



Decision Document

Environmental Protection Act 1986, Part V

Proponent: Shire of Carnarvon

Licence: L7066/1997/15

Registered office: 3 Francis Street
CARNARVON WA 6701

Premises address: Coral Bay Landfill
Crown Reserve 44763
Sanctuary Road
CORAL BAY WA 6701
Being Lot 530 on Plan 64057

Issue date: Thursday, 9 April 2014

Commencement date: Friday, 17 January 2014

Expiry date: Wednesday, 16 January 2036

Decision

Based on the assessment detailed in this document, the Delegated Officer has decided to issue an amended licence. The Delegated Officer considers that in reaching this decision, all relevant considerations have been taken into account.

Decision Document prepared by: Caroline Conway-Physick
Licensing Officer

Decision Document authorised by: Steve Checker
Delegated Officer



Contents

Decision Document	1
Contents	2
1 Purpose of this Document	2
2 Administrative summary	3
3 Executive summary of proposal and assessment	4
4 Decision table	6
5 Advertisement and consultation table	17
6 Risk Assessment	18

1 Purpose of this Document

This Decision Document explains how the Chief Executive Officer's (CEO) Delegate has assessed and determined the application and provides a record of the CEO Delegate's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to the CEO Delegate'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 <input type="checkbox"/>	
	New Licence <input type="checkbox"/>	
	Licence amendment <input checked="" type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	64 – Class II putrescible landfill site	10,000 tonnes per annual period.
	62 – Solid waste depot	500 tonnes per annual period.
Application verified	Date: 17 October 2016 (letter sent)	
Application fee paid	Date: 22 November 2016	
Works Approval has been complied with	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Compliance Certificate received	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.		



3 Executive summary of proposal and assessment

This Decision Document is the result of an amendment sought by the Licensee to include Category 62 – Solid waste depot for the storage and recycling of permitted waste types at the premises. The Licensee proposes to store and recycle the following waste types with the use of a mobile baler:

- Paper;
- Cardboard; and
- Plastics.

Additional administrative changes have been incorporated into the licence amendment process.

Location and siting

The Coral Bay Landfill Site (the Landfill) is located one kilometre south-east of Coral Bay on Sanctuary Road. The Landfill is situated on Reserve 44763 (Lot 530, Plan 64057) and is approximately 6.9 hectares in area. Coral Bay currently has a permanent population of 250 business operators and workers, with the population peaking at around 4,000 during peak tourist times (April – November).

The landfill is located within a 'public utilities services' land use area under the Department of Lands, and falls within Town Planning Scheme No. 11.

Depth to groundwater at the premises is unknown. A desktop assessment of multiple bores north west of the premises showed depth to groundwater varying approximately from 1.6 – 41 mBGL. Total dissolved solids varied from 5,571 - 20,400 mg/L (saline to highly saline). Evaporation rates have been shown to be more than eleven times the average annual rainfall rates ('Coral Bay Waste Management Facility – Waste Management Plan 2014'). The landfill does not fall within any 'Public Drinking Water Source Area' which is found approximately 343 m south of the premises boundary for the town of Coral Bay (Groundwater licence No. 156265(1)).

Soils within the Coral Bay area are considered to consist of coastal flats and dunes, underlain by a series of calcarenites and limestone formations, which are karstic in nature.

The closest residential sensitive receptor is the town of Coral Bay and the caravan park approximately 305 m and 490 m north west, respectively, from the premises boundary. The premises is approximately 704 m south east of the Indian Ocean.

Primary activities

The premises is Licenced as a Category 64 - Class II Putrescible landfill which is vested in the Shire of Carnarvon (Shire) and managed by an external contractor (Coral Bay Contracting).

The Landfill is manned for a limited period each day, open to the public from 8:30am to 5:30pm, seven days a week.

The site accepts approximately 3,000 tonnes per annum of putrescible waste. The Landfill also accepts an estimate of 1,500 tonnes per annum of Type 1 and Type 2 inert waste. Fish offal is covered daily in a separate disposal trench with collections reduced to every second day during the low season. The Landfill is also licenced to accept asbestos waste and special waste. The increased volumes of inert waste have been due to the closure of 'Kenya' residences which are currently being broken down and disposed of. An Asbestos Management Plan was developed and submitted to DER in November 2015 due to the risks associated with the acceptance of contaminated construction and demolition waste from the demolition of the informal 'Kenya' residence settlements. Clinical waste was previously forwarded to Exmouth as per Department of Health requirements, however the Shire of Carnarvon (the Shire) has requested to dispose of clinical waste for Ambulance and Royal Flying



Doctor Service (WA) needs only in the Coral Bay Landfill. The volumes to be received are considered low.

The inclusion of Category 62 within the Licence will permit the recycling of paper and cardboard (putrescible waste) and recyclable plastics (inert waste type 2) only and storage of permitted waste types for later recycling opportunities. The recycled waste types will be stored within an enclosed shed along with the baler which will compact the recycled material for later disposal to an appropriate recycling facility off site.

The baler will be used on an 'ad hoc', intermittent basis dependent of adequate volumes of waste being received for baling.

The Delegated Officer considers the disposal of waste types through recycling appropriate to assist in:

- Reducing waste volumes being buried within trenches which takes up limited landfill area within the premises;
- Gives opportunity for reuse and revenue generation in support of the Shire's ongoing landfill management activities, in support of the town of Coral Bay;
- Reduces the potential risk of groundwater or subsequent surface water contamination from landfilling activities.

The premises holds a 3,000 litre water tank which is mounted on a truck with hose and pump to assist in the management of any unauthorised fires occurring at the landfill. The local fire brigade is within close proximity (<10 minutes) to assist at the landfill as well.

Potential emissions

The primary emissions expected from the operation of the landfill include fugitive emissions in the form of odour and dust, noise and leachate emissions. Fire is a high risk for the premises due to large volumes of green waste stored for extended periods due to high wind speeds and poor weather conditions impacting the effective management of green waste at the landfill. The increase in storage of recycled waste types for extended periods further increases the potential risk of fire if not adequately managed at the premises.

Consultation

No consultation has been identified within the application supporting documentation to have been undertaken by the Shire of Carnarvon in regard to the proposed changes to operation.



4 Decision table

The overarching legislative framework of this assessment is the *Environmental Protection Act 1986* (EP Act) and the *Environmental Protection Regulations 1987* (EP Regulations). DER Guidance Statements which inform the assessment in accordance with the legislation include:

- DER Guidance Statement: Regulatory Principles (July 2015)
- DER Guidance Statement: Setting Conditions (October 2015)
- DER Guidance Statement: Licence and works approvals process (September 2015)
- DER Guidance Statement: Setting Conditions (October 2015)
- DER Guidance Statement: Land Use Planning (October 2015)
- DER Guidance Statement: Licence Duration (November 2015)

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 L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Front page	-	An application for a licence amendment under Section 59 of the <i>Environmental Protection Act 1986</i> was received by DER on 16 September 2016, for the inclusion of Category 62 within the premises Licence L7066/1997/15.	Application supporting documentation
Interpretation	L1.1.1-L1.1.4	<p>Conditions 1.1.1–1.1.4 requires that terminology used within the Licence is referenced to the appropriate definitions where applicable and that any reference to a standard or guideline is to the most current version of that standard or guideline. Definitions have been updated to align to the new format licence conversion undertaken through this amendment process.</p> <p>Operation is subject to the general provisions of the EP Act. Category 64 falls under Schedule 1 Part 1 of the <i>Environmental Protection Regulation 1987</i>, and is subject to Licence. The premises currently operates under Licence L7066/1997/15.</p> <p>Previous Condition 1.1.5 has been removed from the Licence:</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><i>“Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:</i></p> <ul style="list-style-type: none"> <i>(a) pollution;</i> <i>(b) unreasonable emission;</i> <i>(c) discharge of waste in circumstances likely to cause pollution; or</i> <i>(d) being contrary to any written law.”</i> <p>The Delegated Officer considers this condition an explanatory statement not an enforceable condition and is already stated within the EP Act and is therefore redundant.</p>	
General conditions	L1.2.1-L1.2.8	<p>General administrative changes have been included within this section of the Licence through the amendment process to remove redundant conditions or to update the context of certain conditions to become more site specific.</p> <p>Condition 1.2.1 has been amended to specify the types of pollution control equipment used at the premises.</p> <p>Condition 1.2.2 has been amended to specify the types of liquids that may cause a risk as a result of a spill occurring within the premises boundary, through the operation of the premises. The premises receives and stores used waste oil within a bunded, lined hardstand area that contains the metal oil recycling facility within the premises, and stores vehicle wrecks. Both of these used oil sources supply hydrocarbons which require capture and appropriate disposal to the oil recycling facility.</p> <p>Previous Condition 1.2.3 has been removed from the Licence: <i>“The Licensee must:</i></p> <ul style="list-style-type: none"> <i>(a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises; and</i> <i>(b) treat contaminated or potentially contaminated stormwater as necessary prior</i> 	General provisions of the <i>Environmental Protection Act, 1986.</i>



DECISION TABLE			
Works Approval / Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><i>to being discharged from the Premises.¹</i></p> <p><i>Note1: The Environmental Protection (Unauthorised Discharges) Regulations 2004 make it an offence to discharge certain materials into the environment."</i></p> <p>The condition is considered redundant and does not specify what stormwater infrastructure is required. The premises does not incorporate or operate any stormwater infrastructure. All waste that requires burial is placed in the trench and covered and compacted on day of receipt. Rainfall is very low within the general area with very high evaporation rates and very sandy soils. The landfill is located on a relatively flat area of land with stormwater infiltrating quickly through the soil profiles or evaporates. Stormwater pooling or ponding and contamination is not an issue at the premises. The Delegated Officer considers that this condition is not required within the Licence as a regulatory control for the premises and the Licensee does not have any stormwater mitigation measures in place at the premises.</p> <p>Conditions 1.2.4-1.2.8 relate to the establishment of a baling plant, as applied for under this licence amendment application. A risk assessment for the baler is detailed under 'Premises operation' below.</p> <p>Condition 1.2.4 requires the proponent to ensure that construction meets or exceeds the standards defined within Table 1.2.1. These specifications are consistent with the application requirements submitted by the proponent for the construction of the works.</p> <p>Condition 1.2.5 relates to potential deviations/ departures from the proposed upgrade construction requirements (as based upon any variations to the works specifications, Table 1.2.1), and how these should be addressed.</p> <p>Condition 1.2.6 requires upgrades or minor departures from the defined construction requirements to be listed and submitted through to DER within the construction compliance document, stated within condition 1.2.8. This ensures that departures from the approved works can be assessed and actioned as required.</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		Conditions 1.2.7 and 1.2.8 require the submission of a construction compliance document prior to operation of the premises upgrade. This will ensure that upgrades undertaken (installation of the irrigation area) are certified as having been constructed in accordance with the Licence requirements, and that the appropriate testing has been conducted by the proponent for inclusion within the compliance report document.	
Premises operation	L1.3.1-L1.3.10	See Appendix 1 of the Decision Document for the risk assessment for 'Premises operation'.	Application supporting documentation. <i>Environmental Protection (Controlled Waste) Regulations 2004.</i> <i>Environmental Protection (Rural Landfill) Regulations 2002.</i> <i>Environmental Protection (Unauthorised Discharges) Regulations, 2004.</i>
Odour emissions	-	<u>Emission Description</u> <i>Emission:</i> Odour emissions from landfilling operations through the additional handling and disposal of odorous waste types (putrescible) received to the premises. <i>Impact:</i> Nuisance odour emissions, interference with the health and amenity of surrounding	



DECISION TABLE			
Works Approval / Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>communities.</p> <p><i>Controls:</i> The proponent compacts and covers waste received daily. The Shire has a complaints management system in place for the effective reporting and recording of issues related to the operation of the premises which assists in continuous improvement and management of the premises operation. No additional volumes of waste are being received to the premises as a result of the additional category 62 inclusion.</p> <p>Assessment of DER's Incident and Complaints Management System (ICMS) from 2010 to 2016 identified that one odour complaint was noted in July 2010. Fish offal causes the greatest odour issues at the landfill and is buried on the same day as delivery to the premises. Fish offal causes intermittent, localised odour issues at the premises only.</p> <p>The careful reuse of nil to low odour waste streams (paper, cardboard, recyclable plastics) proposed will not result in any significant odour forming and will reduce waste volumes at the premises, and assist in supplying additional revenue for the Shire through recycling initiatives.</p> <p>The premises is located within an isolated setting with the nearest sensitive receptor being the Mungullah Power Station which is located approximately 370 m west of the premises boundary and a closest sensitive residential receptor is approximately 1.4 km north of the premises boundary.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Slight <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> No additional regulatory controls have been proposed through this amendment process.</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>The Delegated Officer considers that:</p> <ul style="list-style-type: none"> the additional handling of permitted waste types at the premises includes waste streams of a low odour generating potential (cardboard, paper and plastics); and low risk odour emissions are able to be adequately managed through section 49 of the <i>Environmental Protection Act 1986</i>. <p><u>Residual Risk</u> <i>Consequence:</i> Slight <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p>	
Noise emissions	-	<p><u>Emission Description</u> <i>Emission:</i> Noise emissions from the operation of the mobile baling plant used for the recycling of Putrescible waste (paper, cardboard and recyclable plastics). <i>Impact:</i> Interference with the amenity of surrounding communities. <i>Controls:</i> The Shire has a complaints management system in place for the effective reporting and recording of issues related to the operation of the premises which assists in continuous improvement and management of the premises operation. The baler will be stored and operated within a shed on an intermittent/ 'ad hoc' basis dependent on adequate volumes of waste being received for baling.</p> <p>The closest sensitive receptor is the town of Coral Bay and the caravan park approximately 305 m and 490 m north west, respectively, from the premises boundary. The premises is approximately 704 m south east of the Indian Ocean, and separated by a natural vegetated ridge which forms a natural barrier between the town of Coral Bay and the landfill.</p> <p>The premises is located in a very low density, rural setting on the outskirts of the town of Coral Bay, and is considered isolated with no sensitive receptors adjacent to or in close proximity to the landfill. The landfill is located within a windy location able to readily</p>	<i>Environmental Protection (Noise) Regulations 1997.</i>



DECISION TABLE			
Works Approval / Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>disseminate any noise generated at the premises.</p> <p>The Licensee did not undertake any noise assessment or modelling as part of the proposed operational changes defined under this amendment process.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Slight <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> No additional noise control measures have been proposed.</p> <p>The Delegated Officer considers the provisions of the <i>Environmental Protection (Noise) Regulations 1997</i> sufficient to regulate any low risk noise emissions from the premises.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Slight <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p>	
Monitoring of inputs and outputs	L2.1.1	Condition 2.1.1, table 2.1.1, (previously condition 3.6.1) has been retained within the licence which includes the monitoring of waste types leaving or rejected from the premises. The Delegated Officer considers this condition a relevant and appropriate regulatory control in the management and reporting of operations for the premises.	<i>Landfill Waste Classification and Waste Definitions 1996 (as amended).</i>
Ambient environmental quality monitoring	L2.2	See Appendix 2 of the Decision Document for the risk assessment for 'Ambient environmental quality monitoring'.	



DECISION TABLE			
Works Approval / Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Improvements	L3.1.1	<p>Section 3 'Improvements' has been removed from the licence as a result of this amendment process. An improvement programme 'IR1' included during the last amendment process (as amended 8 October 2015) for the development of an Asbestos Management Plan (AMP) by the Shire has been removed. The AMP was received by DER in November 2015.</p> <p>No further improvement conditions are pending and this section has subsequently been removed from the Licence.</p>	<i>Guidelines for managing asbestos at construction and demolition waste recycling facilities, 2012, section 3.</i>
Information	L4.1	<p>General administrative changes have been included within this section of the Licence through the amendment process. Previous Section 4 'Information' has been renumbered Section 3 as a result of the removal of 'Improvements' (as above) from the licence.</p> <p>Previous Condition 4.1.2 has been removed from the licence: <i>"The Licensee shall ensure that:</i> <i>(a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and</i> <i>(b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing."</i></p> <p>The Delegated Officer considers that it is not a valid defence under the EP Act for the Licensee or its agents to claim they are unaware of the conditions of the licence. Compliance to the conditions of a prescribed premises licence is a requirement of the EP Act.</p> <p>Previous Condition 4.1.3 has been renumbered 3.1.3, and has had an administrative change to the wording of the condition. There is no material change to the context or reporting requirements of the condition.</p> <p>Previous Condition 4.1.4 has had an administrative change and has been renumbered 3.1.4.</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>Previous Condition 4.1.5 has had an administrative change and has been renumbered 3.1.5.</p> <p>Previous Condition 4.2.1 has had an administrative change and has been renumbered 3.2.1. Correlating condition numbers have also been updated within the related table.</p>	
Schedule 1: Maps	-	The map within Schedule 1: Maps has been retained with minor administrative changes to include additional detail within the premises map.	
Schedule 2	-	<p>An administrative change has been undertaken with the removal of the AACR form template. The required AACR form has been updated and is now accessed online. The Licensee is able to utilise the form template for the Compliance report as per DER website www.der.wa.gov.au, should they wish to use the online format.</p> <p>Schedule 2 now contains only the template for notification requirements under Form 'N1'.</p>	
Licence Duration	N/A	<p>The Licence duration was extended as part of a DER 'Strategy and Reform' process on 29 April 2016, changing the expiry date from 16 January 2019 to 16 January 2036. The Licensee was notified by DER in writing.</p> <p>The licence duration has been amended to reflect this change through an administrative change as a result this amendment process, on page 1 of the licence.</p>	



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
25/11/2016	Proponent sent a copy of draft instrument	<p>Two comments received from Alan Hobbs (Environmental Health Officer, Shire of Carnarvon) via email on 14/12/2016 as follows:</p> <p>CORAL BAY WASTE SITE.</p> <ol style="list-style-type: none">1. Delete all references to 'mobile' because funding requirements are for fixtures only.2. Item 2.2.1 + Table 2.2.1 Request an extension of time for compliance due to:<ol style="list-style-type: none">(a) No provision for costs in the 2016—2017 budget.(b) Proposed boundary changes (attached) will result in new areas being designated for the various waste streams. If we sink bores in relation to the present disposal areas may not be positioned effectively for new designated disposal areas.	<p>Steve Checker (Manager Licensing Waste Industries) contacted Alan Hobbs with the following outcomes based on the comments received:</p> <ol style="list-style-type: none">1. All reference to "mobile plant" changed to "fixture";2. Extension given until 30 September 2017.



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 1

Emission Description

Emission: Fugitive emissions (dust and odour) and windblown waste from landfilling operations. Dust emissions from soil disturbance from the construction of new cells or operations (covering waste or baling activities) is expected to cause intermittent, low intensity, localised dust dispersal around the premises. Potential exists for asbestos particulates to become airborne/ mobile within the highly windy environment. Odour emissions from the receipt of fish offal and putrescible waste.

Impact: Nuisance dust and odour emissions, and interference with the health and amenity of surrounding communities. Contamination of surrounding land. Potential impacts on the surrounding groundwater or surface water from leachates from the unlined putrescible waste burial trenches/ cells.

Controls: The proponent compacts and covers waste received daily. Weekly waste collection is undertaken for windblown waste and returned to the tipping area for compaction and disposal. The Shire has a complaints management system in place for the effective reporting and recording of issues related to the operation of the premises which assists in continuous improvement and management of the premises operation. The mobile plant will be housed within a shed and only operated intermittently when sufficient supplies have been stockpiled. Baled materials will be stored within the shed prior to disposal off site. Volumes received to the premises are considered low. The premises is manned for a portion of each day to ensure that waste is buried and adequately covered or stored on the day received, and to ensure appropriate management of the facility.

The premises is isolated and has no sensitive receptors adjoining or adjacent to the landfill, which is separated from the closest sensitive receptors by a vegetated sand dune (ridge) which forms a natural barrier to the town of Coral Bay and all other sensitive receptors.

Assessment of DER's Incident and Complaints Management System (ICMS) from 2010 to 2016 identified that:

- No complaints of dust have been received for the premises during this period;
- One complaint was received in November 2012 regarding litter;
- One odour complaint was noted in July 2010.

Risk Assessment

Consequence: Minor

Likelihood: Possible

Risk Rating: Medium

Regulatory Controls

Condition 1.2.1 has been amended to be more specific regarding the pollution control requirements and requires the management of dust issues for the premises relating to water tankers/ sprays, water tanks.

Condition 1.3.1, table 1.3.1 'Specification' has had an administrative change to give more detail to the types of waste approved for receipt to the premises under each waste type category.

Condition 1.3.2 has been retained from the previous Licence and specifies the process for the receipt, handling and management of unauthorised waste types to the premises.

Condition 1.3.3, table 1.3.2 'Waste processing' has been amended to include additional process limits to assist in appropriate regulatory controls as a result of recycling of permitted waste types through the use of a baler, and storage of waste at the premises, as specified below:

- 1) All waste types (a) '*Disposal of waste by landfilling shall only take place within landfill trenches*' has been removed from the licence and replaced with '*Waste is to be totally covered with cover material when disposed of to the landfill trenches so that no waste is left exposed*'.
- 2) Inert waste Type 1(a)-(c): specifies storage requirements;



- 3) Inert waste Type 2(a) and (b): specifies additional disposal and storage details;
- 4) Special waste Type 1(d) to (f): requires additional recording requirements;
- 5) Special waste Type 2(b) to (g): requires additional recording requirements;
- 6) Putrescible waste (a) to (f): requires additional storage and recycling details of non-green waste and additional storage and handling of green waste.

Additional above ground storage at the premises will place additional pressure on the landfill for subterranean burial area. The premises is already experiencing limitations and life expectancy of the current premises is short. The Shire of Carnarvon (Shire) has been investigating additional sites for use however this process has not been finalised. Although recycling will reduce the volume of waste burial and demand for land use, the storage of additional waste volumes (Inert waste Type 1) for extended periods, will further compound land availability issues at the premises. The Shire will be required to assess the ongoing capacity of the premises for any future expansion needs. Recycled wastes will be stored within the shed ensuring land area is not further compromised.

Conditions 1.3.4 to 1.3.9 have been retained within the licence as the Delegated Officer considers these conditions relevant and appropriate regulatory controls for the ongoing operation of the premises.

Condition 1.3.10 has been removed from the licence:

“The Licensee must ensure that an unauthorised fire on the Premises is extinguished as soon as possible.”

The Delegated Officer considers this condition a duplication of requirements already defined within the details of condition 1.3.9 of the licence:

“The Licensee must ensure that there are appropriate procedures and equipment in place at the Premises so that any unauthorised fire is extinguished promptly.”

Risk Assessment

Consequence: Slight

Likelihood: Possible

Risk Rating: Low

Appendix 2

A risk assessment for ‘Ambient environmental quality monitoring’ has been included as potential leachate generation from the operation of the premises is possible. Historically, the Licence did not include any requirements for the management of leachates. The risk assessment is therefore proposing additional regulatory controls, as defined below:

Emission Description

Emission: Leachates discharged from the burial of waste (putrescible waste including fish offal and carcasses, contaminated containers and special waste type 1) within the landfill.

Impact: Potential contamination of groundwater (depth to groundwater at the premises is unknown) and potential discharge to surface water (Indian ocean, approximately 704 m south east).

Controls: Nil.

A desktop assessment of bores north west of the premises showed depth to groundwater varying approximately from 1.6 - 41m. Total dissolved solids varied from 5,571 - 20,400 mg/L (saline to highly saline). Evaporation rates have been shown to be more than eleven times the average annual rainfall rates (‘Coral Bay Waste Management Facility – Waste Management Plan 2014’).



The landfill does not consist of any lined cells for solid waste disposal. The landfill has gradually grown in size and diversification of waste types disposed to the premises over time and recent discussions with the Shire (Alan Hobbs, EHO) has confirmed that the Shire are now looking to expand the premises boundary for greater landfilling potential into the near future.

The town of Coral Bay coastline forms part of the 'Ningaloo Reef Marine Park' which is Australia's largest fringing coral reef system and includes the 'Maud Sanctuary Zone' which offers the highest level of protection to marine ecosystems.

Department of Water (Water resource protection series No. 117) identifies that "Coral Bay depends entirely on groundwater for its water supply. Groundwater is sourced from the Birdrong aquifer, which is part of the Carnarvon Artesian Basin. This [Basin] is a confined sandstone aquifer that is recharged in the Gregory Range east of Coral Bay."

Risk Assessment

Consequence: Moderate

Likelihood: Possible

Risk Rating: Medium

Regulatory Controls

Additional regulatory controls have been included within this amendment process for the monitoring of groundwater quality within Section 2.2 of the Licence. The additional conditions 2.2.1 and 2.2.2 require the Licence to ensure monitoring of specific groundwater parameters is undertaken within ten months from the granting of this Licence amendment.

The Delegated Officer considers that although annual evaporation rates are more than eleven times the annual rainfall rates, which will assist in reducing mobility of leachates towards groundwater:

- The Coral Bay area is considered to consist of coastal flats and dunes with the landfill soil type described as 'calcarenes and limestone' formations (Department of Water, Water resource protection series No. 117), which are karstic in nature and readily allow for the mobility of leachates through the soil profile;
- The landfill does not include any lined cells;
- The area has high tourism utilisation and economic value;
- Depth to groundwater and groundwater directional flow at the premises is unknown;
- The sensitivity of and potential risk to the marine environment requires additional regulatory controls within the premises Licence in order to assess potential emission risks to the receiving environment; and
- Potential expansion of the landfill and town exists.

The potential for leachate migration via the soil profile to impact groundwater exists and regulatory controls for groundwater monitoring are considered appropriate. Conditions 2.2.1 and 2.2.2 have therefore been included within the Licence. The Delegated Officer considers these conditions relevant and appropriate regulatory controls required for the monitoring of potential emissions as a result of operation of the prescribed premises categories.

Residual Risk

Consequence: Moderate

Likelihood: Possible

Risk Rating: Medium