



Licence

Environmental Protection Act 1986, Part V

Licensee: Water Corporation

Licence: L8238/2008/2

Registered office: 629 Newcastle Street
 LEEDERVILLE WA 6007

Premises address: Quairading Wastewater Treatment Plant
 East of intersections of Loudon Street and Walker Street
 QUAIRADING WA 6383
 Being Lot 1 on Plan 23644 as depicted in Schedule 1.

Issue date: Thursday, 4 December 2014

Commencement date: Friday, 5 December 2014

Expiry date: Wednesday, 4 December 2019

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

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
54	Sewage facility premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.	100 cubic metres or more per day	180 cubic metres per day

Conditions

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

.....
 Caron Goodbourn
 A/Manager Licensing (Waste Industries)

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



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Introduction

This Introduction is not part of the Licence conditions.

The DER's industry licensing role

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

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. The DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements

This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the Licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link: <http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.
- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.
- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your Licence. Non-compliance with your Licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.

Other Guidelines which you should be aware of include:



- *Western Australian Guidelines for Biosolids Management*, Department of Environment and Conservation, December 2012 (as amended from time to time).

Licence fees

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions

If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary

The Quairading Wastewater Treatment Plant (WWTP) is located approximately 3 km south east of Quairading township. The WWTP has a design capacity of 180kL/day and has a nominated rate of throughput of 142kL/day. The Quairading WWTP treats sewage from the townsite of Quairading with approximately 225 connections to residential, commercial properties and vacant lots.

The Quairading WWTP pond system comprises a treatment train, which involves a series of ponds-facultative, aerobic/ maturing to achieve BOD reduction and pathogen reduction prior to transfer to the evaporation ponds.

Wastewater is treated to a secondary standard in three lined oxidation ponds operating in series. The treated wastewater then flows to two evaporation ponds that abut the treatment ponds via a distribution manhole. The ponds are desludged when required. The three oxidation ponds are lined with high density polyethylene (HDPE) and have a capacity of 8.7ML. The two evaporation ponds have clay-compacted liners with a thickness of 500mm, a permeability of 10⁻⁸m/s and a storage capacity of 21.8ML. The evaporation ponds are designed to contain a 1 in 100 year flood. The WWTP is designed to treat parameters effluent to the following standards: BOD <20mg/L, TN (30-60) mg/L and TP (12 – 15) mg/L. The wastewater is to be monitored prior to discharge to evaporation ponds to ensure ponds are working efficiently. Groundwater monitoring bores are in place to monitor for potential seepages from the ponds. The bore network is shown in Schedule 1 of the Licence.

The WWTP is located within an agricultural area. The closest residential building is located approximately 500m west of the site. The closest nature reserve is the Quairading nature reserve, located 2km west.

The premises is located within the Avon catchment approximately 4km north-west of the Avon River and 5km from the Yenyening Lakes system (which drains into the Avon River). The depth to groundwater for the most of the townsite is in the range of 5 to 20m below ground level. There are no groundwater protection areas or known public drinking water within 5km of the treatment plant. Groundwater is brackish to saline with salinity levels in excess of 2,000mg/L. Based on the salinity, the groundwater is not suitable for drinking.

The licences issued for the Premises since 10/12/2009 are:

Instrument log		
Instrument	Issued	Description
L8238/2008/1	10/12/2009	Licence issue
L8238/2008/1	4/11/2010	Licence amendment to remove condition 2 to maintain a device for measuring volumes of treated wastewater as water is not discharged.
L8238/2008/2	4/12/2014	Licence re-issue and converted to new format
L8238/2008/2	26/11/2015	Licence amendment to correct errors within previous licence (to better reflect current site activities)



Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION



Licence conditions

1 General

1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

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

'AHD' means the Australian height datum;

'annual period' means the inclusive period from 1 July until 30 June in the following year;

'AS/NZS 2031' means the Australian Standard AS/NZS 2031 *Selection of containers and preservation of water samples for microbiological analysis*;

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

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

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

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

'CEO' for the purpose of correspondence means:

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

'CFU' colony forming units;

'controlled waste' has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*.

'freeboard' means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point.

'in-situ soils' means soils that are in place and have not been moved from their original place of deposition;

'Licence' means this Licence numbered L8238/2008/2 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'NATA' means the National Association of Testing Authorities, Australia;

'NATA accredited' means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;



'normal operating conditions' means any operation of a particular process (including abatement equipment) excluding start-up, shut-down and upset conditions, in relation to stack sampling or monitoring;

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

'process equipment' means any wastewater or sludge containment infrastructure or wastewater treatment vessel;

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

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

'six monthly' means the 2 inclusive periods from 1 April to 30 September and 1 October to 31 March in the following year;

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

'Waste Code' means the Waste Code assigned to a type of controlled waste for purposes of waste tracking and reporting as specified in the Department of Environment Regulation "Controlled Waste Category List" (July 2014), as amended from time to time; and

'wastewater treatment vessels' means any vessel or tank containment infrastructure associated with the treatment of wastewater.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.

1.1.4 Any reference to a guideline or code of practice in the Licence means the current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines or code of practice made during the term of this Licence.

1.2 General conditions

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

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

1.2.3 The Licensee shall:

- (a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises; and
- (b) treat contaminated or potentially contaminated stormwater as necessary prior to being discharged from the Premises.¹

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

1.3 Premises operation

1.3.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit in this section.

1.3.2 The Licensee shall only allow waste to be accepted on to the Premises if:

- (a) it is of a type listed in Table 1.3.1; and
- (b) the quantity accepted is below any limit listed in Table 1.3.1; and
- (c) it meets any specification listed in Table 1.3.1



Table 1.3.1: Waste acceptance

Waste	Waste Code	Quantity Limit	Specification ¹
Sewage	N/A	None specified	Accepted through sewer inflow(s)
	K130	None specified	Tankered waste from Water Corporation sewerage infrastructure only

Note 1: Additional requirements for the acceptance of controlled waste are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

1.3.3 The Licensee shall ensure that the wastes accepted onto the Premises are only subjected to the process(es) set out in Table 1.3.2 and in accordance with any process requirements described in that table.

Table 1.3.2: Waste processing

Waste type	Process	Process requirements
Sewage	Physical, biological and chemical treatment and disposal by evaporation.	None specified
Sewage sludge	Storage	None specified

1.3.4 The Licensee shall ensure that waste material is only stored and/or treated within vessels or compounds provided with the infrastructure detailed in Table 1.3.3.

Table 1.3.3: Containment infrastructure

Vessel or compound	Material	Requirements
Pond 1, 2 & 3 (Oxidation ponds)	Wastewater	Lined with high density poly ethylene (HDPE)
Evaporation pond 1 Evaporation pond 2	Wastewater	Lined with compacted in-situ soils with a thickness of 500mm and permeability of 10^{-8} m/s
Sewage sludge compound	Sewage sludge	Temporary or permanent infrastructure to consist of a bunded hardstand or lined area (lined to achieve a permeability of less than 10^{-9} m/s or equivalent), capable of preventing surface run-off of leachate and sludge and which includes a leachate collection system.

1.3.5 The Licensee shall manage all wastewater treatment, evaporation and storage ponds such that:

- overtopping of the ponds does not occur; and
- the integrity of the containment infrastructure is maintained; and
- trapped overflows are maintained on the outlet of ponds to prevent carry-over of surface floating matter; and
- vegetation and floating debris (emergent or otherwise) is prevented from encroaching onto pond surfaces or inner pond embankments.

1.3.6 The Licensee shall:

- implement security measures at the site to prevent as far as is practical unauthorised access to the site; and
- undertake regular inspections of all security measures and repair damage as soon as practicable; and
- ensure the entrance gates are closed and locked when the site is closed or unmanned.



2 Monitoring

2.1 General monitoring

2.1.1 The licensee shall ensure that:

- (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
- (b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
- (c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11;
- (d) all microbiological samples are collected and preserved in accordance with AS/NZS 2031;
and
- (e) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured [unless indicated otherwise in the relevant table.

2.1.2 The Licensee shall ensure that :

- (a) six monthly monitoring is undertaken at least 5 months apart; and
- (b) annual monitoring is undertaken at least 9 months apart.

2.1.3 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications and the requirements of the Licence.

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



2.2 Monitoring of inputs and outputs

2.2.1 The Licensee shall undertake the monitoring in Table 2.2.1 according to the specifications in that table.

Table 2.2.1: Monitoring of inputs and outputs

Input/Output	Monitoring point reference	Parameter	Units	Averaging period	Frequency
Sewage - Inlet Flow	Inflow meter (S5000704) ¹	Volumetric flow rate (cumulative)	m ³ /day	Monthly	Continuous

Note: Methodology and calculations used to estimate the daily volumetric flow rate of treated wastewater pumped to evaporation ponds

2.3 Process monitoring

2.3.1 The Licensee shall undertake the monitoring in Table 2.3.1 according to the specifications in that table.

Table 2.3.1: Process monitoring

Monitoring point reference and location	Process description	Parameter	Units	Averaging period	Frequency	Method
Sampling Point Quairading WWTP Outlet S5000910 (depicted in sampling and monitoring point location map)	Discharge from wastewater treatment plant to evaporation pond	pH ¹	pH units	Spot sample	Every three months	None specified
		Total Suspended Solids	mg/L			
		Total Dissolved Solids				
		Biochemical Oxygen Demand				
		Total Nitrogen				
		Ammonium-nitrogen				
		Nitrate + Nitrite - Nitrogen				
		Total Phosphorus				
Escherichia coli	cfu/100 ml					

Note 1: In-field non-NATA accredited analysis permitted.



2.4 Ambient environmental quality monitoring

2.4.1 The Licensee shall undertake the monitoring in Table 2.4.1 according to the specifications in that table and record results.

Table 2.4.1: Monitoring of ambient groundwater quality				
Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
MB1/02, MB2/02, MB3/02 and MB3/99	Standing water level	m(AHD) mBGL	Spot sample	Six monthly
	pH ¹	pH units		
	Total Dissolved Solids	mg/L		
	Total Phosphorus	mg/L		
	Total Nitrogen	mg/L		

Note 1: In-field non-NATA accredited analysis permitted.

3 Information

3.1 Records

3.1.1 All information and records required by the Licence shall:

- (a) be legible;
- (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
- (c) except for records listed in 3.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
- (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or waters.

3.1.2 The Licensee shall ensure that:

- (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
- (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.

3.1.3 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.

3.1.4 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

3.2 Reporting

3.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 1 September each year. The report shall contain the information listed in Table 3.2.1 in the format or form specified in that table.

Table 3.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or form ¹
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that	None specified



	have occurred during the annual period and any action taken	
Table 2.2.1	Monitoring of inputs and outputs	None specified
	Methodology and calculations used to estimate the daily volumetric flow rate of treated wastewater pumped to evaporation ponds	None specified
Table 2.3.1	Process monitoring	None specified
Table 2.4.1	Monitoring of ambient groundwater quality	AGWQ1
3.1.3	Compliance	Annual Audit Compliance Report (AACR)
3.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2

3.2.2 The Licensee shall ensure that the Annual Environmental Report also contains:
(a) an assessment of the information contained within the report against previous monitoring results and Licence limits.

3.2.3 The Licensee shall submit the information in Table 3.2.3 to the CEO according to the specifications in that table.

Table 3.2.2: Non-annual reporting requirements

Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form ¹
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties

Note 1: Forms are in Schedule 2



3.3 Notification

3.3.1 The Licensee shall ensure that the parameters listed in Table 3.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 3.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement¹	Format or form²
-	Taking process equipment offline for maintenance works that may result in increased odour emissions	No less than 72 hours in advance of works	None specified
-	Removal of sewage sludge from a treatment pond, wastewater treatment vessel, sewage sludge storage pond or Geobag	No less than 14 days in advance of works ³	
1.3.5	Overtopping of any pond	Part A: As soon as practicable but no later than 5pm of the next working day Part B: As soon as practicable	N1
2.1.4	Calibration report	As soon as practicable.	None specified

Note 1: No notification requirement in the Licence shall negate the requirement to comply with s72 of the Act.

Note 2: Forms are in Schedule 2

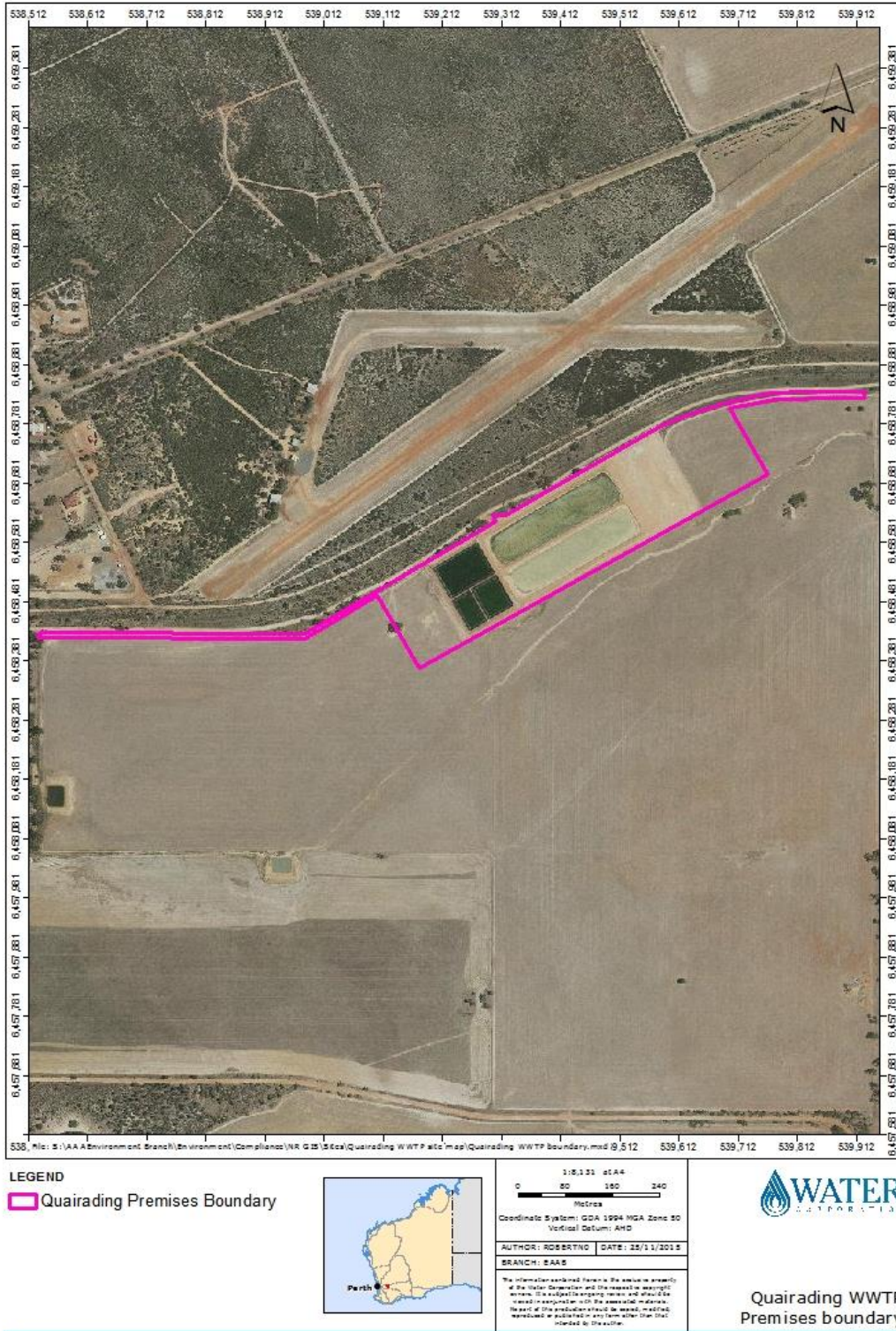
Note 3: The following information shall be included: (i) when desludging is proposed to occur, (ii) the desludging method, (iii) action to mitigate potential odour impacts, and (iv) the method by which the community will be advised of the desludging activities.



Schedule 1: Maps

Premises map

The Premises is shown in the maps below. The pink line depicts the Premises boundary.





Map of monitoring locations

The locations of the monitoring points defined in Tables 2.2.1 and 2.3.1 are shown below.

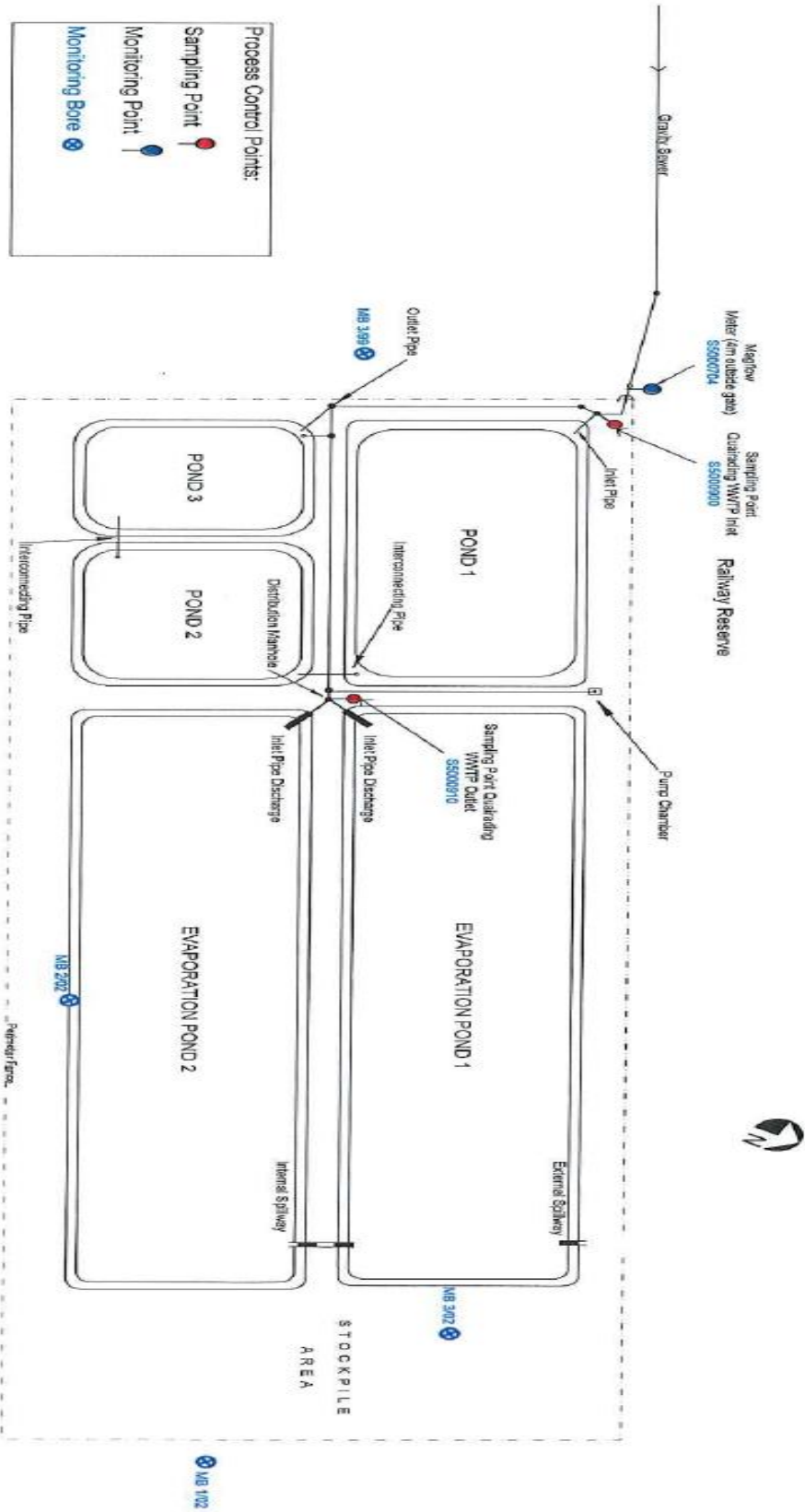
Quairading WWTP Monitoring Bore Locations





Sampling and monitoring point location map

Quairading WWTP (S013-002)





Schedule 2: Reporting & notification forms

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

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A LICENCE DETAILS

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

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

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

Yes Please proceed to Section C

No Please proceed to Section B

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

Initial:



SECTION C

SIGNATURE AND CERTIFICATION

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

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

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

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

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

SIGNATURE: _____

SIGNATURE: _____

NAME:
(printed) _____

NAME:
(printed) _____

POSITION: _____

POSITION: _____

DATE: ____/____/____

DATE: ____/____/____

SEAL (if signing under seal)



Licence: L8238/2008/2
Form: AGWQ1
Name: Ambient groundwater quality monitoring

Licensee: Water Corporation
Period :

Form AGWQ1: Monitoring of ambient groundwater quality							
Emission point	Parameter	Limit	Result	Result	Averaging period	Method	Sample date & times
MB1/02, MB2/02, MB3/02 and MB3/99	Standing water level		m				
MB1/02, MB2/02, MB3/02 and MB3/99	pH		pH units				
MB1/02, MB2/02, MB3/02 and MB3/99	Total dissolved solids		mg/L				
MB1/02, MB2/02, MB3/02 and MB3/99	Total Phosphorus		mg/L				
MB1/02, MB2/02, MB3/02 and MB3/99	Total Nitrogen		mg/L				

Signed on behalf of Water Corporation: Date:



Licence: L8238/2008/2
Form: N1

Licensee: Water Corporation
Date of incident:

Notification of overtopping of pond

These pages outline the information that the operator must provide.
Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission.

Part A

Licence Number	
Name of operator	
Location of Premises	
Time and date of the detection	

Notification requirements for incidents of pond overtopping	
Emission point reference/ source	
Estimated emission volume	
Measures taken, or intended to be taken, to stop the emission	
Description of the incident	



Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the Premises in the preceding 24 months.	

Name	
Post	
Signature on behalf of Water Corporation	
Date	



Decision Document

Environmental Protection Act 1986, Part V

Proponent: **Water Corporation**

Licence: **L8238/2008/2**

Registered office: 629 Newcastle Street
LEEDERVILLE WA 6007

Premises address: Quairading Wastewater Treatment Plant
East of intersections of Loudon Street and Walker Street
QUAIRADING WA 6383
Being Lot 1 on Plan 23644 as depicted in Schedule 1.

Issue date: Thursday, 4 December 2014

Commencement date: Friday, 5 December 2014

Expiry date: Wednesday, 4 December 2019

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue a licence. DER considers that in reaching this decision, it has taken into account all relevant considerations and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Dr Bhabesh Das
Senior Licensing Officer

Decision Document authorised by: Caron Goodbourn
Manager Licensing



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1 Purpose of this Document

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



2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/> New Licence <input type="checkbox"/> Licence amendment <input checked="" type="checkbox"/> Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	54	180m ³ /day
Application verified	Date: N/A	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	



3 Executive summary of proposal and assessment

The Quairading Wastewater Treatment Plant (WWTP) is located approximately 3 km south east of Quairading township. The WWTP has a design capacity of 180kL/day and has a nominated rate of throughput of 142kL/day. The Quairading WWTP treats sewage from the townsite of Quairading with approximately 225 connections to residential, commercial properties and vacant lots.

Wastewater is treated to a secondary standard in three lined oxidation ponds operating in series. The treated wastewater then flows to two evaporation ponds that abut the treatment ponds via a distribution manhole. The ponds are desludged when required. The three oxidation ponds are lined with high density polyethylene (HDPE) and have a capacity of 8.7ML. The two evaporation ponds have clay-compacted liners with a thickness of 500mm and a storage capacity of 21.8ML. The evaporation ponds are designed to contain a 1 in 100 year flood.

The wastewater is monitored prior to discharge to evaporation ponds to ensure ponds are working efficiently. A network of groundwater monitoring bores is in place to monitor for potential seepages from the ponds. The bore network is shown in Schedule 1 of the Licence.

The WWTP is located within an agricultural area. The closest residential building is located approximately 500m west of the site. The closest nature reserve is the Quairading nature reserve, located 2km west.

The premises is located within the Avon catchment approximately 4km north-west of the Avon River and 5km from the Yenyening Lakes system (which drains into the Avon River). The depth to groundwater for the most of the townsite is in the range of 5 to 20m below ground level. There are no groundwater protection areas or known public drinking water within 5km of the treatment plant. Groundwater is brackish to saline with salinity levels in excess of 2,000mg/L. Based on the salinity, the groundwater is not suitable for drinking.

Water Corporation submitted a P4 application dated 16 December 2014 to amend its Quairading WWTP licence. The amendment relates to the following:

- replace 'environment' with 'evaporation ponds' because treated wastewater is discharged to the evaporation ponds within the premises;
- Table 1.3.1, update waste acceptance to include tankered waste from Water Corporation's other assets;
- remove condition 1.3.7 because there is no perimeter valves on bunded areas;
- in notification table, replace 'calibration report' with 'calibration certificate'; and
- in AGWQ replace 'arsenic' with 'total nitrogen'.

This partial decision document has been prepared for amendment to the licence. Table 4 provides details and justification for the amendments. In amending this Licence DER has considered whether the risk profile of emissions and discharges from the premises has significantly changed since the previous licence was granted. No significant changes have occurred and therefore DER has not amended conditions relating to emissions and discharges. Minor changes have been made in accordance with the current DER licensing policy and instrument format, and considered P4 application amendment.



4 Decision table

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

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Premises Operation	L1.3.2, 1.3.4, L1.3.7	<p>L1.3.2, Table 1.3.1 amended to include tankered in waste K130 as requested by the Licensee, in the case of an incident. This is limited to sewage pumped out of Water Corporation's reticulated infrastructure. The wording in the previous version of the Licence stating "licensed controlled waste carriers" has been removed as it was a mistake in the previous licence not to specify that this waste shall be limited to sewage from Water Corporations sewerage infrastructure.</p> <p>L1.3.3, Table 1.3.2 amended to remove 'disposal' as an allowed process in regards to sewage sludge as it was incorrectly included in the previous licence. Sewage sludge is not disposed of onsite, but is taken offsite to a landfill or composting facility. The treatment capacity target has also been removed from Table 1.3.2, in accordance with current DER policy regarding targets.</p> <p>L 1.3.7 has been removed from the licence because the condition is not applicable. Water Corporation advised that there are no valves on bunded areas. The normal practice is to pump the liquid into the treatment pond for re-treatment if and when the bunded area becomes full.</p>	General provisions of the <i>Environmental Protection Act 1986</i> .
	1.3.5	<p>Operation <u>Emission Description</u> <i>Emission:</i> semi-treated or treated sewage emissions to land via overflow of the oxidation ponds or evaporation ponds. Overflow may occur due to an extreme rainfall event or</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>operational issues (e.g. unusually high inflow). <i>Impact:</i> Potential contamination of surrounding land and groundwater. Depth to groundwater is estimated at between 5 to 20m below ground level. The premises is not located within a groundwater protection or public drinking water source area. Groundwater quality in the area is brackish to saline with salinity levels in excess of 2000 mg/L. There are no natural surface water bodies within >2km of the premises. The nearest surface water body is a small dam located approximately 500m away on neighbouring agricultural land. <i>Controls:</i> The ponds have been designed to contain a 1 in 100 year flood.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> In accordance with current DER process, the freeboard target of 300mm target that was previously included within condition 1.3.5 has been removed. The requirement to prevent overtopping of the ponds in condition 1.3.5(a) is considered sufficient to regulate this potential emission as Water Corporation will have to maintain appropriate freeboards to prevent overtopping occurring.</p> <p>A notification requirement has been added to Table 3.3.1 requiring that the Licensee notify DER if pond overtopping occurs.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Monitoring of inputs and outputs	L2.2.1	<p>Condition 2.2.1 and Table 2.2.1 have been added to the Licence requiring the monitoring of wastewater inflow.</p> <p>Water Corporation advised that there is no flow meter on the Premises to monitor flow from the wastewater treatment plant to the evaporation pond.</p>	
Process monitoring	L2.3.1	<p>Water Corporation advised that there is no flow meter on the Premises to monitor flow from the wastewater treatment plant to the evaporation pond.</p> <p>The monitoring point reference has been amended to refer to the monitoring point outlet shown in the sampling and monitoring point location map, rather than oxidation pond 3.</p>	General provisions of the <i>Environmental Protection Act 1986</i> .
Ambient environmental quality monitoring	L2.4.1	AGWQ1 form is amended by replacing "Arsenic" with "Total Nitrogen". Arsenic is not relevant to the licence and was previously included in error.	
Information	L2.2.1	<p>A requirement to report the monitoring of inputs and outputs has been added to Table 2.2.1 of the Licence, in accordance with the addition of these monitoring requirements to the Licence.</p> <p>The requirements to report a summary of treatment capacity target exceedances and freeboard target exceedances have been removed from Table 3.2.1, in accordance with the removal of these targets within the Licence.</p> <p>Requirement (a) within condition 3.2.2 of the previous licence has been removed, as this was previously incorrectly included on the Licence and referred to the incorrect condition. This condition is only to be included where there is a condition within the monitoring section requiring the Licensee to record production or throughput data and any other process parameters relevant to any monitoring undertaken. Such a condition is not applicable to this activity as there is little other production or throughput data that could be recorded.</p> <p>A notification requirement has been added to Table 3.3.1 requiring the Licensee to notify</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		DER in the event of pond overtopping.	
Licence Duration	N/A	The licence expiry date has been amended from 2 December 2019 to 4 December 2019 to correct an administrative error on the previous Licence.	General provisions of the <i>Environmental Protection Act 1986</i> .



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
12/06/2015	Proponent sent a copy of draft instrument	<p>Comments received on 2 July 2015. They are as follows:</p> <ul style="list-style-type: none"> • Premises description incorrectly states that wastewater is transferred to the environment. It should state that it's transferred into evaporation ponds. Premises description incorrectly refers to infiltration ponds. It should refer to evaporation ponds. • Request the following false statement within the premises description is removed: "The WWTP is designed to treat parameters effluent to the following standard: BOD <20mg/L, TN (30-60) mg/L and TP (12 – 15) mg/L. • Request to add tankered waste from water corporation sewerage infrastructure only to Table 1.3.1. • Request to add composting facility in addition to landfill as an offsite disposal option for sewage sludge in Table 1.3.2. • Definition of 'Licence' - Change reference from 8238/2008/1 to 	<p>Considered the comments and amended as follows:</p> <ul style="list-style-type: none"> • Amended premises description to remove reference to infiltration ponds and instead refer to evaporation ponds. • The design capacity statement is confirmed in Water Corporations 2013/2014 Annual Environmental Report. • Table 1.3.1 amended with tankered waste. • Specification of off-site disposal to landfill removed from previous draft as it is not required in the licence. • Correction made to 'Licence' definition to refer to L8238/2008/2.



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>8238/2008/2.</p> <ul style="list-style-type: none"> • Request specific requirements on permeability for the sewage sludge compound and ponds (10^{-8} m/s and 10^{-9} m/s) removed from Table 1.3.3 as impractical to comply with this. • Table 1.3.3 - Request ponds to be listed as oxidation ponds 1, 2 and 3, and evaporation pond 1 and evaporation pond 2 so that the terms are consistent with the labels within Premises map. • Table 2.3.1 - Request that a note allowing field analysis of pH be added • Table 2.3.1 - Noted an issue with the requirement for monitoring volumetric flow rate for discharge from treatment plant to evaporation pond, as there is no flow meter installed to measure this. There is a magflow meter to monitor inflow to the plant. • Table 2.4.1 – Noted that Total Nitrogen absent within ambient groundwater quality monitoring 	<ul style="list-style-type: none"> • • Noted comment regarding permeability specifications for the sewage sludge compound and ponds. Specification for the sewage sludge compound and evaporation pond has not been changed. Water Corporation is expected to maintain infrastructure to ensure it continues to protect the environment. The condition is not changed. • Ponds are already listed in Table 1.3.3 in accordance with Licensee's request. No change needed. • A note is already included for Table 2.3.1 to allow in field non-NATA accredited analysis permitted. No change made. • Requirement to monitor flow rate has been removed from Table 2.3.1, • Corrected error by adding Total Nitrogen to the parameters to be monitored within Table 2.4.1, consistent with current Licence.



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>requirements, though is included in current Licence.</p> <ul style="list-style-type: none"> • Request AER submission date in Condition 3.2.1 is 1st September, or 63 calendar days after end of annual period. • Table 3.3.1- Queried the requirement to provide a 'calibration report' – stating that there is nothing to calibrate at the WWTP. • Form AGWQ1 - Arsenic is incorrectly included as a parameter. It should be Nitrogen. • Form AGWQ1 - Licence number reference incorrect. 	<ul style="list-style-type: none"> • No change to the required AER submission date within condition 3.2.1 of the Licence, as the current requirement is for submission within 63 calendar days after the end of the annual period. • The requirement within Table 3.3.1 to provide a calibration report relates to condition 2.1.4 within the Licence and refers to the calibration of monitoring equipment used on the Premises. This applies to pH measurements taken in the field. No change made in regards to this requirement. • Form AGWQ1 amended to correct Licence number error, add Total Nitrogen and remove Arsenic.
6/11/2015	Proponent sent a copy of draft instrument	<p>Comments received on 25/11/2015</p> <ul style="list-style-type: none"> • Remove TP and TN treatment design standards from premises description and license summary because " WWTP with no chemical addition or aeration are not designed to remove nutrients". 	<ul style="list-style-type: none"> • To remain as these are not targets or limits but are design capacity statements confirmed in Water Corporations 2013/2014 Annual Environmental Report.



6. Risk Assessment

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

Table 1: Emissions Risk Matrix

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