Government of Western Australia
Department of Environment Regulation

Works Approval

Environmental Protection Act 1986, Part V

Works Approval Holder: Yara Pilbara Fertilisers Pty Ltd

Works Approval Number: W5920/2015/1

Registered office: Level 5
182 St Georges Terrace
PERTH WA 6000

ACN: 095 441 151

Premises address: Yara Pilbara Fertilisers
Part of Lot 564 on Plan 31023, Village Road, BURRUP WA 6714
Within coordinates 476920E, 7719320N; 476982E, 7718359N; 477030E, 7719261N; 477450E, 7719445N; 477585E, 7719143N; 476976E, 7718789N; 476934E, 7718909N; 476980E, 7718945N and 476911E, 7719069N [MGA 94, Zone 50] as depicted in Schedule 1

Issue date: Thursday, 7 January 2016

Commencement date: Monday, 11 January 2016

Expiry date: Thursday, 10 January 2019

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
85	Sewage facility: premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.	More than 20 but less than 100 cubic metres per day	30 cubic metres per day

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

Date signed: 7 January 2016
.....
Ed Schuller
Senior Manager – Industry Regulation (Process Industries)
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;*

'AS/NZS 5667.1' means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples;*

'AS/NZS 5667.10' means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters;*

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

'averaging period' means the time over which a limit or target is measured or a monitoring result is obtained;

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

'CEO' for the purpose of correspondence means:

Chief Executive Officer
Department Administering the *Environmental Protection Act 1986*
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au;

'Commissioning' means the process of operation and testing that verifies the works and all relevant systems, plant, machinery and equipment have been installed and are performing in accordance with the design specification set out in the works approval application;

'NATA' means the National Association of Testing Authorities, Australia;

'NATA accredited' means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

'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;

'spot sample' means a discrete sample representative at the time and place at which the sample is taken;

'Works Approval' means this Works Approval numbered W5920/2015/1 and issued under the Act; and

'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:

Table 1.2.1: Construction Requirements[1]

Document	Parts	Date of Document
Works Approval Application – Replacement Wastewater Treatment Plant 2015	All	17 September 2015
Email correspondence received from Susan Giles (Yara Pilabra Fertilisers Pty Ltd) on 9 October 2015 entitled "RE: New Works Approval – WWTP Upgrade – Further information required".	All including attachments	9 October 2015

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 shall commission the replacement wastewater treatment plant for a period not exceeding three months.

2 Emissions

2.1.1 The Works Approval Holder shall ensure that where waste is emitted to land from the emission points in Table 2.1.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Works Approval.

Table 2.1.1: Emissions to land

Emission point reference and location on Map of emission points	Description	Source including abatement
L1	Pipe feeding infiltration trenches	Treated effluent from the wastewater treatment plant

3 Monitoring

3.1.1 The Works Approval Holder shall ensure that:
(a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
(b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10; and
(c) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in relevant table.

3.1.2 The Works Approval Holder shall undertake the monitoring specified in Table 3.1.1 during the commissioning period.

Table 3.1.1: Monitoring of effluent quality				
Monitoring point reference	**Parameter**	**Units**	**Averaging period**	**Frequency**
WQ1 – final effluent tank	pH[1]	pH units	Spot sample	Weekly
	E. coli	cfu/100ml		
	Total Nitrogen	mg/L		
	Total Phosphorous	mg/L		
	Biochemical Oxygen Demand	mg/L		
	Total Suspended Solids	mg/L		
	Effluent flow rate	m^3/day	24 hours	Continuous

Note 1: in-field non-NATA analyses permitted.

4 Information

4.1 Reporting

4.1.1 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.

4.1.2 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.

4.1.3 The Works Approval Holder shall submit a commissioning report for the Replacement Wastewater Treatment Plant to the CEO within 1 month of the completion of commissioning.

4.1.4 The Works Approval Holder shall ensure the report includes;
(a) a summary of the monitoring results recorded under condition 3.1.2;
(b) a list of any original monitoring reports submitted to the Licensee from third parties for the commissioning period;
(c) a summary of the environmental performance of the replacement wastewater treatment plant as installed, against the design specification set out in the works approval application;
(d) a review of performance against the works approval conditions; and
(e) where they have not been met, measures proposed to meet the design specification and/or works approval conditions, together with timescales for implementing the proposed measures.

4.2 Notification

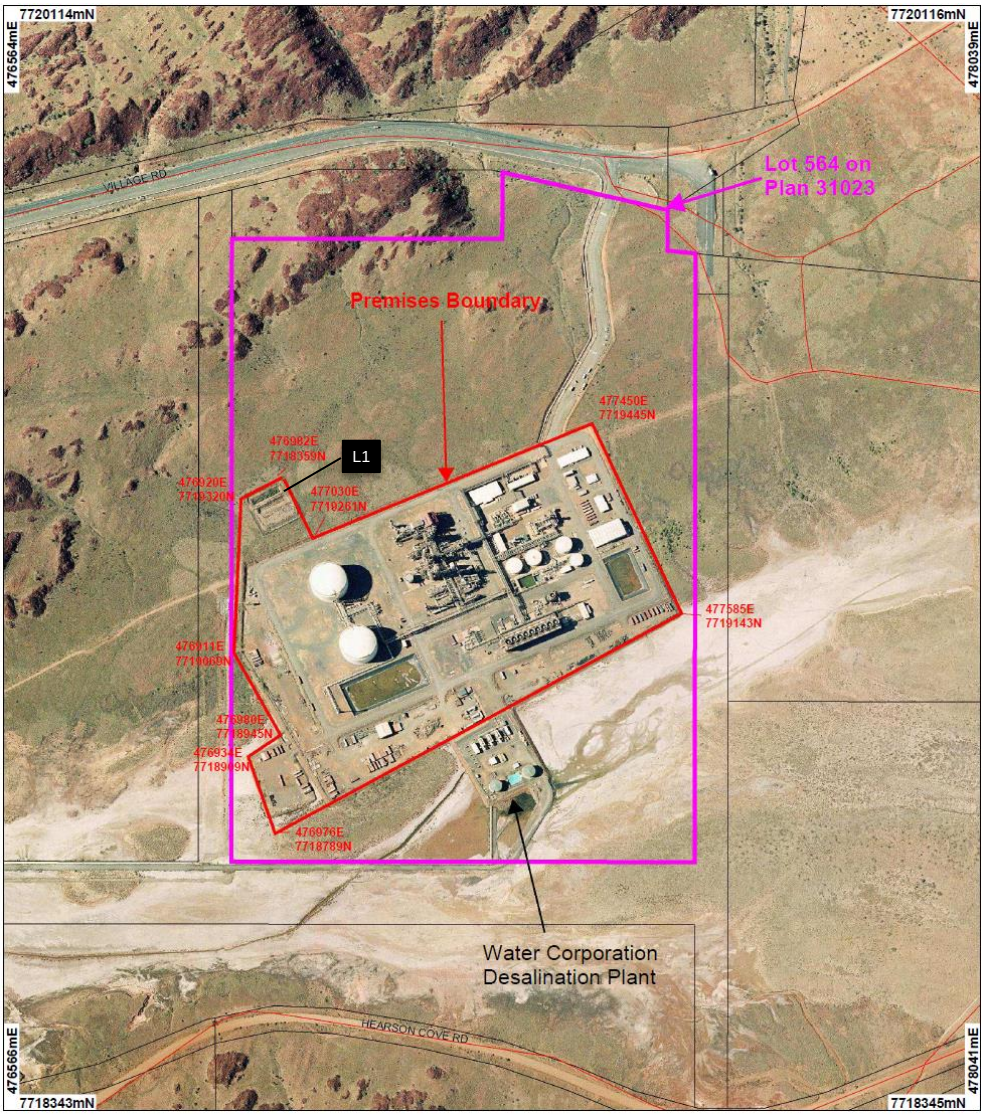
4.2.1 The Works Approval Holder shall ensure that the parameters listed in Table 5.2.1 are notified to the CEO and are in accordance with the notification requirements of the table.

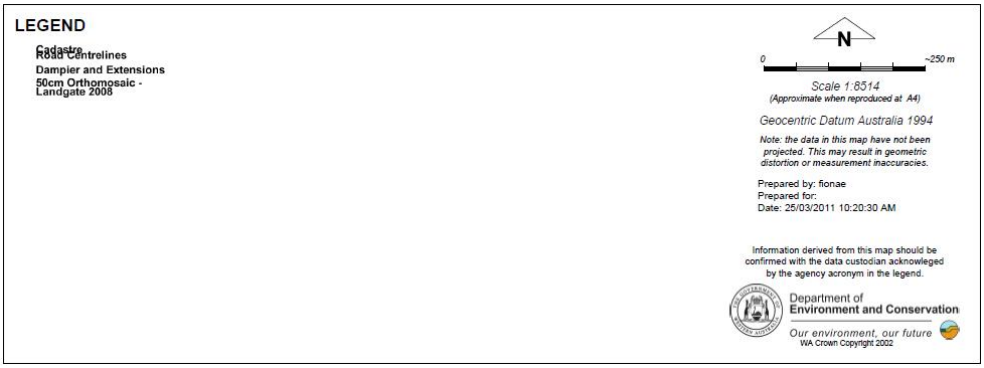
Table 4.2.1: Notification requirements			
Condition or table (if relevant)	**Parameter**	**Notification requirement**	**Format or form**
1.2.4	Commencement of commissioning	7 days prior to start	None specified
	Completion of commissioning	7 days after completion	

Schedule 1: Maps

Premises map and map of emission points

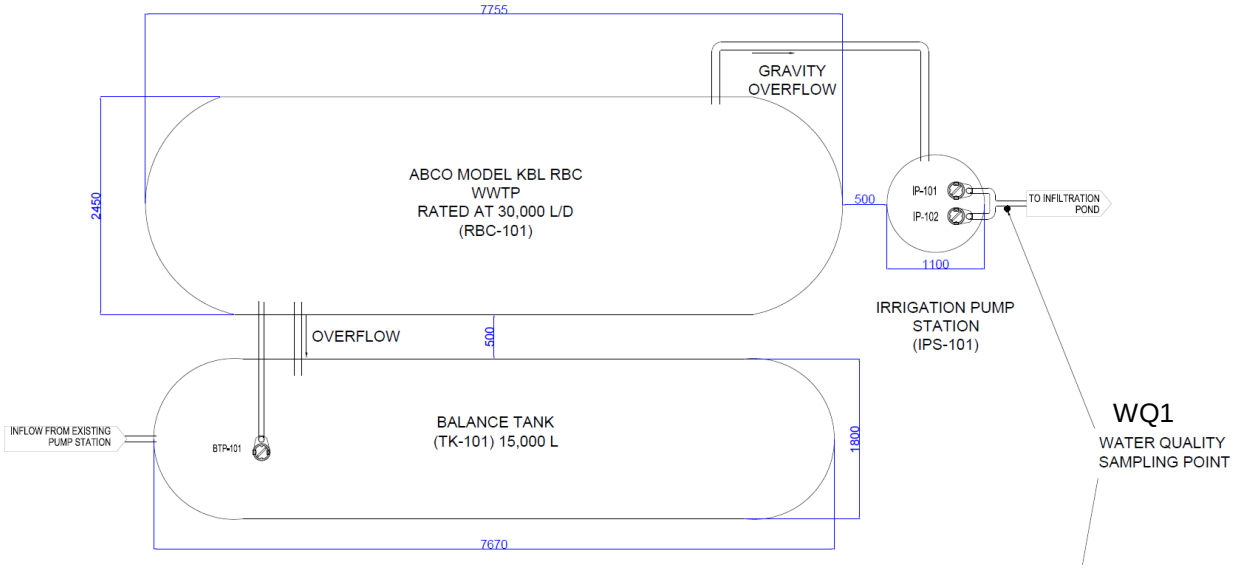
The Premises is shown in the map below. The red line depicts the Premises boundary. The location of the emission point defined in Table 2.1.1 is also shown below.





Map of monitoring locations

The location of the monitoring point defined in Table 3.1.1 is shown below.



Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Works Approval Holder: Yara Pilbara Fertilisers Pty Ltd

Works Approval Number: W5920/2015/1

Registered office:	Level 5 182 St Georges Terrace PERTH WA 6000
ACN:	095 441 151
Premises address:	Yara Pilbara Fertilisers Part of Lot 564 on Plan 31023, Village Road, BURRUP WA 6714 Within coordinates 476920E, 7719320N; 476982E, 7718359N; 477030E, 7719261N; 477450E, 7719445N; 477585E, 7719143N; 476976E, 7718789N; 476934E, 7718909N; 476980E, 7718945N and 476911E, 7719069N [MGA 94, Zone 50]
Issue date:	Thursday, 7 January 2016
Commencement date:	Monday, 11 January 2016
Expiry date:	Thursday, 10 January 2019

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:	Fiona Roser Licensing Officer
Decision Document authorised by:	Jonathan Bailes Delegated Officer

Contents

1 Purpose of this Document

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

2 Administrative summary

Administrative details		
Application type	Works Approval ☒ New Licence ☐ Licence amendment ☐ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)**	**Assessed design capacity**
	85	30 m^3/day
Application verified Application fee paid	Date: 16/10/2015 Date: 26/11/2015	
Works Approval has been complied with Compliance Certificate received	Yes ☐ No ☐ N/A ☒ Yes ☐ No ☐ N/A ☒	
Commercial-in-confidence claim	Yes ☐ No ☒	
Commercial-in-confidence claim outcome	N/A.	
Is the proposal a Major Resource Project?	Yes ☐ No ☒	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes ☐ No ☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Is the proposal subject to Ministerial Conditions?	Yes ☒ No ☐	Ministerial statement No: 586 EPA Report No: 1036
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)?	Yes ☐ No ☒ Department of Water consulted Yes ☐ No ☒	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes ☐ No ☒		
Is the Premises subject to any EPP requirements? Yes ☐ No ☒		

3 Executive summary of proposal and assessment

Yara Pilbara Fertilisers Pty Ltd (Yara) operates the Yara Pilbara Fertilisers ammonium production facility on the Burrup Peninsula, approximately 7km north of Dampier.

Yara Pilbara Fertilisers Pty Ltd holds Licence L7997/2002/11 granted by DER for the operation of the ammonia manufacturing plant and a sewage treatment plant.

The site is serviced by a sewage treatment plant that discharges to two infiltration beds north of the site. The current system is designed to treat 36kL of sewage per day. This works approval application is to replace the existing wastewater treatment plant (WWTP) with a new rotating biological contactor (RBC) unit. The new unit has a design capacity of 30kL/day. During normal operations the throughput is expected to be less than 6kL/day. The plant is designed to handle throughput fluctuations resulting from increases in personnel during shutdown periods when the throughput could increase to approximately 24m^3/day.

The RBC is a below-ground unit that consists of:

- A 15,000L poly balance tank;
- A 30,000L fibreglass RBC tank; and
- A 950L fibreglass irrigation tank.

Discharge to the infiltration beds is activated by a high-level float switch on the irrigation tank. The WWTP will be installed at the location of the existing plant, in the north-west corner of the Premises.

4 Decision table

All applications are assessed in line with the *Environmental Protection Act1986*, the *Environmental Protection Regulations 1987*and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision, they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
General conditions	W1.2.1 and W1.2.2 Existing Licence conditions - L7997/2002/11	Refer to Appendix A. Condition 1.2.2 has been included on the works approval allowing a three month commissioning period.	Application supporting documentation Landgate's Shared Land Information Platform
Premises operation	Existing Licence conditions - L7997/2002/11	The current Licence includes conditions relating to maintaining a freeboard on the infiltration ponds to ensure overtopping does not occur.	Application supporting documentation
Point source emissions to air including monitoring	N/A	There are no point source emissions to air, and therefore, no specified conditions relating to point sources emissions to air are required on the Works Approval or Licence.	Application supporting information
Point source emissions to surface water including monitoring	N/A	There are no point source emissions to surface water, and therefore, no specified conditions relating to point sources emissions to surface water are required on the Works Approval or Licence.	Application supporting information
Point source emissions to groundwater	N/A	There are no point source emissions to groundwater, and therefore, no specified conditions relating to point sources emissions to groundwater are required on the Works Approval or Licence.	Application supporting information

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
including monitoring			
Emissions to land including monitoring	W2.1.1 Existing Licence conditions - L7997/2002/11	Refer to Appendix B.	Application supporting information
Fugitive emissions	N/A	No significant fugitive emissions are expected during the construction and operation of the WWTP. Dust emissions may occur during installation of the tanks. However, these are expected to be minimal and short-lived. No conditions relating to dust are required on the Works Approval or Licence. Fugitive emissions of dust can be sufficiently regulated under section 49 of the *Environmental Protection Act 1986.*	Application supporting information *Environmental Protection Act 1986*
Odour	N/A	**Operation** Emission Description *Emission:* Odour generated from the operation of the WWTP. *Impact:* The nearest receptor is another industrial site located on the eastern boundary of the site that is operated by Yara Pilbara Nitrates Pty Ltd. *Controls:* The system will be located underground. Risk Assessment *Consequence*: Minor *Likelihood:* Rare *Risk Rating:* Low Regulatory Controls No conditions relating to odour are required on the Works Approval or Licence.	Application supporting information *Environmental Protection Act 1986*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Fugitive emissions of odour can be sufficiently regulated under section 49 of the *Environmental Protection Act 1986.* Residual Risk *Consequence*: Minor *Likelihood:* Rare *Risk Rating:* Low	
Noise	N/A	**Operation** Emission Description *Emission:* Noise generated from the operation of the WWTP. *Impact:* The nearest receptor is another industrial site located on the eastern boundary of the site that is operated by Yara Pilbara Nitrates Pty Ltd. *Controls:* No specified noise controls are proposed. The system will be located underground. No significant noise emissions above those generated from the main activities on the site are expected. Risk Assessment *Consequence*: Insignificant *Likelihood:* Rare *Risk Rating:* Low Regulatory Controls No conditions relating to noise are required on the Works Approval or Licence. Noise can be sufficiently regulated under the *Environmental Protection (Noise) Regulations 1997*. Residual Risk *Consequence*: Insignificant	Application supporting information *Environmental Protection (Noise) Regulations 1997*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Likelihood: Rare *Risk Rating:* Low	
Monitoring general	W3.1.1 Existing Licence conditions - L7997/2002/11	The Works Approval and Licence include conditions for monitoring to be conducted in accordance with the relevant Australian Standards and by NATA accredited laboratories.	N/A
Monitoring of inputs and outputs	W3.1.2 Existing Licence conditions - L7997/2002/11	The Licence currently includes conditions requiring the Licensee to monitor and record the volume of effluent discharged from the WWTP. These conditions will remain on the Licence and apply to the new WWTP. A condition is included on the Works Approval requiring outputs to be monitored during commissioning. A flow meter will be installed to allow this to be monitored.	Application supporting information
Process monitoring	N/A	There are no process monitoring conditions on the Works Approval or Licence.	N/A
Ambient quality monitoring	Existing Licence conditions - L7997/2002/11	The existing Licence includes conditions relating to groundwater monitoring. Groundwater monitoring is undertaken on a quarterly basis at five bores around the boundary of the Premises. A groundwater monitoring bore is located approximately 50m south-west of the infiltration trenches.	Application supporting information
Meteorological monitoring	N/A	There are no meteorological monitoring conditions on the Works Approval or Licence.	N/A
Improvements	N/A	There are no improvements conditions on the Works Approval or Licence.	N/A
Information	W4.1 - W4.2 Existing Licence conditions - L7997/2002/11	Conditions are included on the Works Approval requiring the submission of a compliance document to confirm that the WWTP has been constructed in accordance with commitments of the Works Approval application. A commissioning report is required to be submitted following commissioning, which will include the results of wastewater quality monitoring to verify plant performance. Condition W4.2.1 requires notification at the commencement and completion of commissioning. As per existing Licence conditions, results of groundwater and water quality monitoring will be required to be submitted to DER via an Annual Environmental Report.	N/A

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Licence Duration	N/A	The works approval has been issued for three years. Construction and commissioning are expected to take only a few months. The current Licence is due to expire in April 2016. DER will review the Licence duration at the time of the Licence amendment application or reissue.	Guidance Statement: Licence Duration.

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
7/12/2015	Application advertised in The West Australian (or other relevant newspaper)	None received.	N/A
7/12/2015	Application referred to interested parties listed: • City of Karratha	None received.	N/A
15/12/2015	Proponent sent a copy of draft instrument	None received.	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

Construction

Emission Description

Emission: Disturbance of acid sulfate soils (ASS).
Impact: Contamination of surrounding groundwater or soil.
Controls: The proposed WWTP site is not situated within an ASS risk area as described in Landgate's Shared Land Information Platform. The boundary of a Class 1 (high/moderate) ASS risk area is located approximately 140m to the south of the proposed site. Excavation will occur to a depth of 3m to install the WWTP. Groundwater is not expected to be encountered, and no groundwater dewatering is proposed. Should groundwater be encountered, excavation will cease and the proportion of the WWTP situated below ground reduced to ensure potential ASS are not disturbed. The area of disturbance is relatively small.

Risk Assessment

Consequence: Minor
Likelihood: Rare
Risk Rating: Low

Regulatory Controls

Conditions of the Works Approval require that the WWTP is constructed in accordance with commitments made in the application submitted to the DER.

Risk Assessment

Consequence: Minor *Likelihood:* Rare *Risk Rating:* Low

Operation

Emission Description

Emission: Containment failure causing contamination of surrounding land and groundwater.
Impact: Contamination of surrounding land, groundwater and surface water (adjacent tidal flats). Potential impacts on the ecology of groundwater and surface water from the addition of nutrients.
Controls: The WWTP system is a fully enclosed, self-contained treatment system fabricated using corrosion resistant material to prevent leaks. The tanks will be installed below-ground on a concrete base with stabilised soil to assist with ground pressure and ensure quality backfill against the tank body. The tanks are designed and certified for in-ground installation. The tanks will be installed to a depth of 3m. Groundwater is not expected to be encountered at this depth. A local audio-visual alarm will be installed at the WWTP to indicate high levels in the balance tank, treatment plant or irrigation tank. Daily checks of the system will be undertaken by Yara in addition to quarterly inspections and servicing of the plant by the WWTP manufacturer.

Risk Assessment

Consequence: Minor *Likelihood:* Rare *Risk Rating:* Low

Regulatory Controls

Conditions of the Works Approval require that the WWTP is constructed in accordance with commitments made in the application submitted to the DER. Unauthorised discharge of sewage is subject to the provisions of the *Environmental Protection (Unauthorised Discharges) Regulations 2004*.

Residual Risk

Consequence: Minor *Likelihood:* Rare *Risk Rating:* Low

Appendix B

Commissioning/Operation

Emission Description

Emission: Treated effluent containing nutrients discharged to two existing infiltration trenches.
Impact: Contamination of surrounding land, groundwater and surface water systems. Potential impacts on the ecology of groundwater and surface water from the addition of nutrients. Depth to groundwater in the vicinity of the infiltration trenches is greater than 3m. Groundwater flows towards the tidal flats connected to King Bay.
Controls: Treated wastewater will be discharged to the two existing infiltration trenches. Wastewater quality is comparable to the existing system (Table 1). The maximum design capacity of the WWTP is 30kL/day. Normal operational throughput is expected to be less (5.4kL/day). The plant is designed with the capacity to handle fluctuations in the number of personnel on site without compromising effluent quality (for example during shutdowns of the ammonia plant when throughput may increase to approximately 24kL/day). The infiltration beds are fully fenced to prevent unauthorised access. Water quality may exceed design specifications during commissioning however this is expected to be for a short duration. Water quality will be monitored during commissioning to verify plant performance with monitoring continuing on a monthly basis during operations to ensure water specifications are maintained. The system will undergo regular inspections and servicing by the manufacturer. A groundwater monitoring program is in place to detect any impacts on local groundwater quality.

Table 1: Design criteria of WWTP compared to current criteria specified in the Licence (L7997/2002/11).

Parameter	WWTP Design Criteria	Current Licence Criteria
Biochemical oxygen demand (mg/L)	<20	20
Total suspended solids (mg/L)	<30	30
Total nitrogen (mg/L)	<20	25
Total phosphorus (mg/L)	<8	5
pH	6.5 – 8.5	6.5 – 8..5
Total residual chlorine (mg/L)	<0.5	-
Thermo-tolerant coliforms (cfu/100mL)	<1,000	-
E. coli (cfu/100mL)	-	10,000

Risk Assessment

Consequence: Minor *Likelihood:* Rare *Risk Rating:* Low

Regulatory Controls

Condition 1.2.2 of the works approval allows three months of commissioning. Conditions are included in the works approval requiring weekly water quality monitoring during commissioning. Conditions relating to operational monitoring are already included on the Licence (L7997/2002/11). The Licence also includes conditions relating to water quality targets. In accordance with administrative changes implemented within the Department of Environment Regulation, conditions that contain targets or trigger levels will not be applied or continued in licences or works approvals. Accordingly, water quality targets may be converted to limits.

Residual Risk

Consequence: Minor *Likelihood:* Rare *Risk Rating:* Low