



Licence Holder	Shire of Cocos (Keeling) Islands
Licence Number	L8686/2012/2
File Number	2012/006267
Category	64 – Class II putrescible landfill site 57 – Used tyre storage (general)
Premises address	Rumah Baru Wet Tip Rumah Baru Road, West Island Cocos (Keeling) Islands Indian Ocean Territories WA 6799 Being Lot 227 on Plan 18529
Expiry date	17 September 2032
Date of amendment	19 January 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* 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: 19 January 2018

Christine Hass

A/ MANAGER LICENSING (WASTE INDUSTRIES)

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

Amendment Notice

This DWER initiated amendment is made pursuant to section 59 of the *Environmental Protection Act 1986 (WA)(CI)* (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 of the following:

1. Removal of one process limit for 'all buried waste', under condition 1.3.3 of the active Licence.

One other change is proposed to be undertaken by DWER to the original licence, as follows:

- To update the premises Lot details, as per the latest DWER GISViewer dataset details.

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

- *Guidance Statement: Regulatory Principles* (July 2015)
- *Guidance Statement: Land Use Planning* (February 2017)
- *Guidance Statement: Decision Making* (February 2017)
- *Guidance Statement: Risk Assessment* (February 2017)
- *Guidance Statement: Licence duration* (August 2016)

Amendment Description

An inspection of the Cocos (Keeling) Islands, Rumah Baru Wet Tip was undertaken on 13 September 2017 to assess the operation of the premises against the active Licence. During this process it was identified that the Licensee is unable to comply with the separation distance to groundwater at the premises, as defined within condition 1.3.3 of the active Licence.

DWER Compliance and Enforcement requested a non-urgent amendment to the Licence, through their targeted inspection report, for the removal of the section within Table 1.3.2 requiring a separation distance of 1 m at the premises (See Appendix 1).

Depth to groundwater on Cocos (Keeling) Islands varies from 0.5 – 1 mBGL depending on seasonal rainfall variations and tidal influence (ingress).

The current Lot descriptor is to be changed through an administrative change to reflect the most current premises lot details, as per DWER GISViewer dataset, and as defined under Shire of Cocos (Keeling) Islands, Scheme No. 1 (Gazettal date 30/07/2007).

Other approvals

The following information relating to other approvals is outlined in Table 1.

Table 1: Relevant approvals

Legislation	Number	Approval
Commonwealth of Australia – Service Delivery Arrangement (SDA)	N/A	A Service Delivery Agreement exists between DWER and the Commonwealth of Australia for the implementation and management of environmental requirements in accordance with the <i>Environmental Protection Act 1986</i> and associated legislation.

Location, environmental siting and potential receptors

The Shire of Cocos (Keeling) Island (Shire) operates a putrescible Class II landfill on West Island, Cocos (Keeling) Islands which consists of an unmanned, locked landfill that is accessed and utilised only by the Shire. Shire staff visit the site twice a week to dispose of only putrescible (household) wastes at the Premises. High groundwater levels at Cocos Islands and the influences of seawater ingress make the management of wastes difficult. Depth to groundwater at the premises is approximately 0.5m – 1mBGL.

The waste is initially deposited within an arc of metal sea containers (2 metres high) before being burned and the residual ash buried. All other waste streams are disposed of, or stored for later transfer, to 'West Island Transfer Station' which is separate from the putrescible landfill and is an unlicensed/ unregistered facility, as defined under the *Environmental Protection Regulations 1987*.

The Rumah Baru landfill boundary covers an area of approximately 21,000 m² and is surrounded by dense vegetation (coconut trees at various stages of height) which minimises the effects of wind within the Premises. Prevailing winds, for the majority of the year, are South easterly (Trade winds).

The prescribed premises is zoned 'public purpose' for the disposal of waste.

Discharges to environment include random, low level emissions to air from the burning of waste with residual ash being discharged to land for burial. There are no monitoring bores within the Premises boundary.

There are two freshwater lenses within West Island. One is located in the south under the runway, and is the water supply for the town. The second lens is in the northern part of the island.

DWER GIS dataset desktop assessment of potential sensitive receptors to the activities of the prescribed premises operation, are shown in the tables below.

Table 2 below lists the relevant sensitive land uses in the vicinity of the prescribed premises.

Table 2: Receptors and distance from prescribed premises

Residential and sensitive premises	Distance from Prescribed Premises
Zoned 'residential' area	Approximately 2.3 km south west of the prescribed premises boundary
Zoned 'special use' area	Approximately 373 m north west of the prescribed

	premises boundary.
Zoned 'public purpose' area (wastewater treatment plant and marina)	Approximately, 976 m south west and 461 m north respectively, of the prescribed premises boundary.

Table 3 below lists the relevant environmental receptors in the vicinity of the prescribed premises.

Table 3: Environmental receptors and distance from prescribed premises

Environmental receptors	Distance from Prescribed Premises
Zoned 'general rural' area	Adjoining on all sides of the prescribed premises boundary
Groundwater resource (including fresh water lenses)	Approximately 0.5-1 mBGL, fresh to brackish quality. Southern freshwater lense is approximately 2.07 km south of the prescribed premises boundary. Northern freshwater lense is approximately 435 m north west of the prescribed premises boundary.
Surface water (Indian Ocean and North Lagoon)	Approximately 67 m north east, and 24 m south west respectively, of the prescribed premises boundary.
Zoned 'foreshore protection and nature conservation' area	Approximately 56 m north east, and 11 m south west respectively, of the prescribed premises boundary.

Risk assessment

The proposed amendment is for the removal of a required separation distance to groundwater which was determined to be not achievable during a recent compliance inspection due to the natural/ geological constraints of the islands. The Delegated Officer does not consider the amendment to present a significant material risk to human health or the environment at the current location and volumes being disposed to landfill (approximately 1,300 tonnes per annual period). The premises is located away from all fresh water drinking lenses on the island and is not in close proximity to residential receptors. The waste is burned prior to disposal and the significantly reduced waste (residual ash) is then disposed of within the trench (1.5 m wide x 3 m deep x 20 long), and covered on the day of disposal. The premises receives waste from the approximately 150-200 residents/ tourists that inhabit or visit West Island, on an annual basis. Each trench has an estimated life span of approximately six months.

With assistance from the Waste Authority, the Shire has initiated recycling initiatives across West Island to reduce waste streams to landfill. Recycled waste is then stored at the 'West Island Transfer Station' (unlicensed/ unregistered premises), prior to processing or disposal to the mainland. In addition, the Shire has developed a Waste Strategy for the Cocos (Keeling) Islands which works towards the reduction, minimisation and reuse of waste streams.

West Island is an atoll which relies on groundwater resources through rainfall recharge and is a naturally shallow water resource available through fresh water lenses, predominantly extracted from the southern lense located under the runway within the settlement.

The administrative change to the premises address does not present a material risk to human health or the environment and therefore no risk assessment has been undertaken as a result of this change to the active Licence. This change updates the necessary information relevant to the premises location.

A risk assessment has been included within this amendment notice to address the change to the premises regulatory controls relating to protection of groundwater resources.

Table 4 below describes the Risk Events associated with the amendment, and is consistent with the *Guidance Statement: Risk Assessment (February 2017)*.

Table 4: 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					
Landfilling activities	Burning and burial of putrescible, household waste types (including plastics, tins, glass, organic wastes)	Nutrients and heavy metals (Metals, Inorganic species, Chlorinated and Non-chlorinated organics)	Soil, groundwater, surface water and vegetation	Land/water	Impact to groundwater and surface water resources and marine ecosystems (high ecological value) Contamination of localised soil profile, impact on soil microbes and vegetation.	Major	Possible	High	<p>The Licensee is unable of disposing of waste to land without potentially impacting groundwater or subsequent surface water resources due to the depth to groundwater across the island being approximately 0.5-1 mBGL.</p> <p>This is a geophysical limitation of the island. However, efforts are being made to minimise the volume and type of waste disposed of to landfill through various initiatives.</p> <p>Water Corporation have confirmed that the northern freshwater lense <i>“may be used in the future by Water Corporation/Commonwealth, though there are no immediate plans. Water is abstracted by private users already, and may be further developed privately in the future.”</i></p>

Decision

The Delegated Officer considers that the administrative change undertaken through this amendment process does not change any of the obligations of the Licence Holder for the ongoing management of the premises in accordance with DWER regulatory controls. The administrative change included the following:

- The front page of the Licence has been amended to reflect the updated 'premises address' with an update to the premises descriptor. The descriptor was revised through an assessment completed via DWER GISViewer dataset.

The Delegated Officer considers the removal of the requirement for a separation distance to groundwater as acceptable due to the following limitations:

- West Island is a remote, isolated, inhabited atoll with limited waste disposal options available.
- The depth to groundwater across the island is restrictive (0.5-1 mBGL) in achieving standard separation distances for landfilling activities.

Historically, inappropriate wastes types have been burnt and/ or buried at the landfill. The Licence has therefore been amended to better reflect the assessed activities and to more accurately define the permitted waste types and processes allowed. The intent of the Licence is to ensure that potential emissions, as a result of the premises operation, are undertaken in an appropriate manner. The mitigating factors undertaken by the Shire to manage waste at the site are considered appropriate and have been further defined within the requirements of the Licence with the inclusion of additional process limits within condition 1.3.1, to minimise the waste types being disposed of at the landfill. These inclusions are determined by the Delegated Officer to be necessary and important in order to:

- ensure the health of the high conservation and marine ecosystem values of the Cocos (Keeling) Islands;
- assist in the management of potential growth within West Island as a result of increased tourism; and
- identify measures and align more effectively with appropriate Waste Strategies of reduction and minimisation of waste to landfill.

The Delegated Officer has determined that:

The consequence of landfilling to ground, within a high water table area, may potentially result in short term impact to an area of high conservation value. The likelihood of this risk event occurring is possible on a local scale, therefore the risk rating for the premises is considered high. As a result, additional regulatory controls have been proposed within the Licence due to the removal of the requirement to limit separation distance. The standard requirement to require a separation distance to groundwater across the Island is a geologically impossible to achieve.

The Delegated Officer considers the above proposed changes to the active Licence appropriate and consistent with the regulatory controls applied across the State in defining the location of prescribed premises and assessing risk, as regulated under DWER guidance shown within Appendix 1 of the Amendment Notice.

Amendment History

Table 5 provides the amendment history for L8708/2012/1.

Table 5: Licence amendments

Instrument	Issued	Amendment
L8686/2012/2	29/06/2017	Amendment Notice 1 – Extension of Licence duration expiry date to 17 September 2032.
L8686/2012/2	09/01/2018	Amendment Notice 2 – Administrative changes to remove condition 1.3.3 from the Licence.

Licence Holder's Comments

The Licence Holder was provided with the draft Amendment Notice on 7 December 2017 and again on 8 January 2018. See Appendix 2 for comments.

Amendment

- Condition 1.3.1 of the Licence is amended by the insertion of red text shown in underline below:

1.3.1 *The Licensee shall only accept waste on to the Premises if:*

- it is of a type listed in Table 1.3.1;*
- the quantity accepted is below any quantity limit listed in Table 1.3.1;*
- it meets any specification listed in Table 1.3.1; and*
- in the case of contaminated solid waste is supported by documentation that demonstrates compliance with the acceptance criteria for Class II landfills.*

Table 1.3.1: Waste acceptance

Waste	Quantity Limit	Specification ¹
Clean fill	N/A	None specified
Putrescible waste	1,300 tonnes per annual period	<ol style="list-style-type: none"> Deposited by Shire staff only. <u>Acceptance of putrescible, household waste only.</u> <u>No contaminated solid waste, Type 1 or 2 Inert waste, Type 1 or 2 Special waste may be received to the premises.</u> <u>Ensure waste types received to the premises are in accordance with the Landfill Waste Classification and Waste Definitions 1996 (as amended) guidelines, for a Class II Putrescible landfill facility.</u>

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

- Condition 1.3.3 of the Licence is amended by the deletion of text shown in strikethrough below and by the insertion of the red text shown in underline below:

1.3.3 The Licensee shall ensure that wastes accepted onto the Premises are only subjected to the process(es) set out in Table 1.3.2 and in accordance with any process limits described in that Table.

Table 1.3.2: Waste processing

Waste type(s)	Process	Process limits ^{1,2}
All buried wastes	Disposal of waste by landfilling	<ul style="list-style-type: none"> • Maintain an undisturbed separation distance of at least one metre between the waste and the highest level of the water table aquifer. • <u>Ensure all non-putrescible waste types identified are removed from the waste stream prior to burning, and stored at the West Island Transfer Station for off-site disposal at an appropriate facility.</u> • Maintain an undisturbed separation distance of at least twenty metres between the waste and the highest level/ tide of the sea. • Ensure that the tipping area is no greater than two metres in height, with a maximum linear length of 30 metres. • Carry out weekly collection of any windblown or washed away waste generated from the premises. • Ensure all waste is placed within the Premises boundary. • Waste is levelled and compacted to ensure all faces are stable and capable of retaining rehabilitation material. • Rehabilitation of a cell or phase takes place within 6 months after disposal in that cell or phase has been completed
Clean Fill	Receipt, handling and disposal by landfilling	None specified
Putrescible wastes	Disposal by burning prior to burial	<p><u>Burning of waste</u></p> <ul style="list-style-type: none"> • Green waste is dry and seasoned for at least two months prior to burning. • Ensure burning does not commence before 8am and the Fire Control Officer for the landfill site declares the area safe by 12 noon on the same day. • Place in a designated burning area at least 25m from the boundary of any active disposal areas. • Place in trenches or windrows. • Place only when an adequate supply of water and equipment are available to effectively manage the burning process.

Note 1: Requirements for landfilling tyres are set out in Part 6 of the Environmental Protection Regulations 1987.

Note 2: Additional requirements for the acceptance and landfilling of controlled waste (including asbestos and tyres) are set out in the Environmental Protection (Controlled Waste) Regulations 2004.

3. The prescribed 'premises address' descriptor, as shown on the front page of the active Licence, is amended by the deletion of text shown in strikethrough below and by the insertion of the red text shown in underline below:

Premises address

Rumah Baru Wet Tip

Rumah Baru Road, West Island

Cocos (Keeling) Islands

Indian Ocean Territories WA 6799

Being ~~Lot 227 on Plan 18529~~ Lot 100 on Plan 18500

Appendix 1: Key Documents

	Document Title	In text ref	Availability
1	DER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth.	DER2014/001365	accessed at http://www.der.wa.gov.au
2	DER, August 2016. <i>Guidance Statement: Licence duration</i> . Department of Environment Regulation, Perth.	N/A	
3	DER, February 2017. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	N/A	
4	DER, February 2017. <i>Guidance Statement: Decision Making</i> . Department of Environment Regulation, Perth.	DER2015/001284	
5	DER, February 2017. <i>Guidance Statement: Land Use Planning</i> . Department of Environment Regulation, Perth.	DER2014/003028	
6	L8686/2012/2 – Rumah Baru Wet Tip – Targeted Inspection Report 2017	-	DWER internal records (A1510408)
7	West Island Fresh Water Lens	Water Corporation	DWER Internal records (A1560202)

Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 7 December 2017 for review and comment.

Comments received	DWER consideration of risk
NIL	N/A – Ian Evans (Shire of Cocos Keeling Islands) was called and emailed on 8/1/2018 to confirm no comments for consideration within amendment process.