Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: Derby Industries Pty Ltd

Licence: L4297/1983/17

Registered office: 6 Short St
FREMANTLE WA 6160

ACN: 009 033 612

Premises address: Talloman Rendering Facility
Lots 113, 114, 115, 116, 117, 118, 119 on Plan 4553 & portion of Helena Location 20A & Part of the land on Plan 7475
HAZELMERE WA 6056
as depicted in Schedule 1.

Issue date: Friday, 25 September 2015

Commencement date: Thursday, 01 October 2015

Expiry date: Sunday, 30 September 2018

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
16	Rendering operations: premises on which substances from animal material are processed and extracted	100 tonnes or more per year	160,000 tonnes per annual period

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

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

Contents

Introduction

This Introduction is not part of the Licence conditions.

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

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

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

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

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

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.

- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.

- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

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

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

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

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

Premises description and Licence summary

Derby Industries Pty Ltd T/A Talloman operates the Talloman rendering facility, which has been in operation since the 1950's.Derby Industries is a division of the Craig Mostyn Group, an Australian company, involved with protein meals, seafood and meat export and processing. The Talloman rendering facility accepts animal material from abattoirs and meat processing facilities. This material is processed to produce meat and bone meal, feather meal, poultry meal, blood meal and tallow. Talloman is the only rendering facility to operate within Perth's metropolitan area.

The premises is located on land zoned "Industrial Development" with surrounding "Rural Residential" zoned properties and newer "Residential" development areas approximately 800 m to the west and northwest. A number of wetlands are located both on and around the premises including an extensive damp land, classified as "multiple use" management category under the Water and Rivers Commission "Wetlands of the Swan Coastal Plain, 1996". The Hazelmere Lakes are located 1.2 km to the west of the Talloman plant area. Both lakes are System 6 Nature Reserves, protected under the Environmental Protection (Swan Coastal Plain Lakes) Policy and are classified as "Resource Enhancement" management category under the Water and Rivers Commission "Wetlands of the Swan Coastal Plain, 1996." A small drain runs past the southern and western edges of the site, which eventually flows into the southern lake. Another wetland is located to the east of the Talloman site and is mapped as part of the Helena River floodplain under a "Multiple Use" management category. The Swan River passes the site about 4 km to the west and the Helena River about 1.5 km to the north.

The process of rendering involves cooking protein by-products such as meat, offal, hair, feathers, blood and bone to produce tallow (animal fat), pet food and stockfeed ingredients and fertilisers. The by-products are sourced from abattoir residues from cattle, sheep, goats, pigs and chicken. Raw material is processed within 15 hours of receival. This assists in reducing odour as the raw material is fresher when it enters the rendering vessels.

Raw material is processed through a size reduction crusher and then to a preheater to cook the product. A twin screw press extracts fat (tallow) and water (stick water) with solids fed into a drier. The material is milled and screened with the stick water and tallow then separated through decanting. Tallow is further refined from remaining water and solid contaminants through a polishing process. The stick water is concentrated and added back to the solids in the drier for recovery as meal. Blood is coagulated with steam then the water fraction is removed by centrifuge. The remaining blood solids are then dried in a blood dryer.

All processes on-site produce approximately 500,000L of condensate wastewater a day directed to dissolved air flotation (DAF) tank prior to processing through the wastewater treatment plant (WWTP). Washdown water from the rendering area and the truck washdown area are directed to a level controlled sump where it's pumped up to a storage tank, through a separation tank to decant floating fat and through the DAF and WWTP. Separated solids are fed back to the drier. The WWTP consists of a primary anoxic treatment system where wastewater is passed into one

of two covered anaerobic lagoons (CAL) for up to 14 days. The water then passes through, a biological nutrient removal (BNR) treatment plant and then to one of two evaporation ponds. There is one final evaporation pond where treated wastewater is either evaporated, recycled or discharged to the Water Corporation Sewer Network.

Air extraction from the Talloman plant occurs via a network of air extraction and ventilation ductwork from sealed process buildings and infrastructure. Air is extracted using three header ducts fitted with water misting sprays each with a large extraction fan, which extracts air from the condensers, factory air and point source collections, into a humidifier and then through five pipes to the five biofilter beds. One smaller biofilter cell is also present for treating extracted air from the wastewater BNR treatment plant. A flare combusts gases produced from the anaerobic ponds.

Talloman have requested amendment to the licence to increase the nominated throughput from 140,000 tonnes per annum to 160,000 tonnes per annum and to decrease the quantity of odour monitoring required by conditions of the licence. This decision document reviews key emissions and discharges associated with potential increase in throughput. These include potential increase in wastewater generation and potential changes in odour emissions from the premises. This licence is the successor of licence L4297/1983/16 and includes changes to licence format and review of conditions based on DER's assessment of Talloman's licence amendment application for throughput increase.

The licences and works approvals issued for the Premises since 25/09/2009 are:

Instrument log		
Instrument	Issued	Description
L4297/1983/14	26/09/2008	Licence re-issue
L4297/1983/15	25/09/2009	Licence re-issue
L4297/1983/15	13/04/2012	Licence amendment
L4297/1983/16	27/09/2012	Licence re-issue
L4297/1983/16	08/08/2013	Licence amendment
L4297/1983/17	25/9/2015	Licence re-issue. Also includes changes to odour monitoring approved throughput and licence format.

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

END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

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

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

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

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

'AS/NZS 4323.3' means Australian Standard 4323.3 *Stationary source emissions - Determination of odour concentration by dynamic olfactometry*;

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

'AS/NZS 5667.11' 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 or target is measured or a monitoring result is obtained;

'BNR' means the biological nutrient reduction process used as the principle aerobic water treatment process in the WWTP;

'CEMS' means continuous emissions monitoring system;

'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 WA6850
Email: info@der.wa.gov.au;

'DAF Plant' means Dissolved Air Flotation Plant;

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

'hardstand' means a surface with permeability of 10^{-9} metres/second or less;

'Licence' means this Licence numbered L4297/1983/17 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;

'quarterly' means the 4 inclusive periods from 1 April to 30 June, 1 July to 30 September, 1 October to 31 December and in the following year, 1 January to 31 March;

'raw material' means raw feathers, raw chicken offal, red meat, fish, hair and blood;

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

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

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

'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;

'solid waste' means belt press cake, overcooked material, discarded raw material which contains contamination or may be unfit for processing and wastewater treatment plant sludge which is not wholly contained within the WWTP;

'surface area means a surface area which emits odours;

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

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

'usual working day' means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia; and

'WWTP' means wastewater treatment plant comprised of the wastewater BNR treatment plant, DAF Plant, anaerobic pond, finished treated water lagoon and final finished effluent treatment lagoon.

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

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

1.1.5 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:
(a) pollution;
(b) unreasonable emission;
(c) discharge of waste in circumstances likely to cause pollution; or
(d) being contrary to any written law.

1.2 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 implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises.

1.3 Premises operation

1.3.1 The licensee shall ensure that all raw material received at the premises for rendering is entered into the rendering vessels within 15 hours from the time of receipt.

1.3.2 The Licensee shall ensure that waste material is only stored and/or treated within areas or compounds provided with the infrastructure detailed in Table 1.3.1.

Table 1.3.1: Containment infrastructure

Storage vessel or compound	Material	Infrastructure requirements
Buildings, vessels and tanks	Raw material received for rendering	All building, vessels or tanks must be enclosed
	Blood received for drying	
Covered anaerobic lagoons	Wastewater	Lined to achieve permeability of $<1x10^{-9}$ m/s
Evaporation ponds	Wastewater	Lined to achieve permeability of $<1x10^{-9}$ m/s

1.3.3 The Licensee shall ensure that where wastes produced on the Premises are not taken off-site for lawful use or disposal, they are managed in accordance with the requirements in Table 1.3.2.

Table 1.3.2: Management of Waste

Waste type	Process	Operational requirements
Solid or liquid waste	Storage	(i) Stored on a bunded hardstand that has a hydraulic conductivity of 1 $x10^{-9}$ metres per second or less; and (ii) Stored within an enclosed building, enclosed vessel or enclosed tank.
Untreated wastewater	Treatment	Directed to the WWTP for treatment
Treated wastewater	Disposal	Discharged to the Water Corporation Sewer or the evaporation ponds or reused in the plant.

1.3.4 The Licensee shall manage all wastewater ponds such that:
(a) a freeboard at or greater than 600mm is maintained;
(b) overtopping of the ponds does not occur; and
(c) stormwater is diverted away from the ponds.

1.3.5 The Licensee shall not exceed the nominated throughput of 160,000 tonnes in any 12 consecutive months period.

2 Emissions

2.1 General

2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit specified in any part of section 2 of this Licence.

2.2 Emissions to air

2.2.1 The Licensee shall ensure that where waste is emitted to air from the emission areas in Table 2.2.1 it is done so in accordance with the conditions of this Licence.

Table 2.2.1: Emission to air

Emission area reference on Map of monitoring locations (1) in Schedule 1	Emission area	Source, including any abatement
BS-1	Surface of cell 1 of main biofilter	Raw material receival area enclosures, process area and DAF plant via extraction, ventilation ductwork and humidifier
BS-2	Surface of cell 2 of main biofilter	
BS-3	Surface of cell 3 of main biofilter	
BS-4	Surface of cell 4 of main biofilter	
BS-5	Surface of cell 5 of main biofilter	
WWS-1	Surface of wastewater biofilter	Wastewater BNR treatment plant via extraction fans

2.3 Odour

2.3.1 The Licensee shall keep all entry points of the raw materials receival areas and the processing rooms within the rendering plant building closed and under negative pressure while plant is operating except when off-loading of raw materials is occurring.

2.3.2 The licensee shall take all reasonable and practical actions to cease any emission of unreasonable odours when a failure or malfunction of the Pollution Control Equipment is detected.

2.3.3 The licensee shall ensure that in the event that the failure or malfunction of any Pollution Control Equipment is not rectified within 24 hours of detection and unreasonable odours are likely to be emitted, no further raw material is to be accepted at the premises until such time as the failure or malfunction has been rectified.

3 Monitoring

3.1 General monitoring

3.1.1 The licensee shall ensure that:

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

3.1.2 The Licensee shall ensure that:
(a) quarterly monitoring is undertaken at least 45 days apart;
(b) six monthly monitoring is undertaken at least 5 months apart; and

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

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

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

3.2 Process monitoring

3.2.1 The Licensee shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

Table 3.2.1: Process monitoring

Monitoring point reference on Map of monitoring locations (1) in Schedule 1	Process description	Parameter	Units[1]	Frequency[2]	Method
Fan 1, Fan 2 and Fan 3	Ducts/ collectors extracting process air for odour control: Red Meat/ Poultry area (Fan 1); Blood/ Feathers/DAF area(Fan 2) and Building air collector (Fan 3)	Air velocity	m/s	Quarterly[3,4]	USEPA Method 2
		Volumetric flow rate	m^3/sec		
		Odour concentration	ou		AS/NZS 4323.3
BI-1, BI-2, BI-3, BI-4 and BI-5 (where BI is main biofilter inlet)	Collectors feeding to biofilters	Temperature	^oC	Continuously	CEMS
		Relative humidity	%		
		Pressure	kPa		
		Air velocity	m/s	Quarterly[3,4]	USEPA Method 2
		Volumetric flow rate	m^3/sec		
Any one of BI-1, BI-2, BI-3, BI-4 and BI-5 (where BI is main biofilter inlet)	Collectors feeding to biofilters	Odour concentration	ou	Quarterly[3, 4, 5]	AS/NZS 4323.3
BS-1, BS-2, BS-3, BS-4 and BS-5	Biofilter outlets	Odour concentration	ou	Quarterly[7]	AS/NZS 4323.3 With Witch Hat equipment
BS-1, BS-2, BS-3, BS-4 and BS-5	Biofilter outlets	Temperature[6]	^oC	Quarterly[3,4]	None specified
		Air velocity [6]	m/s		USEPA Method 2
		Pressure loss through biofilter media	kPa		None specified
WWI-1 (where WWI is wastewater biofilter inlet)	WWTP	Air velocity	m/s	Six monthly[3,4]	USEPA Method 2
		Volumetric flow rate	m^3/sec		
WWB-1[8]	WWTP	Odour concentration	ou	Six monthly	AS/NZS 4323.3 With an approved air sampling cone[9]

Note 1: Volumetric flow rate and odour units are referenced to STP wet.
Note 2: Monitoring shall be undertaken to reflect normal operating conditions and any limits or conditions on inputs or production.
Note 3: Whilst undertaking the monitoring ensure that the Biofilter inlet fan is operating at a capacity of 95% of design capacity.
Note 4: Monitoring shall be undertaken immediately prior to or immediately after monitoring odour concentration at corresponding location as specified in Table 3.2.1.
Note 5: One sample at any one inlet location for three quarters and one sample at two inlet locations for the fourth quarter in each reporting period; such that each inlet location is sampled once per annual period.
Note 6: One composite of twelve evenly spaced locations over the surface area of each Biofilter cell. One measurement of temperature and velocity at each location of every cell.
Note7: One composite sample collected over 12 locations of each cell.
Note8: One composite sample comprising of one sample collected over the 4 locations of each cell.
Note9: Recommended by DER for aerated area sources.

3.2.2 The Licensee shall ensure that sampling required under Condition 3.3.1 of the Licence is undertaken at sampling locations in accordance with the AS 4323.1 or relevant part of the CEMS Code.

3.2.3 The Licensee shall ensure that all non-continuous sampling and analysis undertaken pursuant to condition 3.3.1 is undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

3.2.4 For any parameter in Table 3.3.1 requiring continuous monitoring the Licensee shall ensure that the CEMS is regularly operated, maintained and calibrated in accordance with the CEMS Code.

3.3 Ambient environmental quality monitoring

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

Table 3.3.1 Monitoring of ambient groundwater quality

Monitoring point reference on Map of monitoring points (2) in Schedule 1	Parameter	Units	Averaging period	Frequency
TMB2, TMB3, TMB4, TMB5, TMB12, TMB13 4/91, TDP1, TDP2, TDP3, TDP5, TDP6	Total Nitrogen	mg/L	Spot sample	Quarterly
	Total Kjeldahl Nitrogen			
	Nitrate Nitrogen			
	Total Phosphorus			
	Orthophosphorus			
	Total Dissolved Solids			
	pH	-		

3.4 Meteorological monitoring

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

Table 3.4.1: Meteorological monitoring

Monitoring station & location	Parameter	Units	Height	Method
M1 as shown on Premises map in Schedule 1	Wind speed	m/s	10 m	AS 3580.14
	Wind direction	Degrees	10 m	
	Wind direction standard deviation	Degrees	10 m	
	Air temperature	°C	10 m	
	Relative humidity	%	> 2 m	
	Barometric pressure	hPa	Not specified	

3.4.2 The Licensee shall record the wind velocity and wind speed at the time of any fumigation tests undertaken in accordance with IR1 once implemented.

4 Improvements

4.1 Improvement program

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

Table 4.1.1: Improvement program

Improvement reference	Improvement	Date of completion
IR 1	The Licensee shall submit to the CEO an Odour Management Plan. This plan must, for each potential odour source on the premises, include detail on: (i) each major odour emission source on the premises and associated risk of odour emissions generated under normal operating conditions; (ii) odour emission risk from each source identified in (i) under upset and emergency conditions including the estimated frequency of occurrence of such conditions; (iii) odour emissions monitoring strategy and parameters monitored; (iv) corrective actions to be implemented to address odour emissions from sources identified under (i) and (ii); (v) corrective actions to be implemented in the event of process failure or odour control equipment failure which may lead to unacceptable odour emissions from the premises; including triggers for action implementation; and (vi) Procedure to evaluate the effectiveness of any corrective actions taken. The Odour Management Plan shall also detail monthly fumigation and air exchange rate tests undertaken for buildings containing the dryer, milling area and raw material receival and processing areas.	3 months from the date of granting this licence
IR 2	The Licensee shall submit to the CEO a Biofilter Management Plan for bio filters identified in Condition 3.2 of this licence. This plan shall include details on: • biofilter design; • operation and monitoring procedures; • operational performance targets for biofilter operation for key parameters including temperature, biofilter backpressure, biofilter moisture content and biofilter odour concentration including triggers for the refurbishment of biofilter media; • routine maintenance and inspection procedures including procedures to assess homogeneity of treated gases across the surface area of each biofilter cell; • corrective actions to be implemented when the biofilter malfunctions;	3 months from the date of granting this licence

	• procedures which will be implemented to evaluate the effectiveness of corrective actions; • contingency procedures to be implemented when biofilter performance cannot be maintained within optimum range; and • a risk assessment of odour emissions from the biofilter generated under the expected range of operating conditions including the estimated frequencies of risk occurrence.	

5 Information

5.1 Records

5.1.1 All information and records required by the Licence shall:
(a) be legible;
(b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
(c) except for records listed in 5.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
(d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
(i) off-site environmental effects; or
(ii) matters which affect the condition of the land or waters.

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

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

5.1.4 The Licensee shall:
(a) implement a complaints management system that shall record the following information (if known or provided) about complaints received at the Premises concerning any environmental impact of the activities undertaken at the Premises:
(i) name and address of the complainants (if consented);
(ii) date and time of complaint;
(iii) date and time of alleged incident;
(iv) alleged source of the incident;
(v) general description of the alleged incident, including any environmental or health impacts reported by the complainant;
(vi) wind direction, wind speed and temperature at time of alleged incident;
(vii) likely source of the alleged incident; and
(viii) actions taken by the Licensee to address the complaint, including the outcome of any investigation(s) and action(s) to verify any impacts.
(b) complete an annual analysis and review of complaints recorded under 5.1.4(a) to identify any common factors and root cause of complaints and proposals to address these.

5.2 Reporting

5.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 28 calendar days after the end of the annual period. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.

Table 5.2.1: Annual Environmental Report

Condition or table (if relevant)	Parameter	Format or form[1]
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
3.7.1	CEMS annual correlation	RATA
5.1.3	Compliance	Annual Audit Compliance Report (AACR)

Note 1: Forms are in Schedule 2

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

Table 5.2.2: Non-annual reporting requirements

Condition or table (if relevant)	Parameter	Reporting period	Reporting date (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
3.2.1	Results of quarterly monitoring for the main biofilter surface	Quarterly	28 calendar days	Not specified
	Results of six monthly monitoring for the WWTP biofilter surface	Six monthly		
	Results of quarterly monitoring for the main odour control equipment	Quarterly	28 calendar days	One graphical chart per one month for each per parameter
	Results of continuous monitoring for the main odour control equipment	Quarterly		
	Results of six monthly monitoring for the WWTP odour control equipment	Six monthly		
Table 3.3.1	Results of groundwater monitoring	Six monthly	28 calendar days	None specified
5.1.4	Complaints summary	Six monthly	28 calendar days	None specified

Note 1: Forms are in Schedule 2

5.2.3 The Licensee shall ensure that the quarterly and six monthly reports also contains:
(a) any relevant process, production or operational data recorded under Condition 3.1.3;
(b) an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets;
(c) a layout with the sampling and measurement locations; and
(d) a description of any monitoring methods used to collect and analyse data required to demonstrate that the methods used comply with the methods specified in this licence.

5.3 Notification

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

Table 5.3.1: Notification requirements

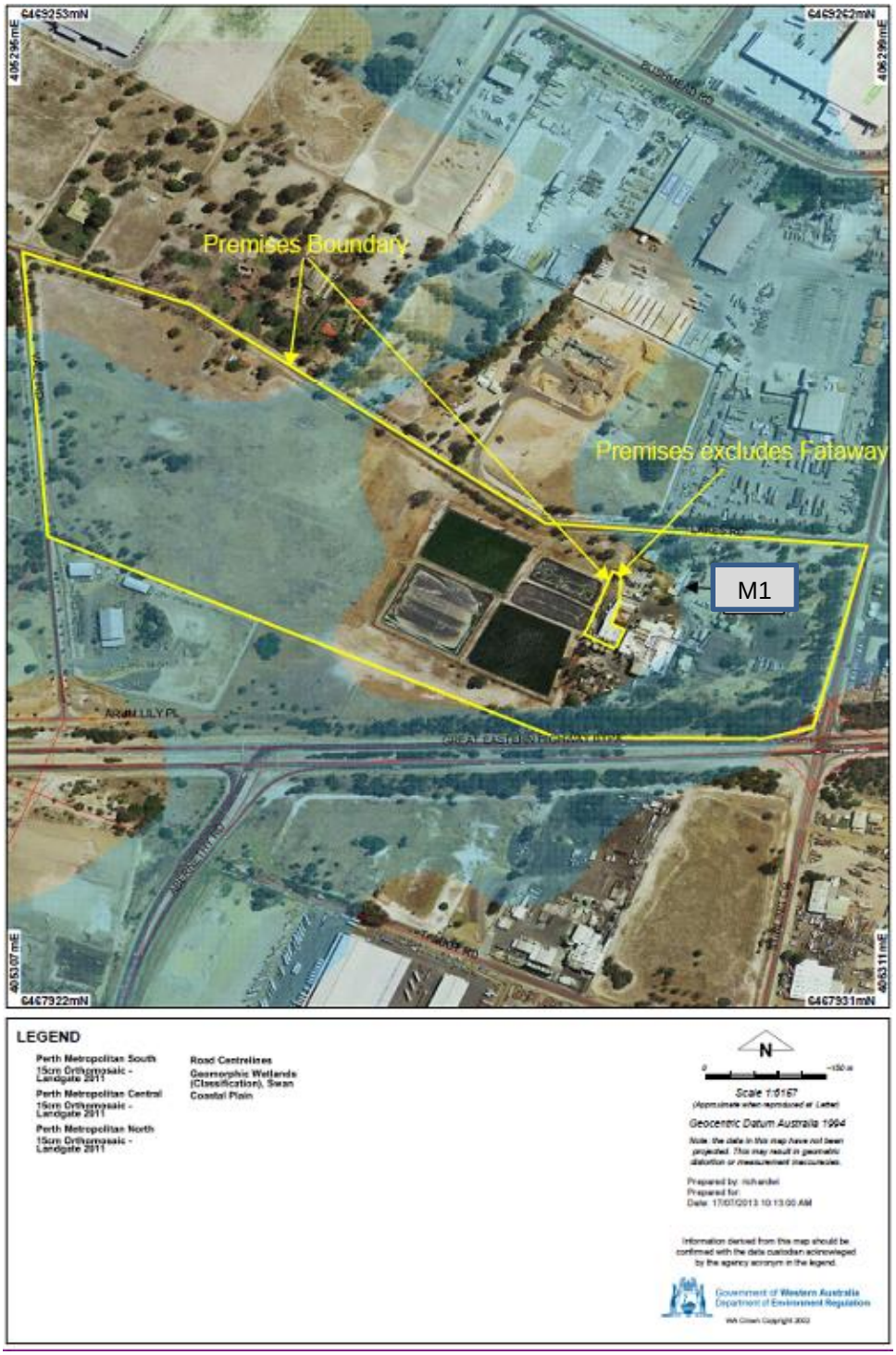
Condition or table (if relevant)	Parameter	Notification requirement[1]	Format or form[2]
2.1.1	Breach of any limit specified in the Licence	As soon as practicable but no later than 5pm of the next usual working day.	N1

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act
Note 2: Forms are in Schedule 2

Schedule 1: Maps

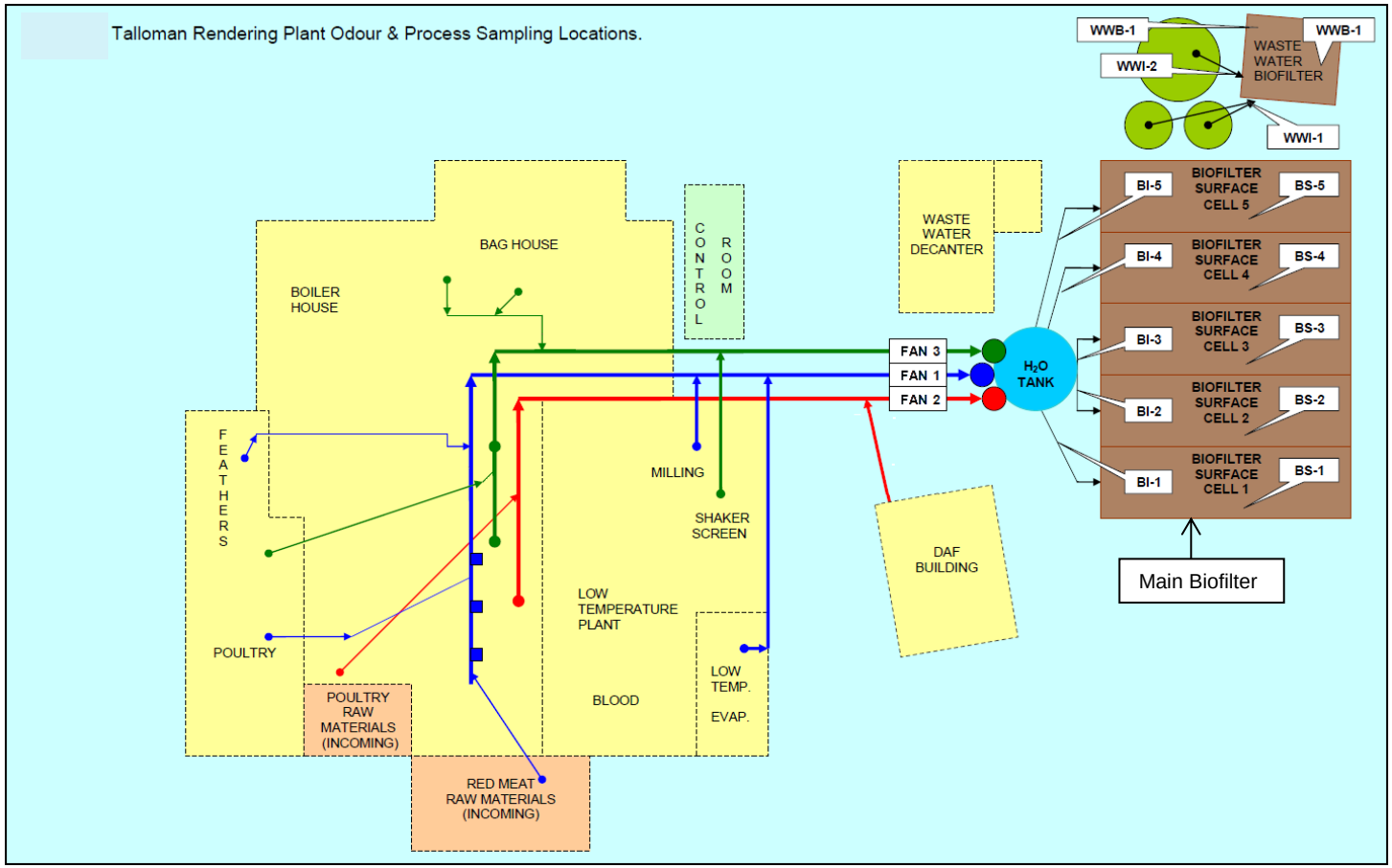
Premises map

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



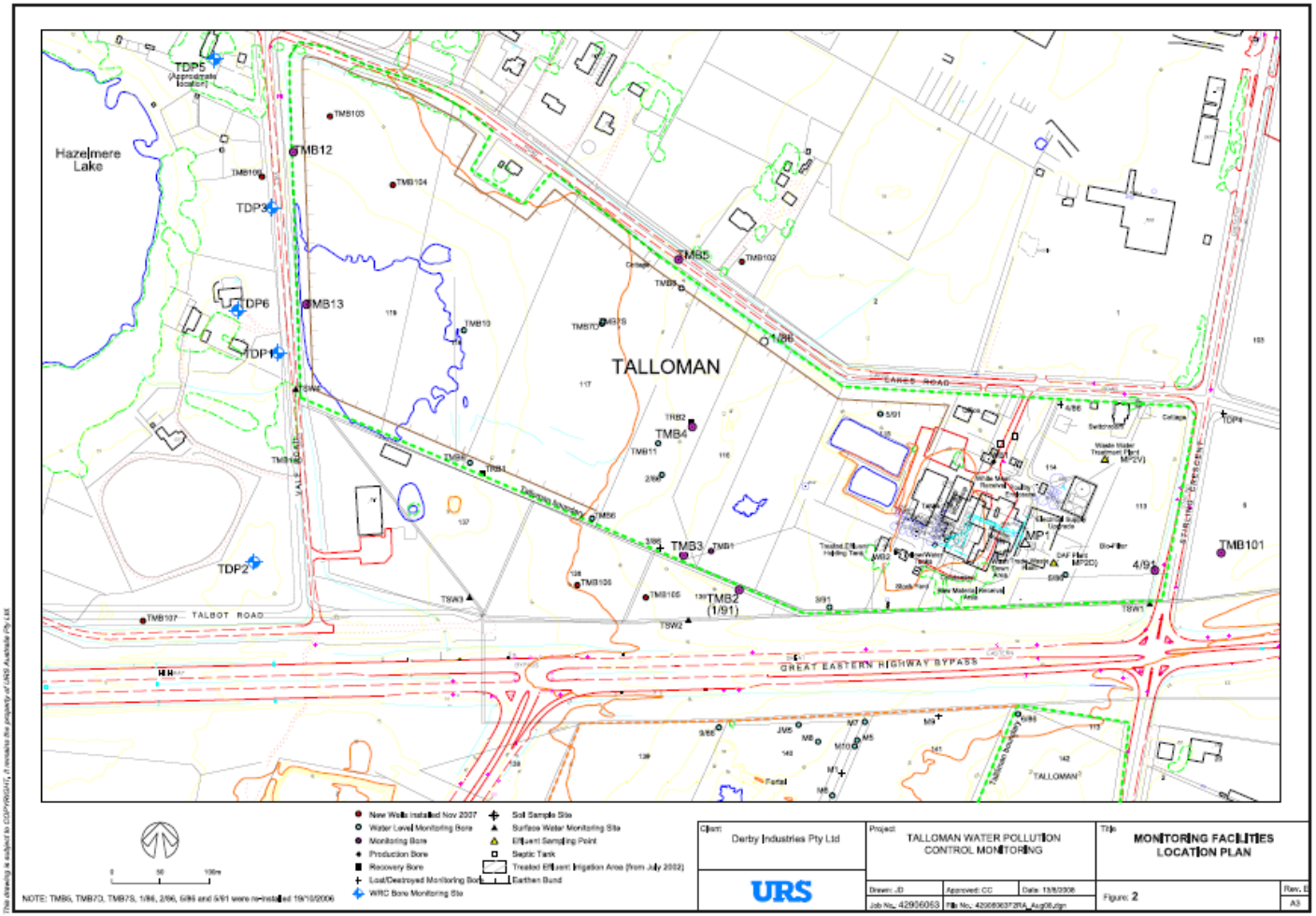
Map of monitoring locations (1) - Odour and process monitoring

The locations of the monitoring points defined in Table 3.2.1 are shown below.



Map of monitoring locations (2) - Groundwater

The locations of the monitoring points defined in Table 3.3.1 are shown below.



Schedule 2: Reporting & notification forms

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

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A

LICENCE DETAILS

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

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

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

Yes ☐ Please proceed to Section C

No ☐ Please proceed to Section B

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

Initial:

SECTION B
DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

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

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

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

Initial:

SECTION C

SIGNATURE AND CERTIFICATION

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

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

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

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

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

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SEAL (if signing under seal)

Licence: L4297/1983/17 Licensee: Derby Industry Pty Ltd
Form: N1 Date of breach:

Notification of detection of the breach of a limit.

These pages outline the information that the operator must provide.
Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

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

Notification requirements for the breach of a limit	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Name	
Post	
Signature on behalf of Derby Industry Pty Ltd	
Date	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Licensee: Derby Industries Pty Ltd

Licence: L4297/1983/17

Registered office:	6 Short St FREMANTLE WA 6160
ACN:	009 033 612
Premises address:	Talloman Rendering Facility Lots 113, 114, 115, 116, 117, 118, 119 on Plan 4553 & portion of Helena Location 20A & Part of the land on Plan 7475 HAZELMERE WA 6056
Issue date:	Friday, 25 September 2015
Commencement date:	Thursday, 01 October 2015
Expiry date:	Sunday, 30 September 2018

Decision

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

Decision Document prepared by:	Gargi Joshi Licensing Officer
Decision Document authorised by:	Lauren Trott A/Manager Licensing

Contents

1 Purpose of this Document

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

2 Administrative summary

Administrative details		
Application type	Works Approval ☐ New Licence ☒ Licence amendment ☐ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)** 16	**Assessed design capacity** 160,000 tonnes per annual period
Application verified Application fee paid	Date: 16 July 2015 Date: 31 July 2015	
Works Approval has been complied with Compliance Certificate received	Yes☐ No☐ N/A☒ Yes☐ No☐ N/A☒	
Commercial-in-confidence claim	Yes☐ No☐	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes☐ No☒	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes☐ No☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Is the proposal subject to Ministerial Conditions?	Yes☐ No☒	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)?	Yes☐ No☒ Department of Water consulted Yes ☐ No ☐	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes☐ No☒ If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes☐ No☒ If Yes, include details here, eg Site is subject to SO_2 requirements of Kwinana EPP.		

3 Executive summary of proposal and assessment

Derby Industries Pty Ltd T/A Talloman operates the Talloman rendering facility, which has been in operation since the 1950's.Derby Industries is a division of the Craig Mostyn Group, an Australian company, involved with protein meals, seafood and meat export and processing. The Talloman rendering facility accepts animal material from abattoirs and meat processing facilities. This material is processed to produce meat and bone meal, feather meal, poultry meal, blood meal and tallow. Talloman is the only rendering facility to operate within Perth's metropolitan area.

The premises is located on land zoned "Industrial Development" with surrounding "Rural Residential" zoned properties and newer "Residential" development areas approximately 800 m to the west and northwest. A number of wetlands are located both on and around the premises including an extensive damp land, classified as "multiple use" management category under the Water and Rivers Commission "Wetlands of the Swan Coastal Plain, 1996". The Hazelmere Lakes are located 1.2 km to the west of the Talloman plant area. Both lakes are System 6 Nature Reserves, protected under the *Environmental Protection (Swan Coastal Plain Lakes) Policy* and are classified as "Resource Enhancement" management category under the Water and Rivers Commission "Wetlands of the Swan Coastal Plain, 1996." A small drain runs past the southern and western edges of the site, which eventually flows into the southern lake. Another wetland is located to the east of the Talloman site and is mapped as part of the Helena River floodplain under a "Multiple Use" management category. The Swan River passes the site about 4 km to the west and the Helena River about 1.5 km to the north.

The process of rendering involves cooking protein by-products such as meat, offal, hair, feathers, blood and bone to produce tallow (animal fat), pet food and stockfeed ingredients and fertilisers. The by-products are sourced from abattoir residues from cattle, sheep, goats, pigs and chicken. Raw material is processed within 15 hours of receival. This assists in reducing odour as the raw material is fresher when it enters the rendering vessels.

Raw material is processed through a size reduction crusher and then to a preheater to cook the product. A twin screw press extracts fat (tallow) and water (stick water) with solids fed into a drier. The material is milled and screened with the stick water and tallow then separated through decanting. Tallow is further refined from remaining water and solid contaminants through a polishing process. The stick water is concentrated and added back to the solids in the drier for recovery as meal. Blood is coagulated with steam then the water fraction is removed by centrifuge. The remaining blood solids are then dried in a blood dryer.

All processes on-site produce approximately 500,000L of condensate wastewater a day directed to dissolved air flotation (DAF) tank prior to processing through the wastewater treatment plant (WWTP). Washdown water from the rendering area and the truck washdown area are directed to a level controlled sump where it's pumped up to a storage tank, through a separation tank to decant floating fat and through the DAF and WWTP. Separated solids are fed back to the drier. The WWTP consists of a primary anoxic treatment system where wastewater is passed into one of two covered anaerobic lagoons (CAL) for up to 14 days. The water then passes through, a biological nutrient removal (BNR) treatment plant and then to one of two evaporation ponds. There is one final evaporation pond where treated wastewater is either evaporated, recycled or discharged to the Water Corporation Sewer Network.

Air extraction from the Talloman plant occurs via a network of air extraction and ventilation ductwork from sealed process buildings and infrastructure. Air is extracted using three header ducts fitted with water misting sprays each with a large extraction fan, which extracts air from

the condensers, factory air and point source collections, into a humidifier and then through five pipes to the five biofilter beds. One smaller biofilter cell is also present for treating extracted air from the wastewater BNR treatment plant. A flare combusts gases produced from the anaerobic ponds.

Talloman have requested amendment to the licence to increase the nominated throughput from 140,000 tonnes per annum to 160,000 tonnes per annum and to decrease the quantity of odour monitoring required by conditions of the licence. This decision document reviews key emissions and discharges associated with potential increase in throughput. These include potential increase in wastewater generation and potential changes in odour emissions from the premises. This decision document also assesses current odour monitoring and reporting requirements in line with Licensee's request for a review. The licence is granted for duration of 3 years.

4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DEC's Policy Statement - Limits and targets for prescribed premises (2006), 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 L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
General conditions	L1.2.3, L1.3.3	Emission Description *Emission:* Emissions to stormwater from processing areas, solid waste storage area. *Impact:* Potential contamination of surrounding land and surface water drainage systems such as the wetland areas and a small drain which runs past the southern and western edges of the site, which eventually flows into a significant lake located 1.2 km away. There is potential for impacts on the ecology of surface water and groundwater from the addition of nutrients and other contaminants. *Controls:* Stormwater falling on the premises drains to a sump before treatment through the wastewater treatment plant. Uncontaminated stormwater is directed away from operational and hardstand areas. These controls reduce the likelihood of impact by preventing potentially contaminated stormwater from entering surrounding water resources. Risk Assessment *Consequence*: Minor *Likelihood:* Unlikely *Risk Rating:* Moderate Regulatory Controls Condition 1.2.3 has been added to the licence to require the operator to direct uncontaminated stormwater away from the potentially contaminated areas of the premises therefore reducing the volume load on the wastewater treatment system. Condition 1.2.2 replaces condition 15 on previous licence. Condition 1.3.3 requires	-

DECISION TABLE			
Works Approval / Licence section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		untreated wastewater to be directed to a treatment system prior to discharge into Water Corporation sewer or evaporation ponds or reuse. Solid/ liquid waste is required to be stored within enclosed building, vessel or tanks. Condition 1.3.3 replaces condition 8 of the previous licence. Conditions 13 and 14 from previous licence have not been carried forward. Emission risk from hydrocarbon/chemical storage can be managed under general provisions of the EP Act and *Environmental Protection (Unauthorised Discharges) Regulations 2004*. Residual Risk *Consequence*: Minor *Likelihood:* Rare *Risk Rating:* Low	
Premises Operation	L1.3.4	By increasing the throughput from 140 000 tpa to 160 000 tpa, Talloman have estimated that on average approximately 34m^3 extra of wastewater per day will be produced. This may increase the risk of discharge to the environment through wastewater pond overtopping. Emission Description *Emission:* Spillage from wastewater storage ponds. *Impact*: Contamination of surrounding land and surface water drainage systems from wastewater pond overflow. *Controls*: Talloman have increased the amount of water reused from the evaporation pond for the condensers, processing areas and biofilters. Talloman report that the wastewater treatment system (inclusive of the DAF, anaerobic lagoons and evaporation ponds) has a capacity of receiving an extra 3m^3 per day while maintaining a freeboard of 600 m on the evaporation pond. An estimated 34m^3 of extra wastewater produced will amount to an increase of <2m^3 per hour allowing for at least 1m^3 per hour of unused capacity. Talloman have a trade waste licence which allows for a maximum discharge rate of 6 litres (l)/second(s). Over the past 12 months Talloman report to have discharged at an	

DECISION TABLE			
Works Approval / Licence section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		average rate of 2.3 l/s with a peak of 5.61 l/s in one week in winter. Additionally, increased wastewater reuse for plant operations has resulted in removing the need discharge to sewer for a three month period early in 2015. Additional to these controls, an unused evaporation pond is available for use (approx. 20 000m^3) should it be required in an extreme rainfall event. Residual Risk *Consequence:* Minor *Likelihood:* Unlikely *Risk Rating:* Low Regulatory Controls Condition 1.3.4, which replaces condition 9 of the previous licence, imposes requirements to prevent pond overtopping. Residual Risk *Consequence:* Minor *Likelihood:* Unlikely *Risk Rating:* Low	
Emissions general	L2.1.1	Descriptive limits have been set through section 2 of the licence. Condition 2.1.1 requires investigation and exceedance of any limit.	N/A
Emissions to air including monitoring	L2.2.1	See risk assessment for odour emissions for details.	
Point source emissions to surface water including monitoring	N/A	There are no point source emissions to surface water from the premises.	
Point source emissions to	N/A	There are no point source emissions to groundwater from the premises.	

DECISION TABLE			
Works Approval / Licence section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
groundwater including monitoring			
Emissions to land including monitoring	N/A	There are no point source emissions to land from the premises.	
Odour	L1.3.1, 1.3.2, 1.3.5 L2.3.1-L2.3.3	Condition 2 of the previous licence has not been carried forward as other conditions in section 2.3 specify odour management. See Appendix A for details of risk assessment.	General provisions of the *Environmental Protection Act 1986*
Noise	N/A	Noise has not been reassessed as part of this assessment. Proposed increase in throughput will not result in a change to process or hours of operation. As the previous licence did not impose controls on noise, no specified conditions have been included in this section. The *Environmental Protection (Noise) Regulations 1997* apply.	*Environmental Protection (Noise) Regulations 1997* General provisions of *Environmental Protection Act 1986*
Monitoring general	L3.1.1- L3.1.5	Condition 3.1.1 replaces conditions 19, 20 and 21 of the previous licence. L3.1.2 to L3.1.5 have been included to specify calibration requirements for monitoring equipment, recordkeeping requirements for the duration of monitoring and frequency of monitoring.	

DECISION TABLE			
Works Approval / Licence section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Monitoring of inputs and outputs	N/A	Monitoring requirements have not been reassessed as part of this amendment. As the previous licence did not require monitoring of inputs and outputs no specified conditions have been included in this section.	
Process monitoring	L3.2.1 – L3.2.4	Process gases generated within the process area, raw material receival area enclosures, wastewater BNR treatment plant, DAF plant and anaerobic pond are ducted to biofilter prior to discharge to atmosphere. The risk assessment is outlined in DER's assessment and decision making detailed in Appendix A. Condition 2.2.1 replaces condition 1 of the previous licence. Condition 3.2.1 incorporates requirements from condition 16 and 17 of the previous licence. Justification for the reviewed monitoring requirements is detailed in Appendix A.	
Ambient quality monitoring	L1.3.2-L1.3.3, L3.3.1	<u>Emission Description</u> *Emission:* Emissions to groundwater due to seepage from wastewater treatment ponds, solid/ liquid waste storage area. Wastewater from activities generated on the premises is expected to be nutrient rich. *Impact:* The depth to groundwater measured within 200 m from the premises is approximately 2 meters below ground level (mbgl). A number of wetlands are located both on and around the premises including an extensive damp land, classified as "multiple use" management category under the Water and Rivers Commission "Wetlands of the Swan Coastal Plain, 1996".There is potential for localised impact and potential alteration of the environment. *Controls:* Anaerobic lagoons and evaporation ponds are lined to achieve permeability of less than $1x10^{-9}$ m/s. Solid/ liquid waste storage is undertaken on a bunded hardstand area.	

DECISION TABLE			
Works Approval / Licence section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Risk Assessment *Consequence*: Minor *Likelihood:* Unlikely *Risk Rating:* Moderate Regulatory Controls L1.3.2 added to specify infrastructure requirements. L1.3.3 specifies storage requirements for waste. L3.3.1 retains groundwater quality monitoring requirements specified in condition 18 of previous licence. Residual Risk *Consequence*: Minor *Likelihood:* Rare *Risk Rating:* Low	
Meteorological monitoring	N/A	OSC 3.4.1 and OSC 3.4.2 have been added to the licence. For justification of meteorological monitoring conditions refer to DER's assessment and decision making detailed in Appendix A.	
Improvements	IR1 and IR2	IR1 has been included to facilitate ongoing effective odour management of the rendering processes. IR 2 has been included to facilitate ongoing effective management of the odour control equipment. For justification of IR1 and IR2 refer to DER's assessment and decision making detailed in Appendix A.	
Information	L5.1.1 – L5.1.4 L5.2.1 – L5.2.3	Conditions 5.1.3 and 5.2.1 replace conditions 28 of the previous licence and condition 5.1.4 replaces condition 27(iv). Condition 5.2.2 replaces conditions 22, 23, 25 and 26. The reporting content has been amended. OSC 5.2.3 replaces conditions 27 (i), (ii) (iii).	

DECISION TABLE			
Works Approval / Licence section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Licence Duration	N/A	The Licence duration has not been extended as a result of this amendment.	

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
N/A	Application advertised in West Australian (or other relevant newspaper)	-	-
10/9/2015	Proponent sent a copy of draft instrument	Comments received on Monday 21 September 2015. No changes suggested to draft conditions.	No changes required.

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

Appendix A

Background
Licence L4297/1983/16 restricted premises throughput to 140,000 tonnes per annum. Talloman have requested an increase in throughput to 160,000 tonnes per annum. The premises currently has a design capacity to process up to 250 000 tonnes per annual period. No new works or changes to infrastructure are required to achieve the increase in throughput to 160,000 tonnes per annum.

Talloman are seeking the increase to 160,000 tonnes per annum to accommodate additional volume over the next 3 years based on Western Australia's anticipated growth in meat production for export and domestic markets. The increased throughput will not require changes to any rendering processes or raw material storage. It is expected that the increased weekly throughput will primarily occur in the winter months where throughput volumes have typically been lower due to changes in operations at abattoirs (reduced shut-down periods) that supply raw material to premises.

Key issues considered in DER's decision making for assessing potential emissions and discharges relating to increase in throughout include:

- Introduction of odour management initiatives at the premises since 2011 (as detailed in the risk assessment);
- Steady decrease in complaints since 2006 while the number of nearby residences has increased;
- Compliance history of premises; and
- Review of odour monitoring data.

Emission Risk Assessment

Emission Description
Emission: Key emissions from the premises include odorous emissions to air. Under normal operating conditions odour may potentially be emitted from raw material receival area, process buildings, wastewater treatment facilities and biofilter cell surface. Fugitive emissions of odour may emanate from air escaping from buildings, the receival areas and from the wastewater treatment tanks and ponds.
Impact: Nearest sensitive receptor is 800 m away from the premises The Premises has history of complaints. Odour emissions can lead to discomfort, stress and lowering of life quality for nearby residences. Odour emissions from the premises can have a localised impact, potential alteration of environment through reduction in air quality/ amenity and may have potential health impacts.
Controls:
Odour emissions control strategy on the premises comprises of a network of air extraction and ventilation ductwork from sealed process buildings and infrastructure. Three header ducts, fitted with water misting sprays each with a large extraction fan, extract air from the condensers, factory air and point source collections, into a humidifier and then through five pipes to the five biofilter beds.

Odour emitted from wastewater is abated by:

- a flare which combusts gases produced from the anaerobic ponds; and
- two small biofilters cells that treat extracted air from the wastewater BNR treatment plant.

In addition to odour control equipment odour emissions are further reduced through management practices including:

- acceptance of refrigerated raw material only;
- all raw material being processed within 15 hours of being received; and
- twice daily checks of bio-filter system, misting spray pumps, evaporative cooling system, ducting, raw material, buildings and surrounds (drains, sumps, valves, pumps).

Odour control improvements implemented at the premises since 2010 include:

2011: Increased point source extraction installed in the poultry cooking area. The red meat raw material area was partitioned from the blood processing area to reduce the potential for fugitive emissions.
2012: Point source extraction installed in the blood processing area and storage tank to reduce potential for fugitive emissions. The BNR treatment plant sludge holding tank cover was replaced and air diffusion system refurbished increasing the efficiency of the wastewater system.
2013: The Bio-filter bed levels were topped up and point source extraction was installed in the red meat raw material area. Improvements were also made to the bio-filter sprays and locations to improve efficiency. Upgrades to misting sprays have improved humidification by 20% in the last 12 months.
2014: The introduction of a new DAF in the main plant recovers any solids from the wastewater to recycle back into the process and has eliminated the need to process wastewater through the decanter and to store and remove spadeable waste from the site.
2015: Installation of continuous monitoring of bio-filter inlet air to monitor relative humidity and temperature.

Risk Assessment
Consequence: Moderate
Likelihood: Possible
Risk Rating: Moderate

Regulatory Controls

Monitoring results from March 2012 to September 2014 show that odour emission levels range from 108 odour units (ou) to 1449 ou from the main biofilter cells and 64 ou to 181 ou from the wastewater biofilter surface. Talloman has reported to have received six complaints in this period. This is significant decrease in complaints numbers compared to previous years (i.e. 2006 – over 150 complaints, 2007 – over 50 complaints).

Odour emissions from the premises are not expected to increase due to proposed increase in throughput of additional 20, 000 tpa as:

- hours of operation are not expected to change;
- no changes are required to the rendering process and raw material storage times;
- increase in throughput is expected to occur in winter months when optimal operation of the odour control system is known to be less problematic as it is easier to maintain optimal temperature and relative humidity;
- the volume of air processed through the odour control system is not expected to change;
- The introduction of CEMS infrastructure for the monitoring of temperature, RH and pressure at all inlets of the main biofilter will support Talloman's internal monitoring checks of the main biofilter system.

Odour monitoring requirements have been reviewed. Standard outcome based condition 1.2.2 imposes the maintenance of the pollution control equipment. Condition 1.3.1 and 1.3.2 require that raw material is rendered within 15 hours and is stored within enclosed vessels, buildings and tanks. Condition 1.3.3 requires solid waste to be stored within enclosed vessels, buildings and tanks.

Condition 2.2.1 stipulates that air emissions from raw material receival area enclosures, process area, DAF plant and wastewater BNR treatment plant once treated through biofilters are authorised only when done so in accordance with licence conditions.

Condition 2.3.1 requires all raw material receival areas and processing rooms to be maintained under negative pressure to minimise fugitive odour emissions. Conditions 2.3.2 and 2.3.3 carry forward requirements of condition 4 and 5 respectively from previous licence. Unreasonable odour emissions from the premises can be regulated using general provisions of the EP Act 1986.

Process monitoring requirements have been imposed through condition 3.2.1 of odour concentration at the biofilter surface; and airflow, volumetric flow rate and pressure at the main biofilter inlet to provide an understanding of how well the biofilter is functioning. Parameters monitored at the main biofilter will also be monitored at the ductwork fans and the WWTP biofilter inlets so that an awareness of odour control equipment efficiency can be maintained. This monitoring will enable Talloman to determine effectiveness of odour control equipment.

Meteorological monitoring requirements have been imposed through condition 3.4.1 and 3.4.2. to aid improvement in odour management practices with the objective of minimising recurrence in similar meteorological conditions.

Condition 1.3.5 restricts the premises throughput to 160,000 tonnes in any 12 months period. Improvement conditions that require an Odour Management Plan and Biofilter Management Plan to be developed and implemented have been imposed through condition 4.1.1. DER will review licence conditions to determine suitability of control measures upon submission of the Odour Management Plan and Biofilter Management Plan and once considerable data from continuous emissions monitoring of the biofilter inlet ducts is available.

Risk Assessment
Consequence: Moderate
Likelihood: Unlikely
Risk Rating: Moderate