Decision Report

Application for Licence Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Licence Number	L4297/1983/17
Applicant	Derby Industries Pty Ltd
ACN	009 033 612
File number	DER2017/00961
Premises	Talloman Rendering Facility Lakes Rd, Hazelmere, WA, 6055 Legal description Lot 5000 on Plan 67434, Certificate of Title Folio 2785 Volume 277; Part of Lot 20 on Plan 73040, Certificate of Title Folio 2814 Volume 696; Part of Lot 116 on Plan 4553, Certificate of Title Folio 1243 Volume 89; Part of Lot 117 on Plan 4553, Certificate of Title Folio 1244 Volume 987; & Part of Lot 50 on Plan 7475, Certificate of Title Folio 1810 Volume 68. As defined by the premises map attached to the issued licence
Date of report	22/08/2023
Proposed Decision	Licence granted

Table of Contents

1. Decision summary

This amendment report documents the assessment of potential risks to the environment and public health from emissions and discharges during the installation of a new balance tank at the Dissolve Air Floatation Plant; for the operation of a new gas flare at the covered anaerobic lagoons; and for operation of evaporation sprinklers on the final effluent evaporation pond. Other aspects of the Licence remain unchanged. As a result of this assessment, amended licence L4297/1983/17 has been granted for the premises.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

2.2 Application summary and overview of premises

On 14 June 2023, the applicant submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act).

The Premises relates to the category 16: rendering operations and the assessed production capacity of 160,000 tonnes per annum under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in existing Licence L4297/1983/17.

An inspection of the premises on 21 February 2023 identified that the premises was no longer using a small dedicated biofilter to process methanogenic off gases from the anaerobic treatment of wastewater at the premises. Two covered anaerobic lagoons (CAL's) at the premises generate sufficient quantities of biogas to periodically fuel a 25m/3/hour enclosed combustion flare that converts methane into carbon dioxide, reducing the quantities of fugitive greenhouse gas emissions emitted from the CAL's. The premises has already installed the infrastructure and this approval is for the commissioning and ongoing operation of the flare.

The premises inspection on 21 February 2023 also identified that the Licence Holder had installed and was operating evaporation sprinklers within the final effluent holding pond (or evaporation pond). The primary function of these sprinklers is to reduce the temperature of water within the pond as the water is used to cool the temperature of non-condensable gases coming from the cooking processes. It is critical to the effective functioning of the biofiltration units that gases entering the biofiltration media (woodchips) are not overly heated as this may kill or impair bacteria function in the digestion of gases, and may also cause accelerated or differential rates of drying within the biofilter media, causing operating issues such as untreated air to vent to atmosphere, build-up of pressure within biofilter beds, or parts of biofilter beds and and 'blow backs' (reverse pressure).

The Licence Holder has also advised of a requirement to replace the existing 80,000L balance tank contained within the Dissolved Air Floatation (DAF) plant with a new 80,000L stainless steel balance tank as the existing tank is leaking and beyond repair. The balance tanks serve to contain in-process wastewater from condensation from cooking processes and washdown water from the rendering plant and truck wash areas. The balance tank allows for storage of surge volumes, mixing and cooling of wastewater prior to treatment within the DAF plant.

The Delegated Officer has made a further change Table 1.3.2, Condition 1.3.3 for consistency. Non-condensable gases are now specified as a waste type, and the operational requirement is that they be directed to the onsite biofilters for treatment. There are no changes to site operations that are undertaken o site as a result of this change.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Commissioning and Operation			
Contaminated wastewater	Leaking, spills and discharges from balance tank	Overland flow and direct discharge to ground	The condensate and washdown water will be fully contained within the stainless steel 80,000L balance tank The balance tank is situated within an concrete lined fully enclosed DAFG plant shed And spills, leaks or overflows within the shed drain to a collection sump where they are recovered and pumped back into the process for treatment The balance tank has a highwater alar
Odour from anaerobic digestion gases	Enclosed gas flare	Air/ windborne pathway	The CAL:'s are lined ponds with a HDPE seal on top preventing gases generated through anaerobic digestion from venting to atmosphere. Piping of gases from CAL to enclosed flare Pumping of gases to flare is periodic to process gases when they build up under the cover of the CAL to a sufficient level . Enclosed gas flare Combustion rate of up to 25,m/3 per hour
Odour from treated effluent	Volatilisation of gases from spray effluent	Air/ windborne pathway	Water used for cooling has been treated to tertiary treatment standards. Spray action is applied to heated return water from the cooling towers from the condenser gases only

Emission	Sources	Potential pathways	Proposed controls
			Prestart checks of wind and weather conditions Regular monitoring of water temperature within the final effluent holding pond Daily visual inspection of evaporation ponds, sprinklers and associated pipes for leaks, Twice daily on-site assessment of odour Community complaints receipt process and telephone number

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 2 and **Error! Reference source not found.** below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental Siting* (DWER 2020)).

Table 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Rural residential dwellings	360m to 460m west of the premises boundary on Vale Road Hazelmere
Hazelmere urban residential area South Guildford urban residential area	715m NW 1000m NE

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

Licence L4297/1983/17 that accompanies this decision report authorises emissions associated with the operation of the premises i.e. Category 16 Rendering activities.

The conditions in the issued licence, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 3: Risk assessment of potential emissions and discharges from the premises during commissioning and operation

Risk events					Risk rating [1] C = consequence L = likelihood		Conditions [2] of licence	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Installation and operation of new balance tank	Discharge of contaminated wastewater to land	No pathway Tank is located within concrete hardstand area, within bunded area that drains to sump for reprocessing	N/A	Refer to Section 3.1.1	C = Slight rare L = Rare **Low Risk**		Condition 1.3.2 Table 1.3.1 amended to include reference to in-process wastewater containment in addition to raw materials and blood as containment infrastructure at the premises	Alteration of a standard condition
Gas Flare	Odour from anaerobic digestion gases	Air / windborne pathway causing impacts to health and amenity	Residencial receptors 360m-460m west and 715m north-west	Refer to Section 3.1.1	C = Slight L = Unlikely **Low Risk**		Condition 1.3.3 Table 1.3.2 amended to include reference to the gas flare as part of the Covered Anaerobic Lagoon infrastructure to be trapped and pipped to the gas flare at the premises	Alteration of standard conditions
Evaporation sprinklers	Odour from spraying treated effluent	Air / windborne pathway causing impacts to health and amenity	Residencial receptors 360m-460m west and 715m north-west	Refer to Section 3.1.1	C = Possible L = Unlikely **Medium Risk**		Condition 1.3.3 Table 1.3.2 is amended to include evaporation as a waste water treatment process. Operational requirements have been included to require a pre-start check of weather conditions to prevent off site spray drift. **Only wastewater that is subject to tertiary treatment is approved for aeration through evaporation sprinklers.**	Alteration of standard conditions and inclusion of operational requirements.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020).

Note 2: Proposed applicant controls are depicted by standard text..

4. Consultation

The Licence Holder was provided with a copy of the draft amended Licence and Amendment Report on 20/07/2023.

The Licence Holder submitted comments on the 14 August 2023 requesting an amendment to condition 1.3.2 to remove the requirement for the aeration sprinklers to be shut down in case of an odour complaint being received. The Delegated Officer agreed to this amendment and instead required that only wastewater subject to tertiary treatment processes being permitted to be aerated through the sprinklers. This revised alteration to condition 1.3.3 Table 1.3.2 has the same outcome in preventing potentially odorous wastewater from being subject to aeration.

5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 1 below provides a summary of the proposed amendments and will act as a record of implemented changes. All changes included with amendment have been incorporated into the Revised licence as part of the amendment process.

Table 4: Summary of licence amendments

Condition no.	Proposed amendments
1.3.2	Table 1.3.1 is amended to include materials from In-process Wastewater and to specify that all buildings, vessels or tanks must be enclosed and located within a bunded, concrete hardstand area.
1.3.3	Table 1.3.2 is amended to include the evaporation as process for wastewater; and two treatments for gases: The non-condensable gases from the rendering vessels are directed to the onsite biofilters; and gases generated from the anaerobic lagoons are directed to the enclosed flare for combustion.