



## Application for Licence Amendment

### Part V Division 3 of the *Environmental Protection Act 1986*

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<b>Licence Number</b>	L7021/1997/15
<b>Licence Holder</b>	City of Karratha
<b>File Number</b>	DER203/000622-1
<b>Premises</b>	Seven Mile Waste Disposal Facility Seven Mile Road GAP RIDGE WA 6714  Legal description – Lot 85 on Plan 180017 and Lot 552 on Plan 71049  As defined by the Premises map attached to the Revised Licence.
<b>Date of Report</b>	10 May 2024
<b>Decision</b>	Revised licence granted

**Grace Heydon**

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

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## 1. Decision summary

Licence L7021/1997/15 (L7021) is held by City of Karratha (Licence Holder) for the for the Seven Mile Waste Management Facility (the Premises), located on Seven Mile Road, Gap Ridge.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L7021 has been granted.

## 2. Scope of assessment

### 2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

### 2.2 Application summary

On 2 January 2024, the Licence Holder submitted an application to the department to amend Licence L7021 under section 59 and 59B of the Environmental Protection Act 1986 (EP Act). The following amendments are being sought:

- Use of Posi-shell as an alternate cover material than soil for Cell 1 and Cell 2 at the Landfill.

Posi-Shell is a patented blend of clay binders, reinforcing fibers, and polymers that, when mixed with water or leachate, produces a spray-applied mortar that dries in the form of a thin durable stucco. Regardless of the weather, Posi-Shell adheres to any surface and is effective in wet and dry forms. Posi-Shell's unique properties enable the use of durability enhancers to achieve long-term coatings that remain resilient for more than a year. Posi-Shell is packaged in 15 kg bags or 125 kg bulk sacks and mixing is accomplished using hydroseeding units (mobile trailers).

The Licence Holder will use Posi-shell as an alternate cover material for Putrescible waste and Molecular sieve waste and Special Waste Type 3 only under Condition 12 Table 4.

This amendment is limited only to changes to Category 64 activities from the Existing Licence. No changes to the aspects of the existing Licence relating to Category 57, 61, 61A, 62 and 67A have been requested by the Licence Holder.

Table 1 below outlines the proposed changes to the existing Licence.

**Table 1: Proposed design or throughput capacity changes**

Category	Current design capacity	Proposed design capacity	Description of proposed amendment
Category 57	200,000 tyres	200,000 tyres	No Changes
Category 61	116,500 tonnes per annual period	116,500 tonnes per annual period	No Changes
Category 61A	10,000 tonnes per annual period	10,000 tonnes per annual period	No Changes
Category	20,000 tonnes per annual	20,000 tonnes per	No Changes

62	period	annual period	
Category 64	150,000 tonnes per annual period	150,000 tonnes per annual period	No Changes
Category 67A	5, 000 tonnes per annual period	5, 000 tonnes per annual period	No Changes

### 3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

#### 3.1 Source-pathways and receptors

##### 3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 2 below. Table 2 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

**Table 2: Licence Holder controls**

Emission	Sources	Potential pathways	Proposed controls
Dust	Cover putrescible waste with Posi-shell. Use of Posi-shell portable trailer.	Air/windborne pathway	Posi-shell reduces dust emissions due to its inert material and spray on cover range. The Posi-shell equipment sits on a mobile trailer so dust emissions from the trailer itself will be negligible as speed is greatly reduced when moving/towing the trailer.
Noise	Operation of Posi-shell machinery	Air/windborne pathway	The Posi-shell equipment sits on a mobile trailer. Noise from the equipment will be minimal as it is a 14hp petrol engine.
Odour	Use of Posi-shell as cover material	Air/windborne pathway	Posi-shell is an inert material itself and its mineral foundation offers a natural filter uniquely effective at controlling and suppressing landfill odours.
Fire	Use of Posi-shell as cover material	Air/windborne pathway	Posi-shell is generally not a combustible material itself as its natural mineral foundation is intrinsically non-flammable and will not ignite even under direct and sustained exposure to a torch.
Landfill Gas	Use of Posi-shell as cover material to cover putrescible	Air/windborne pathway	The Posi-Shell dramatically improves landfill gas extraction by eliminating barriers left behind by soils.

Emission	Sources	Potential pathways	Proposed controls
	waste. Decomposition of Posi-shell material		
Leachate	Decomposition of Posi-shell material.	Seepage to soils and groundwater	Proposed Cells 1-12 are lined with a Geosynthetic Clay Liner (GCL) with a permeability (as manufactured) of $\leq 5 \times 10^{-11}$ m/s.  Posi-shell is an inert material and does not normally produce leachate itself and also prevents leachate breakouts and dramatically improves landfill gas extraction by eliminating barriers left behind by soils.
Contaminated stormwater	Operation of Posi-shell material	Overland run-off and seepage into soils	Posi-shell itself is an inert material and will only be sprayed/used within the landfill cells which are lined.

### 3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 3 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020)).

**Table 3: Sensitive human and environmental receptors and distance from prescribed activity**

Human receptors	Distance from prescribed activity
Commercial and Industrial Premises	Immediately adjacent to premises boundary
Stayover Kingfisher Village	Approximately 1.4 km south-east of premises boundary
Civeo Karratha Village	Approximately 2.3 km north-east of premises boundary
Residential Baynton properties	Approximately 2.7 km northwest of premises boundary
Baynton West Primary School & Baynton West Park	Approximately 3.4 km northwest of premises boundary
Environmental receptors	Distance from prescribed activity
Pilbara Groundwater Area ( <i>RIWI Act 1914</i> ) <ul style="list-style-type: none"> <li>Groundwater typically 6-10m below</li> </ul>	Premises mapped within this designated area

existing ground level • Hyper saline brackish	
Pilbara Surface Water Area ( <i>RIWI Act 1914</i> )	Premises mapped within this designated area
Threatened ecological communities • Roebourne Plains gilgai grasslands	Premises mapped within this area
Surface water lines • Seven Mile Creek	490m east of premises boundary
Nickol Bay intertidal and nearshore environs	Approximately 6.5 km northwest of premises boundary

### 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

The Revised Licence L7021 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises. The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

**Table 4: Risk assessment of potential emissions and discharges from the Premises during operation**

Risk Event					Risk rating <sup>1</sup> C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions <sup>2</sup> of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
<b>Operation</b>								
Operation of Posi-shell machinery	Dust	Air/windborne pathway causing impacts to health and amenity	Commercial Premises adjacent to Premises	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 10	N/A
	Noise				Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 14
Use of Posi-shell as cover material	Odour	Air/windborne pathway causing impacts to health and amenity	Stayover Kingfisher village 1.4 km south-east of Premises Civeo Karratha Village 2.3 km north-east of Premises	Refer to Section 3.1	C = Slight L = Rare <b>Low Risk</b>	Y	N/A	N/A
	Fire	Air/windborne pathway causing impacts to health and amenity	Residential Baynton properties 2.7 km north-west	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 16-19	N/A
	Landfill Gas	Air/windborne pathway causing impacts to health and amenity		Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 6 and 35-41	N/A
	Leachate	Seepage and overland runoff potentially causing ecosystem disturbance or impacting surface water	Seven Mile Creek and minor non perennial water sources – 490 m east of Premises	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 2, 9, 11 (c), 28, 30 31 and 34. <u>Condition 12 will be amended to</u>	N/A

Risk Event					Risk rating <sup>1</sup> C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions <sup>2</sup> of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
		quality	Pilbara Surface Water Area – Premises within designated area				<u>approve Posi-shell as an acceptable cover material.</u>	
	Sediment laden stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Pilbara Groundwater Area - Premises within designated area  Threatened ecological communities (Roebourne Plains gilgai grasslands) – mapped within Premises area	Refer to Section 3.1	C = Slight L = Rare <b>Low Risk</b>	Y	Condition 27	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.



## 4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

**Table 5: Consultation**

Consultation method	Comments received	Department response
Licence Holder was provided with draft amendment on 9 April 2024.	Licence Holder responded on 9 May 2024 advising no comments.	Noted.

## 5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

### 5.1 Summary of amendments

Table 6 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

**Table 6: Summary of licence amendments**

Condition no.	Proposed amendments
Condition 12 Table 4	Inclusion of Posi-shell as an approved cover material for putrescible waste for use in Cell 1 and 2.  Format change to Depth Column in Table 4 to distinguish between the two types of cover material depths required.
Definitions Table 18	Definition of Posi-shell

## References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

## Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)				
Application type				
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L7021/1997/15	
		Relevant works approval number:		N/A <input type="checkbox"/>
Date application received		2/01/2024		
Applicant and Premises details				
Applicant name/s (full legal name/s)		City of Karratha		
Premises name		Seven Mile Waste Disposal Facility		
Premises location		Seven Mile Road GAP RIDGE WA 6714 Lot 85 on Plan 180017 and Lot 552 on Plan 71049		
Local Government Authority		City of Karratha		
Application documents				
HPCM file reference number:		DER2013/000622-1		
Key application documents (additional to application form):		Application Form Supporting Document		
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.		Licence amendment Use Posi-shell as an alternative cover material in Cell 1&2.		

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 57: Used tyre storage (general)	200,000 tyres	No Changes
Category 61: Liquid waste facility	116,500 tonnes per annual period	
Category 61A: Solid waste facility	10,000 tonnes per annual period	
Category 62: Solid waste depot	20,000 tonnes per annual period	
Category 64: Class II or III putrescible landfill site	150,000 tonnes per annual period	
Category 67A: Compost manufacturing and soil blending	5,000 tonnes per annual period	

**Legislative context and other approvals**

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: If N/A explain why?
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.

<p>Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Application reference No: Licence/permit No: 201359 Groundwater Licence for the extraction of 50,000 kL per annual period. Expiry 24 May 2028</p>
<p>Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A Type: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Regional office: Swan Avon / Mid-West Gascoyne / Kwinana Peel / North West / South West / Goldfields / South Coast</p>
<p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A Priority: P1 / P2 / P3 / N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to <u>WQPN 25</u>)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
<p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004</i>, <i>Environmental Protection (Controlled Waste) Regulations 2004</i>, <i>State Agreement Act xxxx</i>)</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p><i>Environmental Protection (Controlled Waste) Regulations 2004</i></p>
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>If Yes include details of which EPP(s) here.</p>
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>If Yes, include details here, e.g. Site is subject to SO<sub>2</sub> requirements of Kwinana EPP.</p>
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Classification possibly contaminated – investigation required (PC–IR) Date of classification: Aug 13, 2020 1762 - Crown Reserve 32987 Seven Mile Tip Road, Gap Ridge, landfill. Form 1</p>