Decision Report

Application for Works Approval

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

Works Approval Number	W6490/2021/1
Applicant	Derby Industries Pty Ltd
ACN	009 033 612
File number	DER2020/000621-1
Premises	Talloman Rendering Facility Lot 115 Lakes Road HAZELMERE WA 6055 Legal description Lot 20 on DP73040 and Lot 116 on DP4553 Certificate of Title Volume 2814 Folio 696 and Certificate of Title Volume 1243 Folio89 As defined by the coordinates in Schedule 1 of the works approval
Date of report	16 June 2022
Proposed Decision	Works approval granted

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the proposed new low temperature poultry rendering line at the Talloman Rendering Facility premises. The assessment includes an expansion to the combined total throughput capacity of the premises by 72,800 tonnes per annum and will allow for the existing poultry line to be converted into a dedicated porcine processing line.

As result of this assessment, works approval W6490/2021/1 has been assessed as suitable to grant subject to Planning Approval being obtained from the City of Swan. Time Limited Operations will be authorised under a granted Works Approval, to allow for operation of the new poultry line to occur following commissioning of the facility.

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 3 December 2020, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to construct a new low temperature poultry processing line at the Talloman premises. The proposed works include the construction of a new shed, and the shed will contain the raw materials receivals area, crusher, screw, pre-heater, low temperature rendering vessel, screw press/screens and conveyors for the rendered materials, meal dryer. The existing feather hydrolyser and feather rendering equipment will be moved into the new building. A dedicated biofilter bed will be constructed to the south of the shed and air extraction and conveyance infrastructure

The construction of the rendering plant building will occur within the footprint of the former Auscol Australia Pty Ltd (Auscol) premises within Lot 115 Lakes Road as depicted in Figure 1 below. The Auscol Licence was surrendered in 2018 and this portion of land returned to the control of Derby Industries Pty Ltd. The existing poultry bone and meat rendering plant will remain *in-situ* and be converted into a dedicated porcine processing line. Blood will continue to be processed within the existing blood processing plant for the site (mixed species) which lies adjacent to the red meat processing line.

As a consequence of these works the overall plant throughput capacity will increase by 72,800 tonnes of raw animal bi-product per annum. The Works Approval Holder is seeking an increase in production throughput of 20,000 tonnes per annum from 160,000 tonnes per annum to a total maximum of 180,000 tonnes per annum. The risk assessment contained within this document applies to the construction works, commissioning and operations for the increase amount of 20,000 tonnes raw materials per annum only.

The primary emissions and discharges from the construction activities will be noise and dust and these are considered negligible in terms of the extent and duration of the construction event. Dust and noise emissions are expected to be within the range or not at significant variance to those that occur during normal site operations.

The primary emissions and discharges that are expected to occur from the premises when the

upgrades are completed and when operating the increased throughput rate will be odour and wastewater generation. The quantities of rendering gases requiring treatment through the biofilters, and wastewater requiring treatment through the wastewater treatment plant (WWTP) is expected to be greater; however, a significant reduction in effluent and odour strength is expected to occur as a result from the transition from a high temperature rendering process to a low temperature rendering process. On this basis the overall changes to on-site and offsite impacts at a local scale from the plant upgrades are expected to be negligible.

The prescribed activities undertaken at the premises are thereby authorised in accordance with category 16 Rendering operations: premises on which substances from animal materials are processed and extracted under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations). The infrastructure and equipment relating to the construction and reviewed operating activities have been considered in line with *Guideline: Risk Assessments* (DWER 2020) and are outlined in the Works Approval. Commissioning and time limited operations of the new infrastructure; and at the increased throughput rates are only permitted subject to compliance with all construction conditions of works approval as approved by and subject to the discretion of the CEO, or their delegate. The Works Approval Holder is required to make an amendment to Licence L4297/1983/17 to operate this infrastructure at the premises beyond the expiry date of this instrument.

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 construction and operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the proposed 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
Construction			
Dust	Vehicle movements and earthworks.	Air / windborne pathway	Limited extent and duration of earthworks Separation distance to sensitive receptors
Noise	Vehicle movements, earthworks, general construction and installation activities.	Air / windborne pathway	Limited extent and duration of earthworks All onsite construction activities to occur between normal business operating hours.
Operation			

Emission	Sources	Potential pathways	Proposed controls
Noise	Increased number of delivery and dispatch vehicle movements (estimated at 1additional truck per day) Increased number of mechanical machines operational at the site during operation	Air / windborne pathway	Delivery of waste materials will occur as early in the day as is practicable (delivered directly from abattoir) Tipping of waste to occur within an enclosed building Wash down bay and activities to occur within enclosed raw materials delivery area Vehicles to follow unidirectional flow path around site Vehicles to leave site immediately following tipping Noise assessment carried out every five years; Expansion area within existing building footprint area Rendering equipment, including crushing, pressing and milling of materials to occur within building. Lower temperature process – less noise from operations such as heat pressure release processing noise
Odour	Increased volume of potentially odorous materials received at the facility for processing Additional point sources of odour including new poultry building, washdown bay biofilter and loading to WWTP Increased volume of non-condensable, odorous gases generated at the premises Increase number of fugitive and point sources	Air / windborne pathway	All raw material received on site to delivered directly from an abattoir, on the same day they are generated All material received on site to be entered into the rendering vessel within 15 hours of receipt All material to be received on site to be covered, tipped and processed within enclosed vehicles, buildings, tanks and vessels Trucks will undertake tipping and washdown activities within fully enclosed building areas under negative pressure Low temperature rendering process generates significantly less odorous non-condensable gases Point source air extraction at odour generating infrastructure Building ventilated under fan and capable of being fully sealed and under negative pressure and extracted for treatment via biofilter (fugitive odour sources) Non-condensible gases generated through the rendering process emissions from point and fugitive sources are treated through the biofilters prior to discharge to the environment Biofilter management and monitoring in accordance with the sites Biofilter

Emission	Sources	Potential pathways	Proposed controls
			Management Plan Additional unused capacity built into the plant to allow for continued processing during planned maintenance or unplanned outages/breakdowns Improved wastewater quality from low temperature rendering (less odorous wastewater)
Air emissions (excluding odour)		Air / windborne pathway	The low temperature rendering process uses approximately 20% less liquified petroleum gas to render the same volume of materials, generating less combustion greenhouse gases Meal milling and grinding equipment is fitted with dust collection equipment for capture of particulates.
Wastewater generation	Increased volume of throughput to increase wastewater requiring treatment	Accidental discharge to ground Overloading treatment capacity of existing WWTP causing failure	The existing WWTP is oversized for the facility based on an event in 2007 which led to the conversion of an existing aerobic evaporation pond into a covered anaerobic lagoon, more than doubling the sites anaerobic treatment capacity. Subsequently the site obtained approval to discharge treated wastewater to Water Corporation sewer. The entire building will be concrete lined and fitted with solids screens, internal drains, drainage catchall sumps that will convey washdown water and spilt materials towards the existing WWTP. All processing wastewater conveyed to existing the WWTP for treatment The low temperature rendering process produces a proportional reduction in wastewater volume requiring treatment through the WWTP The quality of the rendering wastewater produced is less contaminated as the low temperature process allows for proteinaceous material to remain within the meal and the extraction relies more on pressing and evaporation rather than high temperature cooking Suspended solids within waste waste from the clarification process is added back into the meal and the moisture is evaporated off rather than process this as a wastewater. Vehicle washdown waster will be undertaken within the raw materials receivals area and drain to a dedicated sump that directs Treated wastewater discharged to Water

Emission	Sources	Potential pathways	Proposed controls
			Corporation sewer
Contaminated Stormwater			Entire rendering process to occur within an enclosed building reducing potential for stormwater to become contaminated Harcourt areas external to the building are bunded to allow for containment of and spilt materials. Drains/sumps divert to the WWTP. Regular cleaning of hardcourt areas.

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**
Environmentally sensitive area	Lot 801, Lot 20 and Part of Lot 116 are covered by an Environmentally Sensitive Area buffer due to the presence of priority vegetation within proximity of the premises.
Bush forever site # 481	70m south east of premises and it contains threatened and priority flora and fauna
Aboriginal site of significance #S02148	The Helena River Site covers part of the premises
Geomorphic Wetlands, Swan Coastal Plain: • Hazelmere Lakes – Resource Enhancement wetlands • Helena River – conservation category The Hazelmere Lakes are resource enhancement wetlands and support remnant	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

native vegetation and are important to local wildlife. The Helena River has a conservation category classification. It supports diverse habitat and priority mammals have and also has high cultural and aesthetic value.	
Rights in Water and Irrigation Act 1914: • Perth Groundwater Area The superficial aquifer within the local area flows towards the Hazelmere Lakes. Contamination from the premises has been detected in monitoring bores off site. Groundwater within the area is used for the irrigation of public open spaces, industrial domestic purposes.	No current depth to groundwater data exists for the site however historical data indicates the upper extent of superficial aquifer 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 works approval 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.

Works approval W6490/2021/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence amendment is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

Table 3: Risk assessment of potential emissions and discharges from the premises during construction and operations

Risk events					**Risk rating [1]** **C = consequence** **L = likelihood**	**Applicant controls sufficient?**	**Conditions [2] of works approval**	**Justification regulatory controls**
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Civil engineering and construction works	Dust	Air / windborne pathway causing impacts to health and amenity	Residences 360m – 460m west of premises	Refer to Section 3.1 Table 1	C = Slight L = Rare **Low Risk**	*Y*	Condition 1,2,3	Standard construction and compliance conditions will apply
	Noise			Refer to Section 3.1 Table 1	C = Slight L = Rare **Low Risk**	*Y*	Condition 1,2,3	Standard construction and compliance conditions will apply
Operations including Time Limited Operations								
Increased operational footprint and throughput	Noise	Air / windborne pathway causing impacts to health and amenity	Residences 360m – 460m west of premises	Refer to Section 3.1 Table 1	C = Slight L = Rare **Low Risk**	Y	NA	Environmental Protection (Noise) Regulations 1997 will apply

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Increased operational footprint and throughput	Odour	Air / windborne pathway causing impacts to health and amenity	Residences 360m – 460m west of premises	Refer to Section 3.1 Table 1	C = Minor L = Unlikely **Medium Risk**	N	Commissioning Conditions 4, 5 Time Limited Operations Conditions 6, 7 Compliance reporting conditions 8, 9 and 10	The Applicant is required to demonstrate construction meets the required specifications prior to commence commissioning (Condition 4) The existing Biofilter Management Plan is required to be updated to include the new poultry shed and the new biofilter prior to commissioning of the plant (Condition 5). Following commissioning, Time Limited Operations are permitted for the new poultry plant until such a time as an amended Licence is granted (Condition 6). During operations monitoring is required to validate operational odour management (Condition 7) Condition 7 mirrors the regulatory controls applied to the existing poultry plant. In addition, general Licence conditions related to odour mitigation at the premises apply and these include1.2.2; 1.3.2, 2.3.1; 2.3.2; 2.3.3 Water treatment monitoring is not required as the effluent will processed through the existing WWTP which has sufficient capacity to treat the additional volumes of effluent (see Table 3.1).

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Air emissions (excluding odour)	Air / windborne pathway causing impacts to health and amenity	Residences 360m – 460m west of premises	Refer to Section 3.1 Table 1	C = Slight L = Rare **Low Risk**	Y	NA	There will be a decrease in overall combustion emissions from the premises as a result of these works. Particulate emissions from the meal grinding and milling area are extracted and processed through filtration units (and returned to final product) and the air directed to the biofilter for treatment.
Increased operational footprint and throughput	Wastewater spills	Failure of containment infrastructure resulting in leaks and spills. Seepage to ground and contamination of groundwater Contaminant overloading of WWTP causing overlfow	Hazelmere Lakes The superficial aquifer which is 6-30mbgl Downstream bore water users	Refer to Section 3.1	C = Slight L = Rare **Low Risk**	Y	NA	No changes are proposed to the existing Wastewater Treatment Plant under this Works Approval. The existing Wastewater Treatment Plant is over sized for the premises Existing wastewater monitoring system (SCADA) is used to monitor real time water quality such as dissolved oxygen, temperature, tank fill levels, values, pumps. Personnel also undertake daily inspections and spill management procedures are established for the site. Existing Licence containment conditions include 1.2.1; 1.2.2; 1.3.2; 1.3.3; 1.3.4 Existing Licence ambient groundwater monitoring conditions include 3.1.1; 3.1.2; 3.2.3; 3.1.4; 3.1.5 and 3.3.1.

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
	Contaminated stormwater	Overland flow discharge to groundwater	Hazelmere Lakes The superficial aquifer which is 6-30mbgl Downstream bore water users	Refer to Section 3.1	C = Slight L = Rare **Low Risk**	Y	NA	Existing Licence condition 1.2.2 requires the immediate recovery of spilt materials. Existing Licence condition 1.2.3 requires measures to prevent stormwater contamination.

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

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 15 January 2021 to the 5 June 2021 Application published in West Australian 18 January 2021	None received	N/A
Local Government Authority advised of proposal on 20 January 2021	The City of Swan replied on 3 February 2021 and advised that planning approval was required for the proposed changes to the site.	City of Swan granted planning approval on 17 November 2021. The Works Approval Holder must substantially commence works by 16 November 2023, otherwise the planning consent is considered lapsed.
Other Stakeholders advised of proposal on 20 January 2021 Hazelmere progress Association South Guildford Community Association Four local residential stakeholders	None received	N/A
Applicant was provided with draft instruments on 31/08/2021	Applicant provided details to address minor information deficiencies. Evidence of Planning Approval was sent to DWER on 8 June 2022	Comments provided have been incorporated.

5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted. Conditions commensurate with the determined controls and necessary for administration and reporting requirements are included within the Works Approval.