



Amendment Report

Application for Licence Amendment

Division 3, Part V *Environmental Protection Act 1986*

Licence Number	L6010/1989/13
Licence Holder	Prime Meat Processors Pty Ltd
ACN	618 734 875
File Number	DER2018/000285
Premises	Avon Valley Abattoir 503 Northam-Pithara Road, IRISHTOWN WA 6401 Lot 1343 on Plan 246966 (as depicted in Schedule 1 of the licence)
Date of Report	14 July 2020
Status of Report	Final

Table of Contents

1.	Definitions of terms and acronyms	1
2.	Amendment Description	2
3.	Purpose and scope of assessment	2
	3.1 Application details	2
4.	Background	2
5.	Overview of Premises	3
	5.1 Abattoir operational aspects	3
	5.1.1 Fellmongering	5
	5.2 Fellmongering infrastructure and equipment.....	6
6.	Legislative context.....	9
	6.1 Planning approvals.....	9
	6.2 Part V of the EP Act	9
	6.2.1 Applicable regulations, standards and guidelines	9
	6.2.2 Works approval and licence history	9
	6.2.3 Compliance inspections and compliance history	10
7.	Consultation	11
8.	Location and siting	11
	8.1 Siting context.....	11
	8.2 Residential and sensitive receptors	11
	8.3 Specified ecosystems.....	11
	8.4 Surface water and groundwater.....	12
	8.5 Topography and soil type	12
	8.6 Meteorology	12
9.	Risk assessment.....	14
	9.1 Determination of emission, pathway and receptor	14
	9.2 Consequence and likelihood of risk events.....	18
	9.3 Acceptability and treatment of Risk Event.....	19
	9.4 Risk Assessment – Containment failure resulting in discharge of fellmongering wastewater to land	19
	9.4.1 Description of risk event	19
	9.4.2 Identification and general characterisation of emission.....	19
	9.4.3 Description of potential adverse impact from the emission	19
	9.4.4 Proposed applicant controls	20
	9.4.5 Consequence	20
	9.4.6 Likelihood of risk event.....	20
	9.4.7 Overall rating.....	20

10. Regulatory controls	20
10.1 Licence controls for fellmongering operations	20
10.2 Rendering operations.....	21
10.3 Livestock holding yard	21
11. Determination of Licence conditions	21
12. Licence Holder’s comments	22
13. Conclusion	22
Appendix 1: Key documents	24
Appendix 2: Summary of applicant’s comments on risk assessment and draft conditions	26
Appendix 3: Amended Licence L6010/1989/13	28

Table 1: Definitions	1
Table 2: Documents and information submitted during the assessment period	2
Table 3: Proposed changes to prescribed premises categories	3
Table 4: Fellmongering infrastructure.....	8
Table 5: Works approval and licence history	10
Table 6: Receptors within 1 km of premises boundary	11
Table 7: Environmental values	12
Table 8 Identification of emissions, pathway and receptors during operation	14
Table 9: Risk rating matrix	18
Table 10: Risk criteria table.....	18
Table 11: Risk treatment table	19
Table 12: Summary of conditions to be applied or amended.....	22

1. Definitions of terms and acronyms

In this Decision Report, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
Amendment Report	refers to this document.
Category/ Categories	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
Delegated Officer	an officer under section 20 of the EP Act.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of, and during this amendment
Licence Holder	Prime Meat Processors Pty Ltd
Paunch	Undigested food in the stomach of deceased animals
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report
Amended Licence	the amended Licence issued under Part V, Division 3 of the EP Act following the finalisation of this assessment.
Risk Event	As described in <i>Guidance Statement: Risk Assessment</i>

2. Amendment Description

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend Existing Licence L6010/2018/13 granted to Prime Meat Processors Pty Ltd (the Licence Holder) for its Avon Valley Abattoir (the Premises), located at 503 Northam-Pithara Road, Irishtown, in the Shire of Northam.

3. Purpose and scope of assessment

An application was received from the Licence Holder on 8 January 2020 seeking to construct a new fellmongering wastewater evaporation pond and refurbish existing wastewater containment infrastructure at the premises. In addition, the Licence Holder has requested prescribed premises *Category 83: Fellmongering* to be added to the licence at a production capacity of up to 100,000 skins or hides per year.

The assessment of this application has been undertaken in accordance with the Department of Water and Environmental Regulation (DWER) *Guideline: Decision Making* (DWER, 2019) and other published guidance documentation as listed in Appendix 1. The scope of the assessment includes a risk-based assessment of the emissions and discharges associated with fellmongering operations under an amended licence to include prescribed premises *Category 83: Fellmongering*.

3.1 Application details

The Licence Holder submitted an application for a works approval. However, the Delegated Officer determined that given the proposed works are relatively minor in scope, potential change to the risk profile of the premises can be adequately assessed and managed through a licence amendment.

Table 2 lists the documents submitted during the assessment period.

Table 2: Documents and information submitted during the assessment period

Document/information description	Date received
Prime Meat Processors Pty Ltd Works Approval Application Form (DWERDT242352)	8 January 2020
Email correspondence: Responses to request for further information on the fellmongering works approval (DWERDT262121)	10 January 2020

4. Background

Operation of the premises commenced in 1989 with the grant of the first licence. The abattoir is currently operated under Existing Licence L6010/1989/13. Operations at the abattoir initially comprised the slaughtering and processing of cattle, with sheep introduced for slaughter in September 2014. The Licence Holder acquired both the licence, and the property on which the licenced premises is situated, in 2017 from P.R. Hepple and Sons Pty Ltd, under the trading name Avon Valley Beef.

The abattoir was not operational at the time of acquisition but was still licenced to operate under Part V of the EP Act under licence L6010/1989/12. The abattoir was recommissioned on 25 September 2017, with production volume progressively increasing to 780 tonne/month by March 2019.

The licence currently permits the slaughter of cattle and sheep, rendering operations and livestock holding pens (see Table 3). Fellmongering has occurred historically at the site but was not included as a category on the licence. Given the Licence Holder is planning to upgrade

fellmongering infrastructure and increase production, they are seeking to have *Category 83: Fellmongering* included on the licence.

An Environmental Prevention Notice (EPN) (DWER, 2019) under Section 73A of the EP Act was issued on 21 May 2019 which required the immediate cessation of rendering activities at the premise. Consequently, the Delegated Officer has determined that *Category 16: Rendering operations* is to be removed from the licence as this activity is no longer authorised to occur (refer to section 6.2.3 for further details regarding the EPN).

Table 3 below outlines the proposed changes to the Existing Licence.

Table 3: Proposed changes to prescribed premises categories

Category	Approved premises production capacity	Proposed premises production capacity	Description of proposed amendment
Category 15 Abattoir: premises on which animals are slaughtered	16,500 tonnes of livestock per year	16,500 tonnes of livestock per year	No change
Category 16 Rendering operations: premises on which substances from animal material are processed or extracted	3,744 tonnes per year	-	Remove category from licence in line with EPN.
Category 55 Livestock saleyard or holding pen: premises on which live animals are held pending their sale, shipment or slaughter.	144,000 animals per year	144,000 animals per year held in the designated lairage holding yards	No change other than removing the Category 55 from the licence. This Category is not required to be on the licence as temporarily keeping livestock in the designated abattoir lairage/holding yards is covered under Category 15 given it directly relates to abattoir operations.
Category 83 Fellmongering: premises on which animal skins or hides are dried, cured or stored	-	80,000 skins or hides per year (based on Licence Holder estimate of maximum 1,500 skins per week)	Add new Category to licence

5. Overview of Premises

5.1 Abattoir operational aspects

The abattoir processes cattle and sheep transported from nearby farms. There are no groundwater abstraction bores on the premises and scheme water is the only source of water used for all operations on-site. The premises occupies a total area of 110 acres of rural land on Lot 1343, Northam-Pithara Road, Irishtown that has been divided into operational areas including the lairage, abattoir, hardstand, wastewater treatment ponds and associated infrastructure (Figure 1). There is a designated treated wastewater irrigation area of 10.7 hectares to the north of the main abattoir facility and an area for solid waste disposal (primarily paunch and manure) to the south of the facility within the premises boundary.

Cattle and sheep are typically delivered to the premises from Sunday to Friday between 9am and 5pm. Deliveries occur on an average of five days per week for 52 weeks per year with 350 animals (approximately 100 cattle and 250 sheep) delivered to the premises per day.

Approximately 70 animals (>0.5%) arrive dead each year which are immediately removed from the vehicle, skinned and disposed off-site to a rendering facility within 24 hours.

Animals are typically kept in the stock holding pens for 12 to 18 hours prior to slaughter and are generally not fed during this period. Animals are then directed from the concrete delivery race into a covered concrete lairage that is divided in two sections; the western half for cattle and the eastern half for sheep. Unsealed external stockyards are used infrequently to hold an overflow of animals.

Approximately 100 head of cattle and 250 sheep are slaughtered per operating day on the premises. Once slaughtered, processing of the carcasses produces waste by-products including fat, offal, bone and blood. These products are directed to tubs and tanks in a basement located directly below the abattoir floor. Wastewater is also generated from the slaughtering process and directed to drains in the basement.

Blood, fat, offal and bone by-products have previously been disposed either on the premises in the rendering plant or off-site by a third party. However, the rendering plant has not been operational since 23 May 2019 as a result of the conditions of the EPN (refer to section 6.2.3), therefore these waste by-products are now only disposed off-site.

Paunch material and animal skins are additional by-products of the slaughtering process. Paunch material is placed in a tub, with the stomach itself placed in the raw material bin located in the pit area of the abattoir. When the paunch tub is full, it is transferred to a small box trailer within a bunded hardstand area and allowed to dry. Sheep skins are treated in the fellmongering shed (fellmongering is described in detail in section 5.5.1) and cattle hides are packed untreated into steel crates and leave the premises within three hours of removal.

Scheme water is used for all wash down and cleaning activities of the holding yards and abattoir buildings which is the source of most wastewater produced on-site. Currently, all wash down water and contaminated stormwater captured across hardstand areas is directed to the wastewater treatment system which comprises five ponds with a total capacity of 9,121 m³ (Figure 1). Treated wastewater in the final pond is discharged to the wastewater irrigation area, which was expanded from 10.7 ha to 23 ha in an EPN amendment issued on 19 July 2019.



Figure 1 Premises site layout

5.1.1 Fellmongering

Fellmongering operations were relocated in 2019 from the “Storage Shed” to the “Proposed Fellmongering Shed” (herein referred to as the skin storage shed and fellmongering shed, respectively) displayed on Figure 1. Sheep skins are taken straight to the fellmongering shed in tubs once removed from the carcass. Approximately 1,250 to 1,500 sheep skins per week are salted on-site using a sheep skinning salt containing sodium fluoride. All processing (salting and curing) occurs on concrete hardstand in the fellmongering shed. The sheep skins are mixed with salt in the agitator and then folded and stored on a pallet for 48 hours to cure. They are then sorted into wooden grading boxes and placed on pallets that are moved to the storage area in the skin storage shed (Figure 1), which is an existing annex to the fellmongering shed.

Prior to the EPN, the skins were transferred to trucks and removed from site for sale once 22 pallets of skins had accumulated in the storage area (a full truck load).

Salt is the only chemical used in the skin curing process. The salt used (standard skin curing salt) is in a solid state (i.e. no brine is used) and is comprised 98% sodium chloride, 1% boric acid and 1% sodium fluoride. The salt is stored in 25 kg bags on two pallets in the fellmongering shed.

Waste produced from skin processing includes solid salt, brine and skin leakage (Figure 2). Approximately five percent of salt (127 kg/week) is spilt in the process which is swept up and disposed of in the general waste bin. Brine is the liquid by-product of the curing process which is washed down and directed from the floor of the fellmongering and skin storage sheds to the drain along the northern and western perimeter of the sheds. Historically, wastewater was directed to the anaerobic ponds of the wastewater treatment system; however in accordance with the EPN, fellmongering wastewater is no longer permitted to be directed into the wastewater treatment ponds. Instead, fellmongering wastewater is now directed via perimeter drains to an aboveground concrete sump. Approximately 20-30L of brine is anticipated to be generated per week, with approximately 200L of additional wastewater produced from weekly wash down of the shed floors using a Kerrick Rhino hot water pressure sprayer.

In accordance with conditions set out in the EPN, all skins are currently refrigerated or treated with salt within eight hours of slaughter, are stored on a covered hardstand area and leave the premises weekly.

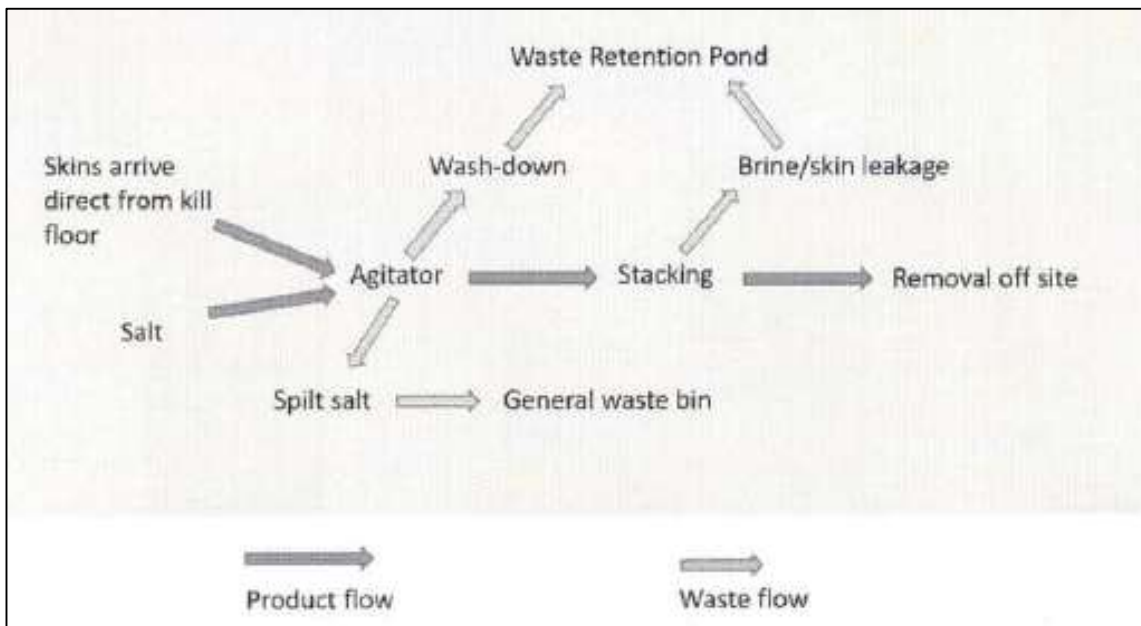


Figure 2 Sheep skin processing and waste streams

5.2 Fellmongering infrastructure and equipment

Existing infrastructure used for fellmongering includes a fellmongering shed where skins will be mixed with salt in an agitator and cured, an adjacent skin storage shed where cured skins are to be stored on pallets and uncovered, concrete drains along the northern and western perimeters of the sheds that receives wash down water (Figure 3). The drains direct wastewater to an aboveground concrete sump which has a capacity of 0.24 m³. The drain has several cracks that require repair. Further detail on existing infrastructure is provided in Table 4.

The skin salting agitator (Tylden Hide Master, 11kW motor) is currently in use and is located towards the back north-western corner of the fellmongering shed. With a full load (150 skins)

the agitator runs for one hour and can process up to five batches per day.

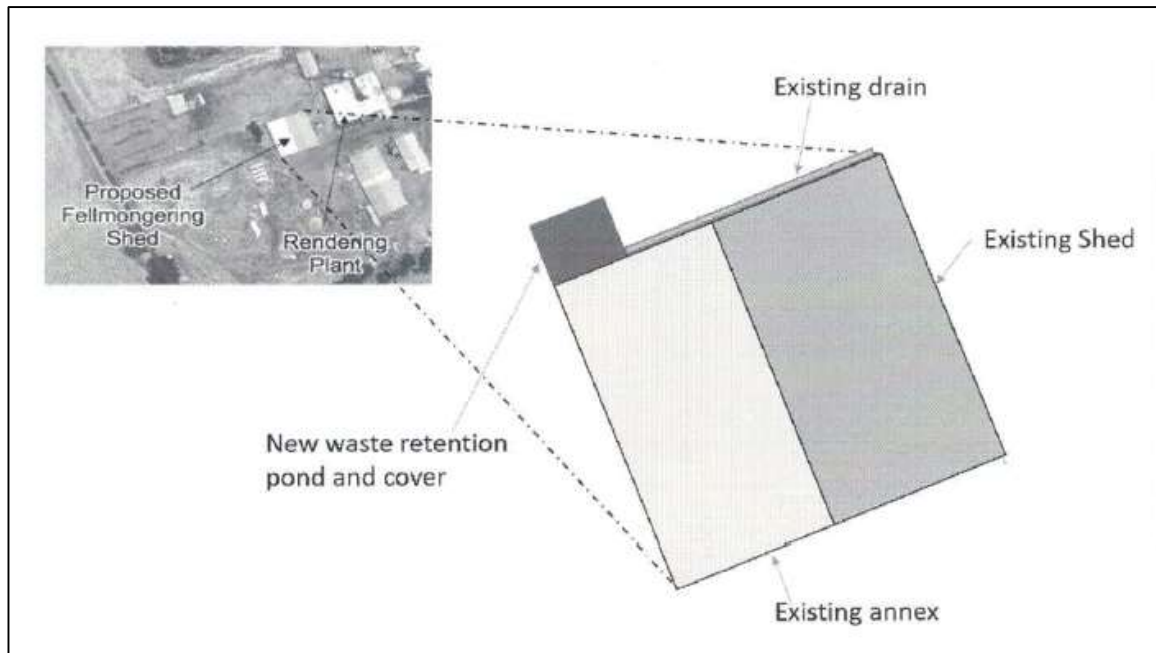


Figure 3 Layout of existing fellmongering infrastructure

The proposed works comprise refurbishment of wastewater containment infrastructure and construction of a new evaporation pond to capture wash-down wastewater from the fellmongering and skin storage sheds. The proposed works are anticipated to take approximately three weeks to complete.

Refurbishment works include the repair and resealing of cracks in the existing drains that run along the northern and western perimeter of the fellmongering and skin storage sheds to ensure integrity of the drain. In addition, a corrugated iron cover will be installed on the drains and the concrete sump to which it discharges to ensure neither receive in-situ rainfall or stormwater.

Existing concrete pipework connected to the concrete sump will be upgraded with PVC pipe to enable wastewater to be gravity fed into the new evaporation pond, which will be constructed to receive wastewater discharged from the sheds via the drains and sump (Figure 4). The holding capacity of the proposed pond is 4 m³ and it will be covered by an extension of the existing corrugated iron roof of the skin storage shed which is 3 m above the water height. Further detail on the proposed work is provided in Table 4.

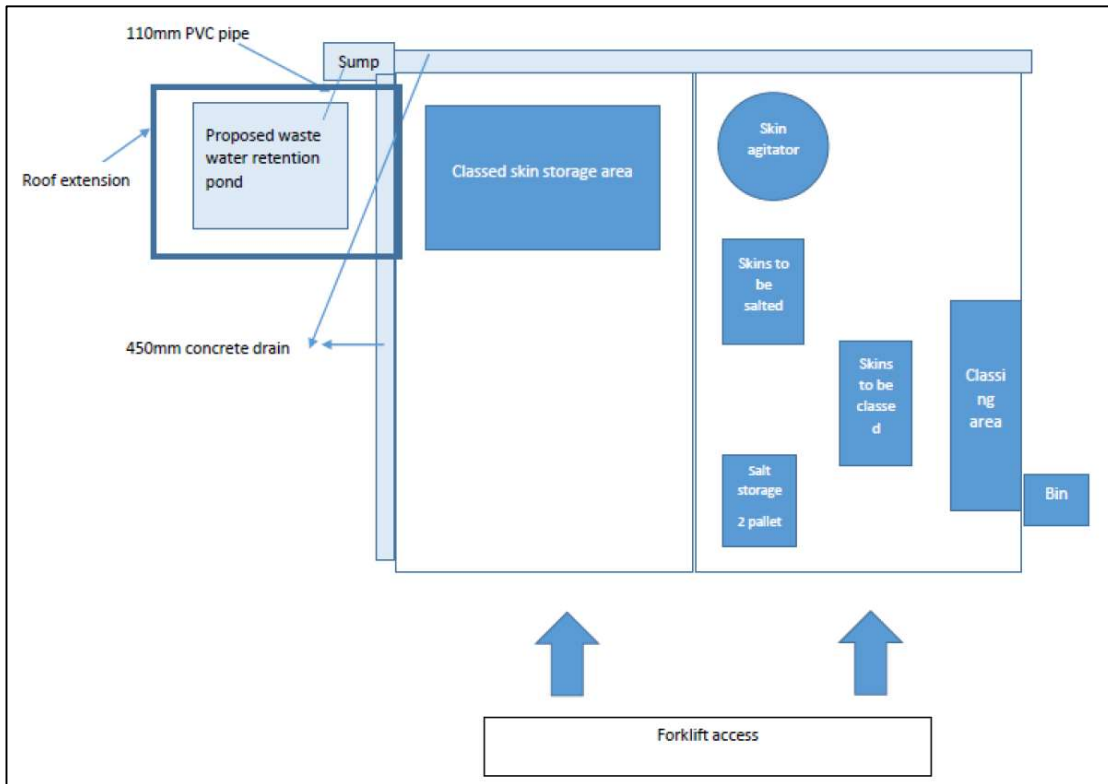


Figure 4 Layout of proposed infrastructure

The existing and proposed abattoir facility infrastructure, as it relates to this licence amendment, is summarised in Table 4 with reference to Figure 1 and Figure 4 .

Table 4: Fellmongering infrastructure

	Prescribed Activity Category 83	Reference
Existing Infrastructure		
1	<p>Fellmongering shed with the following specifications:</p> <ul style="list-style-type: none"> • Dimensions of 18 x 9 m • Steel and corrugated iron walls (there is no wall between this shed and the adjacent skin storage shed) and gable roof • 200 mm thick concrete floor with a 1°-2° slope draining toward the northern perimeter and existing drain <p>The fellmongering shed contains:</p> <ul style="list-style-type: none"> • Curing pallets • Dry salt storage pallets • Skin salting agitator with the following specifications: <ul style="list-style-type: none"> ○ automatic cut off that shuts off the machine at the end of every 1 hour cycle ○ noise emissions of 80 dB at 1 m • Skin grading area. 	Figure 1
2	<p>Skin storage shed with the following specifications:</p>	Figure 1

	Prescribed Activity Category 83	Reference
	<ul style="list-style-type: none"> • Dimensions of 18 x 9 m • 200 mm thick reinforced concrete floor with a 1°-2° slope draining toward the northern perimeter and existing • Open air design (no walls) • 3m high, flat corrugated iron roof 	
3	Wastewater containment system, including: <ul style="list-style-type: none"> • 450 mm wide concrete drain along the northern and western perimeter • Aboveground, concrete sump with dimensions of 1.2 x 0.05 x 0.4 m (length, width, depth) 	Figure 4
Proposed Infrastructure/Works		
1	Refurbishment of shed drainage system (drains and sump), including: <ul style="list-style-type: none"> • Repair and resealing of cracks • Installation of corrugated iron cover 	Figure 4
2	Construction of a wastewater retention (evaporation) pond with the following specifications: <ul style="list-style-type: none"> • 6 m² surface area • 660 mm depth • 4 m³ volume capacity • Lined with 0.75 mm thick HDPE • Covered by a 3 m high flat corrugated iron roof (an extension of the existing annex roof) 	Figure 4
3	Replacement of existing concrete pipework used to discharge wastewater from the existing sump with two metres of 110 mm PVC pipe installed at an angle between 10 and 20 degrees.	Figure 4

6. Legislative context

6.1 Planning approvals

The premises is located within the Shire of Northam and has Planning Approval as an Offensive Trade business that was renewed in 2019. The Shire of Northam granted development approval to conduct fellmongering at the premises on 9 June 2020.

6.2 Part V of the EP Act

6.2.1 Applicable regulations, standards and guidelines

The overarching legislative framework of this assessment is the EP Act and EP Regulations. The guidance statements developed by the Department which inform this assessment under Part V of the EP Act are listed in Appendix 1. Additional legislation administered by the Department that is relevant to this assessment includes the *Environmental Protection (Abattoirs) Regulations 2001* and *Environmental Protection (Unauthorised Discharges) Regulations 2004*.

6.2.2 Works approval and licence history

Table 5 summarises the works approval and licence history for the premises.

Table 5: Works approval and licence history

Instrument	Issued	Nature and extent of works approval, licence or amendment
L6010/1989/4 to L6010/1989/13	26/04/2000 to 21/04/2016	Successive licences for P. R. Hepple and Sons Pty Ltd. Activities included operation of the abattoir (Category 15), rendering (Category 16) and livestock saleyard (Category 55).
L6010/1989/13	2809/2019	<p>Licence transferred to Prime Meat Processors Pty Ltd on 28 August 2017, incorporating minor administrative changes with the transfer, including:</p> <ul style="list-style-type: none"> • corrections to typographical errors; • the removal of Schedule 2 – the Annual Audit Compliance Report (AACR) template; and • amendments to conditions which were consequential to the licence being transferred (removing references to the previous Licence Holder and replacing them with a generic term or Prime Meat Processors). <p>There were no changes to the conditions of the licence relating to controlling emissions and discharges from the premises and as such, re-assessment of the licence did not occur at the time the licence was transferred.</p> <p>The abattoir recommenced operations on 17 September 2017.</p>
L6010/1989/13	15/07/2020	Licence holder initiated amendment to include fellmongering (Category 83) and CEO initiated amendments to remove rendering (Category 16), livestock saleyard (Category 55) and other administrative type updates.

6.2.3 Compliance inspections and compliance history

Due to an increase in odour complaints, the department conducted a site inspection on 12 February 2019 and identified several non-compliances. In response, the department issued an EPN on 21 May 2019 which required the Licence Holder to comply with several conditions to manage and abate odour emissions at the premises. These actions included the immediate shutdown of the rendering plant and the submission of a Waste Discharge Management Plan. The EPN was subsequently amended on 19 July 2019 to allow the Licence Holder to irrigate wastewater on the premises to a designated area, subject to compliance with management and monitoring conditions.

The following conditions set out in the EPN relate to the management of odour emissions from animal skins:

- EPN Condition 1(d): All animal skins shall be refrigerated or treated with salt within 8 hours of slaughter and stored on a covered hardstand area;
- EPN Condition 1(e): Cured and stored hides will be routinely dispatched off-site weekly;
- EPN Condition 3: Submission of a Waste Discharge Management Plan to the CEO (which requires the inclusion of a complaints system, investigation process and corrective action to manage odour at the premise); and
- EPN Condition 8: Prime Meat Processors Pty Ltd is to take all necessary steps to prevent unreasonable odour emission outside the premises boundary.

Key Findings:

The Delegated Officer notes that EPN Condition 1(d) and Condition 1(e) are directly relevant to the management of odour emissions from animal skins and will be conditioned through this Licence Amendment process. Additional EPN conditions relevant to the management of emissions and discharges at the premises are to be conditioned in the licence, if deemed necessary, through a licence review being undertaken concurrently by DWER. The licence review, including the transition of relevant EPN conditions to the licence, will allow for the removal of the EPN.

7. Consultation

The application was referred to the Shire of Northam on 25 February 2020 inviting submission. A response was received on 26 March 2020 that advised development approval through the Shire had not been granted for the proposed works. The Shire requested that DWER place the application for a licence amendment on hold until such time the Licence Holder applies for and obtains development approval for the activity.

8. Location and siting

8.1 Siting context

The premises is located approximately 4.5 km north of Northam in a rural land use setting. Sensitive receptors include four dwellings located within 1 km from the premises boundary, the closest of which is approximately 240 m northeast. An ephemeral creek also runs east to west across the northern portion of the premises before draining into the Mortlock River North approximately 1.5 km downstream from the site. The Mortlock River North is a tributary of the Avon River.

8.2 Residential and sensitive receptors

The distances to residential and sensitive receptors within 1 km of the fellmongering and skin storage sheds are detailed in Table 6. The nearest residential dwelling is approximately 590 m to the east.

Table 6: Receptors within 1 km of premises boundary

Sensitive Land Uses	Distance from Prescribed Activity (fellmongering shed)
Lot 2044 – residential dwelling	~590 m east
Lot 16 – residential dwelling	~960 m north

8.3 Specified ecosystems

Specified ecosystems are areas of high conservation value and special significance that may be impacted as a result of activities at or Emissions and Discharges from the premises. The distances to specified ecosystems and to other relevant ecosystem values which do not fit the definition of a specified ecosystem are shown in Table 7

The table has also been modified to align with the *Guidance Statement: Environmental Siting* (DER, 2016a).

Table 7: Environmental values

Specified ecosystems	Distance from the Premises
Avon River Catchment, fed by the Avon River which eventually drains into the Swan-Canning Estuary	The premises is located within the Avon River Catchment area
Mortlock River North and a tributary of the Avon River	585 m west of the premises boundary. An ephemeral creek runs east to west across the northern portion of the premises before draining into the Mortlock River North approximately 1.5 km downstream from the site.
Biological component	Distance from the Premises
The premises lies within the Subregion AVW02 (Katanning) located within the Avon Wheatbelt biogeographical region	Surrounding the premises
Threatened Ecological Communities (buffers) - Eucalypt Woodlands of the WA Wheatbelt – Priority 3 (critically endangered)	Within and near the ephemeral creek line in the north west portion of the premises and in the surrounding environment, in particular along the Mortlock River North which is 575 m to the west of the premises boundary at its closest point.
Threatened fauna - <i>Idiosoma nigrum</i> (shield-backed trapdoor spider)	1.4 km east of the premises boundary

8.4 Surface water and groundwater

The premises is located in the proclaimed Avon River Catchment area. An ephemeral creek runs east to west across the northern section of the premises that discharges into the Mortlock River North off-site.

The premises is located on weathered and fractured rock aquifers of the Yilgarn Craton within the Karri Groundwater Area. Local aquifers in this area tend to have mostly weathered fractures, are likely to be thin, follow low points in the topography and the water quality will be brackish to saline. There are no groundwater bores on the premises but there are three monitoring sites located within 2.5 km of the premises. In March 2012, during desludging of one of the anaerobic ponds, no groundwater was encountered to a depth of 6 mbgl.

8.5 Topography and soil type

The premises has a centrally located hill upon which the abattoir is located at an elevation of 189 m Australian Height Datum (AHD). Elevation decreases toward the north and south of the premises, with the creek line at the northern end approximate 170 m AHD and the southern boundary approximately 165 m AHD.

The premises are within the Jelcobine Soil Landscape System and within the Jelcobine York Soil Landscape Subsystem. This subsystem describes the soils as derived from freshly exposed rock. This unit is typified by the red soils of the Avon Valley but also includes areas of similar, but often greyer and lighter textured soils to the east of the valley (Sawkins, 2010). There is no evidence of acid sulfate soils in the immediate vicinity of the premises.

8.6 Meteorology

The Northam area is described as a semi-arid (dry) warm Mediterranean climate with hot, dry summers and mild, wet winters. Rainfall in the Northam area is seasonal and is generally confined to the winter months (June to August). Mean monthly rainfall is highest in July at 82.4 mm, with an average of 9.3 rain days. The lowest mean monthly rainfall is 9.3 mm in December,

with an average of 1.3 rain days. The average annual rainfall is 428 mm, with an average of 51.8 rain days per year (BOM, 2019).

The mean annual maximum and minimum temperatures for the Northam Weather Station are 25.4°C and 10.9°C, respectively. The highest temperatures are usually experienced in January, when the mean monthly maximum temperature is 34.2°C and the mean monthly minimum temperature is 17.2°C. Minimum temperatures occur in July, when the mean monthly maximum and minimum temperatures are 16.9°C and 5.4°C, respectively.

Winds in the Northam area during the warmer months are typically characterised by offshore (easterly) breezes during the daytime followed by corresponding onshore breezes (from the southwest) as the land cools during the evening.

9. Risk assessment

9.1 Determination of emission, pathway and receptor

In undertaking its risk assessment, the department will identify all potential emissions pathways and potential receptors to establish whether there is a Risk Event that requires detailed risk assessment.

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. Where there is no actual or likely pathway and/or no receptor, the emission will be screened out and will not be considered as a Risk Event.

Table 8 below describes the risk events associated with the operation of fellmongering infrastructure, consistent with the *Guidance Statement: Risk Assessments* (DER, 2016b).

Table 8 Identification of emissions, pathway and receptors during operation

Risk Events			Applicant Controls	Consequence rating	Likelihood rating	Risk	Reasoning	Regulatory controls
Sources/Activities	Potential emissions, receptors and pathway	Potential adverse impacts						
Category 83: Fellmongering – Operation of the agitator and forklifts to transfer skins	Noise emissions extending to human receptors approximately 590 m east and 960 m north of the fellmongering shed, via air/wind dispersion	Adverse impact on amenity and wellbeing of nearby residents	<ul style="list-style-type: none"> Restrict fellmongering operating hours to daylight hours (8am to 3pm) Agitator to have a maximum noise level of 80 dB at 1 m 	Minor	Unlikely	Medium	The Delegated Officer considers that given the distance to receptors, the applicant's proposed noise mitigation controls (design and operational) will be adequate for mitigating the risk of noise emissions.	<p>Provisions set out under the <i>Environmental Protection (Noise) Regulations 1997</i> apply.</p> <p>The applicant control to select a tumbler with a maximum noise level of 80 dB will be specified in the licence.</p> <p>No additional regulatory controls for noise emissions are required.</p>

Risk Events			Applicant Controls	Consequence rating	Likelihood rating	Risk	Reasoning	Regulatory controls
Sources/Activities	Potential emissions, receptors and pathway	Potential adverse impacts						
Category 83: Fellmongering – Storage of skins prior to curing and use of skin curing agents	Odour emissions extending to human receptors approximately 590 m east and 960 m north of the fellmongering shed via air/wind dispersion	Amenity impacts to human receptors	<ul style="list-style-type: none"> • Use of odourless or low odour curing agents (salts) • Curing agent is to be stored on pallets in the fellmongering shed • Salting and curing to only occur in the fellmongering shed • Cured skins to only be stored in the skin storage shed 	Slight	Unlikely	Low	<p>The Delegated Officer considers that the proposed agents for use in hide curing, the applicant's operational controls and existing EPN conditions 1(d) and 1(e) are adequate to mitigate the risk of odour emissions associated with fellmongering impacting the amenity of nearby receptors.</p>	<p>The following applicant controls are to be specified in the licence:</p> <ul style="list-style-type: none"> • Operational requirement to use low odour to odourless salts as a curing agent • Restrictions on treatment activity and skin storage locations • EPN conditions 1(d) and 1(e) <p>No additional regulatory controls for odour emissions are required.</p>

Category 83: Fellmongering – Cleaning (high pressure hose down) of fellmongering and skin storage shed floors	Wastewater potentially contaminated with liquid curing agent / leachate from hides directly discharged to land via spills or leaks	Soil contamination Groundwater contamination	<ul style="list-style-type: none"> • Shed floor is impermeable and slope is designed to direct wastewater into drains and sump • Construction of a 66 cm deep evaporation pond with a 4 m³ capacity to hold sump wastewater overflow • The evaporation pond will be lined with a 0.75 mm HPDE liner • Installation of a corrugated iron cover on the drains and sump to prevent inflow of stormwater into the pond • Extension of skin storage shed roof to cover evaporation pond to minimize rainfall into the pond • Maintain 20 cm freeboard in the worse-case monthly evaporation scenario (June) • Spilled curing agent is to be swept and collected prior to wash down • Weekly monitoring of the pond level • Contingency controls to empty evaporation pond by a controlled waste contractor if the water level is too high. 	Possible	Minor	Medium	See section 9.4 of this decision report for detailed risk assessment.	<p>Provisions set out under the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> apply which cover the discharge of certain materials including any discharge that may contain animal oil, fat or grease.</p> <p>The following applicant controls are to be conditioned in the licence:</p> <ul style="list-style-type: none"> • Spilled curing agent is to be swept and collected prior to wash down • Drainage system infrastructure refurbishment/repairs • Evaporation pond construction specifications and operational / maintenance requirements • Restrictions on treatment activity locations <p>Additional regulatory controls to be conditioned in the licence to further reduce the risk, as specified by the Delegated Officer, are set out in Section 10.1.</p>
	Spilled or leaked wastewater runoff into the ephemeral creek approximately	Contaminated surface water / adverse impacts to freshwater	N/A	N/A	N/A	The Delegated Officer therefore considers that no risk event is established given the expected volume	N/A	

Risk Events			Applicant Controls	Consequence rating	Likelihood rating	Risk	Reasoning	Regulatory controls
Sources/Activities	Potential emissions, receptors and pathway	Potential adverse impacts						
	450 m north and downgradient of fellmongering shed	species					of wastewater and distance to the nearest surface water feature.	

9.2 Consequence and likelihood of risk events

A risk rating will be determined for risk events in accordance with the risk rating matrix set out in Table 9 below.

Table 9: Risk rating matrix

Likelihood	Consequence				
	Slight	Minor	Moderate	Major	Severe
Almost certain	Medium	High	High	Extreme	Extreme
Likely	Medium	Medium	High	High	Extreme
Possible	Low	Medium	Medium	High	Extreme
Unlikely	Low	Medium	Medium	Medium	High
Rare	Low	Low	Medium	Medium	High

DWER will undertake an assessment of the consequence and likelihood of the Risk Event in accordance with Table 10 below.

Table 10: Risk criteria table

Likelihood		Consequence		
The following criteria has been used to determine the likelihood of the Risk Event occurring.		The following criteria has been used to determine the consequences of a Risk Event occurring:		
			Environment	Public health* and amenity (such as air and water quality, noise, and odour)
Almost Certain	The risk event is expected to occur in most circumstances	Severe	<ul style="list-style-type: none"> onsite impacts: catastrophic offsite impacts local scale: high level or above offsite impacts wider scale: mid-level or above Mid to long-term or permanent impact to an area of high conservation value or special significance[^] Specific Consequence Criteria (for environment) are significantly exceeded 	<ul style="list-style-type: none"> Loss of life Adverse health effects: high level or ongoing medical treatment Specific Consequence Criteria (for public health) are significantly exceeded Local scale impacts: permanent loss of amenity
Likely	The risk event will probably occur in most circumstances	Major	<ul style="list-style-type: none"> onsite impacts: high level offsite impacts local scale: mid-level offsite impacts wider scale: low level Short-term impact to an area of high conservation value or special significance[^] Specific Consequence Criteria (for environment) are exceeded 	<ul style="list-style-type: none"> Adverse health effects: mid-level or frequent medical treatment Specific Consequence Criteria (for public health) are exceeded Local scale impacts: high level impact to amenity
Possible	The risk event could occur at some time	Moderate	<ul style="list-style-type: none"> onsite impacts: mid-level offsite impacts local scale: low level offsite impacts wider scale: minimal Specific Consequence Criteria (for environment) are at risk of not being met 	<ul style="list-style-type: none"> Adverse health effects: low level or occasional medical treatment Specific Consequence Criteria (for public health) are at risk of not being met Local scale impacts: mid-level impact to amenity
Unlikely	The risk event will probably not occur in most circumstances	Minor	<ul style="list-style-type: none"> onsite impacts: low level offsite impacts local scale: minimal offsite impacts wider scale: not detectable Specific Consequence Criteria (for environment) likely to be met 	<ul style="list-style-type: none"> Specific Consequence Criteria (for public health) are likely to be met Local scale impacts: low level impact to amenity
Rare	The risk event may only occur in exceptional circumstances	Slight	<ul style="list-style-type: none"> onsite impact: minimal Specific Consequence Criteria (for environment) met 	<ul style="list-style-type: none"> Local scale: minimal to amenity Specific Consequence Criteria (for public health) met

[^] Determination of areas of high conservation value or special significance should be informed by the *Guidance Statement: Environmental Siting*.

* In applying public health criteria, DWER may have regard to the Department of Health's *Health Risk Assessment (Scoping) Guidelines*.

"onsite" means within the Prescribed Premises boundary.

9.3 Acceptability and treatment of Risk Event

DWER will determine the acceptability and treatment of Risk Events in accordance with the risk treatment presented in Table 11.

Table 11: Risk treatment table

Rating of Risk Event	Acceptability	Treatment
Extreme	Unacceptable.	Risk Event will not be tolerated. DWER may refuse application.
High	May be acceptable. Subject to multiple regulatory controls.	Risk Event may be tolerated and may be subject to multiple regulatory controls. This may include both outcome-based and management conditions.
Medium	Acceptable, generally subject to regulatory controls.	Risk Event is tolerable and is likely to be subject to some regulatory controls. A preference for outcome-based conditions where practical and appropriate will be applied.
Low	Acceptable, generally not controlled.	Risk Event is acceptable and will generally not be subject to regulatory controls.

9.4 Risk Assessment – Containment failure resulting in discharge of fellmongering wastewater to land

9.4.1 Description of risk event

The reasonable worst case scenario considers the accidental discharge of fellmongering wastewater to land from spills, leaks and pond overflow events. The wastewater may have high levels of brine (salts) and organic leachate content from skins, therefore discharge to land has the potential to cause soil and groundwater contamination.

9.4.2 Identification and general characterisation of emission

Wastewater is generated from the wash down of the fellmongering and skin storage sheds and may contain spilled curing salt (primarily sodium chloride) forming brine, leaked curing liquid from the agitator or curing liquid / organic leachate leaked to ground from skins when they are stacked on pallets during the curing process and when in storage.

Approximately 20 to 30 L of brine is anticipated to be generated per week, with an additional 150 to 200 L of wastewater produced from a weekly wash down of the shed floors using a high pressure hose. The weekly wash down will be carried out after the excess salt has been swept up and disposed of in the landfill waste bin, minimising the salt content of the wash down wastewater.

The purpose of the wash down is to ensure any excess of purge from the skins does not build up on the shed floors over time. Although there is no perimeter bunding installed around the sheds, the concrete floor of both sheds drains on a slope of 1°-2° toward the drain on the northern side. Wastewater will be directed to the drain before being discharged to the new evaporation pond via the sump. Therefore, all wastewater will be captured and stored in the new pond rather than being sent to the existing wastewater treatment system and discharged to land via irrigation.

9.4.3 Description of potential adverse impact from the emission

The accidental discharge of wastewater to land through spills or leaks has the potential to contaminate the soil, particularly from the application of excess salt. There is also potential for

contaminants to infiltrate to groundwater, despite the underlying water table being indicatively greater than 6 m bgl, given soils beneath the site are sandy and may allow high levels of infiltration.

Potential impacts to vegetation and surface water are not considered in the risk assessment since the area surrounding the proposed fellmongering location is highly disturbed and the nearest surface water body is over 400 m distant.

9.4.4 Proposed applicant controls

This assessment has reviewed the proposed applicant controls set out in Table 8, which include infrastructure design and operational controls.

9.4.5 Consequence

Based on the wastewater quality and volume to be generated, proposed applicant controls, soil type and depth to groundwater the Delegated Officer has determined that there is potential for low-level on-site impacts and minimal off-site impacts at a local scale. Therefore, the Delegated Officer considers the consequence to be **minor**.

9.4.6 Likelihood of risk event

Based on the proposed holding capacity of the evaporation pond, proposed applicant controls and applicant compliance history, the Delegated Officer has determined that low-level on-site and minimal off-site impacts could occur at some time if wastewater containment infrastructure is not managed appropriately. Therefore, the Delegated Officer considers the likelihood to be **possible**.

9.4.7 Overall rating

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix (Table 9) and determined that the overall rating for the risk of discharge of fellmongering wastewater to land impacting on receptors is **Medium** and subject to additional regulatory controls as detailed in Section 10.1.

10. Regulatory controls

10.1 Licence controls for fellmongering operations

Proposed applicant controls for fellmongering operations that are to be conditioned in the amended licence are detailed in Table 8. Additional regulatory controls to be conditioned in the Amended Licence, as specified by the Delegated Officer, are listed below:

- Construction specification to ensure overland stormwater is diverted around the evaporation pond;
- Construction specification to ensure the pond base is lined with a minimum 1.5 mm thick HDPE liner that has a coefficient of permeability of at least 1×10^{-9} m/s;
- Compliance reporting to ensure the evaporation pond is constructed as per the infrastructure design specifications (both Licence Holder and Delegated Officer specifications);
- Operational requirement to maintain sufficient freeboard (minimum 500 mm) in the evaporation pond;
- Monitoring requirement to track the number of skins treated per month; and
- Existing EPN conditions specifying that all animal skins shall be refrigerated or treated with salt within 8 hours of slaughter and cured and stored hides will be routinely

dispatched off-site weekly.

Grounds: The Licence Holder has proposed to build a new wastewater evaporation pond. Therefore, a construction and installation specification condition and compliance reporting condition are required to ensure that infrastructure is constructed as per the specifications designed to mitigate potential wastewater discharge to the land. In addition to Licence Holder proposed controls, the Delegated Officer has specified that the pond liner must be a minimum of 1.5 mm thick with a coefficient of permeability of at least 1×10^{-9} m/s as recommended in the *Water Quality Protection Note (WQPN) 26 - Liners for containing pollutants using synthetic membranes* (DoW, 2009) to minimise the risk of wastewater leakage or seepage.

The Licence Holder has proposed the installation of covers on the sump and drains to prevent stormwater and rainfall inflow. However, the evaporation pond is only to be covered by a 3 m high corrugated iron roof which will not prevent windswept rainfall or overland stormwater from entering the pond. Therefore, the Delegated Officer has specified that stormwater is to be diverted around the pond to minimise the risk of stormwater inflow causing exceedance of freeboard or overtopping events.

The Licence Holder also proposed maintaining a freeboard of 200 mm. However, the Delegated Officer has specified that a minimum 500 mm freeboard must be maintained in line with recommendations in the *Water Quality Protection Note (WQPN) 26 - Liners for containing pollutants using synthetic membranes* (DoW, 2009) to prevent overflow events. The pond must be therefore be designed and constructed with a capacity to allow for the maintenance of the specified freeboard.

The number of skins treated on-site through the fellmongering process will also be monitored and reported in the Annual Environmental Report to ensure that approved throughput capacities are not exceeded. EPN conditions considered by the Delegated Officer to be directly relevant to the management of odour emissions from animal skins have also been conditioned in the Amended Licence.

10.2 Rendering operations

Category 16: Rendering Operations and associated conditions have removed from the licence as the conditions of the EPN prevent the activity from occurring.

10.3 Livestock holding yard

Category 55: Livestock sale yard or holding pen was removed from the Amended Licence given this category is not required for the purposes of operating an abattoir. Temporarily holding livestock in the designated yards and pens prior to slaughter can be undertaken without Category 55 as it is covered under *Category 15: Abattoir* and directly relates to abattoir operations.

11. Determination of Licence conditions

The conditions in the issued Amended Licence in Appendix 3 have been determined in accordance with the *Guidance Statement: Setting Conditions* (DER, 2015).

The Amended Licence has been issued with the current licence format cover page. The introduction and conditions not impacted by this assessment have been retained, however conditions have been re-numbered in applying the Licence Holder's requested amendments and department initiated amendments. Table 12 provides a summary of the licence conditions to be applied or amended.

Table 12: Summary of conditions to be applied or amended

Existing licence condition	Amended licence condition	Description
1.2.1	N/A	Removed condition on rendering operations.
1.2.2	N/A	Removed condition on rendering operations.
1.2.3	N/A	Removed condition on rendering operations.
1.2.4	N/A	Removed condition on rendering operations.
N/A	1.2.1	Fellmongering equipment, drainage system and evaporation pond construction and installation requirements
N/A	1.2.2	Audit and compliance reporting requirements for construction and installation works
N/A	1.2.3	Compliance report content requirements
1.2.5	1.2.4	Restriction on fellmongering wastewater storage location
1.2.6	1.2.5	New infrastructure operational requirements table incorporating wastewater treatment pond operational requirements in previous condition 1.2.6.
N/A	1.2.6	Inclusion of EPN conditions relevant to the direct management of odour emissions from animal skins
1.2.7	1.2.7	No change to condition
1.2.8	1.2.8	Removed reference to rendering operations Included reference to emission points
1.2.9	1.2.9	Removed reference to rendering operations Removed option to dispose of solid waste from the grates on save-all sumps to the composting area, given there is no composting area at the premises
2.2.1	2.2.1	Restricted type of solid waste applied to land to manure and paunch material
2.2.2	2.2.2	The nutrient loading limits for total nitrogen and total phosphorus were corrected to reflect the limits set out in the Water Quality Protection Note 22: <i>Irrigation with nutrient –rich wastewater</i> (DoW 2008). The Delegated Officer considered this to be an urgent change to ensure that correct limits are cited in documents currently under development and in all documents going forward.
3.3.1	3.3.1	Added requirement to monitor number of treated skins
4.3.1	N/A	Removed condition on rendering operations
Schedule 1	Schedule 1	Added new key infrastructure map

The department notes that it may review the appropriateness and adequacy of controls at any time and that, following a review, the department may initiate amendments to the licence under the EP Act.

12. Licence Holder's comments

The Licence Holder was provided with the draft Decision Report and draft Amended Licence on 19 June 2020. Written comments on the draft Amended Licence were received on 9 July 2020 and considered by the Delegated Officer as shown in Appendix 2.

13. Conclusion

This assessment of the risks of activities on the premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this Decision Report (summarised in Appendix 1).

Based on this assessment, it has been determined that the Amended Licence will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Caron Goodbourn
Manager, Process Industries
Regulatory Services

Delegated Officer
under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key documents

	Document title	In text ref	Availability
1.	Prime Meat Processors Pty Ltd Works Approval Application Form (DWERDT242352)	N/A	DWER records (DWERDT242352)
2.	Bureau of Meteorology – Climate data online	BOM, 2019	accessed at: http://www.bom.gov.au/climate/averages/tables/cw_010111.shtml
3.	Environmental Protection Notice, 2019. Department of Water and Environmental Regulation – 19 July, 2019	DWER, 2019	accessed at: https://www.der.wa.gov.au/our-work/enforcement/478-prosecutions
4.	Licence L6010/1989/13	L6010/1989/13	accessed at: www.dwer.wa.gov.au
5.	Sawkins, DN, 2010. Landscapes and soils of the Northam District. Department of Agriculture and Food, Western Australia, Perth. Bulletin 4803.	Sawkins, 2010	n/a
6.	DoW, 2008, <i>Water Quality Protection Note 22 – Irrigation with nutrient-rich wastewater</i> , July 2008, Department of Water.	DoW, 2008	accessed at: www.water.wa.gov.au
7.	DoW, 2009. <i>Water Quality Protection Note 26 - Liners for containing pollutants using synthetic membranes</i> , 2009. Department of Water.	DoW, 2009	accessed at: www.water.wa.gov.au
8.	DER, November 2016. <i>Guidance Statement: Environmental Siting</i> . Department of Environment Regulation, Perth.		accessed at: www.dwer.wa.gov.au
9.	DER, November 2016. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.		
10.	DER, October 2015. <i>Guidance Statement: Setting conditions</i> . Department of Environment Regulation, Perth.		
11.	DWER, June 2019. <i>Guideline: Decision Making</i> . Department of Water and Environmental Regulation, Perth.		

12.	Environmental Protection (Abattoirs) Regulations 2001		Accessed at : www.slp/wa/au
-----	---	--	---

Appendix 2: Summary of applicant’s comments on risk assessment and draft conditions

Condition	Summary of Licence Holder comment	DWER response
Prescribed Categories	The Licence Holder objected to the removal of <i>Category 16 Rendering Operations</i> and <i>Category 55 Livestock sale yard or holding pen</i> , stating that the removal of these Categories will put the medium to long term viability of the business at jeopardy.	<p>Rendering has ceased at the premises under conditions set in the EPN. Therefore, <i>Category 16 Rendering Operations</i> is to be removed from the Amended Licence given rendering activities are no longer authorised at the premises and there is no risk of emissions associated with rendering activities. In correspondence dated 9 October 2019, DWER advised that should the Licence Holder intend to re-commence rendering operations, then this activity will need to be applied for through a works approval application.</p> <p><i>Category 55 Livestock sale yard or holding pen</i> was removed from the Amended Licence given this category is not required for the purposes of operating an abattoir. Temporarily holding livestock in the designated yards and pens prior to slaughter can be undertaken without Category 55 as it is covered under Category 15 and directly relates to abattoir operations.</p> <p>If the Licence Holder proposes to keep livestock in areas outside of the authorised or designated holding yards/pens and not related to the abattoir, then this activity may need to be applied for through a works approval or licence amendment application.</p>
1.2.6	The Licence Holder objected to the requirement in condition 1.2.6 that “all skins... are to leave the premises weekly”, noting that the works approval application and Decision Report describe the process as “once 22 pallets of skins (a full truck consignment) are on site, the skins will leave site”.	The Delegated Officer recognises that treated skins are not likely to cause significant odour emissions. Given the condition to treat or refrigerate skins within 8 hours of slaughter has been incorporated into the Amended Licence, the Delegated Officer agrees that the requirement to remove skins within one week does not further reduce the risk of odour impacts from

Condition	Summary of Licence Holder comment	DWER response
		fellmongering at the premises and therefore will not be conditioned in the Amended Licence.
Schedule 1	<p>The Licence Holder requested that additional land is added to the irrigation area described in Schedule 1. Currently, under the EPN issued July 22 2019, the Licence Holder is permitted to irrigate on land located on Lot 150. AVA is in the process of completing a Nutrient Irrigation Management Plan which includes the current licenced area and an additional 8.8 ha. Pending the results of a nutrient balance, this area will enhance AVA's ability to adhere to the emissions to land limits in Table 2.2.2 of the draft licence. AVA requests that the irrigation area permitted under the EPN is transferred to the licence under the licence review. The completed NIMP will be provided to DWER to assist in the completion of the licence review.</p>	<p>The risk assessment focused on the risk associated with the proposed works outlined in the works approval application. The temporary, expanded irrigation area authorised under the EPN will be reviewed for long-term suitability through the ongoing Licence Review process, which will consider information provided in the NIMP and Waste Discharge Management Plan, both of which are yet to be submitted.</p>

Appendix 3: Amended Licence L6010/1989/13
