



Licence Number	L8980/2016/1
Licence Holder	Yeeda Pastoral Company Pty Ltd
ACN	094 819 717
File Number:	DER2016/001234-1
Premises	Yeeda Station Liquid Waste Facility Being a portion of Lot 268 on Plan 220707 WILLARE WA 6728
Date of Report	14/10/2019
Decision	Licence amended

1. Definitions and interpretation

Definitions

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

Table 1: Definitions

Term	Definition
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
Amendment Report	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 33 Cloisters Square PERTH WA 6850 info@dwer.wa.gov.au
Compost	means an organic product that has undergone controlled aerobic and thermophilic biological transformation through the composting process
Composting	the process whereby organic materials are microbiologically transformed under controlled aerobic conditions
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</i> (WA)
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA)
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 Review
Licence Holder	Yeeda Pastoral Company Pty Ltd

m ³	cubic metres
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Amendment Report applies, as specified at the front of this Amendment Report.
Revised Licence	the amended Licence issued under Part V, Division 3 of the EP Act, with changes that correspond to the assessment outlined in this Amendment Report.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>
WWTS	Wastewater treatment system

2. Amendment Description

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend Licence L8980/2016/1 granted to Yeeda Pastoral Company Pty Ltd (the Licence Holder) for its Yeeda Station Liquid Waste Facility (the Premises).

3. Purpose and scope of assessment

An application was received from the Licence Holder on 15 May 2019 to amend Existing Licence L8980/2016/1 to allow for several changes as outlined below:

- changes to the composting process (windrow separation distance), additional feedstock inputs (increasing volumes processed) and update location of existing compost pad on the Premises;
- minor change to the approved Premises boundary;
- change to the annual reporting period;
- change to the approved pivot rotation cycle based on volumes of wastewater discharged instead of time; and
- minor formatting and typographical changes.

Table 2 lists the documents submitted during the assessment process.

Table 2: Documents and information submitted during the assessment process

Document/information description	Date received	DWER reference number
Application to amend licence Form – L8980 Yeeda Irrigation Facility. Including supporting documents: <ul style="list-style-type: none"> • YPC - Application for licence amendment - Cover letter; and • Compost Management Plan 	15 May 2019	A1789071
Applicant Response to DWER Request for Further Information on compost facility location, design, management and monitoring	22 August 2019	A181292
	19 September 2019	A1824771

The requested changes in relation to the composting process are considered by the Delegated Officer to present a potential change to the risk profile of emissions and discharges from the Premises and, as such, have been considered in a revised risk assessment (Table 8) in accordance with DWER's published Regulatory Framework. In addition, the 'as constructed' location of the Compost pad on the Premises has been updated on the Premises maps shown in this Amendment Report (Figure 1) and in Schedule 1 of the Revised Licence.

The requested change to the Premises boundary is minor in nature with the southern boundary being moved south by less than 100m and the northeastern boundary being moved north by approximately 50m to better encompass the eastern most irrigation plot. The Delegated Officer notes that no infrastructure on the Premises has been moved and the separation distance to the nearest public receptor (Bidan Community) remains at approximately 1.6km. This remains a sufficient separation distance and not likely to materially

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change the risk of emissions impacting the receptor. The Delegated Officer has therefore approved the change to the Premises Boundary in the Revised Licence.

The requested changes to the annual reporting period and the minor formatting / typographical corrections are considered administrative changes and as such, have been approved in the Revised Licence.

The requested change to the frequency of the centre pivot irrigator rotation cycle is not considered to change the risk profile of the Premises and is further discussed in section 5.2.

The Revised Licence has been issued in a new format with additional standard conditions applied where required, such as approved waste acceptance criteria, and amendments to conditions in accordance with the revised risk assessment. Where appropriate, some conditions have been removed, which are no longer standard conditions under DWERs published Regulatory Framework, such as those relating to material change notifications. Section 15 (Table 10) provides a detailed description of amendments made to the conditions of the Revised Licence.

4. Premises Information

4.1 Background

Licence L8980/2016/1 was issued to the Licence Holder on 24 October 2016 authorising operation of a category 61 liquid waste facility on Yeeda Station within the Shire of Derby-West Kimberley. Table 3 lists the relevant Prescribed Premises Categories and applicable throughputs authorised under L8980/2016/1.

Table 3: Prescribed Premises category

Classification of Premises	Description	Approved Premises production or design capacity
Category 61	Liquid waste facility: premises on which liquid waste produced on other premises (other than sewerage waste) is stored, reprocessed, treated or irrigated.	150,000 tonnes per annual period
Category 67A	Compost manufacturing and soil blending: premises on which organic material (excluding silage) or waste is stored pending processing, mixing, drying or composting to produce commercial quantities of compost or blended soils.	1,830 input tonnes per year

The Delegated Officer notes that the previously approved volumes of manure being composted on the Premises was at or below 1,000 tonnes per year, which is the threshold production capacity for category 67A operations. As a result of the Licence amendment application, volumes of feedstock inputs to be composted will significantly increase to around 1,830 tonnes per year. The Delegated Officer notes that although the compost will not be sold to the public, the input feedstock is coming from Colourstone Abattoir, a commercial Premises operating under a separate EP Act licence. The Delegated Officer therefore considers that *Category 67A Compost manufacturing and soil blending* applies to the Premises as the anticipated feedstock input volumes can be considered 'commercial quantities'. Category 67A has therefore been added to the approved Prescribed Premises categories for Revised Licence L8980/2016/1.

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4.2 Operational aspects

The Premises receives treated wastewater generated from processing operations at the adjacent Colourstone Abattoir and irrigates the treated wastewater onto cattle fodder crops grown on Yeeda Station. The Premises also receives manure generated from lairage yards at Colourstone Abattoir and composts the manure on a Compost pad prior to exporting the matured compost off site to Kilty Station for use as a soil conditioner.

The wastewater treatment system (WWTS) at the abattoir can treat up to 30m³ per hour (peak flows) of wastewater from the abattoir. Treated wastewater from the WWTS is blended with clean bore water at a ratio of approximately 1:0.5 in an irrigation water pond at the abattoir prior to being pumped via a pipeline to the irrigation area at Yeeda Station. The irrigation area consists of four x 16 hectare (ha) centre pivot plots that support the growth of fodder crops such as Rhodes grass, which is harvested and fed to cattle on a number of pastoral stations held by the Licence Holder.

Manure generated from the lairage pens at Colourstone Abattoir is dewatered in a sump adjacent to the abattoir and then transported via an internal road to the Compost pad at Yeeda Station, located adjacent to the irrigation plots (Figure 1). Around 1,100 tonnes per year of cattle manure is received at the Premises for composting.

The Compost pad is approximately 50m long on the western boundary, 100m wide on the southern boundary, 70m long on the eastern boundary and 110m wide on the northern boundary. The Compost pad is constructed of compacted in-situ clay with a 100mm layer of compacted gravel over the top to form a hardstand. The Compost pad has a 1m high bund around the perimeter of the pad and is graded to drain to a leachate collection sump of 200m³ capacity located on the eastern boundary of the Compost pad. The leachate sump also has a 1m bund around its perimeter. Stormwater and leachate collected in the leachate collection sump is reused in the composting process or pumped to the irrigation area as required. Manure is formed into rows (1.5 to 2m high, 2 to 3m wide, and up to 90m long), watered, monitored (for temperature), and turned as required (up to six times) prior to removal and transportation to Kilty Station. Composting activities are managed in accordance with the *Yeeda Pastoral Station Compost Management Plan – L8980/2016/1*. Matured compost is not sold commercially.

Four groundwater monitoring wells have been installed around the irrigation area which are monitored quarterly in accordance with the requirements of the Existing Licence.

Figure 1 shows a layout of the wastewater irrigation and compost processing infrastructure located at Yeeda Station, including the four groundwater monitoring bores.

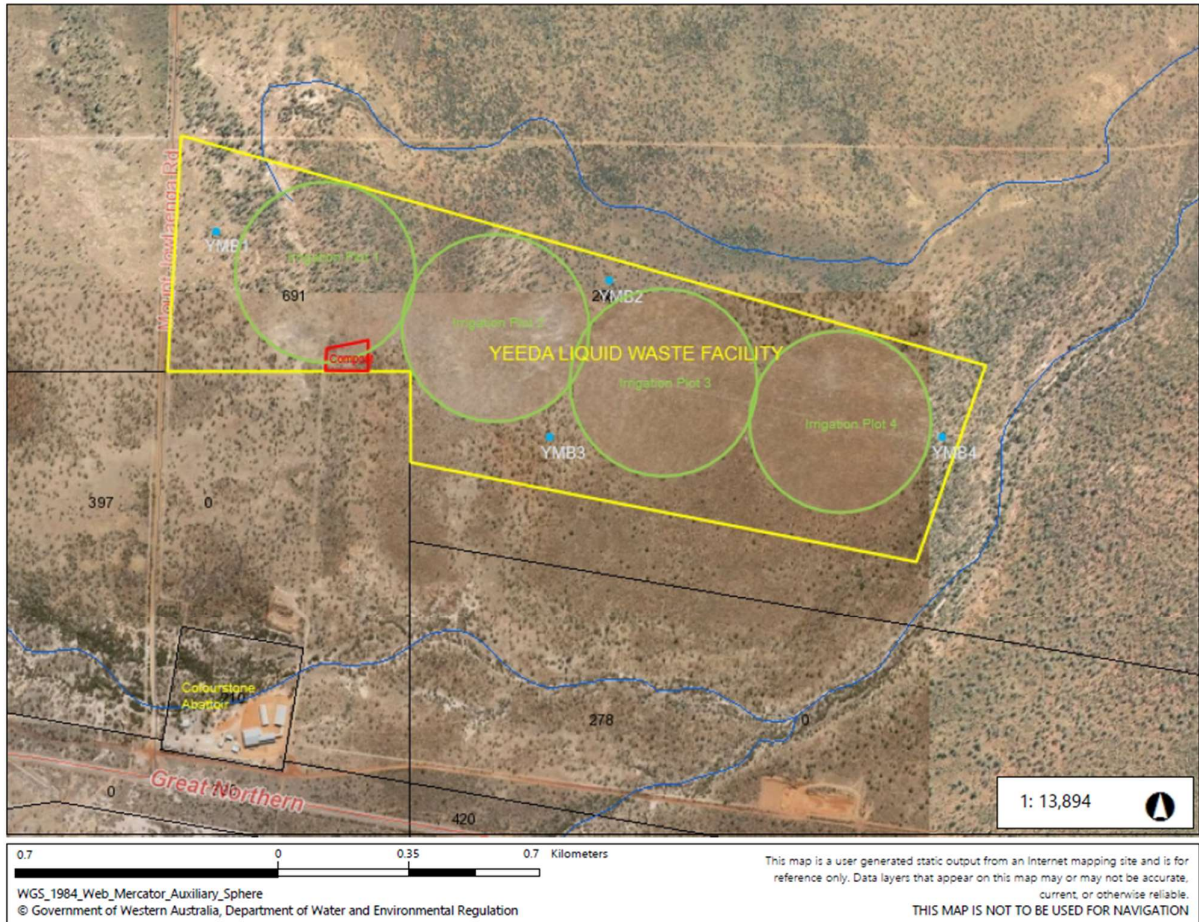


Figure 1: Yeeda Liquid Waste Facility Premises layout

5. Amendment application

5.1 Changes to composting process

In addition to manure from Colourstone Abattoir (~1,100 tonnes per year), the Licence Holder has requested approval to allow the following feedstocks to be composted on the Premises:

- treated solid waste (sludge) skimmed from the Colourstone WWTS (~100 tonnes per year);
- cattle carcasses ('downers' from the lairage yards)(around 70 per year which is roughly equivalent to 30 tonnes per year); and
- hay, woodchips and other plant materials to enhance the composting process (~600 tonnes per year).

The Licence Holder has estimated that approximately 1,830 tonnes of matured compost will be produced at the Premises each year.

The requested changes to the composting process are further considered in section 12 (Table 9).

In addition to the changes requested to the composting process, the Licence Holder has advised DWER that a portion of the existing Compost pad had been inadvertently constructed

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off the Yeeda Station pastoral lease, on adjacent land vested in Department of Planning, Lands and Heritage (Lot 397 on Plan 29396). The Licence Holder undertook works to remove that portion of the Compost pad from Lot 397 and provided updated coordinates for the revised location of the compost pad. DWER has therefore updated the Premises maps in the Revised Licence to reflect the updated location of the Compost pad.

5.2 Frequency of rotation of centre pivot irrigator

As part of the licence amendment Application, the Licence Holder has requested a change to the centre pivot irrigator rotation cycle based on discharge volumes as opposed to time. The Delegated Officer notes that the original assessment of risk associated with discharging treated wastewater from the abattoir to fodder crops on the Premises was based on the scenario of the abattoir operating at full design capacity. As the abattoir has not operated at full capacity since commencing operations, discharge volumes (throughputs) have been lower than the approved design capacity.

Existing Licence L8980/2016/1 approves the discharge of up to 150,000 tonnes of treated wastewater per year and on that basis the Existing Licence requires that irrigation to each of the four centre pivot plots is rotated annually to ensure nutrient loading rates remain acceptable.

In reviewing the actual throughput rates in recent years (107,460 tonnes in 2016/2017, 43,030 tonnes in 2017/2018 and 85,231 tonnes in 2018/2019) the Delegated Officer recognises that the requirement to rotate the pivots should be predicated on discharge volumes, as opposed to time, to allow for periods when lower throughputs are experienced at the abattoir. Provided nutrient loading rate limits (as conditioned on the Existing Licence) continue to be met each year for the irrigation plots, the discharge of treated wastewater to fodder crops on the Premises should continue to be acceptable.

The Delegated Officer has therefore approved the request to require the rotation of pivots once 150,000 tonnes has been discharged to each pivot, or once every two years, whichever occurs first. This will allow more operational flexibility for the Licence Holder while still ensuring each of the centre pivot plots is rested adequately.

5.2.1 Review of Irrigated wastewater quality

The WWTS at Colourstone Abattoir involves screening of solid matter greater than 1mm, followed by short-term wastewater balancing, chemical coagulation (addition of ferric chloride and sodium hydroxide), flocculation, pH control and Dissolved Air Flotation (DAF). The DAF process enhances physical removal of solids and promotes the aerobic breakdown of organic matter, thus reducing the potential for odour to be generated in treated wastewater. Chemical dosing of wastewater with ferric chloride is used to achieve further BOD reduction of up to 80% in the wastewater, resulting in reduced likelihood of odour generation. Additionally, wastewater is blended with bore water at a ratio of approximately 1:0.5 to ensure concentration levels of Total Nitrogen (TN), Total Phosphorus (TP), Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BOD) are adequately diluted and nutrient and BOD loading rates are acceptable and less likely to generate odour emissions.

Table 4 details the nutrient loading rates that have been irrigated each year on Yeeda Station for the period 2016 – 2019 in comparison to the nutrient loading rate limits specified on the Existing Licence.

Table 4: Yeeda liquid waste facility – nutrient loading rates

Parameter	Units	Nutrient Loading rate 16 ha irrigation plot ¹			Existing Licence Limits ²
		2016/2017	2017/2018	2018/2019	
TN	kg/ha/year	144	36	342	480
TP		9.2	7.5	47	120
TSS		147	117	566	N/A
BOD	kg/ha/day	0.17	1.85	4.66	30

¹ Calculated by DWER based on information supplied in AER's by the Licence Holder and / or Kimberley Meat Company (Licence Holder for Colourstone Abattoir).

² Based on recommended nutrient loading limits specified in Water Quality Protection Note 22: *Irrigation with Nutrient-rich Wastewater* (DoW, July 2008) for category 'D' soils.

6. Infrastructure

The Yeeda Station infrastructure, as it relates to prescribed premises activities, is detailed in Table 5 and depicted on the Premises Map (attached in the issued Revised Licence).

Table 5: Yeeda Station prescribed premises infrastructure

	Infrastructure	Site Plan Reference
	Prescribed Activity Category 61	
Treated wastewater from the Colourstone Abattoir is used for irrigation of fodder crops grown on Yeeda Station.		
1	Irrigation pipeline	Not shown as mobile plant / not fixed location
2	Centre pivot irrigator	
3	Irrigation area comprised of four 16ha centre pivot irrigation plots (64ha in total)	As shown in Schedule 1: Map of authorised discharge points (Figure 2)
4	Four groundwater monitoring bores (YMB1 – YMB4)	
	Prescribed Activity Category 67A	
Manure, WWTS sludge and animal carcasses from the Colourstone Abattoir, in addition to vegetative matter (hay, woodchips) is composted at Yeeda Station.		
5	Manure composting pad (~0.7ha) with 1m perimeter bunding and leachate collection sump (200m ³ capacity)	As shown in Schedule 1: Map of authorised discharge points

7. Legislative context

7.1 Planning approvals

The Shire of Derby-West Kimberley (the Shire) was consulted at the time of the original licence application on 22 July 2016 to determine if the Applicant had obtained the relevant planning approvals and to seek comment on the proposal. Advice from the Shire indicated that, prior to construction of the Colourstone Abattoir and Yeeda Liquid Waste Facility, the Shire did not exercise any statutory planning controls over the area of land comprising the abattoir and Yeeda Station and, as such, no Development Approval was required.

The Shire has since resolved to prepare a whole of district Local Planning Scheme, and an Interim Development Order (IDO) encompassing all land tenure within the Shire has been approved for the period while the new scheme is being prepared. The Shire has advised that granting of the IDO does not apply retrospectively, therefore, should there be any changes to the proposal, Development Approval may be required.

Consultation with the Shire in relation to this Licence Amendment application is outlined in section 8.

7.2 Part V of the EP Act

7.2.1 Applicable regulations, standards and guidelines

The overarching legislative framework of this assessment is the EP Act and EP Regulations. The guidance statements which inform this assessment are outlined in Appendix 1.

7.2.2 Works approval and licence history

Table 6 summarises the works approval and licence history for the Premises.

Table 6: Works approval and licence history

Instrument	Issued	Nature and extent of works approval, licence or amendment
W5710/2014/1	9/10/2014	Construction of the Yeeda Station Liquid Waste Facility. Construction compliance documents were received by DER on 23 July 2016.
L8980/2016/1	24/10/2016	New category 61 licence issued
	23/1/2018	Amendment to L8980/2016/1 processed to correct administrative errors associated with condition 12 which specifies nutrient loading rates.
	14/10/2019	Amendment to licence to incorporate changes to premises boundary, composting management (including addition of category 67A) and definition of annual period.

7.2.3 Compliance inspections and compliance history

A premises inspection was conducted by DWER on 3 April 2019.

The following non-compliances were identified at the time of inspection:

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- manure compost pad appears to have been constructed off Premises boundary and is receiving manure as well as other solid wastes from Colourstone Abattoir including solids (sludge) from the abattoir WWTS, cooked blood, animal carcasses and paunch. It is noted that the existing licence only approves manure to be accepted for composting;
- compost pad liner does not appear to have been compacted and as-constructed dimensions are not consistent with what is described in existing licence L8980/2016/1;
- minimal compost management - no monitoring of temperature or moisture, windrow construction does not comply with required 10m separation distance;
- irrigation of pivot area 1 occurred for more than 12 months (irrigation received for 24 months);
- no monitoring of groundwater bores although bores installed; and
- failed to submit annual reports - AER and AACR for the previous reporting period.

In response to the non-compliances, the Licence Holder:

- ceased accepting solid wastes other than manure to the composting pad;
- provided further clarification on the dimensions of the compost pad;
- submitted:
 - an updated Compost Management Plan;
 - outstanding groundwater monitoring data;
 - outstanding AER and AACR; and
 - an application for a licence amendment to vary the approved waste inputs and compost process.

The inspection process was therefore closed out on 15 May 2019.

8. Consultation

The following stakeholders were contacted to seek comment on the proposal to amend Licence L8980/2016/1:

- The Shire of Derby-West Kimberley was consulted on 31 May 2019. Advice received from the Shire advised of the planning status of the Premises (refer section 4.1 above) and indicated that developments associated with pastoral activities are generally exempt under the Interim Development Order. The Shire also advised that the development area (compost pad) appears to be located in a portion of Lot 397 on Plan 29396 (Reserve 1507 identified as "Watering Place" and not on Yeeda Station tenure) and that access to that land for the intended purpose requires further investigation.
- Department of Planning Lands and Heritage (DPLH) was consulted on 8 July 2019 to seek comment on the proposal. DPLH advised that it has not received an application for land tenure over the relevant section of Lot 397 on Plan 29396 from the proponent to support the amendment to Licence L8980/2016/1 and as such, objects to the proposed amendment on the basis that no approval has been given to utilise the relevant portion of Lot 397 for the proposed purpose. DWER notes that since this advice was received, the Licence Holder has advised works were undertaken to remove the section of the Compost pad that was located on Lot 397.
- Department of Primary Industries and Regional Development (DPIRD) was consulted on 26 July 2019 to seek comment on the proposal. No comments were received.

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- A copy of the draft Decision Report and Licence were provided to the Licence Holder for comment on 26 September 2019. The Applicant provided a response on 11 October 2019, which is summarised in Appendix 2.

9. Location and receptors

Yeeda Station is located on Colourstone Road in the Shire of Derby-West Kimberley, approximately halfway between Broome and Derby (110km from each township). Colourstone Abattoir is located approximately 1km south of the irrigation area at Yeeda Station.

Table 7 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 7: Receptors and distance from premises boundary

Residential and sensitive premises	Distance from Prescribed Premises
Residential Premises – Bidan (Bedunburra) Aboriginal Community – approximately six residences	1.4km south-west of (amended) Premises boundary

Table 8 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 8: Environmental receptors and distance from activity boundary

Environmental receptors	Distance from Prescribed Premises
Non-perennial Lake	1.4km to the south of the (amended) Premises boundary
Perennial River – Little Logue River	100m to the east of the (amended) Premises boundary at its closest point
Ephemeral creek system – minor watercourse – tributary of Little Logue River	Watercourse initiates within northwestern corner of (amended) Premises boundary flowing north (off the Premises) and then east approximately 100m from Premises boundary
Groundwater is considered fresh. Water is not used for potable purposes but is used for stock water supplies and irrigation purposes.	Depth to groundwater encountered at approximately 15m below ground level (bgl). Four monitoring bores are located around the irrigation area.

10. Soil Type

Soil types in the Yeeda Station area are described as sand plain with longitudinal sand dunes and some active drainage-ways. Dominant soils are red earthy sands, with dunes and hummocks of red sands. Some soils occur in lower sites often with a heavy surface layer of ferruginous gravel. Soils on Yeeda Station and specifically in the area of the irrigation plots are described by the Applicant as high in clay at the surface and up to 12mbgl.

11. Meteorology

The closest Bureau of Meteorology weather station to Yeeda Station is located at Derby Aero approximately 60km north-west. In the absence of any other weather data available for the Premises, a review of the meteorology data from Derby Aero station is provided below.

11.1 Wind direction and strength

The average annual 9am wind direction in Derby blows from the east and south-east for around 35% of the year and south for around 15% of the year. Wind speeds at 9am range predominantly from 10 to 20km per hour but can reach up to 30km per hour at times. The average annual 3pm wind direction in Derby blows north-west for up to 45% of the year. Wind speeds are predominantly recorded at between 10 and 20km throughout the year, with north westerlies reaching up to 30km per hour throughout the year.

11.2 Regional climatic aspects

The West Kimberley Region within which Yeeda Station and Derby Township are located experiences a semi-arid climate. Like most parts of the Australian tropics, the region has two seasons: a dry season and a wet season. The West Kimberley is susceptible to tropical cyclones and these, along with the unpredictable nature of summer thunderstorms, play a large part in the erratic nature of the rainfall received in the area. A high average daily evaporation rate of around 9.2mm per cubic metre (annual average) is experienced in Derby.

11.3 Rainfall and temperature

The dry season is from April to November with nearly everyday clear and maximum temperatures averaging around 34°C. The wet season extends from December to March, with maximum temperatures of around 38°C, erratic tropical downpours, and high humidity. Derby's annual rainfall average is 691 mm, 76% of which falls from January to March.

Key Findings: The Delegated Officer has reviewed the information regarding the environmental context of the Yeeda Station and has found:

- 1. A separation distance of 1.6km exists between the Yeeda Station and the nearest residential receptor (Bidan Community);**
- 2. Wind direction is predominantly from the east and south east in the mornings and from the northwest in the afternoons;**
- 3. The closest surface water body is an ephemeral creek initiating from within the Premises and then flowing east approximately 100m north of the Premises; and**
- 4. Groundwater is found at 15m depth and is used for stock water supplies and irrigation.**

12. Risk assessment

Table 9 below describes the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. The table identifies whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Table 9: Risk assessment for proposed amendments during operation

Risk Event				Consequence rating ¹	Likelihood rating ¹	Risk ¹	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
<p>Composting: changes to approved composting process - composting of manure (as approved) and additional feedstocks, including:</p> <ul style="list-style-type: none"> • up to 70 cattle carcasses per year; • solids (sludge) from Colourstone WWTP; and • vegetative matter; <p>at the Premises compost pad.</p> <p>Increase in volumes composted from 1,000 tonnes per year to 1,830 tonnes per year.</p>	<p>Seepage of nutrient-rich leachate to soils, surface water and groundwater</p>	<p>Nutrient rich leachate from the composting process could contaminate soils, surface water and groundwater by direct discharge to soils, run-off to ephemeral creek lines 400m north and 680m south of compost pad, or seepage to groundwater 15mbgl. Nutrient rich discharges to these receptors may disrupt ecological processes, impact on the aesthetic appeal of waters, and cause eutrophication.</p>	<p>Compost pad design: compacted gravel and clay hardstand with a 1m high perimeter bund, graded to drain to a sump which is connected to a 200m³ leachate collection pond. Leachate is recirculated in compost or discharged to irrigation area.</p> <p>Composting operations will not occur during the wettest months of the year (January and February), minimising volumes of stormwater and leachate generated.</p>	<p>Moderate: low level offsite impacts at local scale</p>	<p>Unlikely: the risk event will probably not occur in most circumstances</p>	<p>Medium</p>	<p>The Delegated Officer has determined that the proposed amendment will not significantly increase the likelihood or potential consequence of these Risk Events. The risk is acceptable subject to regulatory controls in the Revised Licence.</p>	<p>Compost pad design: (compacted gravel and clay hardstand, 1m bunding, leachate collection pond with 500mm freeboard).</p> <p>Premises groundwater monitoring program.</p> <p>No operation during wet season.</p> <p>Manure is dewatered prior to being accepted at the Premises.</p> <p>Regular visual monitoring of the Compost pad.</p>

Risk Event				Consequence rating ¹	Likelihood rating ¹	Risk ¹	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
<p>Composting: changes to approved composting process - composting of manure (as approved) and additional feedstocks, including:</p> <ul style="list-style-type: none"> • up to 70 cattle carcasses per year; • solids (sludge) from Colourstone WWTP; and • vegetative matter; <p>at the Premises compost pad.</p> <p>Increase in volumes composted from 1,000 tonnes per year to 1,830 tonnes per year.</p>	Odour	<p>Residential Premises – Bidan Aboriginal Community located 1.6km southwest of Premises may be exposed to odour via air / wind dispersion resulting in annoyance, potentially leading to stress, and loss of amenity.</p> <p>Exposure to repeated odour events can create a nuisance effect.</p>	<p>1.6km separation distance;</p> <p>Implementation of Compost Management Plan including:</p> <ul style="list-style-type: none"> • only approved compost feedstock will be accepted; • compost is placed in rows, • compost is watered, and turned regularly to facilitate breakdown; • temperature and moisture levels are monitored weekly. 	<p>Moderate: mid-level impact to amenity at the local scale</p>	<p>Unlikely: the risk event will probably not occur in most circumstances.</p> <p>A significant separation exists and prevailing winds don't tend northeast (direction of the sensitive receptor)</p>	Medium	<p>The Delegated Officer has determined that the proposed amendment will not significantly increase the likelihood or potential consequence of these Risk Events. The risk is acceptable subject to regulatory controls in the Revised Licence.</p>	<p>The Delegated Officer, taking into consideration distances to sensitive receptors and Existing Licence conditions, considers that:</p> <p>Condition 2 (waste acceptance) is adequate for restricting waste types and volumes accepted on the Premises for composting; and</p> <p>Condition 7 (compost management) is sufficient to ensure breakdown of compost wastes via aerobic digestion, resulting in reduced odours from solid wastes on the Compost pad. These controls will result in a reduced likelihood of cumulative odour emissions being generated by composting activities.</p>

Risk Event				Consequence rating ¹	Likelihood rating ¹	Risk ¹	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
Change to composting windrow separation distance from 10m to 5m	Fire resulting in smoke / particulate emissions	Residential Premises – Bidan Aboriginal Community located 1.6km southwest of Premises may be exposed to smoke / particulate emissions via air / wind dispersion resulting in loss of amenity and health impacts (respiratory illness, asthma etc.)	Moisture (water) is regularly added to compost; Windrows are monitored weekly for temperature and moisture levels.	Moderate: mid-level impact to amenity at the local scale	Unlikely: the risk event will probably not occur in most circumstances	Medium	The Delegated Officer has determined that the proposed amendment will not significantly increase the likelihood or potential consequence of the Risk Event. The risk is acceptable subject to regulatory controls in the Revised Licence.	Condition 7 (compost management) applies to ensure compost rows are kept moist and temperature levels are monitored. The Delegated Officer considers 5m is sufficient windrow separation distance to reduce the risk of fires consuming multiple windrows and allow emergency response access in the event of fire igniting within the windrows.
	Fire (contaminated fire water)	Contaminated fire water from the need to extinguish a fire at the Compost pad could be discharged to soils of the irrigation area, ephemeral creek lines 400m north and 680m south of compost pad, or groundwater 15mbgl. Fire water	Compost pad design: compacted gravel and clay hardstand with a 1m high perimeter bund, graded to drain to a sump which is connected to a 200m ³ leachate collection pond. Leachate recirculated in compost or discharged to	Minor: low-level impact to amenity at the local scale	Rare: the risk event may only occur in exceptional circumstances			Low

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Risk Event				Consequence rating ¹	Likelihood rating ¹	Risk ¹	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
		may be high in nutrients, sediment and fire-fighting foam chemicals.	irrigation area.					low.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's *Guidance Statement: Risk Assessments* (February 2017)

13. Decision

In assessing the requested changes to the Existing Licence outlined in section 2.1, the Delegated Officer has determined that the following changes do not require risk assessment:

- Change of annual reporting period: this change has been requested to allow the reporting period to align with the operating season (calendar period), it does not materially alter the risk profile of the Premises and is therefore approved in the Revised Licence. The annual reporting condition has been reformatted from Schedule 3 of the Existing Licence to condition 16 of the Revised Licence;
- Redefinition of Premises boundary: this change is minor in nature with the southern boundary being moved south by less than 100m and the north-eastern boundary being moved 50m north. The Delegated Officer notes that adequate separation distance of 1.6km to the nearest public receptor remains sufficient and the boundary changes are not likely to materially change the risk of emissions impacting the receptor. Premises maps in the Revised Licence have been updated to reflect the changes to the Premises boundary;
- Minor formatting / correction of typographical errors, which do not alter the risk profile of the Premises.

The Delegated Officer has reviewed the risk events (Table 9) associated with remaining requested amendments to the Licence and made the following determinations:

- Changes to composting processes: the Licence Holder has requested to reduce compost windrow separation distances from 10m to 5m and to incorporate up to 70 cattle carcasses per year, up to 100 tonnes of sludge from the Colourstone WWTP and up to 600 tonnes of hay, woodchips and other vegetative matter into the composting process. The Delegated Officer found that these changes do not materially alter the risk profile of the Premises and the changes can be managed under Existing Licence conditions in addition to a new condition outlining approved wastes that can be accepted onto the Premises for composting, as well as monitoring of compost feedstock inputs and outputs. Premises maps in the Licence have also been updated to include the revised location of the Compost pad.

14. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Licence Amendment will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

15. Summary of amendments

The Revised Licence has been issued in a new format with existing conditions being transferred, but not reassessed, to the new format. Therefore, numbering, wording and format of existing conditions may have changed, but the intent remains the same. All proposed changes as per the Licence Holder's amendment application (detailed in section 3) have been incorporated into the Revised Licence as part of the amendment process and are detailed in Table 10 below.

Table 10: Conversion map for Revised Licence

Existing Licence condition	Revised Licence condition	Description
1	-	Environmental Compliance This condition has been removed from the Licence as it is duplication of legislation and therefore not required.
2, 3 and 4	-	Material Change These conditions have been removed from the Licence as they are no longer standard conditions under DWER's published Regulatory Framework and are therefore not required.
5 and 6	1	Infrastructure and equipment Condition 1 of the Amended Licence specifies infrastructure and equipment that must be maintained in good working order and operated in accordance with the corresponding operational requirements.
-	2	Waste acceptance and processing specifications As per section 13 of this Amendment Report, the Delegated Officer has added this condition to maintain transparency around the types and volumes of wastes approved for processing at the Premises.
7, 8 and 10	5, 6 and 7	Specified Actions These conditions have been retained on the amended licence as conditions 5, 6 and 7
9	1	Table 1 in the Revised Licence outlines the (amended) operational requirement for rotation of irrigation plots either once 150,000 tonnes of wastewater has been applied to an individual plot or once every 2 years (whichever occurs first).
11 and 12	3 and 4	Treated wastewater limits and monitoring These conditions have been retained on the Revised Licence as conditions 3 and 4
13	9	Groundwater monitoring This condition has been retained on the Revised Licence as condition 9
-	8	Monitoring of inputs and outputs As per section 13 of this Amendment Report, the Delegated Officer has added this condition to require adequate monitoring and recording of wastes being discharged and processed on the Premises and compost volumes being

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Existing Licence condition	Revised Licence condition	Description
		exported from the Premises.
14	10	Australian standards and NATA accreditation Information with Existing Licence condition 14 has been included in Revised Licence condition 10
15	11	Monitoring frequency Existing Licence Condition 15 has been transferred to Revised Licence Condition 11.
16	3 and 4	Authorised emissions This condition has been removed from the Licence as it is not required. Emissions are authorised within Condition 3 and 4 of the Revised Licence.
17	12 and 16	Information: records Existing Licence condition 17 has been transferred to Revised Licence conditions 12 and 16 (Table 7).
18	-	Information: investigation of emissions This is no longer a standard condition under DWER's published Regulatory Framework and is therefore not required.
19	14	Complaints management system Existing Licence condition 19 has been transferred to Revised Licence condition 14.
20	15	Annual Audit Compliance Report Existing Licence condition 20 has been transferred to Revised Licence condition 15.
21	16	Annual Environmental Report Existing Licence condition 21 has been transferred to Revised Licence condition 16.
22	17	Notification requirements Existing Licence condition 22 has been transferred to Revised Licence condition 17.
Schedule 1: Plans	Schedule 1: Maps	Premises maps have been updated to reflect Premises boundary, authorised discharge points and groundwater monitoring bore locations
Schedule 2: General	1	Infrastructure and equipment requirements have been transferred to Revised Licence condition 1.

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Existing Licence condition	Revised Licence condition	Description
description		
Schedule 3: Monitoring and reporting	5 – 11, 15 and 16	Monitoring requirements have been transferred to Revised Licence conditions 5 – 11 and reporting requirements transferred to Revised Licence conditions 15 and 16

Caron Goodbourn
MANAGER, PROCESS INDUSTRIES

An officer delegated by the CEO under section 20 of the EP Act

Appendix 1: Key documents

	Document title	Availability
1.	<p>Application to Amend Licence Form: Yeeda Pastoral Company Pty Ltd, Yeeda Station Liquid Waste Facility, L8980/2016/1. Dated 15 May 2019</p> <p>Supporting documents:</p> <ul style="list-style-type: none"> • Yeeda Station Composting Management Plan • Email from Jason Markwart, Yeeda Pastoral Company dated 31/7/2019. Subject: Revised Amendment Application • Email from Jason Markwart, Yeeda Pastoral Company dated 28/8/2019 and 19/9/2019. Subject: L8980/2016/1 confirming GPS coordinates of compost pad and composting operations 	<p>DWER references:</p> <ul style="list-style-type: none"> • A1789071 • A181292 and • A1824771
2.	Licence L8980/2016/1 – Yeeda Station Liquid Waste Facility	accessed at www.dwer.wa.gov.au
3.	Department of Water and Environmental Regulation of Water, July 2008. Water Quality Protection Note 22: <i>Irrigation with Nutrient-rich Wastewater</i>	accessed at https://www.water.wa.gov.au/data/assets/pdf_file/0013/4045/82324.pdf
4.	DER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth.	accessed at www.dwer.wa.gov.au
5.	DER, October 2015. <i>Guidance Statement: Setting conditions</i> . Department of Environment Regulation, Perth.	
6.	DER, August 2016. <i>Guidance Statement: Licence duration</i> . Department of Environment Regulation, Perth.	
7.	DER, November 2016. <i>Guidance Statement: Environmental Siting</i> . Department of Environment Regulation, Perth.	
8.	DER, February 2017. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	
9.	DWER, June 2019. <i>Guideline: Decision Making</i> . Department of Water and Environmental Regulation, Perth.	
10	DWER, June 2019. <i>Guideline: Industry Regulation Guide to Licensing</i> . Department of Water and Environmental Regulation, Perth.	

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Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Revised Licence and draft Amendment Report on 26 September 2019 for review and comment. The Licence Holder responded on 11 October 2019. The following comments were received:

Condition / Section	Summary of Licence Holder comment	DWER response
Section 4.1 of the Amendment Report	The discharge volume for cat s67A should be 1,830t pa.	Noted and updated in Amendment Report
Section 5.1 of the Amendment Report	A downer is around 400kg, so total weight of downers is ~30 ton. The manure should be 1,100t, treated solid waste (sludge) 100t.	Noted and updated in Amendment Report
Draft Licence – front page	The draft license should be amended to reflect the updated maximum volumes for discharge to the cat 67A premise, being 1,830 input tonnes pa	Noted and updated in Revised Licence