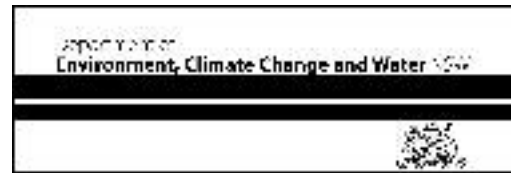


# Environment Protection Licence

Licence - 2148



## Licence Details

Number:	2148
Anniversary Date:	21-July
Review Due Date:	29-May-2014

## Licensee

ORICA AUSTRALIA PTY LTD  
16-20 BEAUCHAMP ROAD  
MATRAVILLE NSW 2036

## Licence Type

Premises

## Premises

ORICA AUSTRALIA PTY LTD  
16-20 BEAUCHAMP ROAD  
MATRAVILLE NSW 2036

## Scheduled Activity

Chemical storage  
Chemical production - other  
Waste storage  
Waste processing (non-thermal treatment)  
Waste disposal (thermal treatment)  
Contaminated groundwater treatment

## Fee Based Activity

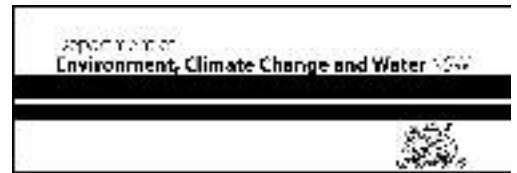
<u>Fee Based Activity</u>	<u>Scale</u>
Dangerous goods production	> 25000 - T produced
General chemicals storage	> 5000 - 100000 kL of active storage capacity
Non-thermal treatment of hazardous and other waste	0 - All
Thermal treatment of hazardous & other waste - Sydney Basin	0 - All
Waste storage - Hazardous, restricted solid, liquid, clinical & related waste & Asbestos waste	0 - All
Contaminated groundwater treatment	0 - All (T)

## Region

Metropolitan  
Level 3, NSW Govt Offices, 84 Crown Street  
WOLLONGONG NSW 2500  
Phone: 02 4224 4100  
Fax: 02 4224 4110  
  
PO Box 513 WOLLONGONG EAST  
NSW 2520

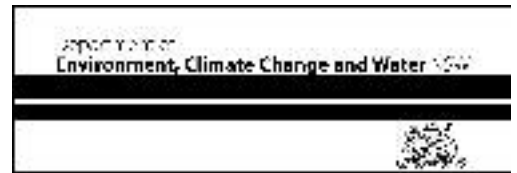
# Environment Protection Licence

Licence - 2148



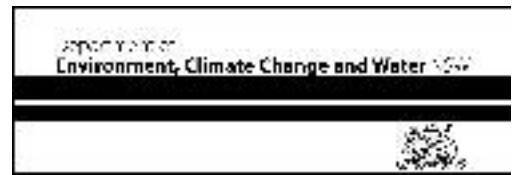
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## Information about this licence

### Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

### Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act); and
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

### Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

### Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

### Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

### Fees and annual return to be sent to the EPA

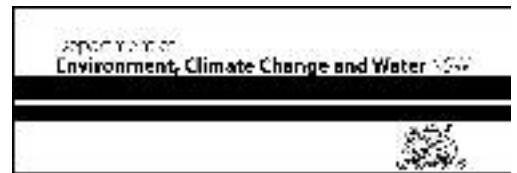
For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

The EPA publication "A Guide to Licensing" contains information about how to calculate your licence fees.

# Environment Protection Licence

Licence - 2148



The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

## Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

## Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

## This licence is issued to:

**ORICA AUSTRALIA PTY LTD  
16-20 BEAUCHAMP ROAD  
MATRAVILLE NSW 2036**

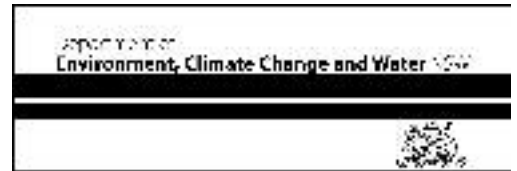
subject to the conditions which follow.

## 1 Administrative conditions

### A1 What the licence authorises and regulates

A1.1 Not applicable.

A1.2 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.



Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

<b>Scheduled Activity</b>
Chemical storage
Chemical production - other
Waste storage
Waste processing (non-thermal treatment)
Waste disposal (thermal treatment)
Contaminated groundwater treatment

<b>Fee Based Activity</b>	<b>Scale</b>
Dangerous goods production	> 25000 - T produced
General chemicals storage	> 5000 - 100000 kL of active storage capacity
Non-thermal treatment of hazardous and other waste	0 - All
Thermal treatment of hazardous & other waste - Sydney Basin	0 - All
Waste storage - Hazardous, restricted solid, liquid, clinical & related waste & Asbestos waste	0 - All
Contaminated groundwater treatment	0 - All (T)

A1.3 Not applicable.

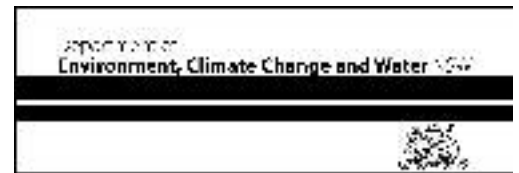
## **A2 Premises to which this licence applies**

A2.1 The licence applies to the following premises:

<b>Premises Details</b>
<b>ORICA AUSTRALIA PTY LTD</b>

# Environment Protection Licence

Licence - 2148



<b>Premises Details</b>
<b>16-20 BEAUCHAMP ROAD</b>
<b>MATRAVILLE</b>
<b>NSW</b>
<b>2036</b>
<b>LOTS 2,4 DP 1016112, LOTS 2,5 DP 206413, LOT 11 DP 1039919, LOT 1 DP 85542, LOT 11 DP 109505, LOT 1 DP1078077, LOT 1 DP 740704</b>
<b>As defined in drawing No B97290 RevA, titled "Botany Industrial Park Site - Orica Land Areas" and dated 29/01/07</b>

## A3 Other activities

A3.1 Not applicable.

## A4 Information supplied to the EPA

A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

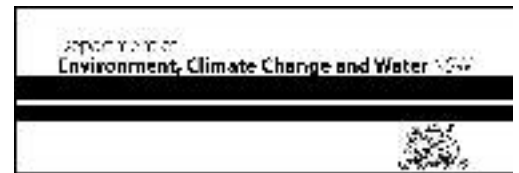
## 2 Discharges to air and water and applications to land

### P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

# Environment Protection Licence

Licence - 2148



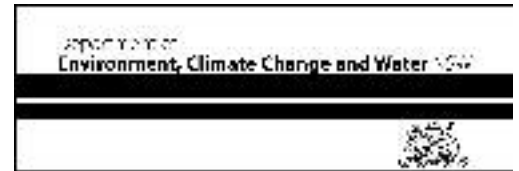
## Air

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Description of Location
3	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Vent from the hypochlorite backing tower marked "monitoring point 3" on Drawing No. B78323 submitted as an attachment to the letter to the EPA dated 21 March 2003.
4	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Vent duct from the absorption tail tower marked "monitoring point 4" on Drawing No. B78323 submitted as an attachment to the letter to the EPA dated 21 March 2003.
7	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Emergency chlorine vent marked "monitoring point 7" on Drawing No. B78323 submitted as an attachment to the letter to the EPA dated 21 March 2003.
9	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Stack serving GTP labelled "Point 9 - Discharge to air" on drawing number B96283 Rev2 submitted to the EPA on 20 June 2006.
10	Parameter monitoring		Thermal oxidation unit labelled "Point 10 - Parameter monitoring temperature" on drawing number B96283 Rev2 submitted to the EPA on 20 June 2006.
12	Weather monitoring		Weather monitoring station labelled "Point 12 - Weather Monitoring" on drawing No B96283 Rev2 submitted to the EPA on 20 June 2006
13	Parameter monitoring		Pipe serving the GTP thermal oxidiser, labelled "Point 13 - Thermal Oxidiser Flow (Residence Time) Monitoring Point" on drawing number B96283 Rev2 submitted to the EPA on 20 June 2006
25	Discharge to air Air emission monitoring	Discharge to air Air emission monitoring	Stack serving the vapour extraction system labelled as "Exhaust to atmosphere (single, short stack, approx. 3m above ground)" on drawing No B96878 RevB submitted to the EPA on 26 June 2006



# Environment Protection Licence

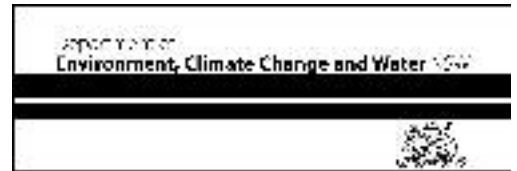
Licence - 2148



EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Description of Location
26	Discharge to air. Air emissions monitoring	Discharge to air. Air emissions monitoring	Common stack from building housing HCB repackaging plant and new Store J
27	Discharge to air. Air emissions monitoring.	Discharge to air. Air emissions monitoring.	Stack from temporary enclosure of Store G/H
28	Discharge to air. Air emissions monitoring	Discharge to air. Air emissions monitoring	Stack from temporary enclosure of Store E
29	In-pipe monitoring	In-pipe monitoring	Store J interstage point between the two activated charcoal filters on extraction pipe 1.
30	In-pipe monitoring	In-pipe monitoring	Store J interstage point between the two activated charcoal filters on extraction pipe 2.
31	In-pipe monitoring	In-pipe monitoring	Store G/H interstage point between the two activated charcoal filters on the extraction pipe.
32	In-pipe monitoring		Store E interstage point between the two activated charcoal filters on the extraction pipe.
33	In-pipe monitoring		Store J interstage point between the two activated charcoal filters on the extraction pipe. (Note - this is the same as Point 29).
34	In-pipe monitoring		Store J interstage point between the two activated charcoal filters on the extraction pipe. (Note - this is the same as Point 30).
35	In-pipe monitoring		Store G/H interstage point between the two activated charcoal filters on the extraction pipe. (Note - this is the same as Point 31).
36	In-pipe monitoring		Store E interstage point between the two activated charcoal filters on the extraction pipe. (Note - this is the same as Point 32).

P1.2 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

P1.3 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

*Water and land*

EPA identification no.	Type of monitoring point	Type of discharge point	Description of location
11		Discharge to waters	Drain outlet serving the GTP labelled "Point 11- Water Discharge Point" on drawing number B96284 Rev0 submitted to the EPA on 14 September 2005
14	Effluent quality monitoring		Drain outlet serving the GTP labelled "Point 14 - Water Discharge Composition" on drawing No B96284 Rev1 submitted to the EPA on 14 Sep 2007
15	Effluent quality monitoring		Drain outlet serving the GTP labelled "Point 15 - Water Discharge Conductivity" on drawing No B96283 Rev2 submitted to the EPA on 20 June 2006
16	Effluent quality and volume monitoring		Drain outlet serving the GTP labelled "Point 16 - Water Discharge Temperature & Flow" on drawing No B96284 Rev0 submitted to the EPA on 14 September 2005

### 3 Limit conditions

#### L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

#### L2 Load limits

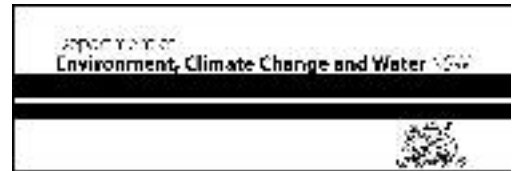
L2.1 The actual load of an assessable pollutant discharged from the premises during the reporting period must not exceed the load limit specified for the assessable pollutant in the table below.

Note: An assessable pollutant is a pollutant which affects the licence fee payable for the licence.

L2.2 The actual load of an assessable pollutant must be calculated in accordance with the relevant load calculation protocol.

# Environment Protection Licence

Licence - 2148



Assessable Pollutant	Load limit (kg)
Arsenic (Air)	2.98
Benzene (Air)	59.03
Benzo(a)pyrene (equivalent) (Air)	0.15
Fine Particulates (Air)	5352
Lead (Air)	7.83
Mercury (Air)	0.06
Nitrogen Oxides (Air)	172445
Nitrogen Oxides - Summer (Air)	43111
Sulfur Oxides (Air)	5306

### L3 Concentration limits

- L3.1 For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.
- L3.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.
- L3.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table/s.

*Air*

#### POINT 3

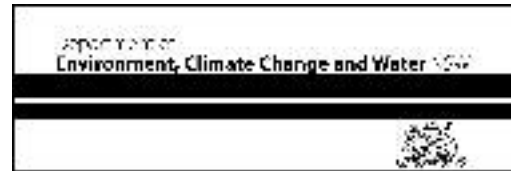
Pollutant	Units of measure	100 percentile concentration limit
Chlorine	milligrams per cubic metre	200

#### POINT 4

Pollutant	Units of measure	100 percentile concentration limit
Hydrogen chloride	milligrams per cubic metre	30

# Environment Protection Licence

Licence - 2148



## POINT 9

Pollutant	Units of measure	100 percentile concentration limit
1,2-Dichloroethane	milligrams per cubic metre	8 Note 1
Chlorine	milligrams per cubic metre	30
Nitrogen Oxides	milligrams per cubic metre	400
Volatile organic compounds	milligrams per cubic metre	10 Note 1
Hydrogen Sulfide	milligrams per cubic metre	2
Dioxins & Furans	nanograms per cubic metre	0.1 Note 2
Hydrogen chloride	milligrams per cubic metre	30
Sulphur dioxide	milligrams per cubic metre	100
Vinyl chloride	parts per million	10
Solid Particles	milligrams per cubic metre	20
Carbon monoxide	milligrams per cubic metre	100

## POINT 25

Pollutant	Units of measure	100 percentile concentration limit
Mercury	micrograms per cubic metre	30

## POINTS 26,27,28

Pollutant	Units of measure	100 percentile concentration limit
Cadmium	milligrams per cubic metre	0.1
Hexachlorobenzene	milligrams per cubic metre	0.002
Mercury	milligrams per cubic metre	0.1
Volatile organic compounds	milligrams per cubic metre	10
Dioxins & Furans	nanograms per cubic metre	0.1
Hazardous substances	milligrams per cubic metre	0.5
Total solids	milligrams per cubic metre	10
Hexachlorobutadiene	milligrams per cubic metre	0.21
Hexachloroethane	milligrams per cubic metre	9.7

## POINT 29

Pollutant	Units of measure	100 percentile concentration limit
Tetrachloroethene (tetrachloroethylene)	milligrams per cubic metre	340

## POINT 30

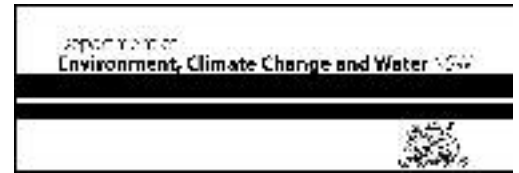
Pollutant	Units of measure	100 percentile concentration limit
Tetrachloroethene (tetrachloroethylene)	milligrams per cubic metre	340

## POINT 31

Pollutant	Units of measure	100 percentile concentration limit
1,2-Dichloroethane	milligrams per cubic metre	40

# Environment Protection Licence

Licence - 2148



## Water and Land

### POINT 11

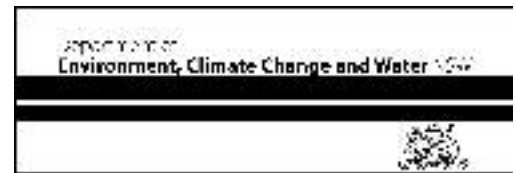
Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile Concentration Limit
1,2-Dichloroethane	milligrams per litre				1.9
Arsenic	milligrams per litre				0.013
Cadmium	milligrams per litre				0.001
Carbon tetrachloride	milligrams per litre				0.24
Copper	milligrams per litre				0.01
Iron	milligrams per litre				0.3
Lead	milligrams per litre				0.0034
Manganese	milligrams per litre				1.9
Mercury	milligrams per litre				0.0005
Nickel	milligrams per litre				0.011
pH	pH				6.5-8.5
Reactive Phosphorus	milligrams per litre				0.05
Temperature	degrees Celsius				10-30
Tetrachloroethene (tetrachloroethylene)	milligrams per litre				0.07
Nitrogen (total)	milligrams per litre				5 Note 4
Phosphorus (total)	milligrams per litre				0.1Note 3
Trichloroethene (Trichloroethylene)	milligrams per litre				0.33
Turbidity	nephelometric turbidity units				10 Note 3
Zinc	milligrams per litre				0.01
Nitrate + nitrite (oxidised nitrogen)	milligrams per litre				0.1Note3
Benzene	milligrams per litre				0.95
Chloroform	milligrams per litre				0.37
Toluene	milligrams per litre				0.18
Vinyl chloride	milligrams per litre				0.1
Biochemical oxygen demand	milligrams per litre				10
Chromium (total)	milligrams per litre				0.01
Total residual chlorine	milligrams per litre				0.1
NH3-N	milligrams per litre				4.6Note 4

**Note:** The above air pollutant concentration limits apply to the stack emissions prior to the addition of any re-heat air.

**Note 1:** Expressed as total organic carbon. This should be determined by summing all individual components after being analysed by FTIR.

**Note 2:** Polychlorinated-dibenzo-p-dioxins (PCDD) and polychlorinated-dibenzofurans (PCDF) as 2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD) equivalent calculated in accordance with the procedures included in Part 9, Clause 19 of the POEO (Clean Air) Regulation 2002.

**Note 3:** For the purposes of the table(s) above, Note 3 means that concentration limits may be subject to review and change once the final details are received on the treatment technology and the design of the discharge structure.



**Note 4:** For the purposes of the table above, Note 4 means that this concentration limit will be subject to review and change once the licensee has submitted the report as required in Condition U2 (Ammonia Concentration Reduction Strategy).

### L3.5 Reference Condition

For the concentration limits specified for Point 9 (above), the following reference conditions also apply:

Pollutant	Units of measure	100 percentile concentration limit	Reference Conditions	Averaging Period
1,2-Dichloroethane <sup>1</sup>	mg/m <sup>3</sup>	8	Dry, 273K, 101.3kPa, 11% O <sub>2</sub>	Rolling 1 hour average
Chlorine	mg/m <sup>3</sup>	30	Dry, 273K, 101.3kPa, 11% O <sub>2</sub>	As per test method
Nitrogen Oxides	mg/m <sup>3</sup>	400	Dry, 273K, 101.3kPa, 11% O <sub>2</sub>	Rolling 1 hour average
Volatile organic compounds <sup>1</sup>	mg/m <sup>3</sup>	10	Dry, 273K, 101.3kPa, 11% O <sub>2</sub>	Rolling 1 hour average
Hydrogen Sulfide	mg/m <sup>3</sup>	2	Dry, 273K, 101.3kPa, 11% O <sub>2</sub>	As per test method
Dioxins & Furans <sup>2</sup>	ng/m <sup>3</sup>	0.1	I-TEQ, Dry, 273K, 101.3kPa, 11% O <sub>2</sub>	As per test method
Hydrogen chloride	mg/m <sup>3</sup>	30	Dry, 273K, 101.3kPa, 11% O <sub>2</sub>	Rolling 1 hour average
Sulfur dioxide	mg/m <sup>3</sup>	100	Dry, 273K, 101.3kPa, 11% O <sub>2</sub>	As per test method
Vinyl chloride	ppm	10	Dry, 273K, 101.3kPa, 11% O <sub>2</sub>	Rolling 3 hour average
Solid Particles	mg/m <sup>3</sup>	20	Dry, 273K, 101.3kPa, 11% O <sub>2</sub>	As per test method
Carbon monoxide	mg/m <sup>3</sup>	100	Dry, 273K, 101.3kPa, 11% O <sub>2</sub>	Rolling 1 hour average

**Note** The above limits apply to the stack emissions prior to the addition of any re-heat air.

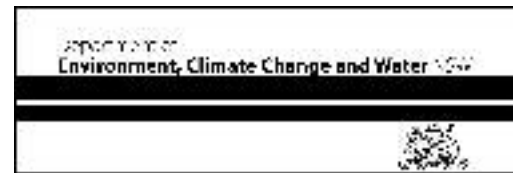
<sup>1</sup> Expressed as total organic carbon.

<sup>2</sup> Polychlorinated-dibenzo-p-dioxins (PCDD) and polychlorinated-dibenzofurans (PCDF) as 2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD) equivalent calculated in accordance with the procedures included in the Protection of the Environment Operations (Clean Air) Regulation 2002.

### L3.6 Reference conditions for Points 26, 27 and 28.

For the concentration limits specified for Points 26, 27 and 28 (above), the following reference conditions also apply:

Pollutant	Units of measure	100 percentile concentration limit	Reference Conditions
Total solids	mg/m <sup>3</sup>	10	Dry, 273K, 101.3kPa
Hazardous substances (aggregate of Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn and V)	mg/m <sup>3</sup>	0.5	Dry, 273K, 101.3kPa
Volatile Organic Compounds	mg/m <sup>3</sup>	10	Dry, 273K, 101.3kPa
Cadmium	mg/m <sup>3</sup>	0.1	Dry, 273K, 101.3kPa
Mercury	mg/m <sup>3</sup>	0.1	Dry, 273K, 101.3kPa
Hexachlorobenzene (HCB)	mg/m <sup>3</sup>	0.002	Dry, 273K, 101.3kPa
Hexachlorobutadiene (HCBd)	mg/m <sup>3</sup>	0.21	Dry, 273K, 101.3kPa
Hexachloroethane (HCE)	mg/m <sup>3</sup>	9.7	Dry, 273K, 101.3kPa
Dioxins and Furans	ng/m <sup>3</sup>	0.1	I-TEQ, Dry, 273K, 101.3kPa



**Note:** For the purpose of monitoring and determining compliance with this condition, 'Dioxins and Furans' are polychlorinated-dibenzo-p-dioxins (PCDD) and polychlorinated-dibenzofurans (PCDF) as 2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD) equivalent and calculated in accordance with the procedures included in the Protection of the Environment Operations (Clean Air) Regulation 2002.

### L3.7 Thermal Oxidiser Lower Limits

For each monitoring/discharge point or utilisation area specified in the tables below (by point number), the parameter must be equal to or greater than the lower limits specified for that parameter in that table.

#### Point 10

Parameter	Units of measure	Lower Limit	Averaging period
Temperature	°C	875	Instantaneous

#### Point 13

Parameter	Units of measure	Lower Limit	Averaging period
Residence time	s	2	Instantaneous

L3.8 Whenever a combustion failure occurs in the thermal oxidiser, both the Air Stripping Unit and the Thermal Oxidiser must be shut down and all emissions must cease as soon as safely possible, but in no case later than 10 minutes after the start of the failure.

### L3.9 Exemptions from concentration limits for Point 9 and temperature limit for Point 10

The concentration limits specified for Point 9 (above) and temperature limit for Point 10 (above) do not apply during the following periods:

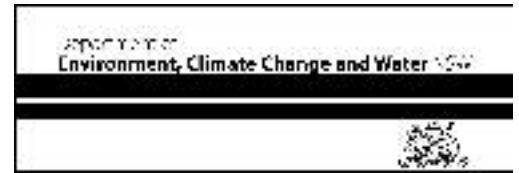
- a start-up period – that is, while the thermal oxidiser is being brought up to normal operation following a period of inactivity; or
- a shutdown period – that is, while the thermal oxidiser is being taken out of service from normal operation to inactivity.

**Note 1:** While the concentration limits specified for Point 9 (above) do not apply, the licensee is subject to the requirements of section 128 (2) of the Protection of the Environment Operations Act in relation to the prevention and minimisation of air pollution.

**Note 2:** Condition O9.1 requires that only uncontaminated off-gas feed is processed by the thermal oxidiser when the temperature at the thermal oxidiser unit (Point 10) is below 875°C.

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## L4 Volume and mass limits

L4.1 For each discharge point or utilisation area specified below (by a point number), the volume/mass of:

- (a) liquids discharged to water; or;
- (b) solids or liquids applied to the area;

must not exceed the volume/mass limit specified for that discharge point or area.

Point	Unit of measure	Volume/Mass Limit
11	kilolitres per day	13500

## L5 Waste

L5.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.

Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.

Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.

Condition L5.1 does not limit any other conditions in this licence.

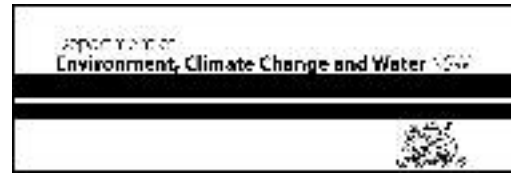
Code	Waste	Description	Activity	Other Limits
B100	Acidic solutions or acids in solid form		Storage and processing (non-thermal treatment)	B100 waste is limited to ferrous chloride (pickle liquor)
D120	Mercury; mercury compounds		Storage	
NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the <i>Protection of the Environment Operations (Waste) Regulation 2005</i>	As specified in each particular resource recovery exemption.	NA
NA		Any waste received on site that is below licensing thresholds in Schedule 1 of the POEO Act, as in force from time to time		NA

L5.2 The licensee is permitted to receive and treat extracted groundwater, the substances therein, and associated free phase contaminants originating from Orica's (formerly ICI Australia) activities at the Botany Industrial Park (BIP). This includes but is not limited to groundwater from:



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1. The BIP, primary and secondary hydraulic containment lines;
2. Environmental investigation, monitoring and remediation activities conducted by, or on behalf of, Orica within areas impacted by Orica / ICI Australia's historic activities within the Groundwater Extraction Exclusion Area (GEEA); and
3. Short-term third party dewatering activities (for construction, pipe repairs, etc.) within the GEEA, in instances in which those waters have been affected by contaminants associated with Orica/ICI Australia's historic BIP operations.

For the purposes of licensing and the liquid waste levy, this material is deemed to have been generated onsite.

## L6 Noise Limits

### L6.1 For the area known as 'Southlands' and the associated wells and reticulation system for the primary containment area the noise limit conditions L6.1.1 to L6.1.4 inclusively, apply:

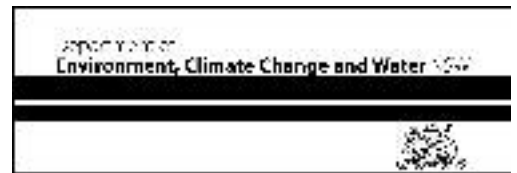
- L6.1.1** The operation of all plant and equipment must not give rise to an equivalent continuous ( $L_{Aeq}$ ) sound pressure level at any point on any residential property greater than 5dB(A) above the existing background  $L_{A90}$  level (in the absence of the noise under consideration).
- L6.1.2** The operation of all plant and equipment must not give rise to an LA1, 1minute or LAMax sound pressure level at any point on any residential property greater than 15dB(A) above the existing background LA90 level (in the absence of the noise under consideration) during night time.
- L6.1.3** The operation of all plant and equipment when assessed on any residential property must not give rise to a sound pressure level that exceeds LAeq 50dB(A) day/evening time, and LAeq 40 dB(A) night time.
- L6.1.4** The operation of all plant and equipment when assessed on any neighbouring commercial/industrial premises must not give rise to a sound pressure level that exceeds LAeq 65dB(A) day/evening time and night time.

**Note 1:** For assessment purposes, the above  $L_{Aeq}$  sound levels must be assessed over a period of 10-15 minutes. The modification factors presented in Section 4 of the NSW Industrial Noise Policy must be applied to the measured noise levels where applicable.

**Note 2:** The area known as 'Southlands' and the associated wells and reticulation system is defined by Lot 2 DP 528680; Lot 11, DP 109505; and Lot 1 DP85542 as shown on drawing titled "Botany Site Plan Sub-division Boundary Plots", drawing no. B87201 Rev 12 4/03 and the reticulation layout shown on drawing B96310 RevA dated 15.10.05 submitted to the EPA on 4 November 2005.

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## L6.2 For the operation of plant and equipment located at Botany Industrial Park (BIP) premises the following conditions L6.2.1 to L6.2.3 inclusively, apply:

L6.2.1 Noise emissions emanating from all active Plants in the BIP premises, including loading and unloading of material in or above the premises and when determined as a sound level contribution, shall not exceed the following amenity LAeq criteria when measured or computed at any point within one metre of the nearest boundary of any residence in the vicinity of the premises, using the "FAST" response on the sound level meter.

Time of Day	LAeq
Day	65
Evening	55
Night	50

L6.2.2 The intrusive noise criterion for all active plants in the BIP shall be that the LAeq15 minute noise levels shall not exceed the amenity LAeq noise levels by more than 5 dB(A) when measured or computed at any point within one metre of the nearest boundary of any residence in the vicinity of the premises, using the "FAST" response on the sound level meter.

L6.2.3 Each existing BIP Plant shall ensure that new or replacement equipment is selected and/or installed so that no increase in noise emissions is thereby created when measured or computed at any point within one metre of the nearest boundary of any residence in the vicinity of the premises, using the "FAST" response on the sound level meter.

L6.3 A report for all BIP Licences (L7494 Huntsman Corporation; L 2148 Orica Pty Ltd and L10000 Qenos Pty Ltd) demonstrating compliance with the noise conditions listed at Condition L6.1 to L6.2 must be appended to the Annual Return for Qenos L10000.

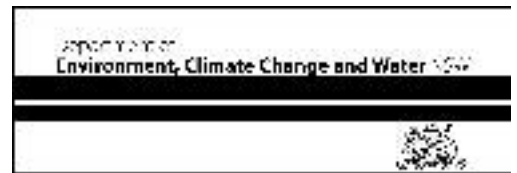
L6.4 Noise generated by activities associated with the Groundwater Cleanup Project, other than those accepted by the EPA as being "construction" at the premises must not exceed the noise goal level presented in the Table 6.4 below:

Table 6.4 - Noise Design Goal Limits (dB(A))

Location	Day	Evening	Night
	L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minute)
<i>Nearest affected receivers surrounding the Groundwater</i>	<i>35 dB(A)</i>	<i>35 dB(A)</i>	<i>35 dB(A)</i>

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Cleanup Project			
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L6.5 For the purpose of Condition L6.1, L6.2 and L6.4:

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays,
- Evening is defined as the period from 6pm to 10pm, and
- Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays

L6.6 Noise from the premises is to be measured at the most affected point on or within the residential boundary to determine compliance with the LAeq(15 minute) noise limits in condition L6.4.

Where it can be demonstrated that direct measurement of noise from the premises is impractical, the EPA may accept alternative means of determining compliance. See Chapter 11 of the NSW Industrial Noise Policy.

The modification factors presented in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise level where applicable

L6.7 The noise emission limits identified in condition L6.4 apply under meteorological conditions of:

- wind speeds up to 3 m/s at 10 metres above ground level; or
- temperature inversion conditions of up to 3°C/100m and wind speeds up to 2m/s at 10 metres above ground level.

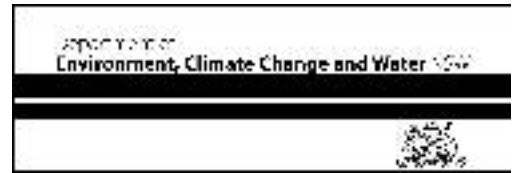
## L6.8 Hours of operation – Construction

All construction work at the premises must only be conducted between 7:00am to 6:00pm Monday to Friday, 8:00am to 1:00pm Saturdays, with no construction activities on Sundays or Public Holidays. Construction is permitted any time if it is not audible at the nearest affected receivers. Audible means that it can be heard by a person at the nearest affected receivers.

L6.9 Activities at the premises, other than construction work, that meet the noise goal provided in L6.4 may be conducted on a continuous basis.

L6.10 The following activities may be carried out at the premises outside the hours specified in conditions L6.8:

- (a) the delivery of materials as requested by Police or other authorities for safety reasons; and
- (b) emergency work to avoid the loss of lives, property and/or to prevent environmental harm.



## L7 Polychlorinated Biphenyls (PCBs)

Note: The licensee must comply with the conditions as specified in this licence or where no specific conditions are outlined in this licence, the licensee must comply with the "Chemical Control Order in Relation to Materials and Wastes Containing Polychlorinated Biphenyl, 1997".

## 4 Operating conditions

### O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- (a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- (b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

### O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:  
(a) must be maintained in a proper and efficient condition; and  
(b) must be operated in a proper and efficient manner.

### O3 Emergency Response

O3.1 The licensee must maintain emergency response plans which document the procedures to deal with all types of incidents (eg spill, explosions or fire) that may occur at the premises or outside of the premises (eg during transfer) which are likely to cause harm to the environment.

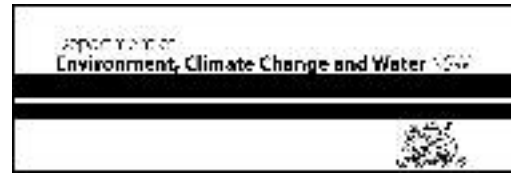
### O4 Processes and management

O4.1 The licensee must ensure that any waste received and/or generated at the premises is assessed and classified in accordance with the DECC Waste Classification Guidelines as in force from time to time.

O4.2 The licensee must ensure that waste identified for recycling is stored separately from other waste.

O4.3 All above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in-place.

O4.4 The licensee must ensure that suitable measures (e.g. high/low alarms, control valves with interlock control, one way valves) are installed on all tanks, ponds or clarifiers and associated pipes and hoses to prevent the spillage of waste.



## O5 Asbestos Wastes

- O5.1 The licensee must manage any asbestos or asbestos-contaminated materials that may be uncovered during the construction, commissioning and operation of all activities undertaken at the premises strictly in accordance with the requirements under the *Protection of the Environment Operations (Waste) Regulation 2005* and any guidelines or requirements issued by the EPA in relation to those materials.

## O6 Odour

- O6.1 The licensee must not cause, permit or allow the emission of offensive odour beyond the boundary of the premises.
- O6.2 No condition of this licence identifies a potentially offensive odour for the purposes of Section 129 of the Protection of the Environment Operations Act 1997.

- O7 Not applicable.

## O8 Dust

- O8.1 Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises.
- O8.2 Loaded trucks must be covered at all times, except during loading and unloading of material.

## O9 Thermal Oxidiser Operating Conditions

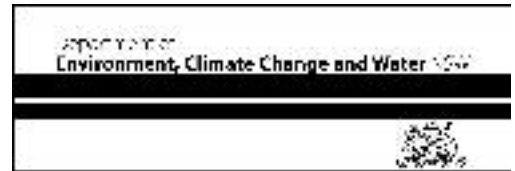
- O9.1 The licensee must ensure that only uncontaminated off-gas feed is sent to the thermal oxidiser when the temperature at the thermal oxidiser unit (Point 10) is below 875°C, subject to L3.8.

# 5 Monitoring and recording conditions

## M1 Monitoring records

- M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.
- M1.2 All records required to be kept by this licence must be:
- in a legible form, or in a form that can readily be reduced to a legible form;

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- (b) kept for at least 4 years after the monitoring or event to which they relate took place; and
- (c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- (a) the date(s) on which the sample was taken;
- (b) the time(s) at which the sample was collected;
- (c) the point at which the sample was taken; and
- (d) the name of the person who collected the sample.

## M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

### POINT 3

Pollutant	Units of measure	Frequency	Sampling Method
Chlorine	milligrams per cubic metre	Continuous	In line instrumentation

### POINT 4

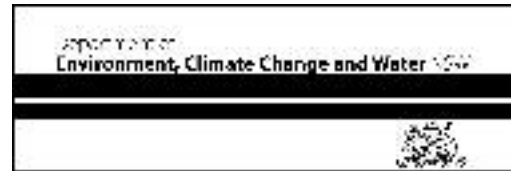
Pollutant	Units of measure	Frequency	Sampling Method
Hydrogen chloride	milligrams per cubic metre	Quarterly	Method approved in writing by the Authority

### POINT 7

Pollutant	Units of measure	Frequency	Sampling Method
Chlorine	milligrams per cubic metre	Continuous	In line instrumentation

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## POINT 9

Pollutant	Units of measure	Frequency	Sampling Method
1,2-Dichloroethane	milligrams per cubic metre	Special Frequency 13	CEM-10
Carbon monoxide	milligrams per cubic metre	Special Frequency 13	CEM-4
Chlorine	milligrams per cubic metre	Yearly	TM-7 & TM-8
Dioxins & Furans	nanograms per cubic metre	Yearly	TM-18
Dry gas density	kilograms per cubic metre	Quarterly	TM-23
Hydrogen Sulfide	milligrams per normalised cubic metre	Yearly	TM-5
Hydrogen chloride	milligrams per cubic metre	Yearly	Special Method 8
Moisture content	percent	Quarterly	TM-22
Molecular weight of stack gases	grams per gram mole	Quarterly	TM-23
Nitrogen Oxides	milligrams per cubic metre	Quarterly	TM-11
Oxygen (O2)	percent	Continuous	CEM-3
Solid Particles	milligrams per cubic metre	Special Frequency 3	TM-15
Sulphur dioxide	milligrams per cubic metre	Yearly	TM-4
Temperature	degrees Celsius	Continuous	TM-2
Velocity	metres per second	Continuous	CEM-6
Vinyl chloride	parts per million	Special Frequency 13	CEM-10
Volatile organic compounds	milligrams per cubic metre	Quarterly	Other Approved Method 1
Volumetric flowrate	cubic metres per second	Continuous	CEM-6

## POINT 10

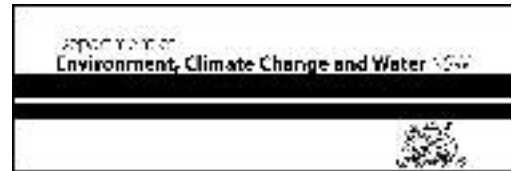
Pollutant	Units of measure	Frequency	Sampling Method
Temperature	degrees Celsius	Continuous	TM-2

## POINT 13

Pollutant	Units of measure	Frequency	Sampling Method
Volumetric flowrate	cubic metres per second	Continuous	CEM-6

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## POINT 14

Pollutant	Units of measure	Frequency	Sampling Method
1,2-Dichloroethane	milligrams per litre	Monthly	Special Method 2
Arsenic	milligrams per litre	Monthly	24 hour composite sample
Benzene	milligrams per litre	Monthly	Special Method 2
Biochemical oxygen demand	milligrams per litre	Monthly	24 hour composite sample
Cadmium	milligrams per litre	Monthly	24 hour composite sample
Carbon tetrachloride	milligrams per litre	Monthly	Special Method 2
Chloroform	milligrams per litre	Monthly	Special Method 2
Chromium (total)	milligrams per litre	Monthly	24 hour composite sample
Copper	milligrams per litre	Monthly	24 hour composite sample
Iron	milligrams per litre	Monthly	24 hour composite sample
Lead	milligrams per litre	Monthly	24 hour composite sample
Manganese	milligrams per litre	Monthly	24 hour composite sample
Mercury	milligrams per litre	Monthly	24 hour composite sample
Nickel	milligrams per litre	Monthly	24 hour composite sample
Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Monthly	24 hour composite sample
Nitrogen (ammonia)	milligrams per litre	Monthly	24 hour composite sample
Nitrogen (total)	milligrams per litre	Monthly	24 hour composite sample
Phosphorus (total)	milligrams per litre	Monthly	24 hour composite sample
Reactive Phosphorus	milligrams per litre	Monthly	24 hour composite sample
Tetrachloroethene (tetrachloroethylene)	milligrams per litre	Monthly	Special Method 2
Toluene	milligrams per litre	Monthly	Special Method 2
Total residual chlorine	milligrams per litre	Monthly	Special Method 7
Trichloroethene (Trichloroethylene)	milligrams per litre	Monthly	Special Method 2
Turbidity	nephelometric turbidity units	Monthly	24 hour composite sample
Vinyl chloride	milligrams per litre	Monthly	Special Method 2
Zinc	milligrams per litre	Monthly	24 hour composite sample
pH	pH	Monthly	24 hour composite sample

## POINT 15

Pollutant	Units of measure	Frequency	Sampling Method
Conductivity	microsiemens per centimetre	Continuous	In line instrumentation

## POINT 16

Pollutant	Units of measure	Frequency	Sampling Method
Temperature	degrees Celsius	Continuous during discharge	In line instrumentation

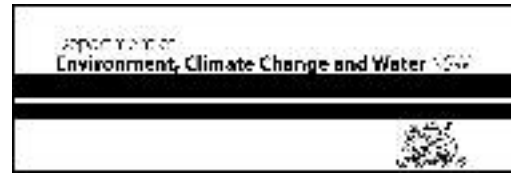
## POINT 25

Pollutant	Units of measure	Frequency	Sampling Method
Mercury	micrograms per cubic metre	Daily	24 hour composite sample



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## POINTS 26,27,28

Pollutant	Units of measure	Frequency	Sampling Method
Cadmium	milligrams per cubic metre	Special Frequency 14	TM-14
Dioxins & Furans	nanograms per cubic metre	Special Frequency 15	TM-18
Hazardous substances	milligrams per cubic metre	Special Frequency 14	TM-12 & TM-13
Hexachlorobenzene	milligrams per cubic metre	Special Frequency 14	TM-34
Hexachlorobutadiene	milligrams per cubic metre	Special Frequency 14	TM-34
Hexachloroethane	milligrams per cubic metre	Special Frequency 14	TM-34
Mercury	milligrams per cubic metre	Special Frequency 14	TM-14
Total solids	milligrams per cubic metre	Special Frequency 14	TM-15
Volatile organic compounds	milligrams per cubic metre	Special Frequency 14	TM-34

## POINTS 29,30,31,32

Pollutant	Units of measure	Frequency	Sampling Method
Volatile organic compounds	milligrams per cubic metre	2 times daily during discharge	Special Method 6

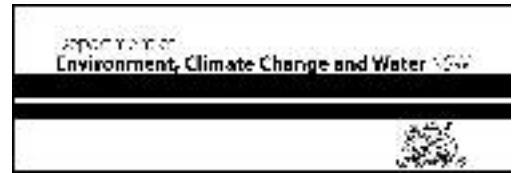
## POINTS 33,34,35,36

Pollutant	Units of measure	Frequency	Sampling Method
Volatile organic compounds	milligrams per cubic metre	Special Frequency 14	TM-34

M2.2 For the purpose of the table(s) above:

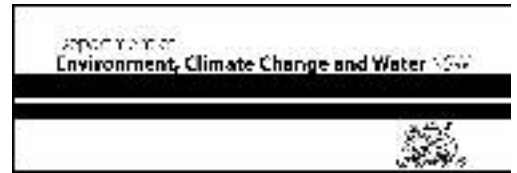
- Emission monitoring for hydrogen chloride in point 4 must be undertaken when the burner is on line at such a steady rate as will facilitate sampling in accordance with the EPA's letter dated 20 August 2002.
- Emission monitoring for hydrogen chloride is TM 7 & TM 8 using site specific variations as outlined in the EPA's letter dated 20 August 2002 or any other methods approved in writing by the EPA.
- **Other Approved Method 1** means In-house Method 04-010 consistent with USEPAm18.
- Minor variations to those sampling methods as specified in the DECC's 'Approved Methods for the Sampling and Analysis of Air Pollutants in NSW' and 'Approved Methods for the Sampling and Analysis of Water Pollutants in NSW', as approved by the National Association of Testing Authorities' (NATA) endorsement of Laboratories, are deemed to be appropriate. As per DECC's letter to licensee dated 13 September 2007 permitting the use of in-house methods and standards as an interim measure, pending NATA accreditation.
- **Special Frequency 1** means samples must be collected and analysed continuously and reference samples must also be collected and analysed on a quarterly basis.

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- **Special Frequency 3** is defined as monitoring monthly for the first 6 months and quarterly thereafter. This monitoring frequency could be reviewed after 2 years of normal operations of the plant.
- **Special Frequency 4** is defined as monitoring continuously for the first two weeks. This monitoring frequency could be reviewed following assessment of results of the first two weeks.
- **Special Frequency 5** is defined as monitoring daily for first two weeks then weekly thereafter. This monitoring frequency could be reviewed following assessment of results of the first two weeks.
- **Special Frequency 6** is defined as monitoring continuously for the first two weeks only. This monitoring frequency could be reviewed following assessment of results of the first two weeks.
- **Special Frequency 7** is defined as monitoring daily for the first week then twice during the second week. This monitoring frequency could be reviewed following assessment of results of the first two weeks.
- **Special Frequency 8** is defined as monitoring daily for the first two weeks only. This monitoring frequency could be reviewed following assessment of results of the first two weeks.
- **Special Frequency 9** is defined as conducting a study (prepared using 5 individual samples) on one day prior to commencing discharge and then another 2 studies (prepared using 5 individual samples for each) during discharge. The two later studies would be conducted on a day in both the first and second weeks of discharge to Springvale drain.
- **Special Frequency 10** is defined as monitoring daily for the first two weeks only. This monitoring frequency could be reviewed following assessment of results of the first two weeks.
- **Special Frequency 11** is defined as monitoring daily for the first week and then twice in the second week. This monitoring frequency could be reviewed following assessment of results of the first two weeks.
- **Special Frequency 12** is defined as monitoring during the initial transfer of material to the storage tank.
- **Special Frequency 13** is defined as monitoring continuously at all times except when the Fourier Transform Infrared Spectrometer (FTIR) is taken off-line for service, repair, maintenance and/or calibration purposes only. During this off-line period, monitoring must be carried out on a daily basis for 1-hour composite samples in accordance with the EPA's Approved Methods. In these exceptional circumstances, the licensee may use the in-house laboratory for analysis of these samples.
- **Special Frequency 14**
  - a) **For Store J**, is defined as monitoring every quarter.
  - b) **For Store E**, is defined as monitoring on every 5<sup>th</sup> working day of operation for Points 28, 32 and 36. Special frequency 14 may be reviewed by the EPA from time to time based on

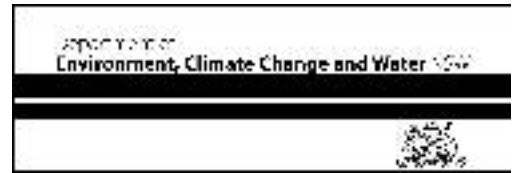


the results of monitoring of parameters for Store E.

- c) **For Store G & H**, is defined as monitoring every quarter.
- **Special Frequency 15**
- d) **For Store J**, is defined as monitoring once annually.
- e) **For Store E**, is defined as monitoring on every 5th working day of operation for Points 28, 32 and 36. Special frequency 15 may be reviewed by the EPA from time to time based on the results of monitoring of parameters for Store E.
- f) **For Store G & H**, is defined as monitoring once annually.
- **Special Method 1** means continuous monitoring and analysis for 1,2-dichloroethane and vinyl chloride is CEM-10 while the quarterly method for 1,2-dichloroethane is OM-2 and the quarterly method for vinyl chloride is OM-2 or USEPA Method 106
  - **Special Method 2** means taking three (3) grab samples in any 24-hour period once per week. The result will be obtained by mathematically averaging the results of three grab samples after being analysed individually.
  - **Special Method 3** means weekly analysis of a prepared composite sample obtained from 3 grab samples taken over a 24-hour period.
  - **Special Method 4** means is defined as conducting a study (prepared using 5 individual samples) on one day prior to commencing discharge and then another 2 studies (prepared using 5 individual samples for each) during discharge. The two later studies would be conducted on a day in both the first and second weeks of discharge to Springvale drain.
  - **Special Method 5** means that a single sample is taken in the centre of the stack, but with the sampling velocity adjusted to match the stack velocity. This special method should align as close as practicable with the test method TM-8.
  - **Special Method 6** means CEM-8, CEM-9 or CEM-10 (as defined in *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW. EPA 2005*), or a continuous monitoring method otherwise approved by the EPA.
  - **Special Method 7** means taking three (3) grab samples in any 24-hour period once per week. Each grab sample must be analysed on-site within minutes of the sample being collected as per Approved Methods. The result will be obtained by mathematically averaging the individual results of three grab samples.
  - **Special Method 8** means testing in accordance with USEPAm26A

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M2.3 At Point 4, the licensee is required to take a grab sample during 4 startups and shutdowns to determine the concentration of HCl emissions during startup or shutdown conditions. In these circumstances, the licensee may use the in-house HCl sampling method.

## M3 Testing methods - concentration limits

M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:

- (a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
- (b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
- (c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The Protection of the Environment Operations (Clean Air) Regulation 2002 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

### Note: Testing methods - load limit

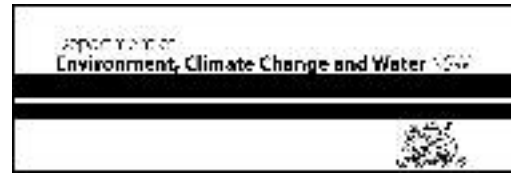
Note: Clause 18 (1), (1A) and (2) of the Protection of the Environment Operations (General) Regulation 1998 requires that monitoring of actual loads of assessable pollutants listed in L2.1 must be carried out in accordance with the testing method set out in the relevant load calculation protocol for the fee-based activity classification listed in condition A1.2.

## M4 Recording of pollution complaints

M4.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M4.2 The record must include details of the following:

- (a) the date and time of the complaint;
- (b) the method by which the complaint was made;
- (c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- (d) the nature of the complaint;
- (e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- (f) if no action was taken by the licensee, the reasons why no action was taken.



M4.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M4.4 The record must be produced to any authorised officer of the EPA who asks to see them.

## **M5 Telephone complaints line**

M5.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M5.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M5.3 Conditions M5.1 and M5.2 do not apply until 3 months after:

- the date of the issue of this licence or
- if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

## **M6 Requirement to monitor volume or mass**

M6.1 For each discharge point or utilisation area specified below, the licensee must monitor:

- the volume of liquids discharged to water or applied to the area;
- the mass of solids applied to the area;
- the mass of pollutants emitted to the air;

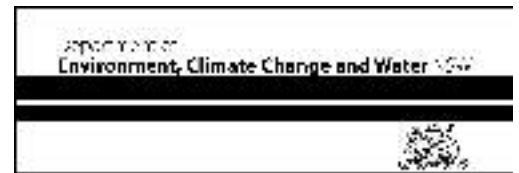
at the frequency and using the method and units of measure, specified below.

### **POINT 16**

<b>Frequency</b>	<b>Unit Of Measure</b>	<b>Sampling Method</b>
Continuous during discharge	kilolitres per day	Wedge Flow Meter

## **M7 Weather monitoring**

M7.1 For each monitoring point specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the parameter specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns:

**POINT 12**

Parameter	Units of measure	Averaging period	Frequency	Sampling Method
Wind speed @ 10 m	m/s	1 hour	Continuously	AM-2 & AM-4
Wind direction @ 10 m	°	1 hour	Continuously	AM-2 & AM-4
Sigma Theta @ 10 m	°	1 hour	Continuously	AM-2 & AM-4
Additional Requirements				
Siting				AM-1 & AM-4
Measurement				AM-2 & AM-4

Note: Due to technical and topographical difficulties associated with the installation of the weather monitoring station, the licensee is required to align as close as possible to the sampling methods included in this condition for point 12.

**6 Reporting conditions****R1 Annual return documents****What documents must an Annual Return contain?**

- R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
- a Statement of Compliance; and
  - a Monitoring and Complaints Summary.
- A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

**Period covered by Annual Return**

- R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

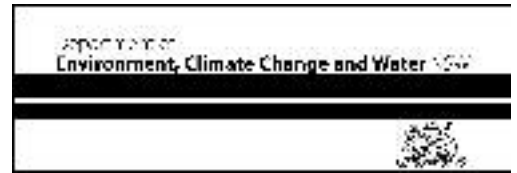
- R1.3 Where this licence is transferred from the licensee to a new licensee:
- the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
  - the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

- R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
- in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or

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- (b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

## Deadline for Annual Return

R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

## Notification where actual load can not be calculated

R1.6 Where the licensee is unable to complete a part of the Annual Return by the due date because the licensee was unable to calculate the actual load of a pollutant due to circumstances beyond the licensee's control, the licensee must notify the EPA in writing as soon as practicable, and in any event not later than the due date. The notification must specify:

- (a) the assessable pollutants for which the actual load could not be calculated; and
- (b) the relevant circumstances that were beyond the control of the licensee.

## Licensee must retain copy of Annual Return

R1.7 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

## Certifying of Statement of Compliance and signing of Monitoring and Complaints Summary

R1.8 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- (a) the licence holder; or
- (b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R1.9 A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.

## R2 Notification of environmental harm

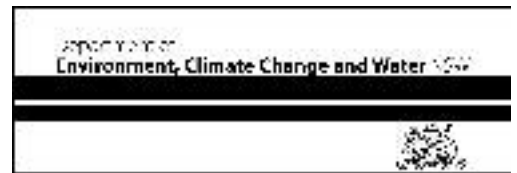
Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

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## R3 Written report

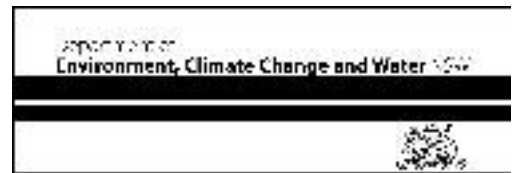
- R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
- (a) where this licence applies to premises, an event has occurred at the premises; or
  - (b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
- and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.
- R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.
- R3.3 The request may require a report which includes any or all of the following information:
- (a) the cause, time and duration of the event;
  - (b) the type, volume and concentration of every pollutant discharged as a result of the event;
  - (c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
  - (d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
  - (e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
  - (f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
  - (g) any other relevant matters.
- R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

## General conditions

### G1 Copy of licence kept at the premises

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.



**G2 Signage**

- G2.1 Each monitoring and discharge point, located within the premises as defined in this licence, must be clearly marked by a sign that indicates the EPA point identification number used in this licence and be located as close as practical to the point.

**Pollution studies and reduction programs****Pollution Reduction Programs (PRPs) Completed**

PRP No	Description	Completed Date
1	Noise Pollution Reduction Program	December 2001
2	Stormwater Pollution Reduction Program	Ongoing
3	Steam Stripper Unit Optimisation Plan	30/09/04
4	Steam Stripper Unit Optimisation	24/12/04
5	Best Practice Benchmarking for Steam Stripper Unit	24/12/04
6	Measures to achieve world's best practice for Steam Stripper Unit	29/03/05
7	Requirement to achieve world's best practice	Completed
8	Air Stripping Unit	24/03/05
9	Ammonia Concentration Reduction Strategy	Ongoing
10	Requirement to determine dilution (at Point 11)	06/05/08

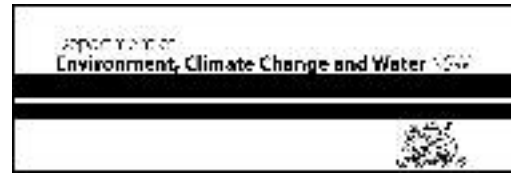
**U1 Stormwater Pollution Reduction Program**

- U1.1 A continuous improvement program must be implemented to address issues associated with the stormwater system on any part of the premises. The stormwater improvement program must be consistent with the Botany Industrial Park stormwater improvement plan.
- U1.2 **A report must be forwarded to the EPA annually as an attachment to the Qenos P/L (Environment Protection Licence No. 10000) annual return, that details the following:**
- Issues associated with the stormwater system
  - Programs that have been and will be implemented to address areas requiring attention
  - Progress made towards the goals outlined in the stormwater improvement plan.

**U2 Ammonia Concentration Reduction Strategy**

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## U2.1 Objective

The objective of this Pollution Reduction Program (PRP) is to reduce ammonia concentrations in the treated effluent of the Groundwater Treatment Plant at Point 11 to achieve the protection of aquatic ecosystems (95 percent species protection) in both the Perry Street Canal System and Botany Bay based on the ANZECC and ARMCANZ (2000) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* ('the ANZECC Guidelines').

For the purposes of this condition, the Perry Street Canal System is defined as the stormwater drainage system from the point near the intersection of Flack Avenue and Beauchamp Road Hillsdale (UBD Map Ref 276 M16) downstream to Brotherson Dock (including all associated formed channel structures, weirs and culverts) and the drainage system downstream of Discharge Point 11.

## U2.2 Ammonia Concentration Reduction Progress Report

**On or before 1 July 2009**, the licensee must submit an Ammonia Concentration Reduction Progress Report to the Manager Sydney Industry at PO Box 668 Parramatta NSW 2124.

This report must include, but not be limited to, the following:

- a) details of the status of works proposed in the report titled 'Ammonia Concentration Reduction Pollution Reduction Program. 30 August 2007' which was submitted by the licensee on 30 August 2007;
- b) details of proposed strategies to achieve the objective set out in Condition U2.1; and
- c) timeframes for the implementations of the above works and strategies to achieve the objectives set out in Condition U2.1.

*Note 1: Following the receipt of the above Ammonia Concentration Reduction Progress Report, additional licence conditions may be added to the licence to require implementation of the options to achieve the objective in condition U2.1.*

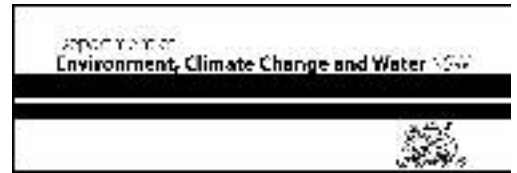
*Note 2: On 12 December 2008 the licensee submitted one progress report required by the above condition. The condition has been amended to require a second progress report by a 1 July 2009..*

## U3 Treated water discharge - temperature reduction strategy.

### U3.1 Objective

The objective of this Pollution Reduction Program (PRP) is to reduce the temperature of the treated effluent of the Groundwater Treatment Plant at Point 11 to achieve the temperature limits specified in condition L3.

U3.2 By 31 December 2009 the licensee must implement option 1 as described in the document titled "Treated Water Discharge Temperature Reduction Strategy Progress Report" dated 27 August 2009. The licensee must notify the EPA's Manager Sydney Industry PO Box 668 Parramatta 2124 within two weeks of completion of the works.



## Special conditions

### CPWE Special Conditions

#### Preamble

- a) The timeline provided in E1 is based on remediation of the Car Park Waste as described in the project Environmental Assessment and Remediation Action Plan (final amended) submitted by Orica to the NSW Department of Planning.
- b) Should the results of the current monitoring program indicate that more timely attention is required by Orica, the timeline provided for the remediation works may be modified.
- c) For the purposes of all special condition(s) in Section E:
  - 'Impacted materials' is defined as: any materials contaminated by hexachlorobutadiene (HCB) and/or associated compounds, within the immediate vicinity of the Car Park Waste Encapsulation cell.
  - 'Car Park Waste Encapsulation (CPWE)' or 'HCB encapsulation cell' is defined as: the encapsulation cell that lies beneath the car park on the North East boundary of the Botany Industrial Park (BIP) as shown on map Fig 4.1 from "HCB Encapsulation Groundwater Monitoring Report No 7" dated 28 August 2003.
  - 'Car Park Waste' is defined as: Approximately 45 000 cubic metres of a mixture of sand and coal ash containing hexachlorobenzene (HCB) and other chlorinated materials including HCB, interred under a paved car park area containing approximately 0.18% of HCB and other chlorinated materials (Ref.: Hexachlorobenzene Waste Management Plan, Australian and New Zealand Environment Conservation Council (ANZECC), 1996).
  - 'Remediation' is defined as:

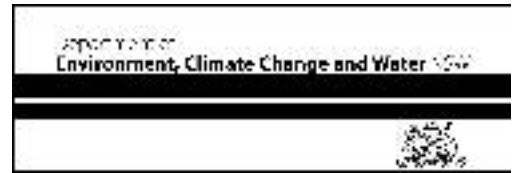
(a) preparing a long-term management plan (if any) for the land, and

(b) removing, destroying, reducing, mitigating or containing the contamination of the land, and

(c) eliminating or reducing any hazard arising from the contamination of the land (including by preventing the entry of persons or animals on the land).

Reference: Contaminated Land Management Act 1997 No 140

Note: (i) in this context "land" includes the Car Park Waste and Impacted Materials; (ii) the Scheduled Chemical Waste Chemical Control Order (CCO) does not permit 'dispersion' to meet limits; and (iii) the aim of these works also includes protection of groundwater.

**E1 Timetable for Remediation of Car Park Waste and Impacted Materials**

E1.1 Once the Construction and Site Establishment Works (Stage 2 in EPA's recommended Approval conditions) have physically commenced, the licensee must ensure the Car Park Waste and Impacted Materials are remediated and/or disposed of within a maximum period of two years from the date of commencement of the works unless otherwise agreed to in writing by the EPA. The licensee must notify the EPA in writing the date of commencement of Construction and Site Establishment. The remediation activity must include treatment of waste and demobilisation of site equipment. The licensee must also submit a report to the EPA by 1 February and 1 July each year until the commencement of Construction and Site Establishment Works to provide an update on the progress towards remediation of Car Park Waste and Impacted Materials.

**E2 Progress reporting on remediation works to remove the source of hexachlorobutadiene (HCBD) and associated compounds**

E2.1 Every six months after commencement of the Construction and Site Establishment Works, the licensee must submit a report to Manager Sydney Industry, EPA, PO Box 668, Parramatta 2124 containing the following information:

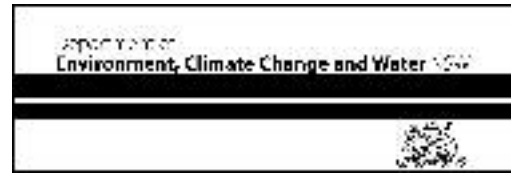
- a) Progress report on the remediation works;
- b) Confirmation that the works have been undertaken in accordance with the EPA's waste guidelines and POEO Waste Regulation 2005;
- c) Results of any additional monitoring or alternative works to demonstrate as far as practical that this action has been effective in removing the source that led to the detection of HCBD in groundwater at the groundwater monitoring point at WG95S;
- d) An interpretive report on the results of groundwater and/or soil monitoring and an assessment of the effectiveness of the remediation works to achieve an HCBD groundwater concentration not greater than 0.04µg/L at the boundary of the CPWE part of Lot 11 in DP1039919; and
- e) Any revisions to the project timetable (as a Gantt Chart or equivalent).

Note: the above concentration is a low reliability trigger value taken from ANZECC and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) 2000 water quality guidelines. Exceedances of such levels trigger further investigation.

**E3 Ongoing groundwater monitoring around the Car Park Waste Encapsulation (CPWE)**

E3.1

- a) On a six monthly basis until the commencement of the Construction and Site Establishment Works the licensee must conduct a groundwater monitoring program around the encapsulation. The program should at least include monitoring at the following wells – WG50S, WG93S/I/D, WG94S, WG95S, WG96S/I/D, WG200S/I/D, WG202S/I/D, WG203I/D, WG218S/I/D, WG219S/I/D and WG220S/I/D for the chemicals listed below.



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- b) The licensee must submit a six monthly progress report which includes the results of the above monitoring and an interpretive comment on the monitoring results to Manager, Sydney Industry, EPA, PO Box 668 Parramatta 2124.
- c) At least two months prior to the commencement of the Construction and Site Establishment Works, the licensee must provide the EPA with a proposal for ongoing groundwater monitoring around the encapsulation. The proposal must include groundwater monitoring at a minimum of once every three months for the first year after Construction and Site Establishment Works commence and every six months for not less than four years thereafter, unless otherwise agreed in writing by the EPA. The proposal is to be implemented at the commencement of the Construction and Site Establishment Works.

### **Chemicals to be analysed in the Car Park groundwater monitoring program**

#### **VOLATILE CHLORINATED HYDROCARBONS**

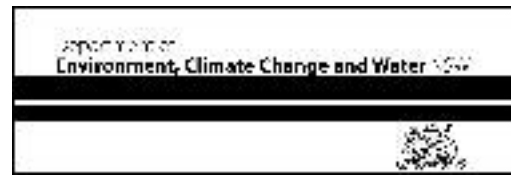
Chlorinated Methanes  
 Pentachloroethane  
 1,1,1,2-Tetrachloroethane  
 1,1,2,2-Tetrachloroethane  
 1,1,1-Trichloroethane  
 1,1,2-Trichloroethane  
 1,2-Dichloroethane  
 1,1-Dichloroethane  
 Chloroethane  
 Tetrachloroethene  
 Trichloroethene  
*cis*-1,2-Dichloroethene  
*trans*-1,2-Dichloroethene  
 1,1-Dichloroethene  
 Vinyl chloride

#### **SEMIVOLATILE CHLORINATED HYDROCARBONS**

1,2-Dichlorobenzene  
 1,3-Dichlorobenzene  
 1,4- Dichlorobenzene  
 1,2,4-Trichlorobenzene  
 1,3,5-Trichlorobenzene  
 1,2,4,5-Tetrachlorobenzene  
 Pentachlorobenzene  
 Hexachlorobenzene  
 Hexachlorobutadiene  
 Hexachlorocyclopentadiene  
 Hexachloroethane  
 Hexachloropropylene

## **E4 Completion reporting**

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- E4.1 Within three months of Reinstatement of the CPWE Site (Stage 6 in EPA's recommended Approval conditions) Orica must provide a report to the EPA, the Community Participation and Review Committee (CPRC) and the NSW Office of Water demonstrating complete achievement of the remediation objectives for the Car Park Waste.

## E5 GTP SPECIAL CONDITIONS

### AUDITS AND REVIEWS

The objective of this condition is:

To conduct a series of ongoing independent audits to validate the predictions contained in the Environmental Impact Statement (EIS) submitted to the EPA on 15 November 2004 and compliance with this licence, and to the extent required by any other approval, compliance with those approval conditions relating to the project;

To conduct environmental reviews with the aim of optimising performance;

To conduct engineering audits to ensure the performance of the plant will not deteriorate in the longer term; and

To identify remedial measures that can be implemented in the event an audit shows a discrepancy between actual and predicted performance.

This condition comprises two parts:

Part A - Environmental Review and Independent Audit

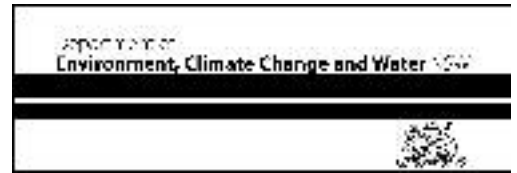
Part B - Engineering Audit

### PART A - ENVIRONMENTAL REVIEW AND INDEPENDENT AUDIT REQUIREMENTS

#### General Requirement

The licensee must undertake comprehensive environmental reviews and independent audits of the works undertaken in accordance with the EIS.

Each Environmental Review and Independent Audit must include the components specified in Conditions E5.1 and E5.2.



## E5.1 ENVIRONMENTAL REVIEW

The licensee must conduct an Environmental Review for submission with each Annual Return.

The Environmental Review must include the following programs:

- Dioxin Monitoring Technical Review
- Groundwater Treatment Plant Water Reuse Strategy
- Groundwater Monitoring Program

### E5.1.1 Dioxin Monitoring Technical Review

The licensee must conduct a program that includes, but is not limited to the following:

A review of technical options and scientific developments relating to discrete and continuous dioxin monitoring technologies.

### E5.1.2 Groundwater Treatment Plant (GTP) Water Reuse Strategy

The licensee must conduct a program that includes, but is not limited to the following:

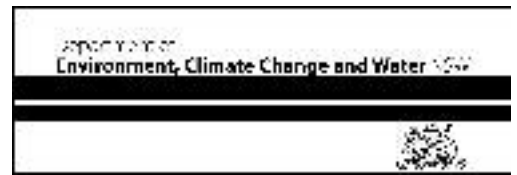
An investigation into opportunities to maximize the reuse of treated water from the groundwater treatment plant and reduce the amount of treated water discharged to waters provided the reuse or reduction can be achieved in a safe and practical manner and it will provide the best environmental outcome, in the circumstances.

### E5.1.3 Groundwater Monitoring Program

The licensee must conduct a Groundwater Monitoring Program which must include but not be limited to the following:

- (a) Monitoring of groundwater to assess whether the extraction of groundwater will result in any actual or potential impacts to surface waters or habitats in the locality;
- (b) Review the conclusions of the groundwater assessments and modelling that was undertaken as part of the EIS, including using all monitoring data collected under this license or other approvals for this project;
- (c) include a mechanism to regularly review the effectiveness of the monitoring program to ensure it is effective in detecting the presence of actual or potential impacts not already identified; and
- (d) Make recommendations about changes to existing monitoring and frequency of monitoring.

The program must be prepared and implemented in consultation with DECC.



## E5.2 INDEPENDENT AUDIT

The licensee must engage (and bear the full cost of), an independent and suitably qualified auditor to undertake comprehensive Independent Audits of the project.

The auditor must:

- be a certified environmental auditor who has gained certification from a certification body (such as Registrar Accreditation Board and Quality Society of Australasia international (RABQSA) formerly known as (QSA) who have been accredited by the Joint Accreditation Services Australia & New Zealand (JAS/ANZ);
- have Lead Environmental Auditor certification; and
- have held lead environmental certification for at least 2 years.

The licensee must consult with the Independent Monitoring Committee in the selection of the auditor.

The Independent Audit must:

- (a) be carried out in accordance with ISO 19011:2003 - Guidelines for Quality and/ or Environmental Management Systems Auditing;
- (b) take into account representative operating conditions including worst case scenarios which relate to the groundwater treatment plant;
- (c) assess compliance with the requirements of this licence, and to the extent required by any other approval, compliance with those approval conditions relating to the project;
- (d) assess the project against the predictions made and conclusions drawn in the EIS and supporting documents prepared by the licensee;
- (e) include a review of the documentation relevant to the requirements of conditions E5.1; and
- (f) include a statement on the effectiveness of the overall environmental management and performance of the project.

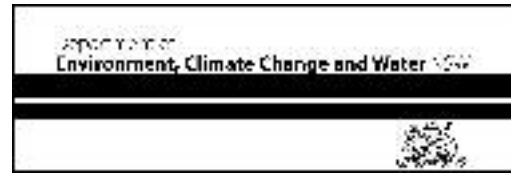
Independent Audits must be prepared for the first three reporting periods during which the groundwater treatment plant has commenced operation.

The following Independent Audit reports have been submitted in accordance with this requirement:

- Independent Audit Report Botany Groundwater Remediation Program (KMH Environmental, September 2006);
- Validation Audit and Environmental Review Botany Groundwater Remediation Program (KMH Environmental, September 2007); and



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- Validation Audit and Environmental Review Botany Groundwater Remediation Program (KMH Environmental, October 2008).

The EPA has considered the need for further Independent Validation Audits in light of the environmental performance of the GTP and on that basis no Audit is required for 2009 or 2010.

## **E5.3 PART B - ENGINEERING AUDIT**

### **E5.3 General requirement**

The licensee must make arrangements for, and bear the full cost of, an independent auditor to undertake engineering audits of the groundwater treatment plant and associated plant and equipment (including all control systems) to ensure it is maintained in a proper and efficient condition and operated in a proper and efficient manner with respect to its environmental and safety capability and performance.

Matters to be addressed in the audits must include but not be limited to;

- (a) Review of the frequency of inspections and maintenance programs to ensure they are effective in detecting actual or potential changes in the environmental and safety performance;
- (b) Review of procedures for detecting changes to the equipment which could impact on performance, including corrosion and wear; and
- (c) Review of results of internal inspections of all equipment, using video techniques where appropriate.

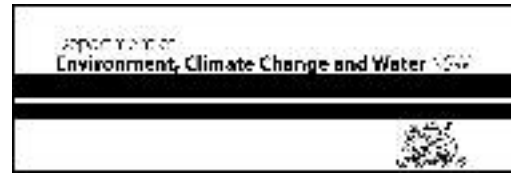
The licensee must consult with the Independent Monitoring Committee in the selection of the auditor.

The engineering audits must generate a report for submission to the DECC, DEW, Sydney Water Corporation, City of Botany Council, Orica Groundwater Community Liaison Committee and be available for public inspection on request.

The report must be submitted with each Annual Return

- At the end of every 5th reporting period, for the first 15 years of operation of the groundwater treatment plant (ie September 2012, September 2017 and September 2022); and then
- Every 2nd reporting period in which the plant remains in operation (ie September 2024 and then every two years thereafter).

The EPA may require the licensee to undertake works to address the findings or recommendations presented in the Report as a requirement of this licence. Any such works shall be completed within such time as the EPA may agree.



## E6 INDEPENDENT MONITORING COMMITTEE

E6.1 The licensee must service an Independent Monitoring Committee with technical and community representatives relating to the Groundwater Treatment Plant and its operation. The licensee must provide monitoring information and reports and consult with this Committee as required by the relevant conditions of this licence.

*Note: The Independent Monitoring Committee will be serviced by the licensee in conjunction with the existing Orica Groundwater Community Liaison Committee which is also serviced by the licensee.*

## E7 Financial Assurance

The objective of this condition is to secure or guarantee funding for or towards the ongoing operating costs of the Groundwater Treatment Plant and associated groundwater collection infrastructure.

### E7.1 Unconditional and irrevocable bank guarantee

E7.1.1 A financial assurance, in favour of the EPA, in the form of an unconditional and irrevocable bank guarantee dated 7 February 2007 for the amount of fourteen million four hundred thousand dollars (\$14,400,000) must be maintained for or towards the ongoing operating costs of the Groundwater Treatment Plant (GTP) and associated groundwater collection infrastructure and thereafter until such time as the EPA is satisfied the premises are environmentally secure.

Note: \$14.4 million is 20% of the net present value of the outstanding provision (\$72 million) of the long term operating costs identified in the licensee's submission on the appropriate form or amount of the financial assurance, dated 30 September 2006.

### E7.2 Requirement to increase the amount of the financial assurance

E7.2.1 The licensee must increase the amount of financial assurance in accordance with the following schedule based on the financial position of Orica Limited as determined by its Standard & Poors credit rating:

- i) While a Standard & Poors credit rating remains at BBB+ or above, the bank guarantee required will be \$14.4 million; and
- ii) If the Standard & Poors credit rating falls to BBB the bank guarantee required will be \$35 million; and
- iii) If the Standard & Poors credit rating below BBB the bank guarantee required will be \$72 million.

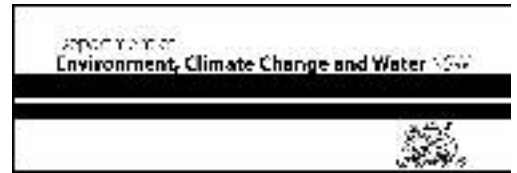
### E7.3 Requirement to report credit rating in each annual return

E7.3.1 The licensee must include in each licence annual return evidence of Orica Limited's credit rating for the whole period of the licence year.

### E7.4 Requirement to report any changes in credit rating

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E7.4.1 The licensee must advise the EPA as soon as practical and in any event within five days of receiving advice from Standard & Poors of any change to the credit rating of Orica Limited.

Note: Orica Australia Pty Ltd is the licensee and Orica Limited is the parent company. The credit rating relates to Orica Limited.

## E7.5 Varying the magnitude of the financial assurance

E7.5.1 The EPA reserves the right to vary the magnitude of the financial assurance at any time depending upon any reassessment of possible cost(s) of rehabilitation of the premises or any other reason which the EPA deems to be appropriate and reasonable to ensure environmental security.

Note: The EPA will review the above arrangement every three years including consideration of Consumer Price Index (CPI) adjustments, or more frequently if considered necessary by the EPA or if requested by the licensee, in light of the remaining works required to complete the remediation.

E7.5.2 The EPA will only draw on the Financial Assurance to fund or recover the reasonable costs in carrying out, or directing or supervising the carrying out by another person, of any work or program, including the likely costs and expenses in directing and supervising the carrying out of the work or program, to meet the requirements of the licence relating to the Groundwater Treatment Plant and associated infrastructure where in the opinion of the EPA the licensee has failed to meet these requirements.

## E7.6 Requirement to submit a review every three years

E7.6.1 The licensee must provide the EPA with a review of the outstanding capital and operating costs for the Groundwater Treatment Plant and associated groundwater collection infrastructure **every three years commencing 5 February 2010.**

## E7.7 Requirement to advise of changes to deed of cross guarantee

E7.7.1 The Licensee must advise the EPA in advance if it proposes to change and as soon as possible if it does change its deed of cross guarantee lodged with the Australian Securities and Investment Commission, whereby financial liabilities are shared across the Orica group of companies.

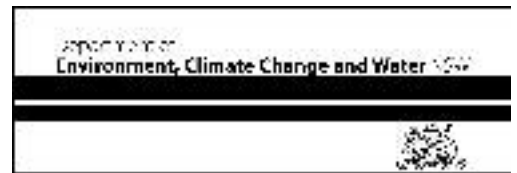
## E7.8 Requirement to advise of any changes which may affect ability to fund

E7.8.1 The licensee must notify the EPA of any proposed corporate restructure, scheme of arrangement or appointment of an external administrator that will or may directly or indirectly affect the licensee's short or long term ability to fund the operation of the Groundwater Treatment Plant and associated groundwater collection infrastructure.

## E8 Hexachlorobenzene (HCB) Waste Repackaging Plant Special Conditions

### E8.1 Fugitive Emissions

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E8.1.1 The licensee must design, construct, operate and maintain ventilation systems for the buildings in which the operation of the HCB waste repackaging lines is to occur so that the pressure within the building lies below atmospheric pressure at all times.

## E8.2 Concentration Limits

E8.2.1 The licensee shall establish, in consultation with the EPA, a maximum break-through limit for volatile organic compounds for monitoring / discharge points 29, 30, 31 and 32. For the purposes of monitoring volatile organic compounds, a suitable organic compound equivalent for volatile organic compounds must also be determined. Reference conditions for the break-through limit must be dry, 273 K and 101.3 kPa.

Note: The licensee provided information regarding breakthrough limits for Points 29, 30 and 31 in correspondence dated 4 July 2008.

## E8.3 Shutdown Requirements

E8.3.1 If the break-through limit described in condition E8.2.1 at monitoring/discharge points 29 or 30 is exceeded after completion of commissioning, the HCB repackaging facility must shutdown as soon as practical after the exceedance is reported (twice daily checks are undertaken during operation). The licensee must only restart the HCB repackaging facility after the carbon bed is replaced with a new or regenerated activated carbon bed. Replacement carbon is not required in the event that the exceedance is found to be a technical error and is unjustified.

E8.3.2 If the break-through limit described in condition E8.2.1 at monitoring/discharge points 31 and / or 32 is exceeded after completion of commissioning, material transfer processes must shutdown as soon as practical after the exceedance is reported (twice daily checks are undertaken during operation). The licensee must only restart the material transfer processes after the carbon bed is replaced with a new or regenerated activated carbon bed. Replacement carbon is not required in the event that the exceedance is found to be a technical error and is unjustified.

E8.3.3 If any concentration limit described in condition L3.3 at monitoring/discharge point 26, 27 or 28 is exceeded after completion of commissioning, the HCB repackaging facility must shutdown on receipt of the relevant monitoring data. The licensee can only restart the HCB repackaging facility after receiving written approval from the EPA.

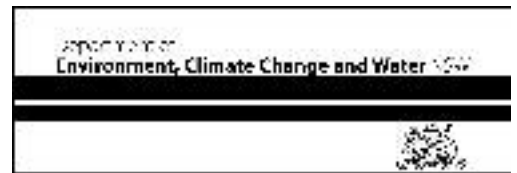
## E8.4 Repackaging Process Trials Plan

E8.4.1 Prior to the commencement of the operation of the HCB Repackaging Plant, the licensee must undertake Repackaging Trials to demonstrate that repackaging activities will be undertaken within acceptable environmental limits.

E8.4.2 Prior to the commencement of Repackaging Trials, the licensee must prepare and submit for the approval of the EPA a **Repackaging Process Trials Plan** ('Plan'). The Plan must be prepared in consultation with the EPA and must provide a program to quantitatively confirm that the HCB Repackaging Plant will meet the environmental performance described in the Environmental Assessment. In particular, the Plan must include, but not be limited to the following:

- a) a description of the smoke tests to be undertaken at Store J, Store E and Store H to ensure that the installed vapour / dust extraction systems are effective in preventing the escape of unfiltered air from these enclosures;

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- b) details in relation to trials to confirm extraction system performance and absorption rates;
- c) a description of trials to be undertaken with substance(s) having low risk of environmental harm to confirm the environmental performance of the HCB Repackaging Plant. This must include a description of each step undertaken to test the ability of the Plant to meet the requirements of the Environment Protection Licence;
- d) the quantity and type of substance(s) to be used in the trial and an outline of why the substance(s) would reasonably represent the actual materials to be processed; and
- e) details of monitoring that will be undertaken to measure and confirm compliance with the emission limits within the Environment Protection Licence. This must include stack emission tests and mass balance calculations that account for material captured in the activated carbon vent controls, present in the fugitive emissions within the Repackaging Plant working area(s) and material otherwise not accounted for in the mass balance such as fugitive emissions to the environment.

Note: In relation to this condition the licensee has submitted the following Repackaging Process Trials Plans to the EPA:

Repackaging Process Trials Plan for Store J dated November 2006

Repackaging Process Trials Plan for Stores E, G & H dated February 2007

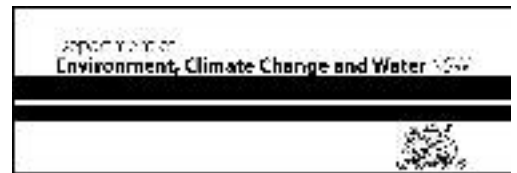
E8.4.3 The licensee can only commence repackaging trials after the EPA has approved the Repackaging Process Trials Plan described in conditions E8.4.2.

Note: In relation to this condition the EPA has approved the Repackaging Process Trials Plans listed in Condition E8.4.2.

E8.4.4 The licensee must undertake repackaging process trials strictly in accordance with the approved Repackaging Process Trials Plan. In the event that the licensee intends to vary the trials from that described in the Repackaging Process Trials Plan, the licensee must seek further approval for the proposed changes from the EPA. Implementation of variations to an approved Repackaging Process Trials Plan will only occur following EPA's approval of the variations.

E8.4.5 Within 28 days of the completion of the Repackaging Trials (the Trials), the licensee must prepare and submit a **Repackaging Process Trial Report** to the EPA. The report must include, but not be limited to the following:

- a) details of the Trials, describing steps undertaken during each Trial. This must include an indication of when each step was undertaken;
- b) the quantity of substance(s) processed, including a detailed mass balance accounting for all substance(s) processed;
- c) an assessment of whether the process will perform with minimal risk of environmental harm and within the requirements of the Environment Protection Licence, on the basis that the Trials are representative of the actual operation; and



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- d) any recommended improvements to the Repackaging process in response to the results of the Trials.

Note 1: In relation to this condition the licensee has submitted the following Repackaging Process Trial Reports to the EPA:

Repackaging Process Trials Report for Store J dated 1 June 2007

Repackaging Process Trials Report for Stores G & H dated 18 July 2007

Note 2: A report for Store E is to be submitted following trials at that Store.

- E8.4.6 The licensee must only commence operation of the Repackaging Process after completion of the Repackaging Trials as described in condition E8.4.1 and with the approval of the EPA after it has considered the Repackaging Process Trials Report as described in condition E8.4.5.

Note: In relation to this condition the EPA has approved operations as follows:

Store J – correspondence dated 8/6/07

Stores G & H – correspondence dated 10/9/07

## **E8.5 Notification Requirements**

- E8.5.1 If on receipt of a certificate of laboratory analysis, the laboratory analysis results demonstrate that the concentration of any discharge parameter has exceeded a limit specified in conditions L3.3 for any of the monitoring / discharge Points 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 or 36, then the licensee must notify the EPA within 24 hours of receipt of the certificate.

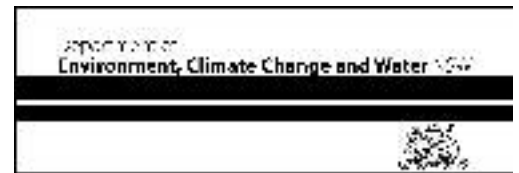
## **E8.6 Waste Generation and Management**

- E8.6.1 This Environment Protection Licence does not permit the removal of hexachlorobenzene waste from the premises unless and until the necessary separate approvals are obtained by the licensee for an ultimate destruction / disposal location for these wastes.

## **E8.7 Groundwater Injection and Recovery**

The object of this condition is to permit the installation and operation of plant and equipment to conduct a trial of Groundwater Injection and Recovery (GIR). The trial GIR will establish the potential for GIR to perform a backup function to maintain hydraulic containment on the Secondary Containment Area in the event of GTP inoperability for periods exceeding four weeks.

- E8.7.1 The licensee must conduct a GIR trial in accordance with the methodology set out in the letter from URS Australia Pty Ltd to the licensee dated 16 March 2009 titled WCIE 4431 Groundwater Injection and Recovery (GIR) – Trial Description. Within six weeks of completion of the trial the licensee must submit to the EPA a report detailing the findings of part 2.4 Reporting requirements of the above document.



## E8.8 Bioaugmentation Trial

### Objective

The objective of this trial is to assess the impacts of biostimulation and bioaugmentation treatment on 1,2-dichloroethane concentrations in the Botany Sands Aquifer.

### The Trial

The trial must be conducted in accordance with the document titled: "*Proposal for the in situ bioremediation of 1,2-dichloroethane through bioaugmentation of Area A groundwater (Southlands, Botany)*" prepared on the licensee's behalf by The Centre for Marine Bio-innovation - University of New South Wales, as presented in the licensee's email correspondence of 14 December 2009 and with the conditions of this licence.

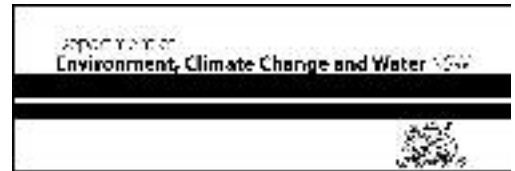
### Reporting

Within 12 weeks of the trial being completed, the licensee must submit a report to the Manager Sydney Industry, PO Box 668 Parramatta 2124 containing an evaluation of the trial including but not limited to:

- The impact of a biostimulation treatment on 1,2-dichloroethane concentrations in the Botany Sands Aquifer;
- The impact of a combined biostimulation and bioaugmentation treatment on 1,2-dichloroethane concentrations in the Botany Sands Aquifer; and
- The impact of the treatment on the indigenous microbial communities.

### Summary of Special Conditions - Completed and Ongoing

Special Condition	Description	Completed Date
1	Delineation and remediation of the source of HCBd and associated compounds in the vicinity of HCB encapsulation cell	23/04/2004
2	Remediation of Car Park Waste and Impacted Materials	28/02/2006
3	Timetable for Remediation of Car Park Waste and Impacted Materials (Condition E1)	Ongoing
4	Progress reporting on remediation works to remove the source of HCBd and associated compounds (Condition E2)	Ongoing
5	Ongoing monitoring to confirm the integrity of the Car Park Waste Encapsulation (Condition E3)	Ongoing
6	Completion reporting (Condition E4)	Ongoing
7	Proposals for future works	01/12/2004
8	Supply of air quality modeling report of air emissions	24/12/2004
9	Emission Limits Based upon minimum plant performance	30/09/2004
10	Emission monitoring plan	30/09/2004
11	Emergency release emission management plan	30/09/2004



Special Condition	Description	Completed Date
12	Independent Auditor to conduct annual Audits and Reviews (Condition E5)	Ongoing
13	Independent Monitoring Committee (Condition E6)	Ongoing
14	Financial Assurance for ongoing costs of the Groundwater Treatment Plant established 31 January 2007 (Condition E7).	Ongoing
15	In-Situ Bioremediation Pilot Scale Field Trial in Car Park Waste Encapsulation soil 2005/2006	20/06/2006
16	Modifications to the Thermal Oxidiser and Heat Exchanger Serving the Groundwater Treatment Plant	30/07/2006
17	Groundwater Treatment Plant Commissioning Plan	28/02/2007
18	Groundwater Treatment Plant Thermal Oxidiser Unit – Low Temperature Trials	24/10/2007
19	Hexachlorobenzene (HCB) Waste Repackaging Plant (Condition E8)	Ongoing.

## Appendices

## Dictionary

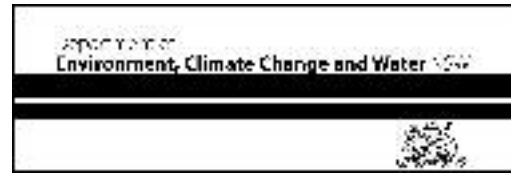
### General Dictionary

In this licence, unless the contrary is indicated, the terms below have the following meanings:

<b>3DGM [in relation to a concentration limit]</b>	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
<b>Act</b>	Means the Protection of the Environment Operations Act 1997
<b>activity</b>	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
<b>actual load</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
<b>AM</b>	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>AMG</b>	Australian Map Grid
<b>anniversary date</b>	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>annual return</b>	Is defined in R1.1
<b>Approved Methods Publication</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998



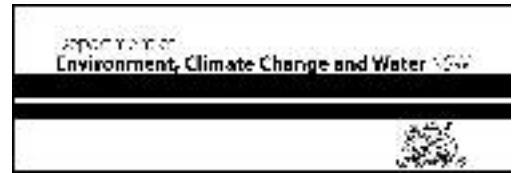
# Environment Protection Licence



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Publication	
<b>assessable pollutants</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
<b>BOD</b>	Means biochemical oxygen demand
<b>CEM</b>	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>COD</b>	Means chemical oxygen demand
<b>composite sample</b>	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
<b>cond.</b>	Means conductivity
<b>environment</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>environment protection legislation</b>	Has the same meaning as in the Protection of the Environment Administration Act 1991
<b>EPA</b>	Means Environment Protection Authority of New South Wales.
<b>fee-based activity classification</b>	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 1998.
<b>flow weighted composite sample</b>	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
<b>general solid waste (non-putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>general solid waste (putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>grab sample</b>	Means a single sample taken at a point at a single time
<b>hazardous waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>licensee</b>	Means the licence holder described at the front of this licence
<b>load calculation protocol</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
<b>local authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>material harm</b>	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
<b>MBAS</b>	Means methylene blue active substances
<b>Minister</b>	Means the Minister administering the Protection of the Environment Operations Act 1997
<b>mobile plant</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>motor vehicle</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>O&amp;G</b>	Means oil and grease
<b>percentile [in relation to a concentration limit]</b>	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.

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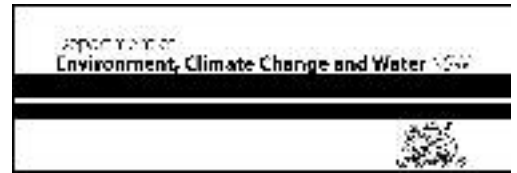
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<b>of a sample]</b>	of time is the Reporting Period unless otherwise stated in this licence.
<b>plant</b>	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
<b>pollution of waters [or water pollution]</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>premises</b>	Means the premises described in condition A2.1
<b>public authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>regional office</b>	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
<b>reporting period</b>	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>restricted solid waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>scheduled activity</b>	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
<b>special waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>TM</b>	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>TSP</b>	Means total suspended particles
<b>TSS</b>	Means total suspended solids
<b>Type 1 substance</b>	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
<b>Type 2 substance</b>	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
<b>utilisation area</b>	Means any area shown as a utilisation area on a map submitted with the application for this licence
<b>waste</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>waste type</b>	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste

## Special Dictionary

<b>ug/L</b>	Means micrograms per litre.
<b>approved</b>	Means approved in writing by the EPA. The EPA's approval may be given unconditionally, or subject to conditions.
<b>CPWE</b>	Means Car Park Waste Encapsulation
<b>FTIR</b>	Means Fourier Transform Infra Red Spectrometer
<b>GTP</b>	Means Groundwater Treatment Plant.
<b>HCB</b>	Means hexachlorobenzene.

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<b>HCBD</b>	Means hexachlorobutadiene.
<b>HCE</b>	Means hexachloroethane.
<b>kL</b>	Means kilolitre.
<b>L/s</b>	Means litres per second.
<b>mL</b>	Means millilitres.
<b>ML</b>	Means megalitres.
<b>SSU</b>	Means Steam Stripping Unit.
<b>TRC</b>	Means total residual chlorine.
<b>VEC</b>	Means Vapour Emission Capture system.
<b>VOC</b>	Means Volatile Organic Compound, a substance which contains carbon and has a vapour pressure greater than 2 mm of mercury at 25 deg.C and 101.3 kPa.

Mr Mark Gifford

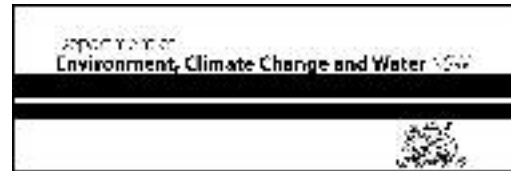
Environment Protection Authority

(By Delegation)

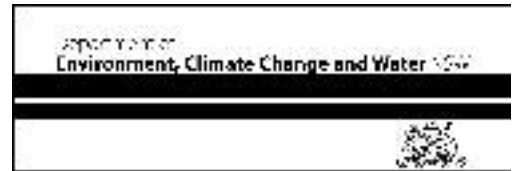
Date of this edition - 29-Jan-2010

## End Notes

- 1 Licence varied by notice 1000723, issued on 01-Aug-2000, which came into effect on 22-Aug-2000.
- 2 Licence varied by 010937 (ALaN) s.58 notice, issued on 01-Sep-2000, which came into effect on 26-Sep-2000.
- 3 Licence varied by notice 1008660, issued on 27-Jul-2001, which came into effect on 21-Aug-2001.
- 4 Licence varied by notice 1014464, issued on 15-Jan-2003, which came into effect on 09-Feb-2003.

**End Notes**

- |    |   |
|----|---|
| 5  | Licence varied by notice 1025431, issued on 24-Dec-2003, which came into effect on 18-Jan-2004.                           |
| 6  | Licence varied by notice 1035261, issued on 30-Apr-2004, which came into effect on 30-Apr-2004.                           |
| 7  | Licence varied by notice 1040183, issued on 07-Sep-2004, which came into effect on 07-Sep-2004.                           |
| 8  | Licence varied by notice 1041498, issued on 26-Oct-2004, which came into effect on 27-Oct-2004.                           |
| 9  | Licence varied by notice 1041954, issued on 03-Nov-2004, which came into effect on 03-Nov-2004.                           |
| 10 | Licence varied by notice 1043560, issued on 14-Feb-2005, which came into effect on 22-Feb-2005.                           |
| 11 | Licence varied by notice 1048337, issued on 23-Aug-2005, which came into effect on 17-Sep-2005.                           |
| 12 | Licence varied by notice 1052073, issued on 14-Nov-2005, which came into effect on 25-Nov-2005.                           |
| 13 | Licence varied by notice 1060389, issued on 12-May-2006, which came into effect on 12-May-2006.                           |
| 14 | Licence varied by notice 1060540, issued on 22-May-2006, which came into effect on 22-May-2006.                           |
| 15 | Licence varied by notice 1061917, issued on 10-Jul-2006, which came into effect on 10-Jul-2006.                           |
| 16 | Licence varied by updating references to the Clean Air Reg, issued on 25-Jul-2006, which came into effect on 25-Jul-2006. |
| 17 | Licence varied by notice 1063885, issued on 11-Aug-2006, which came into effect on 11-Aug-2006.                           |
| 18 | Licence varied by notice 1067354, issued on 30-Nov-2006, which came into effect on 30-Nov-2006.                           |
| 19 | Licence varied by notice 1068717, issued on 24-Jan-2007, which came into effect on 24-Jan-2007.                           |
| 20 | Licence varied by notice 1069198, issued on 30-Jan-2007, which came into effect on 30-Jan-2007.                           |
| 21 | Licence varied by notice 1072335, issued on 13-Jun-2007, which came into effect on 13-Jun-2007.                           |
| 22 | Licence varied by notice 1074666, issued on 02-Jul-2007, which came into effect on 02-Jul-2007.                           |
| 23 | Licence varied by notice 1075713, issued on 10-Jul-2007, which came into effect on 10-Jul-2007.                           |
| 24 | Licence varied by repair to Annual Return Archive, issued on 17-Jul-2007, which came into effect on 17-Jul-2007.          |
| 25 | Licence varied by notice 1076456, issued on 01-Aug-2007, which came into effect on 01-Aug-2007.                           |
| 26 | Licence varied by notice 1077124, issued on 17-Aug-2007, which came into effect on 17-Aug-2007.                           |
| 27 | Licence varied by notice 1079428, issued on 15-Nov-2007, which came into effect on 15-Nov-2007.                           |
| 28 | Licence varied by notice 1080326, issued on 28-Nov-2007, which came into effect on 28-Nov-2007.                           |

**End Notes**

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| 29 | Licence varied by notice 1082555, issued on 05-Feb-2008, which came into effect on 05-Feb-2008.                  |
| 30 | Licence varied by notice 1084923, issued on 29-Apr-2008, which came into effect on 29-Apr-2008.                  |
| 31 | Licence varied by notice 1085288, issued on 19-Jun-2008, which came into effect on 19-Jun-2008.                  |
| 32 | Licence varied by notice 1089856, issued on 01-Jul-2008, which came into effect on 01-Jul-2008.                  |
| 33 | Licence varied by notice 1090610, issued on 20-Aug-2008, which came into effect on 20-Aug-2008.                  |
| 34 | Licence varied by notice 1091819, issued on 12-Sep-2008, which came into effect on 12-Sep-2008.                  |
| 35 | Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date> |
| 36 | Licence varied by notice 1093630, issued on 12-Dec-2008, which came into effect on 12-Dec-2008.                  |
| 37 | Licence varied by notice 1095981, issued on 06-Jan-2009, which came into effect on 06-Jan-2009.                  |
| 38 | Licence varied by notice 1098432, issued on 22-Apr-2009, which came into effect on 22-Apr-2009.                  |
| 39 | Licence varied by notice 1100329, issued on 10-Jun-2009, which came into effect on 10-Jun-2009.                  |
| 40 | Licence varied by notice 1103282, issued on 10-Jul-2009, which came into effect on 10-Jul-2009.                  |
| 41 | Licence varied by notice 1106600, issued on 10-Dec-2009, which came into effect on 10-Dec-2009.                  |
| 42 | Licence varied by notice 1110616, issued on 29-Jan-2010, which came into effect on 29-Jan-2010.                  |