



# Works Approval

## *Environmental Protection Act 1986, Part V*

**Works Approval Holder:** Yeeda Pastoral Company  
Pty Ltd

**Works Approval Number:** W5710/2014/1

**Registered office:** Unit 5  
186 Hampden Road  
NEDLANDS WA 6009

**ACN:** 094 819 717

**Premises address:** Yeeda Station Liquid Waste Facility  
Being a Portion of Lot 268 on Plan 220707, Colourstone Road  
WILLARE WA 6728  
As depicted in Schedule 1.

**Issue date:** Thursday, 9 October 2014

**Commencement date:** Monday, 13 October 2014


**Expiry date:** Thursday, 12 October 2017

The following category/s from the *Environmental Protection Regulations 1987* cause this Premises to be a prescribed premises for the purposes of the *Environmental Protection Act 1986*:

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
61	Liquid waste facility: premises on which liquid waste produced on other premises (other than sewerage waste) is stored, reprocessed, treated or irrigated.	100 tonnes or more per year	150 000 tonnes per annual period

### Conditions

This Works Approval is subject to the conditions set out in the attached pages.

  
.....  
Officer delegated under section 20  
of the *Environmental Protection Act 1986*



# Works Approval Conditions

## 1 General

### 1.1 Interpretation

1.1.1 In the Works Approval, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 In the Works Approval, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986*;

'annual period' means the inclusive period from 1 April until 31 March in the following year;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;

Manager Licensing (North West)  
Department of Environment Regulation  
PO Box 942  
KUNUNURRA WA 6743  
Telephone: (08) 9168 4200  
Facsimile: (08) 9168 2179  
Email: northwest@der.wa.gov.au;

'code of practice for the storage and handling of dangerous goods' means document titled "Storage and handling of dangerous goods: Code of Practice" published by the Department of Mines and Petroleum, as amended from time to time;

'dangerous goods' has the meaning defined in the *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007*;

'environmentally hazardous material' means material (either solid or liquid raw materials, materials in the process of manufacture, manufactured products, products used in the manufacturing process, by-products and waste) which if discharged into the environment from or within the premises may cause pollution or environmental harm. Note: Environmentally hazardous materials include dangerous goods where they are stored in quantities below placard quantities. The storage of dangerous goods above placard quantities is regulated by the Department of Mines and Petroleum;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Works Approval;

'Schedule 1' means Schedule 1 of this Works Approval unless otherwise stated;

'Works Approval' means this Works Approval numbered W5710/2014/1 and issued under the Act;

'Works Approval Holder' means the person or organisation named as the Works Approval Holder on page 1 of the Works Approval;

1.1.3 Any reference to an Australian or other standard in the Works Approval means the relevant parts of the standard in force from time to time during the term of this Works Approval.



- 1.1.4 Any reference to a guideline or code of practice in the Works Approval means the current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines or code of practice made during the term of this Works Approval.

## 1.2 General conditions

- 1.2.1 The Works Approval Holder shall construct the works in accordance with the documentation detailed in Table 1.2.1:

<b>Document</b>	<b>Parts</b>	<b>Date of Document</b>
Works Approval Application Form	All	10 July 2014
Yeeda Pastoral Company Nutrient Irrigation Management Plan, May 2014	All, including Drawings and Appendices	May 2014

Note 1: Where the details and commitments of the documents listed in condition 1.2.1 are inconsistent with any other condition of this works approval, the conditions of this works approval shall prevail.

- 1.2.2 The Works Approval Holder, except where storage is prescribed in section 1.3, shall ensure that environmentally hazardous materials are stored in accordance with the Code of Practice for the Storage and handling of dangerous goods.

## 1.3 Premises operation

There are no specified conditions relating to Premises operation in this section.

## 2 Emissions

There are no specified conditions relating to emissions in this section.

## 3 Monitoring

There are no specified conditions relating to monitoring in this section.

## 4 Improvements

There are no specified conditions relating to improvements in this section.

## 5 Information

### 5.1 Reporting

- 5.1.1 The Works Approval Holder shall submit a compliance document to the CEO, following the construction of the works and prior to commissioning of the same.

- 5.1.2 The compliance document shall:

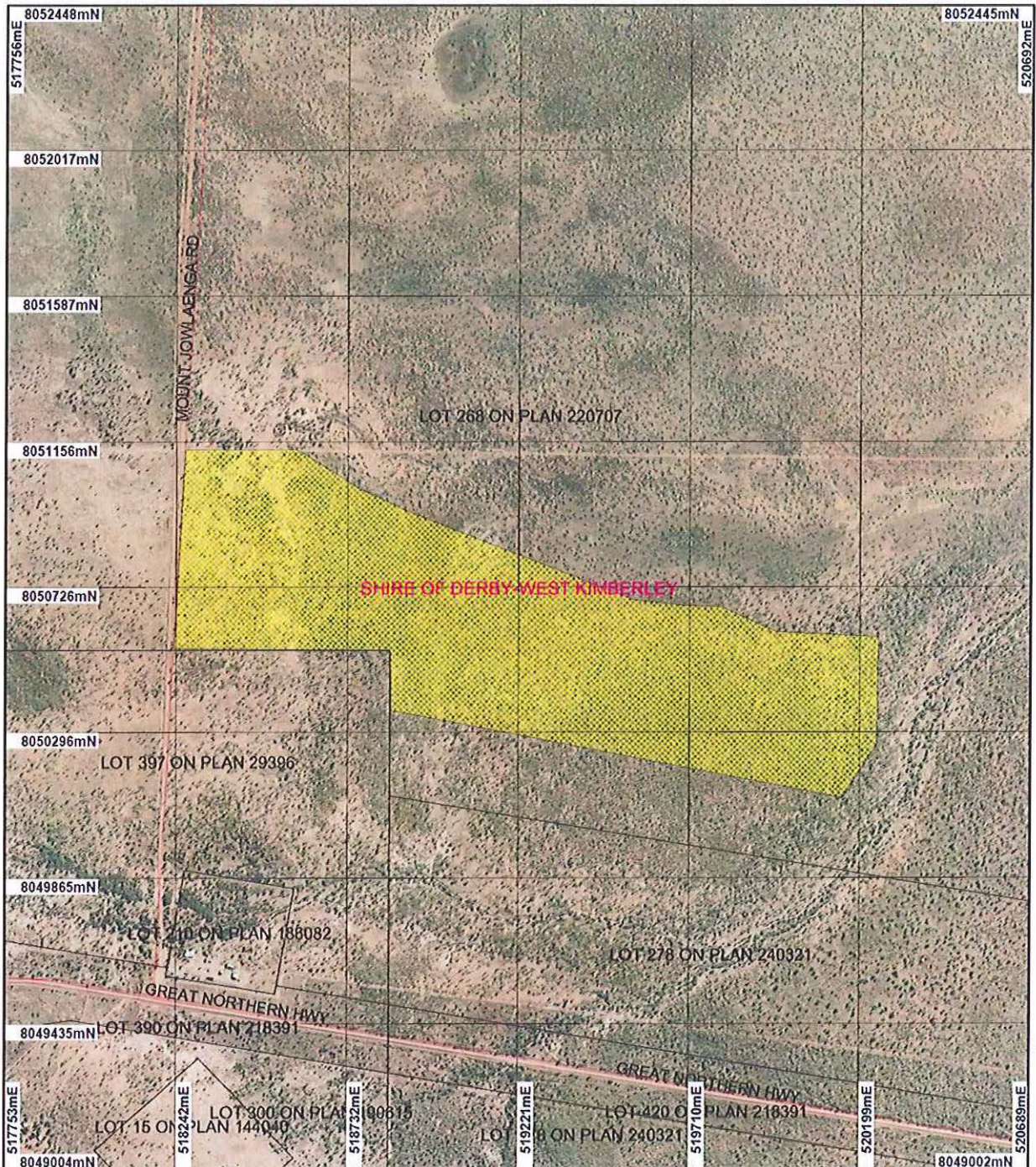
- (a) certify that the works were constructed in accordance with the conditions of the Works Approval; and
- (b) be signed by a person authorised to represent the Works Approval Holder and contain the printed name and position of that person within the company.



# Schedule 1: Maps

## Premises map

The Premises is shown in the map below. The yellow cross-hatching depicts the Premises boundary.





# Decision Document

## *Environmental Protection Act 1986, Part V*

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**Proponent:** Yeeda Pastoral Company Pty Ltd

**Works Approval:** W5710/2014/1

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**Registered office:** Unit 5  
186 Hampden Road  
NEDLANDS WA 6009

**ACN:** 094 819 717

**Premises address:** Yeeda Station Liquid Waste Facility  
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WILLARE WA 6728

**Issue date:** Thursday, 9 October 2014

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**Expiry date:** Thursday, 12 October 2017

### Decision

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

Decision Document prepared by:

Carmen Standring  
Licensing Officer

Decision Document authorised by:

Alana Kidd  
Manager Licensing



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## 1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

### Works approval and licence conditions

DER has three types of conditions that may be imposed on works approvals and licences. They are as follows;

#### Standard conditions (SC)

DER has standard conditions that are imposed on all works approvals and licences regardless of the activities undertaken on the Premises and the information provided in the application. These are included as the following conditions on works approvals and licences:

Works approval conditions: 1.1.1-1.1.4, 1.2.1, 1.2.2, 5.1.1 and 5.1.2.

Licence conditions: 1.1.1-1.1.4, 1.2.1-1.2.4, 5.1.1-5.1.4 and 5.2.1.

For such conditions, justification within the Decision Document is not provided.

#### Optional standard conditions (OSC)

In the interests of regulatory consistency DER has a set of optional standard conditions that can be imposed on works approvals and licences. DER will include optional standard conditions as necessary, and are likely to constitute the majority of conditions in any licence. The inclusion of any optional standard conditions is justified in Section 4 of this document.

#### Non standard conditions (NSC)

Where the proposed activities require conditions outside the standard conditions suite DER will impose one or more non-standard conditions. These include both premises and sector specific conditions, and are likely to occur within few licences. Where used, justification for the application of these conditions will be included in Section 4.



## 2 Administrative summary

Administrative details									
Application type	Works Approval <input checked="" type="checkbox"/> New Licence <input type="checkbox"/> Licence amendment <input type="checkbox"/> Works Approval amendment <input type="checkbox"/>								
Activities that cause the premises to become prescribed premises	<table border="1"> <thead> <tr> <th>Category number(s)</th> <th>Assessed design capacity</th> </tr> </thead> <tbody> <tr> <td>61</td> <td>150,000 tonnes per year</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Category number(s)	Assessed design capacity	61	150,000 tonnes per year				
	Category number(s)	Assessed design capacity							
	61	150,000 tonnes per year							
Application verified	Date: 17/07/2014								
Application fee paid	Date: 21/07/2014								
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>								
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>								
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>								
Commercial-in-confidence claim outcome									
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>								
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	<table border="1"> <tr> <td>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></td> <td>           Referral decision No:            Managed under Part V <input type="checkbox"/>            Assessed under Part IV <input type="checkbox"/> </td> </tr> </table>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>						
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>								
Is the proposal subject to Ministerial Conditions?	<table border="1"> <tr> <td>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></td> <td>           Ministerial statement No:            EPA Report No:         </td> </tr> </table>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:						
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:								
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i> )?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>								
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes include details of which EPP(s) here.								
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, include details here, eg Site is subject to SO <sub>2</sub> requirements of Kwinana EPP.								



### 3 Executive summary of proposal and assessment

Yeeda Pastoral Company (YPC) has applied to DER for a works approval to construct a category 61 liquid waste facility, which will allow irrigation of treated wastewater from the adjacent Colourstone Abattoir onto cattle fodder crops grown on Yeeda Station (Yeeda) in Western Australia. Yeeda Station is located on Colourstone Road in the Shire of Derby West Kimberley, approximately halfway between Broome and Derby (110km from each township). Effluent from the abattoir will be treated and then shandied with bore water to produce around 150,000 tonnes (t) per year of wastewater which will be piped and irrigated onto one of four 15 hectare (ha) centre pivot plots at Yeeda. Irrigation of treated wastewater to the four crops will be rotated annually, such that each crop is irrigated with treated wastewater once in every four years.

The Colourstone Abattoir is located on Lot 210 Great Northern Highway, approximately 1km south of the crop irrigation area at Yeeda. Soils at the irrigation area are classified as "loam". The nearest water body, being an ephemeral creek system, is over 500m from the irrigation area. The nearest residence is Bedunburra Community located 1.4km south-southwest of the irrigation area.

The wastewater treatment system at the abattoir will produce around 44,000t of treated wastewater that will be shandied with around 106,000t of operational purposes bore water (at the abattoir). This will produce irrigation water that generally complies with "Water Quality Protection Note 22: Irrigation of nutrient rich wastewater" (WQPN 22) (Department of Water, 2008) for soils of vulnerability category "D" which are classed as "fine grained soils" (eg. loams or clays) located in areas where waterways within 500m of the site have a low vulnerability to eutrophication.

YPC have drafted a Nutrient Irrigation Management Plan for the category 61 liquid waste facility proposal, which details site management, nutrient application rates, monitoring programs and management of potential emissions and discharges as well as contingency plans during operations.

Four groundwater monitoring wells will be installed around the irrigation area and baseline groundwater monitoring will be conducted prior to commencement of irrigation. Parameters to be tested will include a typical wastewater suite. In addition, the proponent has committed to performing baseline soil sampling to determine soil characteristics such as Phosphorus Retention Index, Sodium Absorption Ratio, pH, salinity, Magnesium, Calcium, Ammonia, Total Nitrogen, Ortho Phosphorus and Total Phosphorus. This will assist in crop management and ensure that soil quality is maintained and that nutrient overloading and excessive seepage do not occur.

Irrigation water testing will be conducted by Kimberley Meat Company Pty Ltd (under licence conditions) with the results supplied to YPC, in order that YPC can calculate, manage and report nutrient loading rates applied to the irrigation area.

Visual monitoring of irrigation pipelines and infrastructure will be performed daily to check for leaks and to ensure no ponding or surface water runoff is occurring at the irrigation area. Irrigation equipment will be fitted with low-flow alarms to alert management in the event of major leaks.

The principal emissions of significance during operation of the Yeeda liquid waste facility are odour and discharges to land. Management of these emissions is discussed below in the Decision table.

The works approval will be issued to YPC for a period of three years. Once construction of the liquid waste facility is complete, YPC will need to submit a compliance document and apply for a category 61 operating licence in accordance with section 56 of the *Environmental Protection Act 1986* to allow operations to commence.





## 4 Decision table

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

DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	W1.2 L1.2 L1.3	OSC	<p><b>Construction</b> There are no requirements for non-standard general conditions to be added to the works approval. Standard conditions will require the premises to be constructed in accordance with proposal supporting documents.</p> <p><b>Operation</b> <u>Emission Description</u> <i>Emission:</i> Stormwater contaminated with treated wastewater from the abattoir. <i>Impact:</i> Contamination of surrounding land and surface water drainage systems. Potential impacts on ecology of surface water from the addition of nutrients. <i>Controls:</i> Visual monitoring will be conducted during irrigation to ensure no ponding or surface water runoff is occurring. Irrigation will not occur during rain events. The Colourstone Abattoir will not operate during the wettest months of the year (January and February), and as such, no irrigation will occur during this time, further reducing the potential for contaminated stormwater discharges.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> OSC 1.2.5 regarding the management of stormwater will be included in the</p>	<p>General provisions of <i>Environmental Protection Act 1986</i></p> <p>Application supporting documentation</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p>



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
			<p>Licence to ensure appropriate management of stormwater around the irrigation facility. OSCs will be included in the licence to ensure the waste accepted and irrigated is consistent with those assessed for the site, and requiring appropriate management of the WWTP and the irrigation area (ensuring no ponding or surface water runoff during irrigation).</p> <p><u>Residual risk</u>  <i>Consequence: Minor</i>  <i>Likelihood: Rare</i>  <i>Risk rating: Low</i></p>	
<b>Emissions general</b>	L2.1.1	OSC	Descriptive limits will be set through conditions 2.5 and 2.7 of the licence and therefore OSC regarding recording and investigation of exceedances of limits or targets will be included on the Licence.	N/A
<b>Point source emissions to air including monitoring</b>	W2 and W3 L2.2 and L3.2	N/A	<p><b>Construction and Operation</b></p> <p>There are no point source air emissions from construction and operation of the Yeeda liquid waste facility. No specified conditions relating to point source emissions to air or the monitoring of these emissions are required to be added to the works approval or licence.</p>	<p>General provisions of <i>Environmental Protection Act 1986</i></p> <p>Application supporting documentation</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p>



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
Point source emissions to surface water including monitoring	W2 and W3 L2.3 and 3.3	N/A	<p><b>Construction and Operation</b></p> <p>There will be no point source emissions to surface water during construction and operation of the Yeeda liquid waste facility. Drainage lines in the vicinity of the irrigation area are ephemeral in nature and generally only flow for short durations following rainfall events. The irrigation area is located 500m from the nearest surface water feature.</p> <p>No specified conditions relating to point source emissions to surface water or the monitoring of such emissions are required to be added to the works approval or licence.</p>	<p>General provisions of <i>Environmental Protection Act 1986</i></p> <p>Application supporting documentation</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p>
Point source emissions to groundwater including monitoring	W2 and W3 L2.4 and 3.4	N/A	<p><b>Construction and Operation</b></p> <p>There are no point source emissions to groundwater during construction and operation of the Yeeda liquid waste facility. The depth to groundwater is at least 15m below ground level. No specified conditions relating to point source emissions to groundwater or the monitoring of such emissions are required to be added to the works approval or licence.</p>	<p>General provisions of <i>Environmental Protection Act 1986</i></p> <p>Application supporting documentation</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p>



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
Emissions to land including monitoring	L2.5 and 3.5	OSC	<p><b>Construction</b> There will be no point source emissions to land during construction of the Yeeda liquid waste facility. No conditions are required on the works approval.</p> <p><b>Operation</b> DER's assessment and decision making are detailed in Appendix A.</p>	General provisions of <i>Environmental Protection Act 1986</i>
Fugitive emissions	L2.6	N/A	<p><b>Construction and Operation</b></p> <p>There are no fugitive emissions associated with the construction and operation of the Yeeda liquid waste facility. No specified conditions relating to fugitive emissions or the monitoring of such emissions are required to be added to the works approval or licence.</p>	<p>General provisions of <i>Environmental Protection Act 1986</i></p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p> <p>Application supporting documentation.</p>
Odour	L2.7	OSC	<p><b>Construction</b> There is no potential for odour emissions during construction of the Yeeda liquid waste facility. No conditions are required to be added to the works approval.</p> <p><b>Operation</b></p> <p><u>Emission description</u> <i>Emission:</i> There is potential for odour emissions during operation of the Yeeda liquid waste facility from the application of wastewater by the centre pivot</p>	<p>General provisions of <i>Environmental Protection Act 1986</i></p> <p><i>Environmental Protection (Unauthorised</i></p>



<b>DECISION TABLE</b>				
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L = Licence</b>	<b>OSC or NSC</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
			<p>irrigator. Should Biochemical Oxygen Demand levels become too high in treated wastewater, foul odours may be generated.  <i>Impact:</i> Reduced air quality in the local area.  <i>Controls:</i> The Yeeda liquid waste facility is isolated with appropriate setback distances to the nearest residence, Bedunburra Community which is located 1.4km away. It is unlikely odour emissions will impact the community. The proponent will monitor daily for odour emissions. Should unacceptable odour emissions be detected, the proponent will investigate the cause and implement corrective actions as appropriate.</p> <p><u>Risk assessment</u>  <i>Consequence:</i> Insignificant  <i>Likelihood:</i> Unlikely  <i>Risk rating:</i> Low</p> <p><u>Regulatory Controls</u>            OSC 2.7.1 will be included in the Licence to ensure that odour emitted from the Premises does not unreasonable interfere with the health, welfare, convenience, comfort or amenity of any person who is not on the Premises.</p> <p><u>Residual risk</u>  <i>Consequence:</i> Insignificant  <i>Likelihood:</i> Unlikely  <i>Risk rating:</i> Low</p>	<p><i>Discharges) Regulations 2004</i></p> <p>Application supporting documentation</p>
<b>Noise</b>	L2.8	N/A	<p><b>Construction and Operation</b></p> <p>There are no significant noise emissions expected during construction and operation of the Yeeda liquid waste facility. The facility is isolated and situated at least 1.4km from the nearest residence. No specified conditions relating to noise are required to be added to the works approval or licence.</p>	<p>General provisions of <i>Environmental Protection Act 1986</i></p>



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
				<i>Environmental Protection (Noise) Regulations 1997</i>  Application supporting documentation
<b>Monitoring general</b>	L3.1	OSC	OSC 3.1 will be included in the Licence requiring that groundwater samples are collected in accordance with the applicable standard and submitted to a NATA accredited laboratory for analysis.	N/A
<b>Monitoring of inputs and outputs</b>	L3.6	N/A	<b>Construction and Operation</b>  No specified conditions relating to the monitoring of inputs and outputs are required to be added to the works approval. The proponent will be required by Licence conditions to record irrigation volumes discharged to land, irrigation water quality and calculate nutrient loading rates from irrigation practices. This information will be reported to DER in the Annual Environmental Report.	General provisions of <i>Environmental Protection Act 1986</i>  Application supporting documentation
<b>Process monitoring</b>	L3.7	N/A	<b>Construction and Operation</b>  No specified conditions relating to process monitoring are required to be added to the works approval or licence.	General provisions of <i>Environmental Protection Act 1986</i>  Application supporting documentation



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
Ambient quality monitoring	L3.8	N/A	<p><b>Construction</b></p> <p>No specified conditions relating to ambient quality monitoring are required to be added to the works approval.</p> <p><b>Operation</b></p> <p><u>Emission description</u>  <i>Emission:</i> There is potential for contamination of groundwater over time during operation of the Yeeda liquid waste facility from the application of wastewater by the centre pivot irrigator.  <i>Impact:</i> Reduced groundwater quality as a result of seepage of nutrient rich wastewater.  <i>Controls:</i> YPC have committed to conducting regular groundwater quality monitoring to detect any impacts to groundwater from the application of nutrient rich wastewater.</p> <p><u>Risk assessment</u>  <i>Consequence:</i> Moderate  <i>Likelihood:</i> Unlikely  <i>Risk rating:</i> Moderate</p> <p><u>Regulatory Controls</u>            OSC 2.7.1 will be included in the Licence to require regular ambient groundwater quality monitoring to detect any impacts to groundwater.</p> <p><u>Residual risk</u>  <i>Consequence:</i> Moderate  <i>Likelihood:</i> Rare  <i>Risk rating:</i> Moderate</p>	<p>General provisions of <i>Environmental Protection Act 1986</i></p> <p>Application supporting documentation</p>



**DECISION TABLE**

<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L = Licence</b>	<b>OSC or NSC</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>Meteorological monitoring</b>	L3.9	N/A	<b>Construction and Operation</b>  No specified conditions relating to meteorological monitoring are required to be added to the works approval or licence.	General provisions of <i>Environmental Protection Act 1986</i>  Application supporting documentation
<b>Improvements</b>	L4	N/A	The works approval and licence are for the operation of new facility. Specified conditions for improvement are not required to be added to the works approval or licence.	N/A
<b>Information</b>	L5.2.1 - 5.2.3	OSC	OSC 5.2.1 – 5.2.3 will be included on the Licence, requiring the reporting of monitoring data, nutrient loading rates and making available copies of original monitoring reports on request.	N/A
<b>Licence Duration</b>	N/A	N/A	The Yeeda Station Liquid Waste Facility has been assessed as presenting a moderate risk to the environment during the construction and operation phases. The works approval will be issued for a period of three years and the operating licence for a period of five years.	





## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
28/07/2014	Application advertised in West Australian	No comments received	N/A
24/07/2014	Application referred to Shire of Derby-West Kimberley	No comments received	N/A
30/09/2014	Proponent sent a copy of draft instrument	No changes requested	N/A



## 6. Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High



## Appendix A

### Point source emissions to land including monitoring

The Yeeda liquid waste facility will irrigate up to 150,000 tonnes per year of treated effluent from Colourstone Abattoir to one of four 15ha irrigation plots, which will be rotated on an annual basis. Table 2 compares the minimum, average and maximum concentrations of blended wastewater and the average nutrient loading rates to be irrigated against Department of Water's Water Quality Protection Note 22 "Irrigation with nutrient-rich wastewater" (WQPN 22).

Table 2: Colourstone Abattoir WWTS – blended irrigation water quality

Process	Irrigation Water mg/L				Guideline (WQPN 22) * vulnerability category 'D'	
	Minimum concentration	Average concentration	Maximum concentration	Average Nutrient Loading Rate (kg/ha/year)	Equivalent water concentration (mg/L)	Application Rate (kg/ha/year)
BOD	174	261	377	7.5 (kg/ha/day)	150	30 (kg/ha/day)
Suspended Solids	9	29	58	290	n/a	n/a
Nitrogen	22	32	41	320	30	480
Phosphorus	1.5	3	5	30	7.5	120

\*WQPN 22 – Irrigation with nutrient-rich wastewater (DoW 2008). These guidelines refer to Risk Category D.

The annual nutrient loading rates from applying up to 150,000t of treated wastewater of the average concentration specified in Table 2 above is around 320kg/ha/year of Nitrogen and around 30 kg/ha/year of Phosphorus. This complies with the recommended nutrient loading rates of 480kg/ha/year for Nitrogen and 120kg/ha/year for Phosphorus.

The water quality parameter BOD may not comply with the recommended concentration level of 150mg/L in WQPN 22. This will be, on average, higher than the recommended concentration at 261mg/L, and as such may possibly cause some odours as a result of irrigation practices. However, the irrigation area is on a remote pastoral station with large setbacks (over 1km) from sensitive receptors and as such, it is unlikely that operations will impact on persons not on the premises.

The average daily loading of BOD over the irrigation area will be 7.2kg/ha/day which is lower than the recommended 30kg/ha/day recommended for BOD in WQPN 22. In addition, irrigation of treated wastewater will be rotated each year among the four irrigation plots, such that treated wastewater will only be applied to each plot for one year out of every four years, further reducing the risk of unacceptable odours and nutrient overloading over time.

Soils in the irrigation area are predominantly loam. They have been assessed as Risk Category D as per WQPN 22. The irrigation field is comprised of four 15ha pivots (60ha in total). The 15ha pivots that are not in use each year will be "dry cropped" each year that they are not in use, and will receive no irrigation of treated wastewater. The irrigation area will be planted out with a cattle fodder crop (likely to be forage sorghum) and will be fenced and not accessible to the public.

#### Emission description

*Emission:* Treated effluent to irrigation area and spills / leaks from the irrigation pipeline.

*Impact:* Nutrient overloading of soils, waterlogging of soils comprising the irrigation area affecting chemistry and quality of soils and generation of foul odours. Run-off of nutrient-rich wastewater to surface water and seepage to groundwater.



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*Controls:* Monthly monitoring of the treated wastewater prior to being discharged to the irrigation area. The inspection and servicing regime includes:

- Daily inspections;
- Initiating repairs as and when required; and
- Recording and reporting of treated effluent quality, volumes irrigated, and nutrient loading rates.

Low flow alarms will be fitted to irrigation equipment to ensure spills / leaks are detected and repaired in a timely manner.

Risk Assessment

*Consequence:* Insignificant

*Likelihood:* Unlikely

*Risk rating:* Low

Regulatory Controls

OSC 2.5.1 - 2.5.3 will be included in the Licence to ensure that discharge only occurs to the designated irrigation area and to set limits for nutrient loading rates. Additionally, an OSC will be included on the Licence to require that the licensee ensures no ponding or surface water runoff occurs at the irrigation area.

Residual Risk

*Consequence:* Insignificant

*Likelihood:* Rare

*Risk rating:* Low

Reference documents:

- Application supporting documentation;
- General provisions of the *Environmental Protection Act 1986*; and
- Water Quality Protection Note 22 – Irrigation with nutrient-rich wastewater (Department of Water, 2008).
- Water Quality Protection Note 33 – Nutrient Irrigation Management Plans (Department of Water, 2006).