Government of Western Australia
Department of Water and Environmental Regulation

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	15/04/2024
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 relocation and/or replacement of various existing equipment including the biogas flare, heat exchanger 46,000L balance tank; final effluent transfer tank and old fire tube boilers. 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

Two separate applications were received from the Licence Holder in relation to this amendment. The first was received on the 5 February 2024 and sought amendments defined in dot points 1-4 below. On the 22 February 2024, a further amendment application was received for change to the Licence as defined in dot point 5 below:

1. Relocation of the existing biogas flare (installed under amendment date 22/08/2023) from adjacent to the Covered Anaerobic Lagoon (CAL) 1 to a location further south and adjacent to the final effluent holding pond;
2. Relocation of the existing heat exchanger from and area south of the rendering shed hardcourt area to an area north, adjacent to CAL 2.;
3. Replacement of an existing faulty 80,000L balance tank (installed under amendment date 22/08/2023) with a new 46,000L balance tank within the Dissolved Air Floatation (DAF) plant shed (location remains the same);
4. Installation of a new final effluent balance tank prior to discharge of wastewater from the Biological Nutrient Reduction (BNR) Plant to the final effluent holding pond; and
5. Replacement of two old fire tube boilers, with one single new fire tube boiler.

These two amendment applications have been combined and are assessed together in this amendment report.

The amendments to Licence L4297/1983/17 are made in accordance with 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.

Premises inspections were undertaken on 23 November 2023 and 1 December 2023 in response to odour complaints and to view upgrade works to the BNR plant that were approved under an amendment to Works ApprovalWW6490/2021/1 (amendment date18/10/2023).

During the inspection 1 December 2023 department officers identified that the premises was in the process of moving the biogas flare. During the inspection 23 November 2023 it was noted that the heat exchanger had also been moved from an area south of the rendering plant building to an area to the north of the CAL's;. These changes were made to accommodate the new

works being constructed in accordance with Works Approval W6490/2021/1.

During the 23 November 2023 inspection it was noted that a new final effluent balancing tank had been included within the Biological Nutrient Reduction (BNR) plant part of the wastewater treatment system. The pumps for the new clarifiers are now located outside of the new tanks (instead of inside the tanks) and the new balancing tank helps to control the feed between the primary and secondary stage of wastewater clarifiers, and surge in volumes before the wastewater is sent to the final effluent holding pond.

The new 46,000L balance tank within the DAF plant 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. This tank replaces the newly installed 80,000L tank (amendment date 22/08/2023) which is leaking and not suitable for repair.

Two existing Fire Tube Boilers (please provide capacity and fuel source) will be replaced by a new energy efficient OBYTRICE 1800 fire tube boiler with capacity of 11250kW and uses natural gas as a fuel source. The new boiler allows for the sites steam and hot water generation to have a smaller carbon footprint and to be remotely monitored 24 hours a day. Carbon emissions for this new infrastructure are predicted to be lower following the installation of this new boiler, however have not been quantified.

This amendment report only considers emissions and discharges associated with the proposed changes outlined above. Emissions and discharges associated with operation of the existing infrastructure have previously been subject to a risk assessment and are therefore not considered in this assessment.

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 46,000L balance tank The balance tank is situated within an existing concrete lined fully enclosed DAF

Emission	Sources	Potential pathways	Proposed controls
			plant shed Any 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 alarm. No further controls are proposed
	Leaking, spills and discharges from effluent balance tank in BNR plant		Balance tank contained within the BNR plant hardstand area which is concrete lined. Any 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 alarm. No further controls are proposed
Odour from anaerobic digestion gases	Treated effluent	Air/ windborne pathway	The balance tank within the DAF plant and the balance tank within the BNR plant are fully sealed. No further controls proposed
Green house gas emissions	From new fire tube boiler	Air/ windborne pathway	New equipment will contribute to a reduction in emissions per unit of energy generated. Shall be operated on natural gas only Combustion emissions shall be discharged via the designated emission point only

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 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
Environmental receptors	**Distance from prescribed activity**
Geomorphic Wetlands, Swan Coastal Plain: • Hazelmere Lakes – Resource Enhancement wetlands • Helena River – conservation category	The Hazelmere Lakes (South and North) are situated 450m and 790m west of the new premises boundary, The Helena River is 1km north-east of the premises boundary
Rights in Water and Irrigation Act 1914: Perth Groundwater Area	Depth to is between 0.5- 3 mbgl across the site

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 tanks (1 x in DAF plant & 1 x in the BNR plant)	Discharge of contaminated wastewater to land	No pathway Tanks are located within concrete hardstand area, within bunded area that drain to sumps for reprocessing	N/A	Refer to Section 3.1.1	C = Slight rare L = Rare **Low Risk**	Condition 1.3.3 Table 1.3.2 is amended to include reference to new balance tanks and their location. Standard operational requirements included	Inclusion of infrastructure within standard condition
Relocation of Gas Flare	No change	Not assessed as there are no changes to emissions				Condition 1.3.3 Table 1.3.2 is amended to include reference to new gas flare unit and location. Standard operational requirements included.	Inclusion of infrastructure within standard condition
Relocation of waste heat exchangers	No change	Not assessed as there is no change emissions				Condition 1.3.3 Table 1.3.2 is amended to include reference to new heat exchange unit and location. Standard operational requirements included	Inclusion of infrastructure within standard condition
Exchange of two old fire tube boilers for one new fire tube boiler	Greenhouse gas emissions	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 is amended to include reference to new boiler and location. Standard operational requirements included	Inclusion of infrastructure within standard condition

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 13 March 2024. A summary of the licence holder's comments is found in Appendix 1.

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
Condition 1.3.6 Table 1.3.3	Table 1.3.3 is amended to remove monitoring bores constructed at the premises. Table 1.3.3 is amended to include reference to the infrastructure as amended by the current application form, detailing operational requirements and infrastructure locations.
Schedule 1 Map 5	Includes a site map with infrastructure locations for bio-gas flare, fire tube boiler, heat exchanger and balance tank included. (as related to this amendment)

Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Condition	Summary of applicant's comment	Department's response
NA	Section 2.2 of the Decision Report Works Approval Holder provided information on the boiler capacity as 11250 kW and confirmed that natural gas was the fuel source for the boiler. The Works Approval confirmed that they did not know the amount of carbon emissions that would be reduced by using the new boiler.	Changes have been made to the Decision report to incorporate this information.
Condition 1.3.6 Table 1.3.3	Changes made to Schedule 1 Map naming for new infrastructure From: W1 to bio-gas flare; 3B1 to fire tube boiler; W2 to heat exchanger; and W3 to balance tank (s)	Changes made to remove abbreviated items for full names on Map 5.
Condition 3.3.1 Table 3.3.1	Request to rename NMB 5 and NMB 6 renamed as NMB 1 and NMB2 in updated map as well as Table 3.3.1	Changes made as detailed.
N/A	Map 4 updated to include new monitoring bore names	Changes made as detailed.
N/A	Map 5 updated to include changed location of new: biogas flare, balance tank (1); balance tank (2); heat exchanger and fire tube boiler	Changes made as detailed.