Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application to replace expiring licence

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

Licence Number	L8036/1993/7
Applicant	Western Meat Processors Pty Ltd
ACN	114 166 666
File Number	DER2015/000356-1
Premises	Cowaramup Abattoir Saunders Road COWARAMUP WA 6284 Legal description Lot 1 and 2 on Diagram 76638
Date of Report	27 January 2021
Proposed Decision	Grant replacement licence

Fiona Roser
A/MANAGER, PROCESS INDUSTRIES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Fiona Roser
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1. Decision summary

The delegated officer has determined to grant licence L8036/1993/7, which includes a partial review of the licence as part of the replacement process, to ensure the risks to human health and the environment from the discharge of wastewater to land on the premises, as previously assessed by the department, have not materially changed.

Additionally, administrative amendments have been made which include an update to the current format and an extension of the expiry date of the licence. The delegated officer has also determined to make material changes to the previous licence in accordance with the *Guidance Statement: Risk Assessments* (DER 2017). These changes are explained in section 8 of this report.

This report documents changes made to the previous licence as part of the replacement process, pursuant to sections 62 and 62(A) of the *Environmental Protection Act 1986* (EP Act).

2. Purpose and scope of assessment

2.1 Application summary

On 24 June 2020, Western Meat Processors Pty Ltd (licence holder) submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act). This application is to replace licence L8036/1993/6, for the Cowaramup Abattoir (the premises), which is due to expire on 6 February 2021.

The premises relates to the category and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987*, which are defined in licence L8036/1993/7.

A review of the risks to human health and the environment from the discharge of wastewater to land on the premises is detailed in sections 6 and 7 of this report.

As part of the licence application, the licence holder requested an increase to the approved premises throughput for Category 55: livestock saleyard or holding pen. Changes regarding this category are explained in section 7 of this report.

In replacing the licence, the department has considered and given due regard to its regulatory framework and relevant policy documents which are available at www.dwer.wa.gov.au/regulatory-documents.

3. Overview of Premises

The licence holder operates a beef cattle abattoir near Cowaramup, approximately 15 km NE of Margaret River.

3.1 Abattoir processing operations

The abattoir operates one shift per day, currently processing approximately 300 beef per day. Regular hours of operation are from 6 am to 2 pm Monday to Friday with night load outs occurring Sunday to Thursday from 9 pm to 4 am.

Cattle are transported by truck to the property via Saunders Rd and held in the lairage yards pending slaughter the same day.

The abattoir buildings consist of a slaughter floor, chilling rooms, offal room, dry storage and chilled storage. Cattle are slaughtered, dressed, inspected, chilled and quartered in the abattoir buildings before being transported offsite to Perth. Offal is trimmed, inspected, chilled and packed before being transported to offsite for cold storage and freezing prior to

distribution to customers.

3.2 Wastes and by-products

Blood is collected in a concrete sump with a slotted metal screen (to capture any unintended solids) before being directed to a dedicated 10,000 L blood tank. Blood is taken offsite daily.

Wastes such as forequarters, hindquarters, hocks, udders, gullets, horns, offal, hearts, kidneys and skulls are placed into solid metal bins prior to being transported by a forklift and tipped into a truck trailer located in the truck trailer hardstand area. This hardstand area can accommodate two truck trailers and is sloped to direct any washdown water, spills and contaminated stormwater to a sump. The sump has a metal grate to collect any solids with wastewater being manually pumped to the manure sump.

Paunch is collected in a solid metal bin and then tipped into a hopper that directs the paunch through a screw press. The dewatered paunch is collected in another solid metal bin and then tipped into a truck trailer located on the concrete hardstand. The paunch is taken offsite approximately twice a week. Wastewater from the screw press is directed to the manure sump via a drain in a concrete hardstand near the screw press.

Hides are collected in a bin with a solid base and metal-mesh sides. When each bin is full, it is moved by a forklift and stored on the concrete abattoir hardstand area which is partially covered. The hides are collected daily and transported offsite to be drum salted. Any leachate from the hides when stored on the hardstand area flows down slope towards the drain to the manure sump near the screw press but is not directed by any bunding.

All the bins that collect waste from the abattoir are located undercover within the concrete abattoir hardstand area with several floor drains to direct washdown water and contaminated stormwater to the two concrete solids collection sumps.

The licence holder has indicated that trucks are washed once or twice a year within the abattoir hardstand area, with wastewater being directed to the manure sump.

The manure sump is approximately 14 m by 3 m by 0.5 m deep and has a capacity of 21,000 L. Solids in the manure sump are removed approximately every 3 to 4 weeks and added, with the paunch, to the screw press, removing any leachate and blending the manure solids with the paunch. Wastewater from the manure sump is directed to the anaerobic pond.

The two concrete solids collection sumps have a total capacity of approximately 7,150 L. Wastewater is directed to the anaerobic pond and solids are removed by a licensed contractor approximately every 3 months.

3.3 Lairage yards

The lairage yards are concrete based with some also covered. They are washed down daily with wastewater being directed either to a sump and then directed via gravity flow to the manure sump; or directly to the manure sump.

The delegated officer notes that there are additional outdoor holding yards for ad hoc holding of cattle that do not have an impermeable base or drainage to a sedimentation pond. These holding yards have not been approved or assessed under the previous licence or through this licence review.

The licence holder has indicated that cattle are at times held in these sand pens or grassed paddocks and even within the irrigation areas, for up to 24 hours prior to being slaughtered. It is unknown how often these outdoor holding areas are used. There is no drainage or cleaning of these additional lairage yards; therefore any manure, urine and leachate may either infiltrate to groundwater or cause surface runoff potentially contaminating soil, groundwater or nearby surface water.

Should the licence holder require authorisation for the use of these areas for the holding of cattle awaiting slaughter, then a licence amendment application needs to be submitted to have the yards assessed and added to the licence as an authorised emission point

3.4 Dead stock

Dead stock are removed from the lairage yards or trucks (if deceased upon arrival) and placed behind a two sided, open structure and covered with lime. Dead stock are then removed from site within 48 hours. The licence holder has stated that approximately 40 dead stock are removed from site each year.

3.5 Wastewater treatment system

Wastewater from abattoirs is characterised by high biochemical (or biological) oxygen demand (BOD), chemical oxygen demand (COD), total suspended solids (TSS), oil and grease, nitrogen (TN), phosphorus (TP), salt (typically NaCl), micro-organisms and chemicals (AMPC 2017).

The wastewater treatment system consists of 3 ponds connected in series: a 3,682 m^3 anaerobic pond, a 1,575 m^3 aerated pond, and a 450 m^3 sedimentation basin. Treated wastewater is then gravity fed via a 225 mm diameter pipe to two clay lined treated wastewater storage ponds of 2,400 m^3 and 575 m^3 in capacity.

Wastewater from the concrete solids collection sumps and manure sump is directed to the anaerobic pond via underground 225 mm poly-piping.

A crust is maintained on the surface of the anaerobic pond to minimise potential odour. The pond is aerated using a rotary screw compressor with air delivered through a fine bubble aeration system. Aerators are located approximately 1.5 to 1.75 m below the pond surface to minimise the disturbance of any sludge at the base of the pond. The sedimentation basin is a shallow pond that is desludged once the sludge occupies approximately half the depth of the pond. The basin has a small, deeper section to facilitate sludge collection.

Treated wastewater is currently irrigated from one of two clay lined treated wastewater storage ponds to four grassed paddocks on the premises. It is noted that the licence holder monitors the quality of wastewater in both of these ponds; however, the existing licence only requires the licence holder to monitor the quality of the wastewater at L1, the discharge point from the ponds to the irrigation areas.

The existing licence requires the licence holder to monitor the quantity (volumetric flow rate) and quality (pH, TN, TP, 5-day BOD, total dissolved solids (TDS) and TSS of treated wastewater on a quarterly basis.

The results from March 2017 to December 2019 quarterly sampling show pH and TP results being fairly consistent; however, 5-day BOD, TSS, TN and TDS show varied results. It appears that, generally, TN, TP and TDS are increasing in concentration within the treated wastewater over time; with other parameters decreasing or remaining generally the same.

Table 1: Quality of treated wastewater discharged to irrigation areas

Parameter	Units	March 2017 – December 2019 (taken from both pond 1 and pond 2 sampling results)		Common levels of concern[1]
		Range of treated wastewater quality	Average treated wastewater quality	
TN	mg/L	2.8 – 160	41.3	125
TP	mg/L	0.19 – 13	3.9	12

Parameter	Units	March 2017 – December 2019 (taken from both pond 1 and pond 2 sampling results)		Common levels of concern[1]
		Range of treated wastewater quality	Average treated wastewater quality	
pH	pH units	7.29 – 8.13	7.8	-
TDS	mg/L	238 - 700	429	-
TSS	mg/L	4 - 56	23	-
BOD	mg/L	2 - 51	20	-

Note 1: Maximum short term trigger value guideline for irrigation of water, taken from Table 4.2.11 from ANZECC & ARMCANZ.

4. Part V of the EP Act

4.1 Complaints and incidents history

There has been one incident reported to the department regarding the premises since the licence was last issued in January 2014. The incident (detailed in ICMS 46072) related to spadeable animal material being discharged to land (off the premises) and not transferred to a licensed facility as per existing licence conditions. Two penalties were imposed in June 2019 for contravening a licence condition, and discharging animal waste into the environment.

Inspections conducted in 2017 (detailed in ICMS 44001 and 44074) found that blood was being transported from the premises in an unlicensed tanker trailer. Blood is required to be transported by a controlled waste carrier under the *Environmental Protection (Controlled Waste) Regulations 2004* (CW Regs). The licence holder was advised of obligations under the CW Regs and the ICMS has since been closed.

There have been no complaints reported to the department in the last 5 years regarding operations on the premises.

5. Consultation

Table 2 provides a summary of the consultation undertaken by the department.

Table 2: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website (1/12/2020)	None received	N/A
Local Government Authority advised of proposal (30/11/2020)	Comments were received on 12 January 2021. The Shire of Augusta-Margaret River has advised that several planning approvals have been granted for the premises over the last 20 years; however, planning approval has not been granted for the existing wastewater treatment ponds, constructed between 2010 and 2012. The licence holder has provided a written commitment to the Shire to lodge a development application for the existing ponds. The Shire also advised that no objections, complaints or environmental health issues have been received in the last 10 years regarding this premises.	The department notes the Shire's comments.

Consultation method	Comments received	Department response
Nearby brewery (bar and restaurant) advised of proposal (1/12/2020)	No comments received.	N/A
Applicant was provided with draft documents on 24/12/2020	Comments were received on 18 January 2021. The licence holder submitted information that they were asked to confirm within the draft documents. This included information on solids collection within sumps and how wastewater is moved between sumps and ponds.	Relevant sections of the licence and this decision report have been updated accordingly.

6. 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 *Guidance Statement: Risk Assessments* (DER 2017).

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.

6.1 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), the delegated officer has excluded employees, visitors and contractors of the licence holder's from its assessment of the discharge of wastewater to land. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 3 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emissions and discharges from the prescribed premises (*Guidance Statement: Environmental Siting* (DER 2016)).

Table 3: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors (within 1.3 km of premises boundary)	Distance from activity / prescribed premises
Rural residential premises	130 m S of premises boundary, 180 m S of the irrigation area, and 440 m SE of abattoir buildings and lairage yards
Rural residential premises	190 m S of premises boundary, 220 m SSE of the irrigation area, and 510 m S of abattoir buildings and lairage yards
Rural residential premises	290 m SW of premises boundary, 550 m SW of wastewater treatment ponds and 630 m SW of abattoir buildings
Rural residential premises	300 m SE of premises boundary, 620 m SE of lairage yards and 720 m SE of abattoir buildings
Rural residential premises	360 m W of premises boundary, 825 m WNW of wastewater treatment ponds and 940 m WNW of abattoir buildings
Other rural residential premises	10 rural residential premises located between 690 m and 1.3 km (N to SW) of the premises boundary (980 m to 1.6 km (N to SW) of abattoir buildings, lairage yards or wastewater treatment ponds)
Industry – Brewery (bar and restaurant)	465 m SW of premises boundary, 740 m SW of wastewater treatment ponds and 810 m SW of abattoir buildings

Industry – Winery (cellar door)	1.1 km SW of premises boundary, 1.35 km SW of wastewater treatment ponds and 1.4 km SW of abattoir buildings
Environmental receptors	**Distance from prescribed activity**
Soils and topography	Soils in the SE two thirds of the premises are described as rises and low hills of the western Donnybrook sunkland which consists of sandy gravel, grey deep sandy duplex and loamy gravel. Soils in the NW one third of the premises are described as lateritic plateau in the Leeuwin Zone which consists of sandy gravel, loamy gravel and grey sandy duplex. The slope of the irrigation areas ranges from approximately 3% to 4.8%, with irrigation areas 1 and 4 sloping to the north (towards existing dams), and irrigation areas 2 and 3 sloping to the south (towards a minor river).
Surface water	The premises is located within the catchment of the Carbunup River that forms part of the Geographe Bay Rivers Surface Water area which is proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The Carbunup river is one of three waterways that are classified as protection waterways within the Vasse Wonnerup Wetlands and Geographe Bay – Water Quality Improvement Plan (Geographe WQIP). Protection waterways are classified as having winter median nutrient values below the Geographe WQIP trigger values; therefore, the department's objective for Carbunup River is to maintain or improve current water quality within the Carbunup River. There are two existing dams on the premises, located approximately 70 – 100 m downslope from irrigation areas 1 and 4. Tributaries of the Carbanup River flow to the north from these existing dams with the Carbanup River located approximately 1.7 km E of the premises boundary. A minor river, another tributary of the Carbunup River, is located 400 m S of the premises boundary, downslope of irrigation areas 2 and 3. There are 2 current licences to take surface water located within 1.3 km of the premises.
Groundwater	The premises is located within the Busselton Capel Groundwater Area proclaimed under the RIWI Act which includes the Cape to Cape North – combined Leeuwin surficial / fractured rock and aquifer, and the Cape to Cape North – Perth Leederville aquifer. Depth to maximum groundwater levels is unknown; however, based on topography and existing dams onsite, the depth to maximum groundwater level could potentially be less than 2 m to 10 m below ground level within the irrigation areas. The licence holder has an existing groundwater licence (GWL167371(2)) for taking water from the existing dam on the premises. There are 5 current licences to take groundwater located within 1 km of the premises.
Waterlogging risk	30-50% of NW section of irrigation areas has a very high waterlogging risk. 10-30% of majority of rest of the irrigation areas has a moderate to very high waterlogging risk.

6.2 Meteorology

6.2.1 Rainfall and temperature

Figure 1 shows the average monthly maximum temperature and the average monthly rainfall for Witchcliffe and is based on data from 1999 to 2020.

Average minimum temperatures range between 8.2˚C and 14.4˚C while the average maximum temperatures range between 16.4˚C and 27.2˚C. The total annual average rainfall is 951.7 mm.

Rainfall exceeds pan evaporation for 6 months of the year (April to September).

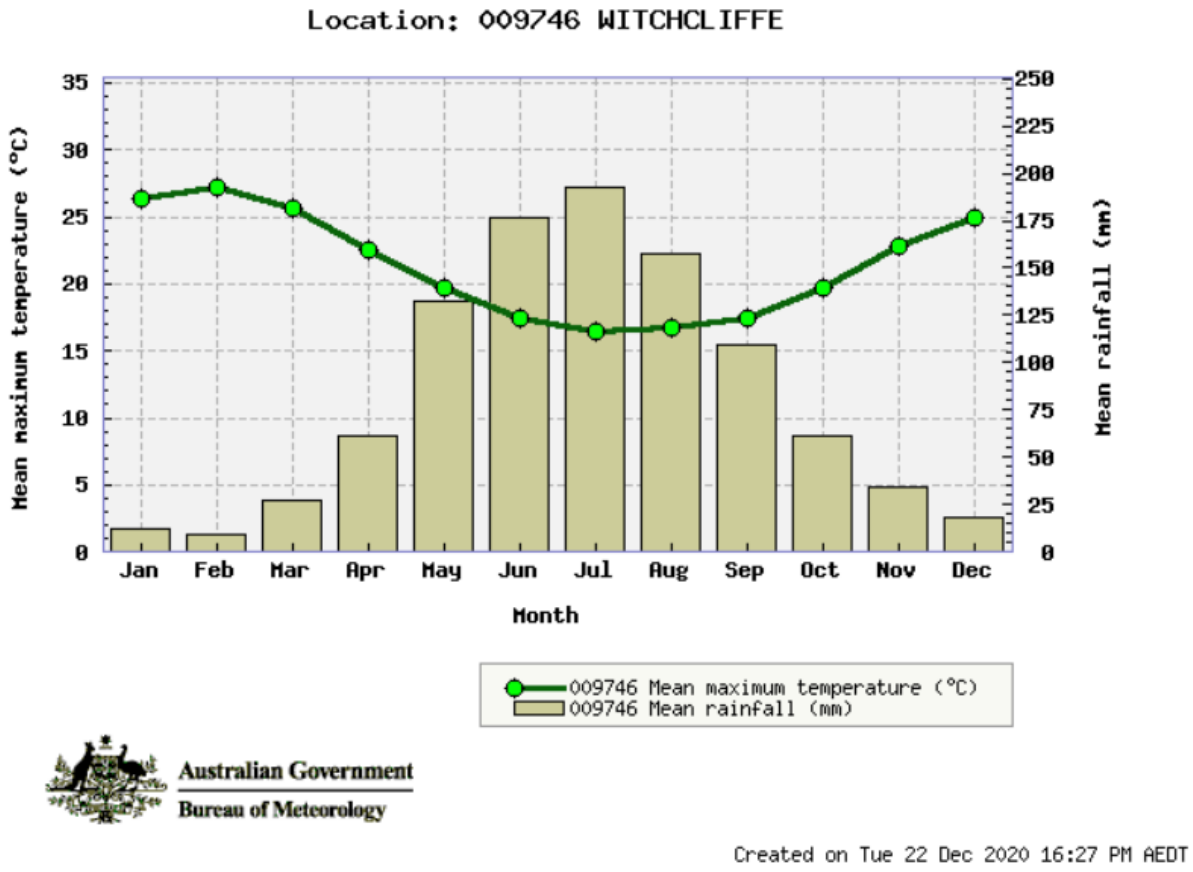

Figure 1: Average monthly maximum temperature and average monthly rainfall for Witchcliffe

6.3 Risk ratings

Table 4 describes the risk events associated with the irrigation of treated wastewater to land on the premises, consistent with the *Guidance Statement: Risk Assessments* (DER 2017).

Where the licence holder has proposed mitigation measures/controls, these have been considered when determining the final risk rating. Where the delegated officer considers the licence holder'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 licence holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

Licence L8036/1993/7 that accompanies this decision report authorises emissions associated with the irrigation of treated wastewater to land on the premises.

The conditions in the issued Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 4: Risk assessment of potential emissions and discharges from the Premises during operation

Risk Event				Risk rating[1] C = consequence L = likelihood	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source / Activities	**Potential emission**	**Potential receptors, pathways and impact**	**Licence holder controls**			
Onsite disposal of treated wastewater via irrigation to 15.5 ha of paddock	Nutrient rich wastewater to land	The discharge of wastewater (treated or untreated) to land through irrigation has the potential to contaminate surrounding land and adversely impact upon surface water, soil and groundwater. Two existing dams on the premises located 70 – 100 m N of irrigation areas. Minor river located 400 m S of premises boundary, which flows to the Carbanup River located approximately 1.7 km E of the premises boundary. Irrigation areas slope (see Table 3) towards the existing dams and minor river. Depth to groundwater is unknown; however, based on topography and existing dams onsite, the depth to maximum groundwater level could potentially be less than 2 m below ground level in some sections of the irrigation areas.	Irrigation areas are rotated, and wastewater is evenly distributed to prevent soil erosion or ponding of irrigated wastewater. Irrigation does not occur during periods of rainfall or onto areas of freestanding water. A healthy vegetation cover is maintained over irrigation areas. Irrigators and irrigation equipment are inspected daily as part of preventative maintenance activities. Irrigation areas are visually inspected daily to ensure no detrimental effects to environment have occurred. Monitoring is carried out as per the existing licence. Results from monitoring are analysed to ensure compliance with existing licence loading limits.	C = **Moderate**: mid level on-site impacts L = **Possible**: the risk event could occur at some time **Medium Risk**	• The preliminary assessment[2] of nutrient loading rates shows that the irrigation area (1, 2, 3 and 4) is large enough to manage the nutrient application rates for TN and TP at the current throughput, but not large enough at the maximum approved capacity of 36,400 tonnes per year. It should be noted that the calculation only provides an estimate and does not accurately represent what may occur onsite. It is also noted that while an area of 15.5 ha was used in the calculations, it is unknown whether this entire area is utilised for irrigation. [2] The calculation used for the preliminary assessment of nutrient loading rates can be found in the NSW EPA, 1988 document. For this assessment, the calculation has been based on: March 2017 to December 2020 average treated wastewater quality (Table 1); irrigation amount of 46,937 kL/year (based on 2019 data) and 76,585 kL/year (based on a ratio of kL/tonnes processed from 2019, and the existing approved premises production capacity of 36,400 tonnes); and critical loading rates of 36 and 4 mg/m^2/day for TN and TP respectively. The calculation showed that approximately 14.7 ha (for discharging 46,937 kL/yr) and 24 ha (for discharging 76,585 kL/year) was required to sustainably manage the nitrogen and phosphorus application rate. • The licence holder has not provided information on a nutrient balance (nitrogen and phosphorus) as part of their application, even though this was requested to be provided as part of the application. The one page "NIMP" document that was submitted was inadequate. • The type of crop(s) grown in the irrigation areas is unknown and it is unknown whether any crops are harvested. • It is unknown whether the entire irrigation area is irrigated. The existing licence shows 4 irrigation areas that total 20 ha. As part of the replacement process, the licence holder was asked to submit a map of the actual areas irrigated. The provided map shows a total area of approximately 15.5 ha, with the largest area (irrigation area 1) being approximately 5 ha. The licence holder has advised that each irrigation area has one mobile irrigator (has to be moved manually) that has a single 15 m arm with a sprinkler (approximate radius of 8.9 m) at each end. This is approximately an irrigation area of 0.05 ha for each mobile irrigator. Given that there is only one travelling irrigator per irrigation area, it is unknown how often each irrigator is moved to ensure that the wastewater is evenly distributed over the entire irrigation area. • While the licence holder has not reported an exceedance of any annual gross nutrient loading rate limits in the last 3 reporting periods, it is assumed that the loading rates were calculated using an irrigation area of 20 ha. However, as described above, there is potential that a significantly smaller area is being irrigated. Considering the volumes and quality of wastewater irrigated over the last 3 years, if the total area irrigated during the reporting period was less than 9 ha or 5 ha, then the loading rate limits would have potentially been exceeded for TN and TP respectively. • No soil investigations within the irrigation areas have been conducted by the licence holder. • No surface water, soil or groundwater quality monitoring is currently conducted by the licence holder; therefore, it is unknown whether the irrigation of wastewater on the premises may be impacting on the soils within the irrigation area, groundwater beneath the irrigation areas or nearby surface water (existing dams on the premises and tributaries of the Carbunup River). The delegated officer has considered the above, including applicant controls and distance to environmental receptors. The delegated officer considers the risk event to be tolerable and is subject to regulatory controls.	See section 7
	Wastewater to land with excessive hydraulic loading			C = **Moderate:** mid level on-site impacts and low level off-site impacts at a local scale L = **Possible**: the risk event could occur at some time **Medium Risk**	• The preliminary assessment[3] of the wastewater hydraulic loading at the premises shows that the irrigation areas (1, 2, 3 and 4) is sufficiently large enough to enable wastewater and its dissolved constituents to be taken up by vegetation or retained within the soil profile without excessive seepage into groundwater at the current throughput; but not large enough at the maximum approved capacity of 36,400 tonnes per year. [3] The calculation for the preliminary assessment of hydraulic loading at the premises can be found in US EPA, 2006 document. The calculation has been based on a water balance (calculated by the department as the licence holder has not provided a water balance) that includes: irrigation volume of 46,937 kL/year (based on 2019 data) and 76,585 kL/year (based on a ratio of kL/tonnes processed from 2019, and the existing approved premises production capacity of 36,400 tonnes); a total irrigation area of 15.5 ha; an assumed design percolation of 5 mm/week to remove salt in the root zone; precipitation data from the Bureau of Meteorology; evaporation data from the Department of Primary Industries and Regional Development; and a generic crop factor of 1.0 for pasture. • The department calculated water balance showed that inputs (precipitation and irrigation) exceed outputs (evapotranspiration and percolation to remove salt) for 6 months (April to September) of the year indicating that wastewater should be stored during this time and that irrigation should only occur during the remaining 6 months (26 weeks) of the year. It is noted that the licence holder currently irrigates for 12 months of the year and therefore, treated wastewater applied during April to September may infiltrate past the root zone into groundwater and/or cause waterlogging, or overland flow of treated wastewater into existing dams on the premises or nearby minor river causing surface water and groundwater contamination affecting ecosystem health. • The current storage ponds onsite (wastewater storage pond 1 and 2) only have the capacity for approximately 4 days storage (based on the pond being empty at the start and at the current input rate of 128 kL/day (based on 2019 data)). The delegated officer has considered the above, including the unknown depth to groundwater, potential for treated wastewater to be discharged to groundwater and/or nearby dams and minor river, distance to environmental receptors, compliance history, and irrigation area available. The delegated officer considers the risk to be tolerable and subject to	See section 7

Risk Event				Risk rating[1] C = consequence L = likelihood	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source / Activities	**Potential emission**	**Potential receptors, pathways and impact**	**Licence holder controls**			
					regulatory controls.	
	Odour from the irrigation of treated wastewater	Closest rural residential premises located approximately 180 m and 220 m S of the irrigation area. Approximately another 10 rural residential premises located within 1 km of the irrigation areas. Winery (bar and restaurant) located 400 m SW of irrigation areas. Over the year, winds tend mostly from the SE in the morning, and from NW, W, SW, S and SE in the afternoons; directing potential odour away from the closest residential receptors. Exposure to repeated odour events can create a nuisance effect, impacting the amenity of the area.	The licence holder has not proposed any controls in addition to existing licence conditions.	C = **Slight:** minimal impacts to amenity at a local scale L = **Unlikely**: the risk event will probably not occur in most circumstances **Low Risk**	The delegated officer has determined that the irrigation of treated wastewater at the premises results in a low risk of odour impacting on sensitive receptors. The delegated officer considers that the separation distance between the source and potential receptors is sufficient noting that fugitive odour from the irrigation of treated wastewater on the premises is expected to be insignificant compared to the treatment of wastewater in the onsite wastewater treatment system. There have been no complaints received by the department in relation to odour from the irrigation of treated wastewater in at least the last 3 years.	There are no existing conditions directly related to the control of odour from the irrigation of wastewater on the premises; however, existing licence conditions require the licence holder to ensure that wastewater is evenly distributed and that no ponding of wastewater occurs. No additional conditions have been added to the licence.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

7. Decision

1. Based on the above risk assessment, the delegated officer determined that the overall rating of the risk of treated wastewater irrigated to the irrigation area, impacting on environmental receptors in terms of nutrient and hydraulic loading, is medium and subject to regulatory controls as outlined in this decision report.

   Existing licence conditions, regarding the irrigation of treated wastewater, that have been transferred to the replacement licence require the licence holder to:

   - only discharge treated wastewater to the irrigation area. The irrigation area has been clarified to mean irrigation area 1, irrigation area 2, irrigation area 3 and irrigation area 4;
   - comply with existing nutrient loading rate limits. It should be noted that the appropriateness of these nutrient loading rates has not been reassessed at this time; and
   - ensure that irrigation of treated wastewater occurs such that the wastewater is evenly distributed, no soil erosion or ponding occurs, healthy vegetation cover is maintained and irrigation does not occur during period of rainfall.

   An additional regulatory control, to require the licence holder to submit a Nutrient and Irrigation Management Plan (NIMP) in accordance with Water Quality Protection Note 33 (WQPN 33) (DoW 2010) has been added to the replacement licence. The NIMP must include an assessment of the adequacy of the irrigation areas based on hydraulic loading rates, nutrient loading rates and biochemical oxygen demand loading rates; a monthly water balance including a contingency plan for water storage; a nutrient balance; an assessment of the nutrient application rates; identification of any improvements required and details of any proposed management measures. This site specific NIMP will allow the licence holder to manage the irrigation of wastewater onsite to minimise any potential environmental impacts.

   Following a review of the submitted NIMP, soil, surface water and groundwater quality monitoring may be required at the premises.

   The map of the irrigation areas has been updated to reflect the actual areas that are being currently irrigated, as provided by the licence holder.

2. The existing licence requires the licence holder to monitor the quality of treated wastewater on a quarterly basis. The frequency of monitoring has been increased to monthly to provide more accurate, and seasonal, wastewater quality data. Additionally, *E. coli* bacteria, metals, chlorine residuals and oil and grease have been added to the wastewater quality monitoring as these parameters are typically found in abattoir wastewater and should be included in annual licence fee applications.

3. The delegated officer has removed Category 55: *livestock saleyard or holding pen* from the premises classification on the licence as, in accordance with the *Industry Regulation fact sheet: Abattoir* (DWER 2018), emissions relating to the operation of lairage yards on the premises can be regulated under existing provisions of Category 15.

   With regard to this determination, the delegated officer makes it clear the removal of Category 55 does not provide any implied authorisation for the holding of animals outside of formal lairage yards on the premises. The delegated officer does not object, in theory, to the current practice of temporarily holding animals within irrigation areas, however, the licence holder must include the nutrients derived from cattle manure into the annual loading rate calculations. The licence holder should apply for a licence amendment to authorise the holding of animals outside of lairage yards defined in the licence. The application must be supported by an updated and current NIMP for the premises, which

clearly demonstrates that all nutrient imports and exports have been accounted for within the additional holding areas, irrespective of whether or not the licence holder considers this to be insignificant.

8. Transfer to new format licence and summary of amendments

Table 5: Licence amendments

Existing licence condition	Replacement licence condition	Description
Expiry date: 6 February 2017, amended to 6 February 2021 via Notice of Amendment issued on 29 April 2016.	6 February 2041	Extended in accordance with *Guidance Statement: Licence Duration* (August 2016)
Front page	Front page	Updated to current format. Clarified that Category 15 production capacity is live weight. Removed Category 55 from the prescribed premises category description.
1.1.1, 1.1.2	Definitions	Definitions have been updated to be relevant to replacement licence. Revised to current licensing format, with definitions now at the back of the licence.
1.1.3	-	Reference to Australian or other standards Condition removed with Australian standards specified within the monitoring conditions, defined within the definitions of the licence, and included within the interpretation section of the licence.
1.1.4	-	Reference to a guideline or code of practice Condition removed as no guides or codes of practice are referenced within the licence.
1.2.1	-	Authorised emissions Condition removed as it is considered redundant under current licensing framework. Emissions are authorised in conditions 3 and 4 of the replacement licence.
1.2.2	-	Pollution control and monitoring equipment Condition removed and embedded within condition 1.
1.2.3, 1.2.4	-	Storage and spills of environmentally hazardous materials Conditions removed as they are considered redundant under current licensing framework.
1.2.5	-	Stormwater Condition removed as it is considered redundant under current licensing framework. Potentially contaminated stormwater can be managed under the general provision of the EP Act and associated regulations.
1.3.1, 1.3.2	1, Table 1	Wastewater and wastewater treatment system management Existing conditions 1.3.1 and 1.3.2 have been included in replacement licence condition 1.

Existing licence condition	Replacement licence condition	Description
-	1, Table 1	An infrastructure table has been included in the replacement licence to clarify existing operational requirements of processing and waste storage equipment and infrastructure, including the wastewater treatment ponds, sumps, hardstand areas and irrigation infrastructure. Details of the existing site infrastructure and equipment, and associated operational requirements have been derived from the licence holder's application and discussions during a site visit in September 2020. The delegated officer notes that a 500 kVa backup diesel generator and associated 7,500 L diesel tank are located on the premises to provide power in the event of a power outage. Emissions from this infrastructure have not been assessed; and therefore, they have not been added to the infrastructure table in the licence. Additionally, emissions from the generator are not covered or authorised in the licence. The *Environmental Protection (Unauthorised Discharges) Regulations 2004* prohibit the discharge of certain materials, such as petrol, diesel or other hydrocarbon, into the environment. They also prohibit the generation of dark smoke.
1.3.3, 2.5.1	2, Table 2	Waste and by-product storage and disposal Existing conditions 1.3.3 and 2.5.1 have been included in replacement licence condition 2. The waste and by-product table has been included in the replacement licence to clarify existing storage, management and disposal requirements of waste and by-products, including dead animals, solid waste, paunch, hides, renderable material, treated wastewater and sludge. All waste and by-products are to be removed offsite, except for treated wastewater that is either evaporated or irrigated onsite. Requirements have been derived from existing licence conditions, the licence holder's application and discussions during a site visit in September 2020.
2.1.1	-	Investigation of exceedance of target or limit Condition removed as it is considered redundant under current licensing framework. Condition 15 requires the licence holder to report on the exceedance of limits within the licence.
2.5.2	3, Table 3	Emission limits to land Existing condition 2.5.2 has been transferred to replacement licence condition 3 and updated to current format. L1 has been clarified to mean irrigation areas 1, 2, 3 and 4.
2.5.3	-	Emission targets to land Condition removed as it is considered redundant under current licensing framework.
2.5.4	1, Table 1	Authorised discharge of treated wastewater via irrigation Existing condition 2.5.4 has been transferred to replacement licence condition 1 and updated to current format. L1 has been clarified to mean irrigation area 1, irrigation area 2, irrigation area 3 and irrigation area 4.
-	4, 5	Submission of a NIMP - see section 7.
2.6.1	-	Fugitive dust emissions Condition removed as it is considered redundant under current licensing framework. Substantive offences of the EP Act provide

Existing licence condition	Replacement licence condition	Description
		enforceable prohibitions for dust emissions that result in pollution or environmental harm.
3.1.1	6, Table 4 and 9	Australian Standards and NATA accreditation Existing condition 3.1.1 has been included in replacement licence conditions 6 and 9.
3.1.2	8	Monitoring frequency Existing condition 3.1.2 has been transferred to replacement licence condition 8. The condition has been updated for relevance to the replacement licence.
3.5.1	6	Emissions and discharge monitoring Existing condition 3.5.1 has been transferred to replacement licence condition 6. Condition has been amended – see section 7.
5.1.1	7, 10, 11	Records Existing condition 5.1.1 has been transferred to replacement licence conditions 7, 10 and 11 and updated to current licence format.
5.1.2	-	Awareness of conditions Condition removed as it is considered redundant under current licensing framework.
5.1.3	13	Annual Audit Compliance Report Existing condition 5.1.3 has been transferred to replacement licence condition 13 and updated to current licence format.
5.1.4	12	Complaints Existing condition 5.1.4 has been transferred to replacement licence condition 12 and updated to current licence format.
5.2.1, 5.2.2	14	Annual Environmental Report Existing conditions 5.2.1 and 5.2.2 has been transferred to replacement licence condition 14 and updated to current licence format.
Schedule 1: Maps	Schedule 1: Maps, Premises map, site layout map 1 and 2, irrigation areas	Maps have been updated to show irrigation areas, and layout of infrastructure
Schedule 2: Reporting and notifications forms: AACR form, LT1 form, ET1 form	-	These forms have been removed from the licence as it is considered redundant under current licensing framework.

9. Conclusion

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

References

1. Bureau of Meteorology, *Climate data online*, accessed at www.bom.gov.au.
2. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
3. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
4. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
5. DER 2016, *Guidance Statement: Licence duration,* Perth, Western Australia.
6. Department of Water (DoW) 2010, Water Quality Protection Note 33: Nutrient and Irrigation Management Plans (WQPN 33).
7. DWER, 2018, *Industry Regulation factsheet: Abattoir*
8. DWER, 2019, *Guideline: Decision making,* Perth, Western Australia.
9. NSW EPA Technical guidelines, 1998, *Environment and Health Protection Guidelines: On-site sewage management for single households*.
10. US EPA, 2006, *Process Design Manual: Land Treatment of Municipal Wastewater Effluents,* Technical guidance document.