



Amendment Notice 4

Licence Number	L6818/1997/11
Licence Holder	Shire of Bridgetown-Greenbushes
File Number:	DER2015/000123-1~1
Premises	Bridgetown Waste Management Facility Lot 903 on Plan 189961 Boyup Brook Road BRIDGETOWN WA 6255
Date of Amendment	3 May 2019

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act) 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.

Steve Checker

**MANAGER WASTE INDUSTRIES
REGULATORY SERVICES**

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

Definitions and interpretation

Definitions

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

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Amendment Notice	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 10 JOONDALUP DC WA 6919 info@dwer.wa.gov.au
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
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review

GCL	Geosynthetic Clay Liner
Licence Holder	Shire of Bridgetown-Greenbushes
LWF	Bridgetown Liquid Waste Facility
m ³	cubic metres
Minister	the Minister responsible for the EP Act and associated regulations
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>
WMF	Waste Management Facility

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 relating to Category 61. No changes to the aspects of the original Licence relating to Category 61A, 62, or 64 have been requested by the Licence Holder.

The following 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 (February 2017)*
- *Guidance Statement: Licence Duration (August 2016)*
- *Guidance Statement: Decision Making (February 2017)*
- *Guidance Statement: Risk Assessment (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*

Amendment description

The Bridgetown Liquid Waste Facility forms part of the Bridgetown Waste Management Facility (WMF). The existing Leachate pond is reaching capacity and there is a need to alternatively manage leachate onsite. On 21 February 2019 the Licence Holder submitted an application to amend the existing licence to enable a one-off transfer of 700m³ of leachate from the Bridgetown WMF leachate evaporation pond into the new Bridgetown Liquid Waste Facility (LWF) facultative pond to assist in managing the leachate collection levels.

The facultative pond has a design capacity of 700 tonnes per annum and is currently not receiving any liquid waste. Water balance calculations (Appendix 3) received from the Licence Holder outline the future evaporation of leachate from the facultative pond should it receive 700m³ from the leachate pond. The calculation that the water balance was based upon can be found in Appendix 4. The water balance indicates that liquid waste from the anaerobic treatment pond will not flow into the facultative pond until September 2019, and the additional input is able to be managed within the capacity of the LWF and will not cause overtopping.

Amendment history

Table 3 provides the amendment history for L6818/1997/11.

Table 3: Licence amendments

Instrument	Issued	Amendment
L6818/1997/11	03/05/2013	Licence re-issue
W5677/2014/1	23/07/2015	New works approval granted (additional cell)
W5667/2014/1	22/08/2016	Works approval amended (construction of cell 2)
L6818/1997/11	22/08/2016	Licence amendment (operation of cell 1 and leachate pond)
L6818/1997/11	09/02/2017	Amendment Notice 1 (extension to use Liquid Waste Facility until 31/03/18)
L6818/1997/11	29/03/2018	Amendment Notice 2 (extension to use Liquid Waste Facility until 31/12/18)
L6818/1997/11	22/05/2018	Amendment Notice 3 for construction of a new Liquid Waste Facility
L6818/1997/11	3/05/2019	Amendment Notice 4 for one-off input of 700m ³ leachate from WMF evaporation pond into the new liquid waste facility facultative pond.

Location and receptors

Table 4 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 4: Receptors and distance from activity boundary

Residential and sensitive premises	Distance from Prescribed Premises
Closest residential premises	400m north east and 580m south east of the new liquid waste pond

Table 5 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 5: Environmental receptors and distance from activity boundary

Environmental receptors	Distance from Prescribed Premises
Hester Conservation Park Class A	100m north
Kaniyang 18 Camp Aboriginal Site of Significance 17495	350m south west
Blackwood River	1.1km north west

Aboriginal Site of Significance 20494	
Minor perennial watercourses, including dams	Multiple within 1km radius

Risk assessment

Table 6 below describes 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 public health or the environment, requiring regulatory controls.

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					
Cat 61: Liquid waste facility	Once-off transfer of 700m ³ leachate from WMF leachate evaporation pond into the new LWF Facultative treatment pond	Waste: Leachate - seepage	Groundwater dependent vegetation and ecosystem	Seepage to groundwater	Adverse impacts to the health and survival of vegetation dependent upon groundwater	N/A	N/A	N/A	<p>Leachate as a waste type is considered consistent with the types of waste permitted for acceptance at the LWF and does not pose any additional risk.</p> <p>As per Licence Condition 1.2.13; the Facultative treatment pond is <i>HDPE banded area that is lined at a minimum thickness of 1.35 mm and free from leaks and defects</i></p> <p>The Delegated Officer considers the HDPE liner blocks the potential pathway for seepage to impact groundwater, therefore the HDPE liner is sufficient to mitigate risks associated with leachate.</p>
		Waste: Leachate- Overtopping of pond resulting in waste discharge to land	Vegetation adjacent to discharge area	Direct discharge to land and surface waters	Soil contamination inhibiting vegetation growth and survival Surface water contamination	Minor	Possible	Medium	<p>The Delegated Officer determined the Water balance data as submitted by the Licence Holder (Appendix 3) adequately demonstrates that the introduction of 700m³ Leachate is able to be managed within the LWF system.</p> <p>Operation of the new liquid waste ponds are managed under Licence Condition</p>

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
								<p>1.2.7 (see Amendment Notice 3) to ensure that freeboard and overtopping of ponds are managed.</p> <p>As per Condition 1.2.13 the Facultative treatment pond is within a HDPE bunded area therefore reducing the risk of discharge to land and water should overtopping occur.</p> <p>The Delegated Officer considers the risk is manageable with existing Licence Conditions relating to the liquid waste ponds.</p> <p>Condition 1.2.17 has been added to the Licence to allow the one-off deposit of 700m³ leachate from the leachate evaporation pond into the Facultative pond.</p>

Decision

The Delegated Officer considers that the GCL and HDPE liner blocks the potential pathway for seepage to impact groundwater, therefore the liner is sufficient to reduce seepage risks associated with leachate from the facultative pond. Condition 1.2.7 ensures all liquid waste ponds on the Premises are managed such that they do not overtop, the 300mm freeboard is maintained, stormwater runoff is managed, and vegetation does not grow in the pond embankments. The Water Balance data provided by the Licence Holder offers adequate proof that the addition of 700m³ leachate to the facultative pond should not cause the pond to overtop. As the facultative pond is HDPE bunded the risk of discharge to land and water should overtopping occur is significantly reduced.

The Delegated Officer considers the Water Balance along with Licence Conditions and controls that are already in place are sufficient for reducing and managing the risks of overtopping associated with the transfer of 700m³ leachate into the facultative pond and it is the responsibility of the Licence Holder ensure overtopping does not occur. The Delegated Officer has therefore determined that an amendment be made to the Licence Condition 1.2.4 to allow a one off transfer of 700m³ leachate from the leachate pond into the facultative pond to allow for increased leachate evaporation rates. The Amendment Notice allows the discharge of leachate waste into the facultative pond on a time limited, one-time basis.

Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 02 April 2019. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 2.

Amendment

1. Condition 1.2.4 of the Licence is amended by the insertion of the red text shown in underline below:

- 1.2.4 The Licence must ensure that all wastes accepted onto the Premises are only subjected to the processes set out in Table 1.2.3 and in accordance with any process limits described in Table 1.2.3.

Table 1.2.3: Waste processing		
Waste type	Processes	Process limits
All solid waste types	Receipt, handling, associated storage and/ or disposal of waste by landfilling	(a) No waste must be temporarily stored, treated, processed, disposed of or landfilled within 35 metres from the boundary of the Premises. (b) Disposal of waste by landfilling must only take place within the active landfill area as depicted in Schedule 1. (c) The landfill tipping area must not be exposed with: (i) a vertical face exceeding two metres (ii) a horizontal face exceeding 30 metres. (d) Waste must be levelled and compacted as soon as practicable after it is discharged in layers not greater than 500 mm. (e) Waste must be placed and compacted to ensure all faces are stable and capable of retaining rehabilitation material.

		(f) Waste must be landfilled to ensure that the highest point within the active landfill area, including final capping, must not exceed a height of 296 mAHD. (g) Landfill cell 1, including capping must not exceed and final profile slope steeper than 20 degrees. (h) No burning of waste to occur
Putrescible waste	Reprocessing (mulching)	(i) Only green waste to be mulched.
Clean fill	Receipt, handling, associated storage and disposal of waste by landfilling	None specified
Contaminated Soil		(j) Disposed of to landfill the day of acceptance
Construction and demolition waste		None specified
Inert Waste Type 1		None specified
Inert Waste Type 2		(k) Disposed of to landfill the day of acceptance. (l) Tyres must not be landfilled.
Putrescible waste		(m) Disposed of to landfill the day of acceptance.
Inert Waste Type 1	Receipt, handling or storage prior to disposal or transfer off-Premises	None specified
Inert Waste Type 2		None specified
Hazardous waste		(n) Waste oil must only be stored within the waste oil receptacle or storage drums on a hardstand. (o) Paint must not be landfilled at the Premises in liquid form.
Recyclable waste		None specified
Special Waste Type 1		(p) Must only be stored within the solid waste depot. (q) Must be contained such that ACM and asbestos fibres are fully contained and cannot discharge.
<u>Leachate (from leachate pond)</u>		<u>Transfer from leachate pond to facultative treatment pond.</u>

Appendix 1: Key documents

	Document title	In text ref	Availability
1	Licence L6818/1997/11 – Bridgetown Waste Management Facility	L6818/1997/11	accessed at www.dwer.wa.gov.au
2	DER, July 2015. <i>Guidance Statement: Regulatory principles.</i> Department of Environment Regulation, Perth.	DER 2015a	accessed at www.dwer.wa.gov.au
3	DER, October 2015. <i>Guidance Statement: Setting conditions.</i> Department of Environment Regulation, Perth.	DER 2015b	
4	DER, August 2016. <i>Guidance Statement: Licence duration.</i> Department of Environment Regulation, Perth.	DER 2016a	
5	DER, November 2016. <i>Guidance Statement: Risk Assessments.</i> Department of Environment Regulation, Perth.	DER 2016b	
6	DER, November 2016. <i>Guidance Statement: Decision Making.</i> 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 02 April 2019 for review and comment. The Licence Holder responded on 02 May 2019. The following comments were received on the draft Amendment Notice.

Condition	Summary of Licence Holder comment	DWER response
1.2.4	The original date works were to be completed by was 16 May 2019. Due to unforeseen circumstances, staff absences and changeover in the area, the Licence Holder has requested a new ' <i>To be completed by</i> ' date of 30 December 2019	The Delegated Officer considers the change in completion date does not significantly alter the risk profile of the proposal. Date works to be completed by changed to 30 December 2019
Cover Page	Change Licence Holder from Balingup-Greenbushes to Bridgetown-Greenbushes	Changed to Bridgetown-Greenbushes

Appendix 3: Facultative Pond Water Balance

The Licence Holder provided the following water balance calculations for the facultative pond if deposit of 700m³ leachate is allowed to occur.

Year	Month	SEPTAGE SECONDARY POND			MAX. CAPACITY 699m3		NET
		Residual	Leachate	IN Septage (Aner Pond)	Rainfall	OUT Evaporation	
2019	January	0	700		15.48	157.2	558.28
2019	February	558.28			11.07	126.875	442.475
2019	March	442.475			18.36	65.5	395.335
2019	April	395.335			43.83	44.45	394.715
2019	May	394.715			89.37	31.75	452.335
2019	June	452.335			94.23	33.25	513.315
2019	July	513.315			117.27	35	595.585
2019	August	595.585			110.25	44.28	661.555
2019	September	661.555		27	79.29	62.4	705.445
2019	October	705.445		4	38.43	87.45	660.425
2019	November	660.425			26.28	122.88	563.825
2019	December	563.825			17.64	144	437.465
2020	January	437.465			15.48	132	320.945
2020	February	320.945			11.07	103.775	228.24
2020	March	228.24			18.36	54	192.6
2020	April	192.6			43.83	36.4	200.03
2020	May	200.03			89.37	26.1	263.3
2020	June	263.3			94.23	28	329.53
2020	July	329.53		59.445	117.27	31.75	474.495
2020	August	474.495		53	110.25	41.52	596.225
2020	September	596.225		32.24	79.29	60.4	647.355
2020	October	647.355			38.43	83.05	602.735
2020	November	602.735			26.28	118.4	510.615
2020	December	510.615			17.64	139.4	388.855
2021	January	388.855			15.48	125.6	278.735
2021	February	278.735			11.07	98	191.805
2021	March	191.805			18.36	51.8	158.365
2021	April	158.365			43.83	34.58	167.615
2021	May	167.615			89.37	25.25	231.735
2021	June	231.735		1	94.23	27	299.965
2021	July	299.965		60	117.27	31	446.235
2021	August	446.235		54	110.25	42	568.485
2021	September	568.485		33	79.29	58.4	622.375
2021	October	622.375		5	38.43	82.5	583.305
2021	November	583.305			26.28	116.96	492.625
2021	December	492.625			17.64	138	372.265
2022	January	372.265			15.48	126	261.745
2022	February	261.745			11.07	97.65	175.165
2022	March	175.165			18.36	51.5	142.025
2022	April	142.025			43.83	34.58	151.275
2022	May	151.275			89.37	25	215.645
2022	June	215.645		3	94.23	26.6	286.275
2022	July	286.275		60	117.27	30	433.545
2022	August	433.545		53	110.25	40.8	555.995
2022	September	555.995		33	79.29	58.64	609.645
2022	October	609.645		4	38.43	81.4	570.675
2022	November	570.675			26.28	116.48	480.475
2022	December	480.475			17.64	135.8	362.315

Evaporation and Rainfall data below (B.O.M):

EVAPORATION(mm)		RAINFALL(Av 2015-2018)	
January	200	January	17.2
February	175	February	12.3
March	150	March	20.4
April	100	April	48.7
May	70	May	99.3
June	50	June	104.7
July	50	July	130.3
August	60	August	122.5
September	80	September	88.1
October	110	October	42.7
November	160	November	29.2
December	200	December	19.6
	1405		735
SEPTAGE RECEIVALS	300m3 Annual	25m3/CALENDAR MONTH	
MONTHLY EVAPORATION	http://www.bom.gov.au/jsp/ncc/climate_averages/evaporation/index.jsp?period=an#maps		
MONTHLY RAINFALL	http://www.bom.gov.au/jsp/ncc/climate_averages/rainfall/index.jsp?period=an&area=wa#maps		

Appendix 4: Water balance calculation

$$Seepage = [I + P] - [O + E_o] \pm \Delta S$$

Where: I = Pond Inflow,
 P = Direct Precipitation,
 O = Pond Outflow,
 E_o = Open Water Evaporation Loss, and
 ΔS = Change in Pond Storage.