Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Proponent: Dardanup Butchering Company Nominees Pty Ltd

Licence: L5177/1989/13

Registered office:	100 Wimbridge Road PICTON WA 6229
ACN:	009 070 624
Premises address:	100 Wimbridge Road PICTON WA 6229 Being Lot 100 on Plan 61127 as depicted in Schedule 1
Issue date:	Thursday, 24 September 2015
Commencement date:	Thursday, 1 October 2015
Expiry date:	Wednesday, 30 September 2020

Decision

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

Decision Document prepared by:	Elizabeth Whisson Licensing Officer
Decision Document authorised by:	Jonathan Bailes Delegated Officer

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)**	**Assessed design capacity**
	15: Abattoir	30 000 tonnes per annual period (live weight)
	55: Livestock saleyard or holding pen	220 000 animals per annual period
Application verified Application fee paid	Date: 5/08/2015 Date: 14/08/2015	
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☐ The Premises is approximately 200 m east of a wetland subject to the provisions of the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992* (Swan Coastal Plain Lakes EPP).		
Is the Premises subject to any EPP requirements? Yes☐ No☒ The Swan Coastal Plain Lakes EPP prohibits the unauthorised mining, filling, draining or effluent discharge into these lakes.		

3 Executive summary of proposal and assessment

Dardanup Butchering Company Nominees Pty Ltd (DBC) operates the DBC Abattoir located approximately 6 km southeast of the Bunbury CBD and 160 km south of Perth. The abattoir was established in 1950 and is one of the largest multi-species meat processing facilities in Western Australia, with an average daily kill of 120 cattle, 540 sheep/lambs and 120 pigs.

Cattle hides and sheep/lamb skins are drum salted on site for short term preservation before being taken off site to Perth Hide and Skin Exports in Fremantle for further processing. Inedible material is taken offsite to Talloman in Hazelmere for rendering.

Process water, including water supply to livestock lairages is sourced from the Aqwest Bunbury water supply. Water for low quality purposes is sourced from an on-site bore.

Wastewater from processing activities is collected in a sump after physical treatment using a hasher-washer/trammel and various wire screens for solids removal to rendering. The wastewater then passes through a dissolved air floatation (DAF) system to a tank and pond treatment system which consists of a 4.5 ML EEI High-Rate Anaerobic Reactor Technology (HART) tank (anaerobic tank), one Advanced Nutrient Removal Unit Process pond (Pond 1) and one Phosphorus Removal and Holding pond (Pond 2). Some of the treated water is then disinfected and reused in the yard and for lairage washdown while the rest is used to seasonally irrigate grasses on the premises.

The premises is located on the Swan Coastal Plain in low relief that is poorly drained and subject to seasonal inundation (dampland). The soils at the site are sandy and clayey swamp flats with the chief soils being leached sands. Approximately 70% of the premises is classified as having a high to moderate risk of acid sulfate soils. Surrounding land uses include industry, natural bushland, and pasture; with the premises land being zoned as rural. The Ferguson River is located 1 km to the south and the Leschenault inlet is approximately 2.3 km to the north. The premises is also located approximately 200 m east of a wetland subject to the provisions of the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992*. The water table fluctuates seasonally by approximately 1 – 2 m and intersects the surface in many parts of the surrounding area in winter where surface expressions (such as sumplands/damplands) occur. The site is also classified as ‘possibly contaminated – investigation required’ in regards to the *Contaminated Sites Act 2003*.

The closest sensitive premises is residential housing located approximately 380 m northwest of the premises boundary and approximately 850 m north northwest of the abattoir buildings. The main emissions and discharges from the premises are emissions to land through irrigation.

4 Decision table

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

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
General conditions	L1.2.3	**Operation** Emission Description *Emission:* Stormwater contaminated with animal and process waste from the holding yards and abattoir and overtopping of the wastewater treatment system ponds. *Impact:* Contamination of surrounding land and surface water drainage systems. Potential impacts on ecology of surface water from the addition of nutrients. The Ferguson River is located 1 km south of the premises and a wetland subject to the provisions of the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992* is located 200 m west of the premises. *Controls:* All stormwater runoff from areas where there is potential for contamination, including the abattoir and livestock holding yards is directed into the wastewater treatment system via bunding, sumps and sloped hardstand areas. Abattoir operations are conducted within enclosed sheds. Uncontaminated stormwater is directed to leach drains. Wastewater treatment ponds are checked every second day. The ponds also have a high level alarm and are monitored via CCTV. Flows can be controlled remotely by an engineer located in Perth. A high level alarm is installed on wastewater collection sumps. Risk Assessment *Consequence*: Minor *Likelihood:* Unlikely *Risk Rating:* Moderate	Application supporting documentation

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Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Regulatory Controls Condition L1.2.3 has been included on the licence to ensure the Licensee continues to manage stormwater runoff appropriately. Condition L1.3.4 has been included on the licence to ensure the wastewater treatment ponds are managed appropriately to prevent overtopping. Residual Risk *Consequence*: Minor *Likelihood:* Unlikely *Risk Rating:* Moderate	
Premises operation	L1.3.1-1.3.2	**Operation** Emission Description *Emission:* Discharge of contaminated wastewater or partially treated wastewater from the abattoir, wastewater treatment system or livestock holding yards. *Impact:* Contamination of surrounding land and surface water systems due to high nutrient levels in wastewaters and organic wastes from the abattoir. High nutrient levels can result in eutrophication of surface water systems. The Ferguson River is located 1 km south of the premises and a wetland subject to the provisions of the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992* is located 200 m W of the premises. *Controls*: The wastewater treatment system area, abattoir and associated livestock holding yards are concrete lined, bunded and sloped to prevent runoff of contaminated water or discharge of animal waste to the environment. All wash down water and animal waste from the abattoir and livestock holding yards is directed via drainage, bunding and PVC/poly piping to either the screw extractor or rotary screen before being directed to the dissolved air floatation (DAF). Abattoir and screening wastes are collected in metal bins or a truck/trailer located on concrete hardstand areas before being removed for offsite disposal. Blood is separated from the wastewater stream as and directed to a bunded fibreglass tank located on a concrete hardstand area.	Application supporting documentation

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Risk Assessment *Consequence:* Moderate *Likelihood:* Unlikely *Risk Rating:* Moderate Regulatory Controls Condition L1.3.1 has been included to ensure that all process wastewater and contaminated or potentially contaminated waters are directed to the wastewater treatment system. Condition L1.3.2 has been included on the Licence to ensure that waste is stored appropriately within maintained infrastructure. Residual Risk *Consequence:* Minor *Likelihood:* Unlikely *Risk Rating:* Moderate	
Emissions general	L2.1.1	Descriptive limits will be set through condition 2.2.2 of the licence and therefore condition regarding recording and investigation of exceedances of limits has been included.	N/A
Emissions to land including monitoring	L2.2.2 L3.2.1	For DER's assessment of emissions to land including monitoring see Appendix A.	Application supporting documentation
Fugitive emissions	N/A	**Operation** Emission Description *Emission:* Potential dust emissions from the unloading of cattle and vehicle movements onsite. *Impact:* Potential nuisance for neighbours. The closest sensitive premises to the livestock holding yards is approximately 800 NW. The wind direction throughout the majority of the year in the morning is an easterly and is usually a westerly during the afternoon. The wind strength, on average, ranges from 12 to 23 km/hr throughout the year. No complaints relating to dust have been received by DER.	General provisions of the *Environmental Protection Act 1986*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Controls: The unloading and truck turn-a-round area is compacted limestone with the livestock holding yards concrete based. The truck unloading area is a concrete apron with a bitumen hardstand. Most other trafficable areas associated with the abattoir facilities are concrete based. Limestone areas are treated using a spray unit if required. Risk Assessment *Consequence*: Insignificant *Likelihood:* Possible *Risk Rating:* Low Regulatory Controls Given the low risk, no specified conditions relating to fugitive emissions have been included in the licence. The general provisions of the *Environmental Protection Act 1986* are considered sufficient to regulate the risk. Residual Risk *Consequence:* Insignificant *Likelihood:* Possible *Risk Rating:* Low	
Odour	N/A	**Operation** Emission Description *Emission:* Potential for odour from the abattoir, lairage yards, wastewater treatment system including sumps and irrigation area. *Impact:* Discharge of odour to the atmosphere outside the premises boundary causing amenity impacts in the nearby community. The nearest sensitive premises is approximately 850 m NW of the abattoir buildings. There have been no odour complaints received by DER in the last 3 years. *Controls:* The abattoir operations are conducted within enclosed buildings. The lairage yards and wastewater treatment areas are hosed down and sumps checked on a daily basis. The wastewater treatment system anaerobic tank and ponds are checked every	General Provisions of the *Environmental Protection Act 1986*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		second day. Solid wastes are taken offsite on a daily basis and rendering material is taken offsite twice daily. Blood is stored in a sealed fibreglass tank and emptied once a day. DBC also has an Environmental Management Plan that includes management of odour. Risk Assessment *Consequence:* Minor *Likelihood*: Unlikely *Risk Rating:* Moderate Regulatory Controls No controls have been included on the licence. The general provisions of the *Environmental Protection Act 1986* are considered sufficient to regulate the risk. Residual Risk *Consequence*: Minor *Likelihood:* Unlikely *Risk Rating:* Moderate	
Monitoring general	L3.1.1	Condition L3.1.1 is included to ensure sampling is undertaken in accordance with relevant standards and analysis is carried out by a NATA accredited laboratory. Condition L3.1.2 is included to ensure adequate time between sampling events.	N/A
Monitoring of inputs and outputs	L3.3.1	Inputs are required to be monitored at the site that includes the number of livestock received at the livestock holding yards. The live weight of animals to be slaughtered is estimated, based on the number and type of livestock received at the premises. This is to ensure that the approved premises production or design capacity of the premises is not exceeded.	Application supporting documentation
Ambient quality monitoring	L3.4.1	Ambient quality monitoring is discussed in Appendix A.	N/A

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Improvements	L4.1.1	An improvement condition for the Licensee to submit an updated NIMP has been included on the licence (refer to Appendix A).	N/A
Information	L5.2.2 L5.3.1	Condition 5.2.2 has been included on the licence to ensure that the Licensee provides data that may detect trends on whether the premises is having an impact on the surrounding environment. Condition 5.3.1 has been included on the licence to ensure that the CEO is notified of any limit exceedances.	
Licence Duration	N/A	The overall environmental risk of this premises is categorised as moderate. The License has been issued for a period of five years as this allows the Licensee time to update their Nutrient and Irrigation Management Plan and continue to monitor the impact of irrigation of treated wastewater on the surrounding environment.	N/A

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
24/08/2015	Application advertised in West Australian (or other relevant newspaper)	No comments received.	N/A
21/09/2015	Proponent sent a copy of draft instrument	Comments received included administrative amendments, livestock not weighed at the premises, correction to names for ponds and tank, and request to remove the improvement requirement to provide an updated NIMP.	Administrative amendments made to the licence, condition 3.3.1 and 5.2.1 updated to reflect estimated live weight of animals, updated names of tank and ponds. The improvement requirement remains as the risk posed by irrigation of treated water is moderate. The Licensee has a NIMP that was produced in 2007 that therefore requires updating to ensure it reflects current site activities and risks.

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

Operation

The main emission of concern from the DBC Abattoir is emissions to land via irrigation of treated wastewater. The premises has been reported under the requirements of the *Contaminated Sites Act 2003* as 'Possibly contaminated – investigation required' due to elevated nutrient levels detected in groundwater monitoring at the premises.

Emission Description

Emission: Wastewater seepage from the wastewater treatment ponds and direct discharge of wastewater through irrigation of 10.5 ha of paddocks.

Impact: Discharge of treated wastewater to surface water or groundwater. A wetland subject to the provisions of the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992* is located approximately 200 m W of the premises. The Ferguson River is located approximately 1 km S and the Leschenault inlet is located approximately 2.3 km N of the premises. The depth to groundwater at the premises ranges from 0 – 2 m.

Results from the quarterly ambient groundwater monitoring at the premises show potential elevated nutrient concentrations, particularly phosphorus and nitrogen, in all three bores located at the premises, which is likely attributed to historic contamination caused by seepage from the old pond system.

Controls: New treatment tanks and ponds were constructed in 2011 in response to an Environmental Protection Notice issued by the Department of Environment Regulation to replace the old pond system, which has since been removed. The treatment system comprises of an EEI High-Rate Anaerobic Reactor Technology (HART) tank, an Advanced Nutrient Removal Unit Process pond, and a Phosphorus Removal and Holding pond. The new ponds are HDPE lined with a leak detection system and high level alarms.

The total volume of treated wastewater irrigated to land is recorded and water quality is monitored quarterly. This allows nutrient loading rates to be calculated and compared against licence limits. Flow data has potentially not been accurately recorded due to old flow meters. New flow meters were installed in-line with the old meters in January and February 2015. The data from these recorded approximately 67% of the volume of the old meters. Therefore, loading rates of TP, TN and BOD to the irrigation area have potentially been overestimated in the past.

Wastewater application is controlled to avoid surface run-off and irrigation rotated across the available irrigation paddocks. The wastewater treatment system is monitored on CCTV and flow into the ponds from the anaerobic tank can be controlled remotely by an engineer. The irrigation system is fitted to a rain gauge that is calibrated to 2 mm at the main irrigation control station. If the 2 mm cup is filled with rainfall the irrigation will automatically stop and not restart until that 2 mm has evaporated; ensuring that no irrigation occurs if heavy rainfall is occurring or has occurred recently.

The new anaerobic tank and new wastewater treatment ponds installed during 2011 have continued to be optimised by DBC since installation to achieve lower levels of total nitrogen and total phosphorus in the treated wastewater irrigated to land. However, the most recent 2014 data showed that total phosphorus exceeded the current limits specified in the licence. The total phosphorous loading rate ranges from 25kg/ha/yr to 67kg/ha/yr (licence limit 20kg/ha/yr). The range and uncertainty in this value comes from the potential inaccuracy of the old flow meters and that the Licensee considered that the sampling result for March 2014 was an anomalous result at 28mg/l. The Licensee has previously provided a Nutrient and Irrigation Management Plan (NIMP), dated December 2007 to DER; however, the NIMP does not currently reflect practices that occur onsite

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

Regulatory Controls

Condition 1.3.2 imposes controls on the irrigation of treated wastewater to ensure that:

- wastewater is evenly distributed over the irrigation area;
- no soil erosion or ponding of wastewater occurs;
- there is no direct runoff, spray drift or discharge beyond the irrigation area;
- healthy vegetation cover is maintained over the irrigation area;
- irrigation shall not occur within fifty (50) metres of any defined watercourse or drain; and
- discharge does not occur during periods of rainfall or onto flooded area(s).

Condition 2.2.1 authorises the discharge of treated waste water to land. The current licence limits have been replicated in condition 2.2.2. The limits take into account the main soil type being leached sands and the fact that a wetland subject to the provisions of the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992* is located approximately 200 m W of the premises. The current NIMP produced in 2007 does not currently reflect practices that occur onsite. Given this and the data that shows the loading rate for total phosphorus in 2014 exceeded the limit specified in the licence, improvement requirement IR1 has been added to the licence through condition 4.1.1. This requires the Licencee to submit an updated NIMP to DER. The completion date for this requirement has been set at 31 March 2016 to allow the Licensee to collate the data from the 2015 reporting period and use it as part of the NIMP update.

Condition 3.2.1 has been included on the licence to ensure that the Licensee continues to monitor the quantity and quality of water irrigated to land on a quarterly basis.

Condition 3.4.1 has been included on the licence to continue to monitor ambient groundwater quality to detect whether the irrigation of treated wastewater to land is potentially impacting on the groundwater.

Residual Risk
Consequence: Moderate
Likelihood: Possible
Risk Rating: Moderate

References:
Water Quality Protection Note 33 Nutrient and Irrigation Management Plans, Department of Water (June 2010) – all sections.