA6167 Being Lot 4 on Diagram 79783, Lot 506 on Diagram 61889, Lot 801 on Plan 68876, Lot 12 on Plan 21876, Lot 3 on Diagram 79782 and Part Lot 9002 on Plan 68876 as depicted in Schedule 1.
Issue date:	Thursday, **4** December 2014
Commencement date:	Friday, 5 December 2014
Expiry date:	Monday, 4 December 2017

Decision

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

Decision Document prepared by:	Jessica French Licensing Officer
Decision Document authorised by:	Marko Pasalich Manager Licensing

Contents

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.

Works approval and licence conditions
DER has three types of conditions that may be imposed on works approvals and licences. They are as follows;

Standard conditions (SC)

DER has standard conditions that are imposed on all works approvals and licences regardless of the activities undertaken on the Premises and the information provided in the application. These are included as the following conditions on works approvals and licences:

Works approval conditions: 1.1.1-1.1.4, 1.2.1, 1.2.2, 5.1.1 and 5.1.2.

Licence conditions: 1.1.1-1.1.4, 1.2.1-1.2.4, 5.1.1-5.1.4 and 5.2.1.

For such conditions, justification within the Decision Document is not provided.

Optional standard conditions (OSC)

In the interests of regulatory consistency DER has a set of optional standard conditions that can be imposed on works approvals and licences. DER will include optional standard conditions as necessary, and are likely to constitute the majority of conditions in any licence. The inclusion of any optional standard conditions is justified in Section 4 of this document.

Non standard conditions (NSC)

Where the proposed activities require conditions outside the standard conditions suite DER will impose one or more non-standard conditions. These include both premises and sector specific conditions, and are likely to occur within few licences. Where used, justification for the application of these conditions will be included in Section 4.

2 Administrative summary

Administrative details		
Application type	Works Approval D New Licence [8] Licence amendment D Works Approval amendment D	
Activities that cause the premises to become prescribed premises	**Category number(s)**	**Assessed design caoacity**
	31	100 000 tonnes per year
	33	18 250 tonnes per year
	73	180 000 cubic metres in aaareaate
Application verified Aoolication fee oaid	Date: 22/09/2014 Date: 30/09/2014	
Works Approval has been complied with Compliance Certificate received	YesO NoO N/A[8] YesO NoO **N/A[8]**	
Commercial-in-confidence claim	YesO No[8]	
Commercial-in-confidence claim outcome		
Is the orooosal a Major Resource Proiect?	YesO No[8]	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986?*	YesO No[8]	Referral decision No: Managed under Part V ☐ Assessed under Part IV D
Is the proposal subject to Ministerial Conditions?	YesO No[8]	Ministerial statement No: 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)?*	YesO No[8] Department of Water consulted Yes D NoO	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes[8] NoO The premises is located within Area A of the Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999.		
Is the Premises subject to any EPP requirements? YesO No[8]		

3 Executive summary of proposal and assessment

Coogee Chemicals (CC) was established in 1971 and produces a wide range of industrial, agricultural and mineral processing chemicals for supply to Australian and international markets. CC operates the largest Bulk Liquid Terminal in Western Australia. It provides terminals to major fuel customers. It has the capacity to store 180 000 cubic metres of liquid chemicals including hydrocarbon solvents, alcohols, diesel, petrol and caustic soda. The premises contains the largest acid storage facility in the Southern hemisphere, with the ability to store 69 000 tonnes of sulphuric acid.

CC is located on the Swan Coastal Plain, approximately 2.5 km west of Kwinana Townsite and 2.6 km north-east of Rockingham Townsite. 1.3 km to the east is a conservation category wetland and within the premises boundary is an unconfirmed Carnaby's feeding area. The premises is situated within a threatened ecological site buffer. 1.1 km to the west is Cockburn Sound

The premises encompasses South 3 Terminal at Lot 3, Coogee West Tank Terminal at Lot 12, Dangerous Goods Terminal at Lot 801, chemical manufacturing facilities (Sodium aluminate, sodium Hydrosulphide solution, sodium silicate, xanthates, sulphur bentonite pastilles, aluminium sulphate, metham sodium and sulphur), associated raw material storage and bulk chemical Tank Terminal at South Area Lot 4 and North Area Lot 506, Coogee Acid Terminal at Lot 4 and a diesel sliding area at part of Lot 9002.

The premises holds a Dangerous Goods Site (DG) Licence administered by the Department of Mines and Petroleum for the storage of dangerous goods. Most of the dangerous goods listed on the DG licence are also considered chemicals for the purpose of category 73 of the *Environmental Protection Regulations 1987.*

The bulk fuel terminals are subject to regulation under the *Environmental Protection (Recovery of Vapours from the Transfer of Organic Liquids) Regulations 1995.* The Vapour Recovery Units (VRU) were upgraded last year and are designed to meet the requirements of the regulations.

The bulk fuel tanks within the premises are currently stored within earthen bunds constructed of compacted insitu soils. It is not practicable to retrofit the existing bund with full impervious bunding given the proximity of existing infrastructure and the interlinking nature of the terminal. Alternative preventative and mitigative controls are utilised on most of the tanks:

- a high density polyethylene membrane is laid across the ring beam and sealed to prevent contamination of groundwater from tank floor failures;
- the storage tanks foundations are fitted with leak detection pipes that have outlets which are clearly visible to provide for the early detection of tank floor leaks;
- the tanks are inspected on a daily basis as part of the operations routine; and the tank inventory is reconciled on a daily basis by the tank gauging system (whilst on motor fuel duty and weekly on chemicals duty);
- tanks are fitted with independent HiHi alarm system;
- all tanks were constructed in accordance with the requirements and standards of the day.

Given the above controls, it is expected that early detection of any losses would be quickly identified to enable collection and minimisation of losses and quick rectification.

The premises contains a new Sodium Hydrosulphide (NaHS) dissolving facility that produces 50m^3 of 35% NaHS solution per day. The NaHS facility triggers category 33 - chemical blending or mixing. Sodium hydroxide is initially added in the process which chemically reacts with hydrogen sulfide (H_2S) to prevent air emissions of H_2S. Mono-hydrated Sodium hydrogen sulphide flakes are imported to the premises and are dissolved in scheme water. An air extraction and treatment process made up of a primary wet scrubber and a secondary activated carbon scrubber designed and installed according to applicable Australian Standards.

Fixed H2S sensors connected to a supervisory control and data acquisition (SCADA) system are installed in every bund. A sensor is located near the working area monitoring the dissolving

process, three H_2S sensors are installed in the scrubber system, (one at the inlet and one at the outlet of the primary scrubber, and one after the secondary scrubber). Gas is discharged into the atmosphere above the roof of the plant where any unlikely potential traces of H_2S will be diluted to prevent any odour nuisance. The H_2S sensor after the secondary scrubber will be set at 1ppm, as it is the expectation that no H_2S will be discharged, thus any level above detection by the sensor is an indication that something is wrong with the process. In this case additional sodium hydroxide can be added to reduce H_2S emissions.

Any dilute liquors generated by wash down or draining will be collected and recycled to the dissolver for use in the next dissolving batch.

Sections of the premises are classified under the *Contaminated Sites Act 2003* as "contaminated - remediation required". It is believed that the contamination was caused by a number of hydrocarbon, chemical and acid leaks between 1995 and 2005.

This Licence is the successor to licence L5109/1990/12. The licence has been re-issued in DERs new licence format and includes improvement conditions for the purpose of gathering information about the premises emissions and discharges. The licence will require reassessment after one year, to include any improvements that may result from this 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**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
General conditions	L1.2.5-1.2.6	OSC	OSC 1.2.5 has been included to replace conditions W3(a) - (c) of the previous licence. OSC 1.2.6 has been included to identify the boundary of the premises as part Lot 9002 is not easily identifiable from the ground.	**N/A**
Premises operation	N/A	NIA	There are no operational specific requirements included in this licence.	**N/A**
Emissions general	L2.1.1	OSC	Condition 2.1.1 replaces conditions G1(a) - (d) of the previous licence.	**N/A**

DECISION TABLE				
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Point source emissions to air including monitoring	L2.2.1 - 2.2.4 L3.2.1 - 3.2.2	J OSC	Conditions 2.2.1 and 2.2.2 replace condition A1(a) of the previous licence. The granulated products plant was under care and maintenance from 2007 to 2013. The plant was removed from the premises in 2013, therefore the monitoring of this equipment has been removed from condition A1(a) and condition A1(d) (i). Further details of DER's risk assessment and record of decision making are contained in Appendix A.	Application supporting documentation Design Brief for NaSH Dissolving Facility, Coogee Chemicals, 2012 General provisions of the *Environmental Protection Act 1986.* *Environmental Protection (Unauthorised Discharges) Regulations 2004*
Point source emissions to surface water including monitoring	*NIA*	*NIA*	There are no point source emissions to surface water from the premises that require regulation through this section. SC 1.2.1 applies.	General provisions of the *Environmental Protection Act 1986.* *Environmental Protection (Unauthorised Discharges) Regulations 2004*

DECISION TABLE				
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Point source emissions to groundwater including monitoring	**NIA**	**IN/A**	There are no point source emissions to groundwater from the premises that require regulation through this section. SC 1.2.1 applies.	General provisions of the *Environmental Protection Act 1986.* *Environmental Protection (Unauthorised Discharges) Regulations 2004*
Emissions to land including monitoring	L4.1.1 and L4.1.2 **(IR2** and **IR3)**	**N/A**	**Operation** Emission Description *Emission:* Potentially contaminated water discharged into on-site soaks. *Impact:* Potential for further soil and groundwater contamination. According to the Perth Groundwater Atlas, the depth to groundwater is between 2.5 and 4 metres. Lots 4 and 506 are classified as *Contaminated - remediation required* under the *Contaminated Sites Act 2003.* There is known hydrocarbon contamination of the groundwater and soil at the premises caused by leaking tanks. *Controls:* Coogee Chemicals has a written procedure "Discharging Storm Water from contained areas. Kwinana Sites". Within the document is an internal sampling regime and discharge criteria based on the *Environmental Protection Act (Unauthorised Discharges) Regulations 2004.* This document has not been reviewed by DER and its suitability and a stormwater management tool has not been assessed. Risk Assessment *Consequence:* Minor *Likelihood:* Possible	General provisions of the *Environmental Protection Act 1986.* *Environmental Protection (Unauthorised Discharges) Regulations 2004* *Perth Groundwater Atlas, Department of Water* Stormwater Management Manual,

DECISION TABLE				
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
			Risk Rating: Moderate Regulatory Controls IR3 has been included in the licence requiring the licensee to develop an environmental management plan which includes spill, stormwater and wastewater management. Residual Risk *Consequence:* Minor *Likelihood:* Possible *Risk Rating:* Moderate	Department of Water, 2004

DECISION TABLE				
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Fugitive emissions	L2.6.1 and 4.1.1	**OSC**	**Operation** Emission Description *Emission:* Dust emissions from the sulfur pad. *Impact:* Sulfur dust is a mild irritant to humans and can also cause a nuisance. Sulfur is flammable and can evolve toxic gases when alight. The closest sensitive receptor for sulfur dust is an unconfirmed Carnaby's cockatoo feeding area located within the premises boundary, and the road reserve directly adjacent to the stockpile area. It is possible that sulfur dust could enter the unconfirmed Carnaby's cockatoo feeding area due to its close proximity however the impacts are likely to be localised, reversible and short-term. *Controls:* Sulfur is currently stored within an open concrete bunker. Spills of sulfur are swept up. Risk Assessment *Consequence:* Minor *Likelihood:* Possible *Risk Rating:* Moderate Regulatory Controls OSC L2.6.1 has been included in the licence to prevent the generation of dust. Condition 4.1.1 (IR3) requiring a sulfur dust emissions management plan has been included in the licence. Residual Risk *Consequence:* Minor *Likelihood:* Possible *Risk Rating:* Moderate	Coogee Chemicals, Safety Data Sheet, Sulphur fine, September 2012. General provisions of the *Environmental Protection Act 1986*

DECISION TABLE				
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Odour	L2.7.1	**OSC**	**Operation** Emission Description *Emission:* Odour from the venting of bulk fuel tanks and H_2S from the NaHS dissolving plant. *Impact:* Odour from the premises has the potential to affect the amenity of odour sensitive receptors. The closest residential receptor is located 2.5 km from the premises so it is unlikely that odour produced at the premises would affect residents, however the workers at neighbouring industrial premises could potentially be affected. Any impacts are expected to be insignificant, localised and short-term. *Controls:* Coogee Chemicals has a procedure in place to prevent the generation of H_2S which is detailed in Appendix A (point source emissions to air). The gantries are fitted with Vapour Recovery Units (VRUs). Risk Assessment *Consequence:* Insignificant *Likelihood:* Unlikely *Risk Rating:* Low Regulatory Controls OSC L2.7.1 has been included in the licence to ensure that odour does not affect sensitive receptors. The bulk fuel terminal must also comply with the *Environmental Protection (Recovery of Vapours from the Transfer of Organic Liquids) Regulations 1995.* Residual Risk *Consequence:* Insignificant *Likelihood:* Unlikely *Risk Rating:* Low	*Environmental Protection (Recovery of Vapours from the Transfer of Organic Liquids) Regulations 1995* General provisions of the *Environmental Protection Act 1986.*

DECISION TABLE				
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Noise	N/A	NIA	Noise emissions have not been reassessed as part of this licence re-issue. The noise regulations are sufficient for regulating noise at the premises.	*Environmental Protection (Noise) Regulations 1997*
Monitoring general	L3.1.1 - 3.1.5	OSC	As monitoring of air emissions is required at this premises, the optional standard monitoring conditions in relation to testing and calibration are included in this licence.	N/A
Process monitoring	N/A	N/A	Process monitoring requirements have not been reassessed as part of this licence. As the previous licence did not require process monitoring, no specified conditions have been included in this section.	NIA
Ambient quality monitoring	L4.1.1 and L4.1.2	N/A	Condition W2(a) has been removed from the previous licence because DER has no record of an "approved groundwater monitoring program" therefore Coogee Chemicals is unable to comply with this condition. This condition has been replaced by an improvement condition IR2 which is discussed in further detail in the improvements section of this decision document.	N/A
Meteorological monitoring	N/A	N/A	Meteorological monitoring requirements have not been reassessed as part of this conve sion. As the previous licence did not require meteorological monitoring no specified conditions have been included in this section.	NIA

DECISION TABLE				
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Improvements	L4.1.1 and 4.1.2	OSC	OSC 4.1.1 and 4.1.2 have been included in the licence to address the following: IR1 has been included in the licence requiring the licensee to certify that it is compliant with OSC 1.2.6 in relation to boundary markers. IR2 has been included in this licence because the premises does not hold an "approved groundwater monitoring program" as required by condition W2(a) of the previous licence. Groundwater monitoring has been undertaken at the premises but the purpose of the monitoring is unclear. The intent of this condition is for DER to gather the information required to undertake a risk assessment of the potential emissions to groundwater. Following the submission of an appropriate groundwater monitoring plan, the licence should be amended to specify monitoring requirements. As discussed in the emissions to land section of this table, IR3 has been included in the licence, requiring an Environmental Management Plan (EMP). The premises requires an EMP to ensure that the emissions and discharges are managed in a suitable manner. The purpose of condition IR3, requiring an EMP is for DER to gather sufficient information to enable DER to undertake a risk assessment of the premises operations.	N/A
Information	L5.1 and 5.2	**N/A**	The standard records, reporting and notification requirements are included in this licence.	**NIA**
Licence Duration	**NIA**	N/A	The licence will require amendment following the submission and review of the reports and plans specified in condition 4.1.2. It is recommended that this licence be issued for the standard three years for moderate risk ranked premises.	N/A

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
13/10/2014	Application advertised in the West Australian newspaper	Nil	*NIA*
11/11/2014	Proponent sent a copy of draft instrument	Comments are recorded in DERs record keeping system under document identifier A836606 - A836609	Comments considered and necessary changes made.

6. Risk Assessment

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

Table 1: Emissions Risk Matrix

Likellhood	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
Unllkely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High

Appendix A

Point source emissions to air including monitoring
Point source emissions to air are permitted from three locations at the premises, which are identified as A1, A2 and A3 on the map of emission points. A1 is the aluminium sulfate stack and A3 is the mist eliminator on the surge tanks of the sulfuric acid storage area. These two emission points were included in the previous licence and they have not been reassessed as part of this new licence.

DER has included condition 4.1.1 (IR3) for an air emissions management plan as a means of gathering information about the sites air emission points and management.

Emission point A2 is the sodium hydrosulfate (NaHS) plant extraction fan. The NaHS plant was constructed in accordance with the conditions set in works approval W5272/2012/1. The assessment of A2's emissions is detailed below.

Operation
Emission Description
Emission: Hydrogen sulfide (H_2S) gas released from the NaHS plant secondary scrubber (emission point reference A2 on the map of emission points).

Impact: H_2S gas can cause an odour nuisance in low concentrations of 0.0005 to 0.3 ppm. It becomes toxic to human health at concentrations of 10 ppm or higher. Residential receptors are located 2.5 km from the premises. Any impact is expected to be localised with limited impact and is only expected to occur during an emergency situation.

Controls: An air extraction and treatment process is installed, which is made up of a primary polyethylene scrubber unit and a secondary activated carbon scrubber (activated carbon fixed bed adsorber column). Sodium hydroxide is used in the primary scrubber as it chemically reacts with H_2S to prevent air emissions of H_2S.

Fixed H_2S sensors connected to a SCADA system are installed in every bund, near the working area during the dissolving process, and in the scrubber system (three sensors - at the inlet and outlet of the primary scrubber, and after the secondary scrubber). The gas is discharged to the atmosphere above the roof of the plant where any potential traces of H_2S will be diluted to prevent any odour nuisance. The H_2S sensor after the secondary scrubber is set at an alarm level of 1ppm. Any H_2S detected above this level by the sensor will indicate that something is wrong with the process. In this case additional sodium hydroxide can be added to reduce H_2S emissions.

Risk Assessment
Consequence: Insignificant
Likelihood: Rare
Risk Rating: Low

Regulatory Controls
OSC 2.2.3 includes a target point source emission of 1 ppm. Condition 2.2.4 has been included requiring management action should an exceedance of the target occur.

Residual Risk
Consequence: Insignificant
Likelihood: Rare
Residual Risk Rating: Low