Government of Western Australia
Department of Environment Regulation

Amendment Notice 1

Licence Holder	Pastoral Management Pty Ltd
ACN	124 021 512
Registered business address	Level 7, 45 St Georges Terrace PERTH WA 6001
Licence Number	L8387/2009/2
File Number:	DER2014/001420
Premises	Eramurra Village: Construction Village Sewage Facility Mining Tenement G08/75 MARDIE WA 6714
Date of amendment	28/04/2017

Amendment

The Chief Executive Officer (CEO) of the Department of Environment Regulation (DER) has amended the above licence in accordance with section 59 of the *Environmental Protection Act 1986* as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act and follows.

Date signed: 28 April 2017

Stephen Checker
MANAGER LICENCING (WASTE INDUSTRIES)

an officer delegated under section 20 of the Environmental Protection Act 1986 (WA)

Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act* 1986 (EP Act) to amend the Licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

This notice is limited only to an amendment for Category 54. No changes to the aspects of the original licence aside from converting the existing turbo membrane bioreactor wastewater treatment plant to a sequencing batch reactor wastewater treatment has been requested by the Licence Holder.

The following DER Guidance Statements have informed the decision made on this amendment:

- *Guidance Statement: Regulatory Principles* (July 2015)
- *Guidance Statement: Setting Conditions* (October 2015)
- *Guidance Statement: Land Use Planning* (October 2015)
- *Guidance Statement: Licence Duration* (November 2015)
- *Guidance Statement: Decision Making* (November 2016)
- *Guidance Statement: Risk Assessment* (November 2016)

Amendment Description

This Amendment Notice is a result of a written request from Pastoral Management Pty Ltd (PM) for approval via licence conditions to convert the existing turbo membrane bioreactor wastewater treatment plant to a sequencing batch reactor wastewater treatment.

Currently servicing the Eramurra Accommodation Village is a Chatoyer turbo membrane bioreactor wastewater treatment plant (TMB) with a design capacity of 900m^3/day and nominated throughput of 620m^3/day. PM has conducted a feasibility study and is proposing to convert the TTP to a conventional sequencing batch reactor wastewater treatment plant (SBR) with a design capacity of 660m^3/day. The redundant TTP bioreactors (120kL in aggregate) along with the existing storage pond (700kL) will be retained onsite for emergency storage. The inbuilt buffer storage will provide up to 15 hours storage and the emergency containment infrastructure provides up to 29 hours emergency storage. The SBR effluent tank (650kL) provides additional buffer storage for final effluent for up to 24 hours. The influent tanks, sludge storage tanks and emergency storage tanks will be located within the existing bunded concrete hardstand and an earthen bund will be constructed around the anoxic buffer tank, aeration decant tank and effluent tank. Table 1 compares the TMB to the converted SBR and the only new infrastructure to be constructed in the conversion to the SBR is the Aeration/Decant Tank (750kL).

The construction period is expected to be approximately 20 days and construction will be staged so that there is no interruption to the treatment of sewage. It is not anticipated that waste will need to be transferred off-site during construction or commissioning period however if required sewage waste will be transferred to Fortescue River wastewater treatment plant that is licensed accordingly (L8310/2008/2). PM propose to commission the SBR and undertake weekly sampling analysis. Upon completion of commissioning the frequency of sampling will revert back to Quarterly.

The conversion to the SBR will not alter the existing waste water treatment plant emission discharge point for irrigation area.

Table 1 Variation in the TMB to SBR

	Turbo Membrane Bioreactor WWTP (TMB)	Sequence Batch Reactor WWTP (SBR)
Nominated Throughput	~620m^3/day	~660m^3/day
Tank Specifications	2x Treated Water Tanks (525kL each)	2 x Influent Collection Tanks (50kL each)
	4x Balance Tanks (60kL each)	1x Anoxic Buffer Tank (650kL)
	4x Aeration Reactors	1x Aeration/Decant Tank (750kL)
	2x Sludge Tanks (15kL each).	2x Sludge Storage Tanks (50kL each)
	1x Anoxic Tank	1x Effluent Tank (650kL)
		2x Emergency Storage Tanks (60kL each)
Treated Wastewater Quality	TN <50mg/L	TN <40mg/L
	TP <12mg/L	TP <10mg/L
	E.Coli <1000cfu/100mL	E.Coli <1000cfu/100mL
	BOD <30mg/L	BOD <30mg/L
	TSS <40mg/L	TSS <40mg/L
	pH 6-9	pH 6-9
	Residual Chlorine 0.2-2.0mg/L	Residual Chlorine 0.2-2.5mg/L

The SBR will achieve the same treatment targets as defined in existing licence condition 2.5.2.

Table 2 below outlines the proposed changes to the licence.

Table 2: Proposed design or throughput capacity changes requested in amendment

Category	Current Design Capacity	Proposed Design Capacity	Description of proposed amendment
54	900 cubic metres per day	660 cubic metres per day	Conversion of TMB to SBR

The proposed conversion will also necessitate a minor change to the prescribed premises boundary.

This Amendment Notice is as a result of a written request from the Pastoral Management Pty Ltd for the inclusion of:

1. Approval via licence condition to covert the TMB to a SBR wastewater treatment plant at the Premises; and
2. Approval via licence condition to amend the premises boundary at the Premises,

onto the Licence L8387/2009/2.

The Licence Holder does not propose construction of any additional infrastructure or propose any further changes to the Existing Licence.

The proposed amendment of the Licence L8387/2009/2 is made by the Delegated Officer pursuant to section 59(1) (a) of the EP Act.

Location, environmental siting and potential receptors

Table 3 below lists the relevant sensitive land uses in the vicinity of the prescribed premises which may be receptors relevant to the proposed amendment.

Table 1: Receptors and distance from prescribed premises

Residential and sensitive premises	Distance from Prescribed Premises
Mining Camp	13km west

Table 4 below lists the relevant environmental receptors in the vicinity of the prescribed premises which may be receptors relevant to the proposed amendment.

Table 2: Environmental receptors and distance from prescribed premises

Environmental receptors	Distance from Prescribed Premises
Eramurra creek (ephemeral)	400m east and 100m west of SBR
Fortescue River	20km west

Risk Assessment

Tables 5 and 6 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to human health or the environment, requiring regulatory controls.

Table 5: Risk assessment for proposed amendments during construction and commissioning

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		**Potential Emissions**	**Potential Receptors**	**Potential Pathway**	**Potential Adverse Impacts**				
Category 54 – sewage facility	Conversion of the TMB to SBR	**Dust**	Residential receptors: 13km west	Air /wind dispersion	Health and amenity impacts	Slight	Rare	Low	The Delegated Officer has considered the information submitted in the Licence amendment application and notes that the closest receptor is 13km west. Dust emissions are not expected as minimal civil works are required to convert the TMB to the SBR as the only additional infrastructure is one tank which is pre-fabricated off-site and only positioned on-site with minimal disturbance to generate any dust lift-off. Commissioning activities will not differ from existing operations and the majority of the SBR is located on a hardstand pad. Possible dust lift-off during commissioning will be from vehicles accessing the wastewater treatment plant (WWTP) but given the limited speed the potential is greatly reduced. The Delegated officer considers that the amendment to convert the WWTP does not increase in risk of dust emissions and s49 of the *Environmental Protection Act 1986* (EP Act) regulates dust emissions.

		Odour	Residential receptors: 13km west	Air /wind dispersion	Health and amenity impacts	Slight	Unlikely	Low	The Delegated Officer has considered the information submitted in the Licence amendment application and the potential receptors, pathways and impact noting that there is only construction of one additional tank and commissioning works will not produce additional odour emissions to those already experienced at the WWTP as the tanks are fully sealed thereby reducing odour emissions. The Delegated officer considers that the amendment to convert the WWTP does not increase in risk of odour emissions and s49 of the *Environmental Protection Act 1986* (EP Act) regulates odour emissions.
		Noise	Residential receptors: 13km west	Air /wind dispersion	Amenity impacts causing nuisance	Slight	Rare	Low	The Delegated Officer has considered the information submitted in the Licence amendment application and notes that the closest receptor is 13km west. Noise generated during construction of one additional tank the noise generated during commissioning will not increase from existing noise emissions at the Premises. The Delegated Officer considers that noise emissions can be adequately regulated under the *Environmental Protection (Noise) Regulations 1997.*

		Contaminated Stormwater: sewage mixing with stormwater.	Eramurra creek (ephemeral) is 100m west and 400m east	Land and groundwater – direct infiltration into soil and groundwater. Surface water - Overland flow into creeks	Alteration to soil and /or vegetation. Alteration to groundwater that has the potential to disrupt ecological processes of groundwater with excess nutrients Alteration to surface water that has the potential to disrupt ecological processes of surface water body excess nutrients	Slight	Unlikely	Low	The Delegated Officer has considered the information submitted in the Licence amendment application and the potential receptors, pathways and impact noting that there is only construction of one additional tank, that the WWTP resides within a bunded compound and construction and commissioning will only occur for a short period prior to full operation. The Delegated Officer considers that the amendment to convert the TMB to a SBR does not increase the risk from contaminated stormwater emissions and that no regulation is required during construction and commissioning.
		Seepage: spills and leaks of sewage.	Eramurra creek (ephemeral) is 100m west and 400m east	Land and groundwater – direct infiltration into soil and groundwater. Surface water - Overland flow into creeks	Alteration to soil and /or vegetation. Alteration to groundwater that has the potential to disrupt ecological processes of groundwater with excess nutrients Alteration to surface water that has the potential to disrupt ecological processes of surface water body excess nutrients	Slight	Unlikely	Low	The Delegated Officer has considered the information submitted in the Licence amendment application and the potential receptors, pathways and impact noting that there is only construction of one additional tank and that the WWTP resides within a bunded compound. The Delegated Officer considers that the amendment to convert the TMB to a SBR does not increase the risk from seepage emissions and that no additional regulation is required during construction and commissioning.

Table 6: Risk assessment for proposed amendments during operation

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		**Potential Emissions**	**Potential Receptors**	**Potential Pathway**	**Potential Adverse Impacts**				
Category 54 – sewage facility	Operation of the SBR	**Discharges to land:** irrigation of treated sewage	Eramurra creek (ephemeral) is 100m west and 400m east	Land and groundwater – direct infiltration into soil and groundwater. Surface water - Overland flow into creeks	Alteration to soil and /or vegetation. Alteration to groundwater that has the potential to disrupt ecological processes of groundwater with excess nutrients Alteration to surface water that has the potential to disrupt ecological processes of surface water body excess nutrients	Slight	Unlikely	Low	The Delegated Officer has considered the information submitted in the Licence amendment application and the potential receptors, pathways and impact noting that treated sewage parameter discharge criteria and loading rates will not increase from those assessed under the existing licence and regulated under condition 2.5.2. The production and design capacity of the WWTP has been reduced from 900 to 660 cubic metres per day and discharge volumes will be reduced under operation of the SBR. The Delegated Officer considers that the amendment to operate a SBR does not increase the risk from discharges to land emissions and that no additional regulation is required during operation outside existing licence condition 2.5.2.
		Dust	Residential receptors: 13km west	Air /wind dispersion	Health and amenity impacts	Slight	Rare	Low	The Delegated Officer has considered the information submitted in the Licence amendment application and notes that the closest receptor is 13km west. Dust emissions are not expected as minimal dust lift-off during operation occurs as the WWTP is sited on a hardstand pad and the

									WWTP only has limited access for vehicles with limited speed. The Delegated officer considers that the amendment to operate the SBR does not increase in risk of dust emissions and s49 of the EP Act regulates dust emissions.
		Odour	Residential receptors: 13km west	Air /wind dispersion	Health and amenity impacts	Slight	Unlikely	Low	The Delegated Officer has considered the information submitted in the Licence amendment application and the potential receptors, pathways and impact noting that operation of the WWTP is within fully sealed tanks that will not produce additional odour emissions to those already experienced. The Delegated officer considers that the amendment to convert the WWTP does not increase in risk of odour emissions and s49 of the *Environmental Protection Act 1986* (EP Act) regulates odour emissions.
		Noise	Residential receptors: 13km west	Air /wind dispersion	Amenity impacts causing nuisance	Slight	Rare	Low	The Delegated Officer has considered the information submitted in the Licence amendment application and notes that the closest receptor is 13km west. Noise generated during operation the SBR will not increase from existing noise emissions at the Premises. The Delegated Officer considers that noise emissions can be adequately regulated under the *Environmental*

									Protection (Noise) Regulations 1997.
		Contaminated Stormwater: sewage mixing with stormwater.	Eramurra creek (ephemeral) is 100m west and 400m east	Land and groundwater – direct infiltration into soil and groundwater. Surface water - Overland flow into creeks	Alteration to soil and /or vegetation. Alteration to groundwater that has the potential to disrupt ecological processes of groundwater with excess nutrients Alteration to surface water that has the potential to disrupt ecological processes of surface water body excess nutrients	Slight	Unlikely	Low	The Delegated Officer has considered the information submitted in the Licence amendment application and the potential receptors, pathways and impact noting that the treatment of sewage will occur within closed tanks sited on a bunded hardstand. The Delegated Officer considers that the amendment to operate a SBR does not increase the risk from contaminated stormwater emissions and that no regulation is required during operation.
		Seepage: spills and leaks of sewage.	Eramurra creek (ephemeral) is 100m west and 400m east	Land and groundwater – direct infiltration into soil and groundwater. Surface water - Overland flow into creeks	Alteration to soil and /or vegetation. Alteration to groundwater that has the potential to disrupt ecological processes of groundwater with excess nutrients Alteration to surface water that has the potential to disrupt ecological processes of surface water body excess nutrients	Slight	Unlikely	Low	The Delegated Officer has considered the information submitted in the Licence amendment application and the potential receptors, pathways and impact noting that the treatment of sewage will occur within closed tanks sited on a bunded hardstand. The Delegated Officer considers that the amendment to operate a SBR does not increase the risk of seepage emissions and that no additional regulation is required during operation outside existing licence condition 1.2.2 and 1.2.4.

Decision

The Delegated Officer has determined that an amendment be made to the Licence to convert the TMB to a SBR.

The Delegated Officer considers the amended conditions as appropriate and in line with other premises as assessed across the State, and in accordance with DER's regulatory approach.

The Licence Prescribed premises category has been amended from 900 cubic metres per day to 660 cubic metres per day.

A definition of Commissioning has been provided for the amendment.

The Schedule 1 map has been amended to incorporate the new premises boundary.

Licence condition 1.3.2 has been amended to reflect the SBR new production and design capacity of 660 cubic metres per day.

Licence condition 1.3.6 and 1.3.7 have been included to detail the approved work requirements for the Premises resulting from the amendment application.

Licence condition 1.3.8 and 1.3.9 has been included to ensure that a construction compliance document is submitted to DER after construction of the SBR and prior to commissioning and operation.

Licence Condition 1.3.10 has been included to detail commissioning requirements for the SBR.

Licence condition 3.5.1 has been amended to ensure Commissioning sample frequency is weekly.

Licence condition 5.3.1 has been amended to ensure the Licensee notifies DER of both the commencement and completion of Commissioning.

The Delegated Officer has considered DER's *Guidance Statement: Regulatory Principles, Guidance Statement: Setting Conditions* and *Guidance Statement: Risk Assessment* in granting this amendment, and does not consider that this amendment will impact the risk profile of the premises, which is currently considered as Moderate.

Amendment History

Instrument	Issued	Amendment
L8387/2009/2	2/04/2016	Licence expiry dated amended to 21 March 2030
L8387/2009/2	28/04/2017	Licence amendment to convert the existing turbo membrane bioreactor wastewater treatment plant to a sequencing batch reactor wastewater treatment.

Licence Holder's Comments

The Licence Holder was provided with the draft Amendment Notice on 18 April 2017 Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 2.

Amendment

1. The licence Prescribed premises category is amended by the deletion of the text shown in strikethrough and the insertion of the red text shown in underline below:

Prescribed premises category
Schedule 1 of the Environmental Protection Regulations 1987

Category number	***Category description***	***Category production or design capacity***	***Approved premises production or design capacity***
54	*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.*	*100 cubic metres or more per day*	*~~900~~ 660 cubic metres per day*

2. The definition of Commissioning has been inserted:

'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 licence amendment application.*

3. Condition 1.3.2 has been amended by the deletion of the text shown in strikethrough and the insertion of the red test shown in underline below:

1.3.2 The Licensee shall only allow waste to be accepted on to the Premises if:
(a) it is of a type listed in Table 1.3.1;
(b) the quantity accepted is below any limit listed in Table 1.3.1; and
(c) it meets any specification listed in Table 1.3.1.

Table 1.3.1: Waste acceptance			
Waste	***Waste Code***	***Quantity Limit***	***Specification[1]***
Putrescible and Organic wastes			
Sewage	*N/A*	*~~900~~ 660m^3/day*	*Accepted through controlled waste transfer point and sewer inflow only.*

Note 1: Additional requirements for the acceptance of controlled waste are set out in the Environmental Protection (Controlled Waste) Regulations 2004.

4. Condition 1.3.6 of the licence is amended by the insertion of the condition below:

1.3.6 The Licensee must construct the works for the infrastructure and equipment:
(a) specified in Column 1; and
(b) to the requirements specified in Column 2;

As detailed in Table 1.3.3.

Table 1.3.3 Work requirements for Premises

Column 1	*Column 2*
Site Infrastructure	*Requirements*
Sequencing Batch Reactor	*The Licensee must ensure that the Sequencing Batch Reactor:* *1. is contained within the premises boundary;* *2. is not accessible to the public (non-operational staff) at any time;* *3. is hardstand or earthen bunded to mitigate against accidental discharge from the infrastructure under abnormal operating conditions;* *4. includes 2 x Influent Collection Tanks (50kL each), 1 x Anoxic Buffer Tanks (650kL), 1 x Aeration/Decant Tank (750kL), 2 x Sludge Storage Tanks (50kL each), 1 x Effluent Tank (650kL) and 2 x Emergency Storage Tanks (60kL each); and* *5. is linked via a pipeline network to emission point L1 as depicted in Schedule 1 Map prior to discharge to the irrigation area.*

5. Condition 1.3.7 of the licence is amended by the insertion of the condition below:

1.*3.7 The Licensee must not depart from the requirements in Column 2 of Table 1.3.3 except;*

(a) where such departure is minor in nature and does not materially change or affect the infrastructure; or

(b) where such departure improves the functionality of the infrastructure and reduces the risk to public health and the environment; and

(c) and all other conditions in this Licence are still satisfied.

6. Condition 1.3.8 of the licence is amended by the insertion of the condition below:

1.3.8 Subject to Condition 1.3.6, upon completion of the Works specified in Column 1 of Table 1.3.3 and prior to commissioning of the Works specified in Column 1 of Table 1.3.3, the Licensee must provide to the CEO a report/engineering/building certification from a suitably qualified professional confirming each item of infrastructure or component of infrastructure specified in Column 1 of ***Error! Reference source not found.****..3.3 has been constructed with no material defects and to the requirements specified in Column 2 of Table 1.3.3*

7. Condition 1.3.9 of the licence is amended by the insertion of the condition below:

1.3.9 Where a departure from the requirements specified in Column 2 of Table 1.3.3 occurs and is of a type allowed by condition 1.3.7 the Licensee must provide to the CEO a description of, and explanation for the departure along with the certification required by Condition 1.3.8.

8. Condition 1.3.10 of the licence is amended by the insertion of the condition below:

1.3.10 The Licensee shall commission the Sequencing Batch Reactor wastewater treatment plant for a period not exceeding 3 months.

9. Condition 3.5.1 of the licence is amended by the insertion of the red text underline below:

3.5.1 The Licensee shall undertake the monitoring in Table 3.5.1 according to the specifications in that table.

Table 3.5.1: Monitoring of emissions to land				
Emission point reference	***Parameter***	***Units***	***Averaging Period***	***Frequency***
L1	*pH[1]*	*pH units*	*Spot Sample*	*Quarterly or Weekly during Commissioning only*
	Biochemical Oxygen Demand	*mg/L*		
	Total Suspended Solids	*mg/L*		
	E.coli[2]	*cfu/100ml*		
	Total Nitrogen	*mg/L*		
	Total Phosphorus	*mg/L*		

Note 1: In-field non-NATA accredited analysis permitted.
Note 2: Actual units above 1 cfu/100mL are to be reported except where the result is greater than the highest detectable level of 24,000 cfu/100mL. In this case the reporting of the highest detectable level is permitted.

10. Condition 5.3.1 of the licence is amended by the insertion of the red text underline below:

5.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the CEO and in accordance with the notification requirements of the table.

Table 5.3.1: Notification requirements			
Condition or table (if relevant)	***Parameter***	***Notification requirement[1]***	***Format or form[2]***
1.3.1 and 2.1.1	*Breach of any limit specified in the Licence*	*Part A: As soon as practicable but no later than 5pm of the next working day* *Part B: As soon as practicable*	*N1*
-	*Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution*		
3.1.4	*Calibration report* *As soon as practicable.* *None specified*	*As soon as practicable*	*None specified*
1.3.10	*Commencement of commissioning*	*7 days prior to start*	*None specified*
	Completion of commissioning	*7 days after completion*	

Note 1: No notification requirement in the Licence shall negate the requirement to comply with s72 of the Act.
Note 2: Forms are in Schedule 2

Appendix 1: Key Documents

	Document Title	In text ref	Availability
1	Licence L8387/2009/2 – Eramurra Village: Construction Village Sewage facility	L8387/2009/2	accessed at http://www.der.wa.gov.au
3	DER, July 2015. *Guidance Statement: Regulatory principles.* Department of Environment Regulation, Perth.	DER 2015a	accessed at http://www.der.wa.gov.au
4	DER, October 2015. *Guidance Statement: Setting conditions.* Department of Environment Regulation, Perth.	DER 2015b	
5	DER, August 2016. *Guidance Statement: Licence duration.* Department of Environment Regulation, Perth.	DER 2016a	
6	DER, November 2016. *Guidance Statement: Risk Assessments*. Department of Environment Regulation, Perth.	DER 2016b	
7	DER, November 2016. *Guidance Statement: Decision Making*. Department of Environment Regulation, Perth.	DER 2016c	

Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 18 April 2017 for review and comment. The Licence Holder responded on 24 April 2017 waiving the remaining comment period. No comments were submitted on the draft Amendment Notice.

Schedule 1: Maps

The Premises is shown in the map below, the black line depicts the premises boundary. Emission point references as depicted in Table 2.5.1 are shown below also.