



# Amendment Notice 4

**Licence Number** L8889/2015/1

**Licence Holder** Eastern Metropolitan Regional Council

**File Number:** DER2015/000777

**Premises**  
Red Hill Waste Management Facility  
Lot 1 on Diagram 15239;  
Lot 2 on Diagram 68630; and  
Lot 11 on Diagram 69105  
Toodyay Road, RED HILL; and  
Part of Lot 12 on Plan 26468 Toodyay Road  
GIDGEGANNUP

**Date of Amendment** 9 August 2018

## 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.

Date signed: 9 August 2018

**Steve Checker**

**MANAGER WASTE INDUSTRIES**

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
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
Amendment Notice	refers to this document
AS 4156.6 – 2000	Australian Standard AS 4156.6 – 2000: Determination of Dust/moisture Relationship for Coal.
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 33 Cloisters Square PERTH WA 6850 <a href="mailto:info-der@dwer.wa.gov.au">info-der@dwer.wa.gov.au</a>
CS Act	<i>Contaminated Sites Act 2003 (WA)</i>
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>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</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
Licence Holder	Eastern Metropolitan Regional Council
m <sup>3</sup>	cubic metres
Minister	the Minister responsible for the EP Act and associated regulations
MS	Ministerial Statement
mtpa	million tonnes per annum
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>
UDR	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i>

## 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 67A in relation to the construction of a new, second greenwaste leachate storage pond. No changes to the aspects of the original Licence relating to Categories 12, 62, 64 or 65 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

On 29 August 2017 the Eastern Metropolitan Regional Council (EMRC) (Licensee) submitted an application to amend the existing Licence for the construction of a second, new greenwaste leachate storage pond to the east of the greenwaste hardstand area plus an irrigation field for disposal of leachate via irrigation. The first, original storage pond to the west provides insufficient storage space for greenwaste leachate plus contaminated stormwater at the Premises, therefore excess leachate is stored in one of the lined Class III putrescible landfill cells for disposal via evaporation. This is ineffective use of the landfill cell and landfilling activities now require the use of this cell.

The Licensee originally applied to construct a new greenwaste leachate storage pond plus an irrigation field for the disposal of leachate via irrigation. Contaminated Sites branch of DWER considered the proposed application and provided comments regarding the irrigation proposal, which were presented to the Licensee for consideration and incorporation into the application. The Licensee determined the required additional information was not able to be completed in a timely manner, therefore on 27 November 2017 the Licensee requested to modify their application and withdraw the irrigation component, pending a redesign of the irrigation proposal and future licence amendment application.

This amendment therefore relates only to the construction and operation of a new, second greenwaste leachate storage pond for the purposes of disposal via evaporation.

## Amendment history

Table 2 provides the amendment history for L8889/2015/1.

**Table 2:** Licence amendments

Instrument	Issued	Amendment
L8889/2015/1	19/05/2015	Licence issued
L8889/2015/1	17/03/2016	Licence amended: construction of a greenwaste processing hardstand pad and eastern leachate storage pond for evaporation purposes, and associated relocation of existing greenwaste processing operations.
L8889/2015/1	06/09/2016	Amendment Notice 1: approval to accept and bury PFAS contaminated solid waste in existing Class III landfill cells (Farm Stage 1 and 2 and Stage 15).
L8889/2015/1	01/05/2018	Amendment Notice 2: approval to accept and store paint washes and updates to landfill acceptance criteria for PFAS impacted solid waste wastes (Special Waste Type 3)
L8889/2015/1	09/07/2018	Amendment Notice 3: construction and operation of 3 leachate ponds (1 holding pond, 2 evaporation ponds) to manage excess leachate currently being stored in the decommissioned Class IV cell. Ultimately these ponds will be used to store and manage all other existing and future leachate generated from Class III landfill cells at the site in a centralized system.
L8889/2015/1	9/08/2018	Amendment Notice 4: construction of an eastern leachate storage pond for disposal of leachate by evaporation.

## Other Approvals

The Licensee has obtained legal advice that planning approval for the proposed eastern leachate pond is not required from the City of Swan. Alternatively, the Licensee will consult with the City of Swan regarding the development.

## Legislative context – Part IV of the EP Act

The Premises is currently subject to three Ministerial Statements (MS) under Part IV of the EP Act. In regulating the Premises under Part V, Division 3 of EP Act, DWER will seek to avoid duplication of requirements imposed under Part IV. Pursuant to section 59B(7) of the EP Act, DWER will also not amend a Part V licence to be contrary to, or otherwise than in accordance with, an implementation agreement or decision.

A summary of the respective Ministerial Statements is provided below:

- MS 274 (15 July 1992) – Relates to the Red Hill Waste Management Facility Extension;
- MS 462 (21 November 1997) – Relates to the establishment of Class IV waste disposal cells at the existing Red Hill Waste Management Facility; and
- MS 976 (9 July 2014) – Relates to the proposal to construct and operate a resource recovery facility within the existing Red Hill Waste Management Facility, for the processing of waste to produce energy, using either anaerobic digestion or gasification technology.

MS 274 and MS 462 are the main Statements that relate to the construction, operation and post closure management of waste handling and landfilling aspects at the Red Hill Waste Management Facility.

As part of the Part V assessment, on 29 November 2017 DWER referred the Application to EPA Services to advise whether changes were required to the existing MS under Part IV of the EP Act.

EPA Services subsequently met with EMRC on 13 December 2017 regarding the proposal and to discuss whether approval under Part IV of the EP Act was required. Following this, on 4 January 2018, EPA Services advised EMRC that the proposed construction of the leachate ponds would be inconsistent with MS 274 and MS 462 and consequently approval under Part IV (section 45C) of the EP Act is required.

On 24 April 2018 EMRC submitted to DWER (EPA Services) a request to change a proposal under section 45c of the EP Act. The proposed changes only relate to MS 274.

On 26 June 2018 the EPA approved the proposed changes in relation to MS 274. EPA concluded that the changes were unlikely to result in a significant detrimental effect of the environment in addition to, or different from, the effect of the original proposal. The approved changes included:

- the incorporation of part of Lot 12 of the Red Hill Waste Management Facility into the authorised extent of MS 274;
- construction and operation of landfill cells within part of Lot 12 as per Licence L8889; and
- to construct separately located leachate ponds on Lot 12 where:
  - one area is used to store leachate generated from the greenwaste processing area; and
  - one area is used to store leachate generated from Class III cells.

The leachate currently stored in the decommissioned Class IV cell is of a quality consistent with that derived from Class III landfills and therefore is suitable to be transferred into the new leachate ponds. Once the Class IV cell is operational, associated leachate will be managed within existing dedicated Class IV leachate ponds.

No other changes were made to conditions of MS 274.

### **Legislative context – Contaminated Sites Act 2003**

The Premises is classified as '*Contaminated - remediation required*' under the *Contaminated Sites Act 2003*. The reasons for classifications state that groundwater beneath the southern portion of the site has been impacted by landfill leachate and contains metals and nutrients.

## Location and 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 3: Receptors and distance from activity boundary**

Residential and sensitive premises	Distance from Prescribed Premises
Semi-rural residential areas and farms	<p>Immediately to north and north-east of the Premises; multiple Lots ranging from approximately 350m to 1.5km from Farm Stage 1/2 landfill operations and 750m from the Stage 15 landfill operation.</p> <p>Immediately to the east of the Premises (Lot 12); Barbarich Estate comprising of multiple lots ranging approximately from 800m from Farm Stage 1/2 and 1km from Stage 15.</p> <p>To the south and south-east of the Premises; multiple Lots ranging from approximately 750m from Stage 15 and 1.3km from Farm Stage 1/2.</p> <p>Lots are separated from the Premises by a vegetation buffer (approx. 260m to 400m wide) located on Lot 82 on Diagram 18309 and Lot 501 on Plan 40105, Parkerville (owned by EMRC), followed by a drainage/public recreation reserve (approx. 50m-125m wide) on Lot 62 on Plan 23731 and Lot 15403 on Plan 40033, Parkerville (vested in the Shire of Mundaring).</p>

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 4: Environmental receptors and distance from activity boundary**

Environmental receptors	Distance from Prescribed Premises
John Forrest National Park Lot 11664 on Plan 217947, Red Hill – Crown Reserve 7537	Located immediately to the south of the Lot 11 and 2 of the Premises and to the south-west from the remainder of the Premises.
Threatened / Priority Fauna – Mammals and Birds	<p>Priority Fauna P4 (mammals) – mapped as being observed within Lot 1 of the Premises in previously landfilled areas currently subject to rehabilitation. Fauna Survey date 29/10/2014</p> <p>Priority Fauna P4 (mammals) – mapped as being observed within Lot 1 of the Premises in previously landfilled areas currently subject to rehabilitation. Fauna Survey date 18/05/2012</p> <p>Birds (Schedule 5 – Migratory birds protected under an international agreement); mapped as being observed within Lot 2 of the Premises in previously landfilled areas currently subject to rehabilitation. Fauna Survey dates 29/10/2014 and 04/11/2015</p> <p>Birds (Schedule 3 – Fauna that is rare or is likely to become extinct as vulnerable fauna); mapped as being observed within Lot 2 of the Premises in previously landfilled areas currently subject to rehabilitation. Fauna Survey dates 29/10/2014 and 04/11/2015.</p>
Designated Area – Surface Water Area	The entire Premises and surrounding land is mapped as proclaimed surface water area under the <i>Rights in Water Irrigation Act 1914</i> named the “Swan River System”.
Susannah Brook (Significant Stream)	<p>Approximately 1km to the north of the Premises and 1.2km from Stage 1/2 operations.</p> <p>Multiple related drainage lines (classed as minor, perennial watercourses) also run north-south of Susannah Brook; the closest is located approximately 250m north of Farm Stage 1/2 with Lot 51 (1157) Toodyay Road, Gidgegannup.</p>
Christmas Tree Creek (Watercourse - minor, perennial)	Approximately 370m to the south of the Premises and 680m from the Stage 15 site. Christmas Tree Creek eventually discharges to Jane Brook.

Table 5 below summaries the hydrogeology and groundwater characteristics for the Premises as reported in the supporting information provided with the Application (MSGM, July 2017 and Strategen Environmental Consultants Pty Ltd, June 2017).

**Table 5:** Hydrogeology for the Premises

Environmental aspect	Description
Hydrogeology	<p>The geology of the region is characteristic for that of the Yilgarn Craton, being dominated by granitic basement rocks with occasional intrusive dolerite dykes, weathered basement and weathered duplex soils. The latter consist broadly of ferruginous and lateritic gravels or lateritic hardpans, underlain by white and cream clays (referred to generally as the pallid zone) and with saprolite grits (clayey gravels and clays) overlying weathered basement.</p> <p>The thickness of the various duplex soils and weathered zones can vary significantly across sites such as Red Hill.</p> <p>The geology is not consistent with the attributes of a high or very high vulnerability aquifer, with very low permeable features.</p>
Groundwater	<p>There are two distinct water bearing layers underlying the site:</p> <ul style="list-style-type: none"> <li>• The upper layer comprises of a perched water table associated with shallow lateritic sediments mainly on low lying areas which had developed above pallid zone clays (impermeable layer of kaolinitic clays). Perched aquifers are reported to limited in there lateral extent and ephemeral over/post winter.</li> <li>• The lower layer comprises the regional groundwater table within granite bedrock (fracture systems) or within extensive saprolite grits (porous, weathered bedrock) often semi confined by pallid zone clays.</li> </ul> <p>Based on the inferred regional groundwater contours in the bedrock (granite) aquifer the site exhibits a groundwater divide that extends across the northern part of the site (following topography); north of the divide groundwater flows north-west to west-northwest, and to the south of the divide flows are to the south-west to southerly with moderate hydraulic gradients.</p> <p>The base of Farm Stage 1/2 and Stage 15 have been constructed to maintain a three metre separation distance between the base of the landfill and the underlying regional groundwater table.</p> <p>The depth to groundwater varies across the site.</p>

## Risk assessment

Tables 6 and 7 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 public health or the environment, requiring regulatory controls.

**Table 6: Risk assessment for proposed amendments during construction**

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts					
<b>Cat 67A Compost manufacturing and soil blending</b>	Construction of leachate evaporation storage pond	<b>Dust</b>	Semi-rural residential areas and farms – refer to Table 3	Air	Health and amenity impacts to residents	Slight	Possible	Low	<p>The Delegated Officer considers the dust emissions associated with construction of the evaporation storage pond are likely to be localised with minimal on-site impacts and with emissions only potentially occurring at some time, therefore the resultant risk of dust emissions is Low.</p> <p>The Licensee implements several dust suppression activities which includes the use of water trucks which can be deployed to control dust emissions during construction activities.</p> <p>Dust can be adequately regulated under Section 49 of the EP Act, so no further controls will be included on the existing Licence.</p>



**Table 7: Risk assessment for proposed amendments during operation**

Source/Activities		Risk Event				Consequence rating	Likelihood rating	Risk	Reasoning
		Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
Cat 67A Compost manufacturing and soil blending	Operation of leachate evaporation storage pond	<b>Odour</b>	Semi-rural residential areas and farms – refer to Table 3	Air	Amenity impacts to residents	Slight	Possible	Low	<p>The Delegated Officer considers that leachate odour generated by a second pond at the Premises will likely cause minimal impacts to amenity at a local scale, with emissions possibly occurring at some time, therefore the resultant risk of odour emissions is Low.</p> <p>Appropriate regulatory controls are already in-place on the existing Licence to ensure appropriate management of odour issues.</p>
		<b>Leachate</b>	Groundwater – refer to Table 5	No pathway – pond is fully lined to hydraulic conductivity of $1 \times 10^{-9} \text{m/s}$	<p>Contamination of waters or deterioration of local/ regional groundwater quality</p> <p>Amenity and health impacts to users (potential potable, non-potable water uses)</p>	No	No	No	<p>The Delegated Officer considers the construction specifications of the leachate evaporation pond being clay lined with a permeability of <math>1 \times 10^{-9} \text{m/s}</math> or less is appropriate to prevent potential impacts arising from greenwaste leachate.</p> <p>Appropriate regulatory controls will be added to this Amendment Notice 2 to ensure construction of the leachate evaporation pond adheres to the lining specifications, and therefore ensures the potential pathway is secure to prevent groundwater contamination.</p>

## Decision

This assessment of the risks of activities on the Premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this Amendment Notice 2 (summarised in Appendix 1).

Based on this assessment, the Delegated Officer has determined that the issued Amendment Notice 2 will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

## Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 19 February 2018. No comments were received.

## Amendment

- Condition G9(d) of the Licence is amended by insertion of the red text shown in underline below:  
*G9(d) The Licensee shall ensure all water from the Greenwaste Facility hardstand drains into either the eastern or western leachate ponds at the Greenwaste Facility.*
- Condition G9(n) of the Licence is amended by insertion of the red text shown in underline below:  
*G9(n) The Greenwaste Facility western leachate ponds must maintain a minimum top of embankment freeboard of 300mm.*
- The licence is amended by insertion of the following Condition G9(o):  
*G9(o) The Greenwaste Facility eastern leachate ponds must maintain a minimum top of embankment freeboard of 500mm.*
- The Licence is amended by insertion of the following Condition G16:  
*G16 The Licensee must construct the infrastructure detailed in Column 1 of Table 4 by the specifications in Column 2 of Table 4.*

Table 4: Leachate Infrastructure Works

Column 1	Column 2
Infrastructure	Specifications
Eastern Leachate Pond	<ul style="list-style-type: none"> <li>Subgrade to be compacted to 86% Mass Dry Density and lightly tyned or otherwise keyed prior to installation of clay liner;</li> <li>Lined with 300mm of compacted clay to achieve a permeability of <math>1 \times 10^{-9}</math> m/s or less;</li> <li>internal batters constructed with a 1:2.5 slope; and</li> <li>Designed and maintained to achieve the following operational parameters:               <ul style="list-style-type: none"> <li>A minimum top of embankment 500mm operating freeboard;</li> <li>Retain water from a 1:100 year annual recurrence interval 72 hour storm event without overtopping;</li> <li>Retain water from a 1:10 wet year without overtopping.</li> </ul> </li> </ul>
Drainage infrastructure	<ul style="list-style-type: none"> <li>Constructed from impervious PVC or concrete or clay achieving a permeability of <math>1 \times 10^{-9}</math> m/s or less;</li> <li>to be free from leaks and defects; and</li> <li>designed to convey water runoff from a 1:100 year annual recurrence interval 72 hour storm event without overtopping or failure.</li> </ul>

5. The Licence is amended by insertion of the following Condition G17:  
*G17 Following completion of the works required in Table 4 the Licensee must submit to the CEO an engineering certification from a suitably qualified professional confirming each item of infrastructure of component of infrastructure specified in Column 1 with the requirements specified in Column 2, as set out in Table 4, have been constructed with no material defects.*
6. The Licence is amended by insertion of the following Condition G18:  
*G18 If any departures to Table 4 have occurred, the Licensee must provide the CEO with a list of departures at the same time, and from the same suitably qualified professional, as the certification under Condition G17.*
7. The Licence is amended by insertion of the following map to Schedule 1 (over):

Location of existing western leachate pond and approved new eastern leachate pond.



## Appendix 1: Key documents

	Document title	In text ref	Availability
1	Licence – L8889/2015/1 Red Hill Waste Management Facility	L8889/2015/1	accessed at <a href="http://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>
2	DER, July 2015. <i>Guidance Statement: Regulatory principles.</i> Department of Environment Regulation, Perth.	DER 2015a	accessed at <a href="http://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>
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	