Amendment Report

Application for Licence Amendment

Part V Division 3 of the Environmental Protection Act 1986

Licence Number L8993/2016/1

Licence Holder Cleanaway Pty Ltd

ACN 000 146 938

File Number DER2016/001702-1

Premises Guildford Materials Recovery Facility

72 Hyne Road

South Guildford WA 6055

Legal description -

Lot 62 on Diagram 60242

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Date of Report 14 August 2020

Decision Revised licence granted

SENIOR MANAGER WASTE INDUSTRIES REGULATORY SERVICES

An officer delegated by the CEO under section 20 of the EP Act

Table of Contents

1.	Deci	ision summary				
2.	Scope of assessment					
	2.1	Regul	Regulatory framework			
	2.2	Application summary				
	2.3	Premises Part V EP Act history				
	2.4	Consolidation of Licence				
3.	Legi	slative	context and other approvals	3		
	3.1	Plann	ing and Development Act 2005	3		
		3.1.1	Planning context	3		
		3.1.2	Current application	5		
		3.1.3	Previous history	6		
		3.1.4	Key findings	6		
	3.2	Buildii	ng Act 2011	6		
	3.3	Conta	nminated Sites Act 2003	6		
4.	Risk	asses	sment	7		
	4.1	Sourc	e-pathways and receptors	7		
		4.1.1	Emissions and controls	7		
		4.1.2	Receptors	11		
	4.2	Risk ratings				
	4.3	Detail	ed risk assessment - Smoke and particulate emissions	18		
		4.3.1	Description of risk event	18		
		4.3.2	Identification and general characterisation of emission	18		
		4.3.3	Description of potential adverse impact from emission	18		
		4.3.4	Criteria for assessment	18		
		4.3.5	Specific characterisation of emission	19		
		4.3.6	Referral to Department of Fire and Emergency Services	19		
		4.3.7	Key findings	19		
		4.3.8	Consequence	20		
		4.3.9	Likelihood	20		
		4.3.10	Overall rating of smoke and particulate emission and impact	20		
		4.3.11	Justification for additional regulatory controls	21		
	4.4	Detail	ed risk assessment – Fire washwater emissions	25		
		4.4.1	Description of risk event	25		
		4.4.2	Identification and general characterisation of emission	25		
		4.4.3	Description of potential adverse impact from emission	25		
		4.4.4	Criteria for assessment	25		

		4.4.5	Specific characterisation of emission	26
		4.4.6	Key findings	26
		4.4.7	Consequence	26
		4.4.8	Likelihood	26
		4.4.9	Overall rating of fire washwater emission and impact	27
		4.4.10) Justification for additional regulatory controls	27
5 .	Cons	sultatio	on	29
6.	Cond	clusion	1	30
	6.1	Summ	nary of amendments	30
Ref	erence	es		32
Арр	endix	1: Con	nsultation Summary	33
App	endix	2: App	olication validation summary	54
			•	
Tabl	e 1: Lic	cences c	consolidated in this amendment	2
Tabl	e 2: La	nd use t	terms relevant to Local Planning Scheme No. 17	3
			om Schedule 1 of the Clause 78H Notice of Exemption, issued on 30 A	•
Tabl	e 4: Lic	cence H	older controls	8
			human and environmental receptors and distance from prescribed acti	
Tabl	e 6: Su	ırface ge	eology at the Premises	13
			ssment of potential emissions and discharges from the Premises durin peration	
Tabl	e 8: Su	ımmary	of licence amendments	30
Tabl	e 9: Co	onsolidat	tion of licence conditions in this amendment	30
Tabl	e 10: S	Summary	y of direct interest stakeholder and public comments on the application	ı33
Tabl	e 11: S	Summary	y of licence holder's comments on risk assessment and draft conditions	s51
Figu	re 1: P	otential :	receptors surrounding the premises. The premises boundary is shown	by

1. Decision summary

Licence L8993/2016/1 is held by Cleanaway Pty Ltd (Licence Holder) for the Guildford Materials Recovery Facility (the Premises), located at Lot 62 on Diagram 60242, 72 Hyne Road, South Guildford 6055.

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 reconstruction and operation of the Premises following a fire which destroyed much of the premises in November 2019. As a result of this assessment, Revised Licence L8993/2016/1 has been granted.

The Revised Licence issued as a result of this amendment consolidates and supersedes the existing Licence previously granted in relation to the Premises. The Revised Licence has been granted in a new format with existing conditions being transferred to the new format.

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://www.der.wa.gov.au.

2.2 Application summary

On 12 May 2020, the Licence Holder submitted an application to the Department of Water and Environmental Regulation (department) to amend Licence L8993/2016/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Demolition and reconstruction of the facility;
- Modifications to stormwater and fire controls; and
- Addition of a washdown bay to allow for on-site vehicle and equipment cleaning.

The amendments are being sought following a fire at the facility in November 2019. The fire event (herein referred to as the November 2019 fire) caused significant damage to the premises and requires the facility to be rebuilt. The facility rebuild will be mostly 'like for like' with the inclusion of additional controls relating to fire prevention and containment of fire wash water.

The addition of the onsite vehicle washdown bay will result in a new activity and emission source that was not previously assessed. The washdown bay is for equipment and vehicles used for the handling of waste associated with the material recovery facility (MRF). Accordingly the activity is considered to be a directly related activity to Categories 61A and 62 and does not require additional categories to be added to the licence.

The Licence Holder is also proposing to modify their hours of operation to 5am – 2am, 7 days a week. The Existing Licence does not contain conditions limiting the hours of operation and the proposed change is within the same discrete time periods listed in the *Environmental Protection* (Noise) Regulations 1997.

2.3 Premises Part V EP Act history

The Licence Holder applied for a concurrent works approval and licence on 8 August 2016 for construction and operation of a MRF. The primary activities in the application were considered to fit the definitions of prescribed premises categories 62: solid waste depot and 61A: solid

waste facility, as listed in Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations). These categories relate to the acceptance, reprocessing and temporary storage of solid waste prior to disposal offsite. The applications were advertised for public comment on 26 September 2016 and 10 October 2016 for the works approval and licence respectively, with neither application receiving comments. Following an assessment of residual emission and discharge risks for the premises, works approval W5983/2016/1 was granted on 24 November 2016. Licence L8993/2016/1 was granted on 11 May 2017 after Cleanaway Pty Ltd had submitted construction compliance documentation required by W5983/2016/1. The granted licence was advertised in the West Australian and DWER website for appeal on 15 May 2017. No appeals were received in relation to both granted instruments.

During August 2017 it was identified that the definition of *Leachate Control System* within licence L8993/2016/1 was incorrect. A department initiated amendment to the licence was undertaken to correct the definition, which was granted on 29 August 2017. The definition was changed from 'the dedicated leachate collection system constructed within the Production Area to collect leachate and direct it to a self-bunded impervious holding tank' to 'the dedicated leachate collection system constructed within the Production Area to collect leachate and direct it to one of two concrete lined tanks with airtight cast iron covers interconnected at bases with high level alarms and flashing strobe light'. This amendment was administrative in nature to fix a clerical error (EP Act section 59(1)(e)), therefore no risk assessment was undertaken and the decision was not subject to the appeal provisions in section 102 of the EP Act.

On 29 March 2018 the Licence Holder applied for an amendment to licence L8993/2016/1. The amendment sought to allow the acceptance and temporary storage of bread waste, hydrocarbon waste and waste batteries at the Premises. The amendment application was modified to also include temporary storage of processed waste outside the enclosed warehouse. The primary activities in the amendment were considered to fit the existing categories on the licence and also require the addition of category 61: liquid waste facility. The department has discretion to advertise amendment applications on a case-by-case basis and generally only advertises significant amendments for comment. Accordingly, the amendment application was not advertised due to no significant works being required and only small quantities of liquid waste hydrocarbons involved with the addition of category 61. When conducting a risk assessment for a licence amendment, the department only considers any increase in risk resulting from the activities and emissions related to the amendment application. Following an assessment of emission and discharge risks for activities proposed in the amendment, Amendment Notice 2 was granted on 3 September 2018 and advertised for appeal. No appeals were received in relation to the amendment.

2.4 Consolidation of Licence

As part of this amendment package, the department has consolidated the licence by incorporating changes made under the Amendment Notices as summarised in Table 1.

Table 1: Licences consolidated in this amendment

Instrument	Issued	Summary of approval
L8993/2016/1	11/05/17	Licence granted
L8993/2016/1	29/08/17	Amendment Notice 1 to correct the definition of Leachate Control System
L8993/2016/1	03/09/18	Amendment Notice 2 to enable acceptance of bread waste, hydrocarbons, batteries and the addition of Category 61.

It is noted that the current amendment application is likely to result in more than 10 licence conditions requiring modification. Accordingly, where changes to conditions have been made, the obligations of the Licence Holder may have changed. A revised risk assessment of the Premises, including previous Amendment Notices has also been undertaken and this is contained in this Decision Report.

In consolidating the licence, the CEO has:

- updated the format and appearance of the Licence;
- revised licence condition's numbers, and removed any redundant conditions and realigned condition numbers for numerical consistency; and
- corrected clerical mistakes and unintentional errors.

The full consolidation of licence conditions as they relate to this Revised Licence are detailed in Section 6.1. Previously issued Amendment Notices will remain on the department's website for future reference and will act as a record of the department's decision making.

3. Legislative context and other approvals

3.1 Planning and Development Act 2005

3.1.1 Planning context

The premises is located in the City of Swan local government area which is administered under Local Planning Scheme No. 17 (LPS 17). Lot 62 on Diagram 60242 is zoned as *General Industrial* under LPS 17 and existing land use is considered to be for *Industry-General* and *Transport Depot*. LPS 17 lists the two land uses as permitted in a *General Industrial* area. A list of definitions relevant to the planning context of the premises is contained in Table 2. Information relating to Offensive Trades has also been included for additional context.

Table 2: Land use terms relevant to Local Planning Scheme No. 17

Source	Term	Definition
Local Planning Scheme No. 17	Industry	means premises used for the manufacture, dismantling, processing, assembly, treating, testing, servicing, maintenance or repairing of goods, products, articles, materials or substances and includes the use of premises on the same land used for —
		(a) the storage of goods;
		(b) the work of administration or accounting;
		(c) the selling of goods by wholesale or retail; or
		(d) the provision of amenities for employees;
		incidental to any of those industrial operations.
	Industry-General	means an industry other than a cottage, extractive, light, mining, noxious, rural or service industry.

Source	Term	Definition
Local Planning Scheme No. 17	Transport Depot	means premises, or a portion of premises, used for the parking or garaging of commercial vehicles, and: i. may include the maintenance and refuelling of those vehicles and the storage of goods brought to the premises by those vehicles, provided that those activities are ancillary to the parking or garaging of the commercial vehicles; and ii. may include the transfer of goods or persons from one motor vehicle to another. but does not include the parking or garaging of commercial vehicles approved pursuant to clause
	Industry-Noxious	5.10 of the Scheme. means an industry in which the processes involved constitute an offensive trade within the meaning of the <i>Health Act 1911</i> (as amended) but does not include wet fish shops or piggeries or a waste disposal process operation carried out by or under the direct management and supervision of the City.
Health (Miscellaneous Provisions) Act 1911	Offensive trade	means and includes any of the trades specified in Schedule 2, and any other trade declared to be offensive by proclamation. Schedule 2 Any of the trades, businesses, or occupations usually carried on, in, or connected with the undermentioned works or establishments, that is to say — • Abattoirs or slaughter houses; • Bone mills or bone manure depots; • Cleaning establishments, dye works; • Fat rendering establishments; • Felmongeries, tanneries; • Fish-curing establishments; • Flock factories; • Laundries; • Manure works; • Piggeries — (a) carried on, in or upon premises situated in areas prescribed as those in which piggeries may be carried on, only if registered as required by section 191; or (b) the pigs in which, wherever the premises are situated, are fed wholly or partly on pigswill; Places for storing, drying, or preserving bones, hides, hoofs or skins; Tripe-boiling establishments; Works for boiling down meat, bones, blood, or offal.

3.1.2 Current application

Clause 78H of the *Planning and Development (Local Planning Schemes) Regulations 2015* provides the Minister for Planning with the authority to temporarily override requirements of local planning schemes and existing conditions of planning approvals, for a single council, across a specific region or across the State. These exemptions are granted by notice in the event that the Western Australian Government declares a State of Emergency under the *Emergency Management Act 2005*. A State of Emergency was declared in Western Australia on 15 March 2020 due to the COVID-19 pandemic and the Minister for Planning issued a Notice of Exemption under Clause 78H on 30 April 2020. The Notice contains a schedule listing activities that are exempt from the requirement to obtain approval.

At the time of application, the Licence Holder advised that they considered themselves temporarily exempt from the requirement to obtain planning approval, based on Item 1.3 in the 30 April 2020 notice (see Table 3). Explanatory notes for the exemption indicate that Item 1.3 is not limited to temporary works only. The item requires planning approval to be obtained within 2 years for permanent works installed under the temporary exemption. The Licence Holder submitted an application for planning approval with the City of Swan to enable assessment and determination within 2 years from commencing use of the site.

The Delegated Officer notes that Development Approval for the rebuild and operation of the premises was granted by the Metro East Joint Development Assessment Panel on 11 August 2020.

Table 3: Item 1.3 from Schedule 1 of the Clause 78H Notice of Exemption, issued on 30 April 2020

Requirements	Schemes	Direct conditions	Discretion to
Proponents are exempted from the requirement to obtain development approval for the following uses, and works associated with these: i. Industry; ii. Industry-light iii. Trade supplies; iv. Warehouse/storage; v. Transport depot	All local planning schemes	 Provided that: the land to be used is located in an industrial zone; the use is capable of being approved under the scheme; if the land can be connected to all reticulated utility services, is so connected, and does not depend on any onsite effluent disposal; and either:	Proponents

3.1.3 Previous history

Prior to the November 2019 fire, the Licence Holder had received Development Approval under the City of Swan Local Planning Scheme No.17. On 29 February 2016 the Metro East Joint Development Assessment Panel determined to approve the development. Use of the land was considered to be for *Industry-General* and *Transport Depot*. The approval was further modified through an amendment on 26 August 2016.

3.1.4 Key findings

Key Findings:

- The Delegated Officer understands the Licence Holder had claimed a temporary exemption from the requirement to obtain development approval under the local planning scheme due to the current Covid-19 State of Emergency.
- 2. The Licence Holder has received Development Approval from the Metro East Joint Development Assessment Panel for the re-construction and use of the facility.
- 3. A premises accepting and storing solid waste and hydrocarbon waste for offsite disposal does not fit the list of Offensive trades contained in Schedule 2 of the *Health (Miscellaneous Provisions) Act 1911* (Health Act). The Delegated Officer is not aware of any proclamation made by the Governor under Division 2 of the Health Act with regards to these premises types or this specific facility.
- 4. Licence L8993/2016/1 only provides a defence for offences under Part V, Division 3 of the EP Act. The licence does not provide any defence against offences under planning legislation.

3.2 Building Act 2011

The Licence Holder has lodged a Building Permit application with the City of Swan, in relation to the proposed amendment. The application was submitted as a result of the temporary exemption claimed by the Licence Holder from development approval requirements.

Key Findings:

- Building approvals and environmental approvals are different statutory processes. A
 decision under Part V of the EP Act may be made prior to final determination of a
 building permit.
- 2. Licence L8993/2016/1 does not provide any defence against offences under the *Building Act 2011*. An occupier who begins works on or operates a prescribed premises without the necessary approvals from other decision making authorities does so at its own risk.

3.3 Contaminated Sites Act 2003

The Guildford MRF was reported to the department under the *Contaminated Sites Act 2003* on 11 May 2020 after a Detailed Site Investigation, commissioned by Cleanaway, found nutrients, hydrocarbons (such as from petrol, diesel or oil) and per- and poly-fluoroalkyl substances in groundwater beneath the site. The site was classified as *possibly contaminated – investigation required* on 27 May 2020.

Nutrient and PFAS concentrations in groundwater were considered possibly representative of background levels in the area. However, groundwater flow direction was inferred to be radial at the site and therefore background concentrations were not been able to be determined.

Further groundwater investigations are required to determine groundwater flow direction at the site and assess the nature and extent of possible contamination. DWER expects the investigations to consider seasonal variations in groundwater conditions, and has requested that Cleanaway submits the report on these works by December 2021.

Key Findings:

- The Delegated Officer understands that soil and sediments at the Premises have not been contaminated as a result of the November 2019 fire. Groundwater contamination has been identified within the premises and further determination of the source is required.
- 2. The contaminated sites classification for the premises advises that further investigation is required to confirm local groundwater flow and background concentrations of relevant contaminants in groundwater.
- Ongoing contamination assessment and remediation at the premises is managed under the *Contaminated Site Act 2003*. As the application does not involve dewatering to facilitate construction, the proposed works are unlikely to impact ongoing investigations.

4. 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 *Guidance Statement: Risk Assessments* (DER 2017). 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.

4.1 Source-pathways and receptors

4.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this Amendment Report are detailed in Table 4 below. Table 4 also details the control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 4: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Contaminated	Acceptance, sorting,	Overland runoff	Enclosed warehouse
stormwater	loading and storage of waste material Containment loss	Sub-surface infiltration	Premises fully sealed by concrete or bitumen to achieve a permeability below 1 x 10 ⁻⁹ m/s
	from leachate storage tank		Stormwater directed to sumps and away from the main warehouse
			Sealing of the existing stormwater system along the Premise boundary
			40 mm bund at all roller doors and personnel access doors
			Drain covers and drain socks
Leachate		Overland runoff	Drainage system within main warehouse directing leachate to a
		Sub-surface infiltration	holding tank.
		IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Regular pump out of leachate tank for offsite disposal as required.
Odour		Air/windborne	Enclosed warehouse
		pathway	Rapid automatic doors
Noise	Acceptance, sorting, loading and storage of waste material	Air/windborne pathway	Enclosed warehouse Rapid automatic doors
	Reconstruction of the main warehouse.		
	Construction of the truck washdown and amenities facility.		
	Sealing of stormwater channels and relaying of pipework		
	Vehicle/machinery operation		
Dust	Acceptance, sorting,	Air/windborne pathway	Enclosed warehouse
	loading and storage of waste material		Internal warehouse dust collection system
	Vehicle/machinery operation		Regular inspection of roadways
			Premises predominately sealed

Emission	Sources	Potential pathways	Proposed controls
Windblown	Acceptance, sorting,	Air/windborne	Enclosed warehouse
waste	loading and storage of waste material	pathway	Perimeter fencing
	of waste material		Regular inspection and removal of windblown waste
Disease	Acceptance, sorting,	Air/windborne	Enclosed warehouse
vectors (pests and vermin)	loading and storage of putrescible waste	pathway	Perimeter fencing
	or patresolule waste		Regular inspection and removal of windblown waste
Contaminated washwater	Waste collection vehicle and equipment washdown	Overland runoff	Concrete washdown bay directs water to an impermeable sump
		Sub-surface	Water within the sump is pumped to a holding tank
	Containment loss from leachate storage tank	infiltration	Regular pump out of holding tank for offsite disposal as required.
Hydrocarbons	Acceptance, loading and storage of waste hydrocarbons	Sub-surface infiltration	Fuel storage within a 70 kL double skinned self-bunded tank with 110% capacity.
	Containment loss from fuel hydrocarbon storage tank		Bunded hardstand with a permeability below 1 x 10 ⁻⁹ m/s.
			Hardstand graded to direct spills to a holding tank
			Pump out of holding tank as required.
			Drip trays
			Spill kits

Smoke and Waste storage fire Air/windborne AS 1670.1:2018 aspirating fire detection noxious and alarm system pathway particulates AS 2118.1:2017 fire sprinkler system AS 2419.1:2005 fire hydrant and ring main system Elevated fixed position water monitors 2 x fire suppression water tanks (700kL total capacity) and associated pumps Hose-reels and portable fire extinguishers Segregated concrete waste storage bunkers with a minimum free height of 1 m between the top of the pile and the top of the bunker wall Designated areas and line markings to define waste bale pile dimensions and Management of pile size to the following specifications: Pile volume will be maintained below 1000 m³: Unsorted waste pile height will be maintained below 4 m; Unsorted waste piles will be separated by at least 6 m; Open pile faces will be maintained at 450 or shallower; Baled fibre, paper and plastics piles will not exceed 4 bales high; and The front row of the baled fibre and plastics pile will not exceed 2 bales high. Fire rated walls separating product storage area from processing area Separation between motors and belt components of conveyance equipment Flammable liquid spill kits External designated quarantine area for removal of hot loads Inspection and removal processes for non-conforming waste with a fire risk. This includes an initial inspection at the tipping floor and further inspection at the manual sorting station. 6 m clearance maintained around at least 2 sides of combustible recyclable

Licence: L8993/2016/1

material piles in the Tipping Area

Emission	Sources	Potential pathways	Proposed controls
Fire washwater		Overland runoff	40 mm bund at all roller doors and personnel access doors.
		Sub-surface infiltration	Sealing of the existing stormwater channels along the Premise boundary.
			Installation of valves on existing stormwater network to isolate the system during a fire event.
			Existing stormwater sumps to be sealed, interconnecting pipework relayed and valve installed to allow diversion of fire washwater to the loading dock.
			Impermeable loading dock able to contain 450 kL of fire washwater during a fire event.
			Warehouse and loading dock with capacity to contain water from operation of the sprinkler, fire hose reel and water monitor system
			Pipeline from loading dock to Premises boundary fitted with four standpipes with camlocks to allow pump out of fire washwater during a fire event.
			Drain sock and drain covers

4.1.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), 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 5 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 (*Guidance Statement: Environmental Siting* (DER 2016)). Table 6 describes the surface geology at the premises, with regards to its potential as a pathway.

Table 5: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from activity / prescribed premises
Residential areas	Approximately 270 m northeast of the premises boundary
	Approximately 410 m northwest of the premises boundary
Daycare centre	Approximately 475 m northwest of the premises boundary

Industrial Premises	Bruce Avery Transport located adjacent to the east
	Damien Cole Group located adjacent to the north
	HB Distribution located adjacent to the west
Environmental receptors	Distance from activity / prescribed premises
Groundwater of the Perth Superficial Aquifer (non-potable purposes)	Maximum groundwater levels defined in literature are 9-10 m AHD. Groundwater levels measured at the premises are 8.5 - 8.6 m AHD based on monitoring conducted in September 2019. Considering the topography of the premises, groundwater is located approximately 1.4 mBGL.
	Regional groundwater flow is northwest to westerly towards the Swan River. Investigations undertaken during February 2020 indicate that local groundwater flow at the Premises may be radial, however further investigation is required to confirm this.
	There are no currently registered groundwater bore users located within 500 m of the Premises. The residential area located down regional hydraulic gradient from the Premises is mapped as unsuitable for garden bore use.
Important wetlands	Swan River – Approximately 600 m northwest
Geomorphic wetlands of the Swan Coastal Plain	Resource enhancement sumpland (ID9009) - approximately 430 m east of the premises boundary
Bush Forever Site 386	Approximately 100 m south of the premises boundary.
Bush Forever Site 311	Approximately 700 m northeast of the premises boundary. The Bush Forever site is a riparian area of the Swan River

Table 6: Surface geology at the Premises

Surface geology	Description
Soil type	The Geological Survey of Western Australia describes the geology at the Premises as Qpb — Bassendean sand (fixed dunes), which are characterised by predominantly medium-grained pale grey to white quartz sand. The area forms part of the Pinjarra System described as poorly drained coastal plain with variable alluvial and aeolian soils.
	Local soil investigations undertaken at the Premises have identified the soil profile as gravelly SAND fill to a depth of 0.4 - 0.6 mbgl, followed by SAND to depths of 2.0 - 3.0 mbgl, overlying clayey SAND/sandy CLAY to depths of at least 5.0 mbgl. Given the short distance to groundwater, the presence of sand layers in the upper soil profile would allow infiltration to groundwater to occur at the Premises.

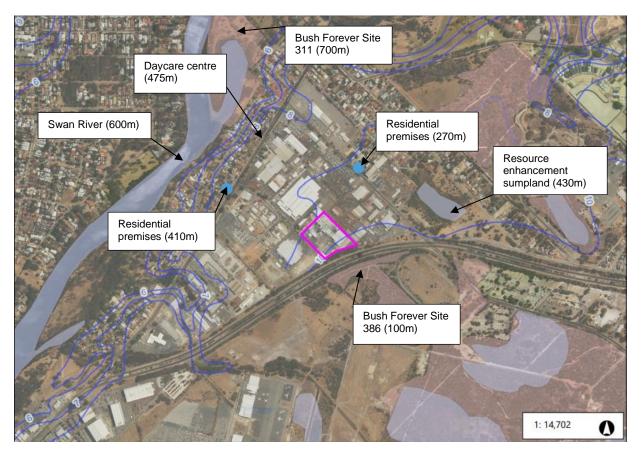


Figure 1: Potential receptors surrounding the premises. The premises boundary is shown by the pink line.

4.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 4.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 4.1), 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 7.

The Revised Licence L8993/2016/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. material recycling activities.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 7: Risk assessment of potential emissions and discharges from the Premises during construction and operation

Risk Event					Risk rating ¹	Licence Holder's	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood	controls sufficient?		
Construction	onstruction							
Reconstruction of the main	Noise				C = Minor L = Unlikely Medium Risk	N	2	Environmental Protection (Noise) Regulations 1997
warehouse Construction of the truck washdown and amenities facility Vehicle/machinery operation	Dust	Air/windborne pathway causing impacts to amenity	Residences 270 m northeast and 410 m northwest	Refer to Section 4.1.1	Incomplete source-pathway receptor linkage due to lack of exposed surface soil at the premises and distance to nearest sensitive receptor (270 m)			
Operation	•							
Acceptance, sorting,	Contaminated	Overland runoff causing ecosystem disturbance and impacting surface water quality	Swan River (600 m)	Refer to Section	C = Minor		1, 3, 4, 7, 10, 11, 14,	N/A
loading and storage of waste material	Contaminated (Coo III)	4.1.1	L = Unlikely Medium Risk	, I	15, 16, 17	N/A		

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Guidance Statement: Risk Assessments (DER 2017).

Risk Event					Risk rating ¹	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood			additional regulatory controls
		Overland runoff causing ecosystem disturbance and impacting surface water quality	Swan River (600 m)	Refer to Section	C = Moderate	Y	1, 3, 4, 7, 8, 9, 10, 11,	N/A
Acceptance, sorting, loading and storage of waste material Containment loss from leachate storage tank	Leachate	Sub-surface infiltration causing deterioration of groundwater quality	Groundwater (1.4 mBGL) Residences	L = Unlikely Medium Risk	'	14, 16, 17	IVA	
	Odour	Air/windborne pathway causing impacts to amenity			C = Minor L = Unlikely Medium Risk	Y	1, 3, 4, 7, 8, 9, 10, 11, 14	N/A
Acceptance, sorting, loading and storage of waste material	Noise	Air/windborne pathway causing impacts to amenity	Residences 270 m northeast and 410 m northwest	Refer to Section 4.1.1	C = Slight L = Unlikely Low Risk	Y	None	N/A
Glass crushing Vehicle/machinery operation	Dust	Air/windborne pathway causing impacts to amenity	Residences 270 m northeast and 410 m northwest	Refer to Section 4.1.1	C = Slight L = Unlikely Low Risk	Y	None	N/A
Acceptance, sorting, loading and storage of waste material	Windblown waste	Air/windborne pathway causing impacts to amenity	Residences 270 m northeast and 410 m northwest	Refer to Section 4.1.1	C = Minor L = Unlikely Medium Risk	Y	1, 3, 4, 7, 8, 11, 14, 18	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Guidance Statement: Risk Assessments (DER 2017).

Risk Event					Risk rating ¹	Licence Holder's	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood	controls sufficient?		
Acceptance, sorting, loading and storage of putrescible waste	Disease vectors (pests and vermin)	Air/windborne pathway causing impacts to health and amenity	Residences 270 m northeast and 410 m northwest	Refer to Section 4.1.1	C = Slight L = Possible Low Risk	Y	1, 3, 4, 7, 8, 11, 14, 18	N/A
Waste collection vehicle	Vehicle	Overland runoff causing ecosystem disturbance and impacting surface water quality	Swan River (600 m)	Refer to Section	C = Minor	Y	1, 3, 4, 14, 15	N/A
and equipment washdown	washwater	Sub-surface infiltration causing deterioration of groundwater quality	Groundwater (1.4 mBGL) 4.1.1	4.1.1	L = Unlikely Medium Risk	'	1, 0, 4, 14, 10	IV/A
Acceptance, loading and storage of waste hydrocarbons	Hydrocarbons	Overland runoff causing ecosystem disturbance and impacting surface water quality	Swan River (600 m)	Refer to Section	C = Moderate L = Unlikely	Y	1, 3, 4, 7, 8, 9, 10, 11,	N/A
Containment loss from hydrocarbon product storage tank	Sub-surface infiltration causing deterioration	causing deterioration of groundwater	Groundwater (1.4 mBGL) 4.1.1	Medium Risk	T T	14, 16, 17	IV/A	
Maria atau 6	Smoke and particulates	Refer to Section 4.3	3 below			N	1, 3, 4, <u>5</u> , <u>6</u> , 7, 11, <u>12</u> , 13, 14, <u>19</u> , <u>20</u>	Refer to Section 4.3.11 below
Waste storage fire	Fire washwater	Refer to Section 4.4	4 below			N	1, 3, 4, <u>5</u> , <u>6</u> , 7, 11, 13, 14, <u>20</u>	Refer to Section 4.4.10 below

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Guidance Statement: Risk Assessments (DER 2017).

4.3 Detailed risk assessment - Smoke and particulate emissions

4.3.1 Description of risk event

The Premises has the potential to emit smoke and noxious particulates in the event that a waste storage fire occurs. Fire events may occur through ignition by external factors, such as operational practices, non-conforming waste, arson, or by spontaneous combustion. Spontaneous combustion generally occurs in organic waste and is considered less relevant to this Premises due to the types of waste received.

4.3.2 Identification and general characterisation of emission

As was the case in November 2019, a waste storage fire at the Premises is expected to burn and smoulder for an extended period of time due to the large proportion of plastic within the waste stream and the concentration of plastic waste into high fuel load bales. The burning of plastic material generally results in dense, heavy, black smoke potentially containing carbon particulates, sulfur dioxide, acid gases, carbon monoxide, volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), dioxins and furans. The concentration and volume of particulates in the smoke are expected to vary considerably depending on the fuel source (paper or plastic), duration and extent of the related fire. Fires with incomplete combustion generally result in higher particulate concentrations within the smoke.

4.3.3 Description of potential adverse impact from emission

Smoke and particulate emissions from a fire at the Premises may cause health and amenity impacts when inhaled. Human receptors (sensitive and industrial) within the immediate and surrounding areas have the potential to be affected, depending on wind direction and strength during the event. The three closest sensitive receptors are two residential areas located approximately 270 m northeast and 410 m northwest and a daycare centre located approximately 475 m northwest of the Premises boundary. Residences located west and northeast of the premises are within the morning and afternoon prevailing wind directions respectively.

4.3.4 Criteria for assessment

There are a number of potential air quality criteria that may apply to smoke emissions. These criteria are generally distinguished by the exposure level they relate to, with short term (acute) exposure and long term (chronic) exposure levels having different screening criteria. As the Premises is expected to emit smoke or particulates only under abnormal conditions (waste storage fire), the emissions would be infrequent and non-continuous, accordingly short term exposure criteria are considered most relevant to the assessment. The US Environmental Protection Agency provides guideline levels for acute exposure to airbourne chemicals (USEPA 2020). Short term airbourne particulate criteria used in Western Australia are provided in Bushfires and Other Vegetative Fires, Protecting Community Health and Well Being from Smoke Exposure (DoH 2012).

The National Environment Protection (Ambient Air Quality) Measure provides criteria for both PM₁₀ and PM_{2.5} particulate concentrations in ambient air. These criteria are set for protection from exposure to particulates and although they may be exceeded, particularly from large events, are not the most suitable criteria to provide relevant and timely information during a fire event.

4.3.5 Specific characterisation of emission

Air monitoring during the morning of the 25 November 2019 fire detected particulate concentrations in the immediately adjacent industrial areas at Alert Level 5 (DoH 2012), with sulfur dioxide and hydrogen cyanide exceeding Acute Exposure Guideline Level (AEGL) 1 (USEPA 2020). Air monitoring conducted in residential areas recorded particulate concentrations up to Alert Level 4, depending on proximity to the premises and presence of smoke at ground level. No AEGLs for airbourne toxicants were exceeded in the residential areas. Air monitoring undertaken after 14:00 found particulate concentrations up to Alert Level 5 within the residential and industrial areas of South Guildford, with no airbourne toxicants found above AEGLs. The smoke impacts resulted in an evacuation centre being established.

Air monitoring continued from 26 November 2019 to 30 November 2019 within the South Guildford residential and industrial areas. Particulate concentrations were recorded up to Alert Level 3 within the industrial area and below Alert Levels in the residential areas. No airbourne toxicants were recorded above AEGLs.

Swab sampling was also undertaken at residential areas within the smoke plume, inclusive of a background sample taken from an unaffected area. These samples were taken to determine the potential for ash fallout to impact on residences within the path of the plume. All swabs returned results below detection limit for semi-volatile organic compounds (SVOCs), dioxins and furans. Heavy metals were found above limits of detection (for Barium, Cobalt, Copper, Lead, Manganese and Zinc, however were below health based investigation levels for soil contaminants.

4.3.6 Referral to Department of Fire and Emergency Services

Prior to submission of the Application, the Licence Holder had referred their *Fire Risk Assessment Review* to DFES for endorsement. This document was also referred to DFES by DWER on 24 June 2020. DFES commented that the proposed finalisation of *Appendix C – Site Emergency Response Procedures* following installation of fire related controls was appropriate. DFES were satisfied with the controls proposed in the document and had no further comments.

4.3.7 Key findings

The Delegated Officer has reviewed the information regarding smoke and particulate emissions and has found:

- 1. The emission is derived from an abnormal emergency situation and not a continuous discharge occurring due to normal day to day operations. Therefore short term exposure levels are considered the relevant criteria to the assessment.
- 2. The Licence Holder proposes to install fire detection, sprinkler and hydrant systems in accordance with AS 1670.1:2018, AS 2118.1:2017 and AS 2419.1:2005 respectively. These early detection and prevention systems are intended to reduce the potential for substantial fire events to occur.
- **3.** The Licence Holder has provided water monitors, fire hydrants and machinery to allow staff to manually mitigate the potential for substantial fire events to occur.
- 4. The Licence Holder has proposed to further segregate areas within the warehouse using fire rated walls. This is particularly relevant to the bale storage area as it is understood that the November 2019 fire was able to quickly spread through this area. Fire rated walls separating bale stores and areas of the warehouse are intended to reduce the potential for fire spread and increase the success rate of early intervention fire management strategies.

4.3.8 Consequence

If smoke and particulate emissions occur from a large scale fire, the Delegated Officer has determined that the emission may cause high level impacts to amenity at a local scale and midlevel or frequent medical treatment for immediately surrounding sensitive and industrial receptors during a significant fire event. Air quality monitoring conducted during the November 2019 fire event found that Specific Consequence Criteria were exceeded within the immediately surrounding industrial area and closest sensitive receptors. Therefore, the Delegated Officer considers the consequence of smoke and particulate emissions associated with a large fire event to be **Major**.

4.3.9 Likelihood

The Premises has operated since May 2017 and the department's Incident and Complaints Management System (ICMS) has recorded two fire events. One event occurred on the waste paper conveyor within the processing area during October 2019 (ICMS 55292). This event was minor and not considered to have caused any substantial emissions to air. The other event was the November 2019 fire which caused the facility to be destroyed (ICMS 55565). Additional fires are noted after the November 2019 fire, however these were flare ups of the residual smouldering waste and have not been considered as separate events. Records held by DFES indicate that an additional minor fire occurred on 12 November 2019.

Considering the location of surrounding receptors within prevailing wind directions, the history of the Premises, air monitoring conducted during the November 2019 fire and the Licence Holder's proposed controls, the Delegated Officer has determined that the risk event could occur at some time. Therefore, the Delegated Officer considers the likelihood of impacts associated with a large fire event is **Possible**.

4.3.10 Overall rating of smoke and particulate emission and impact

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix contained in *Guidance Statement: Risk Assessment* (DER 2017) and determined that the overall rating for the risk of smoke and particulate emissions is **High**.

High risk events may be acceptable provided they are subject to multiple regulatory controls. This generally means the inclusion of both outcome-based and management conditions on the issued licence. As the emission is related to abnormal operations and does not come from a defined discharge point, process and management-based conditions will be required to adequately address the risks of adverse impacts to public health and the environment. These conditions will be comprised of Licence Holder proposed controls along with further controls imposed by DWER.

The intent of the conditions will be to prevent a fire occurring but where one does, to reduce the scale of the fire and therefore the impacts on receptors. Considering that proposed fire control systems have been determined as suitable by DFES, additional controls imposed by DWER will seek to verify that these systems have been installed appropriately. Acceptance of waste onto the Premises (and by extension the resumption of operations) will be contingent on the Licence Holder's demonstration that these systems have been installed and operate according to their intended design.

4.3.11 Justification for additional regulatory controls

Condition	Requirements	Justification
5	The licence holder must, within 30 calendar days of construction of the sunken loading dock, stormwater and fire washwater system, and fire control system required by condition 1, prepare and submit to the CEO a Site Emergency Response Procedure.	The licence holder has proposed specific management related controls that rely on operation of specific infrastructure to be effective. This should be documented in an emergency response plan so that responsibilities are clear during an emergency event.
6	The Site Emergency Response Procedure required by condition 5, must include as a minimum the following: (a) the intended disposal facility or mechanism for fire washwater removed from the premises during a fire event. The turnaround time for disposal must be listed and considered in response procedures requiring the removal of fire washwater; (b) credible emergency scenarios and clear procedures to manage them, including initial intervention measures, personnel responsibilities, notification and escalation procedures. Responsibilities for isolation of the stormwater and fire washwater system, and the sunken loading dock must be assigned; (c) a list of contingency actions to be undertaken in the event that fire washwater discharge to the offsite drainage network occurs; (d) post fire management procedures for smouldering waste; (e) training requirements and schedule for delivery of training for early intervention by operational staff; and (f) a schedule and process for reviewing, updating and testing the emergency response procedures.	The minimum requirements for the Site Emergency Response Procedure have been included for the following reasons; (a) Relates to fire washwater emissions. See Section 4.4.10 for justification of the sub-condition. (b) Not all fire events at the premises will be of the same intensity or scale and emergency response procedures will need to account for this. (c) Relates to fire washwater emissions. See Section 4.4.10 for justification of the sub-condition. (d) Flare-ups of smouldering waste piles was an identified issuing following the November 2019 fire. (e) Staff require training in the use of proposed early intervention controls in order to be effective. (f) The Site Emergency Response Procedure must be tested and updated to ensure it remains effective.

Condition	Requirements	Justification
7	The licence holder may only accept waste onto the premises where: (a) the Environmental Compliance Report required by condition 4 has been submitted to the CEO; (b) the CEO has notified the licence holder that the Environmental Compliance Report meets the requirements of condition 5; (c) the Site Emergency Response Procedure required by condition 6 has been submitted to the CEO; and (d) the CEO has notified the licence holder that the Site Emergency Response Procedure meets the requirements of condition 7.	The licence holder is intending to install specific infrastructure for the control of fires at the premises and prepare an emergency response procedure informed by installation of this infrastructure. Installation of the proposed controls should be verified and the emergency response procedure developed, before waste is accepted at the premises.
11 Table 3 (Hazardous waste)	(c) No more than 2 kL of hydrocarbon waste shall be stored at one time; and(d) No more than 3 bunded pallets of waste batteries shall be stored at one time.	The risk assessment assumes only small volumes of hazardous waste are present at one time. As this is a key assumption, a storage limit for hazardous waste has been specified.
12	The licence holder must ensure that waste storage bales and their wrapping are kept clear of the ground when being moved.	Operational controls are required to further control fire risk by reducing sources of ignition such as friction.

Condition	Requirements	Justification
13	The licence holder must ensure that waste stockpiles are managed to the following	The requirements of this condition have been included for the following reasons;
	specifications; (a) Each Stockpile volumes to must be maintained below 1,000 m³;	(a) Limiting individual stockpile volume reduces the fuel load available to a potential fire.
	(b) Unsorted waste stockpile height to be maintained below 4m;	(b) Limiting stockpile height reduces potential fuel availability and stability
	(c) Unsorted waste stockpiles to be separated by at least 6m;	issues in the event of a fire. (c) This limits the potential for fire to
	(d) Open stockpile faces to be maintained at 45° or shallower;	spread on the tipping floor by reducing radiant heat transfer between stockpiles.
	(e) Baled fibre, paper and plastics stockpiles to not exceed 4 bales high; and	(d) Maintaining shallow stockpile faces reduces potential radiant heat availability between stockpiles if a fire
	(f) The front row of the baled fibre, baled paper and baled plastic	were to occur.
	stockpiles to not exceed 2 bales high.	(e) The intended design of the automatic sprinkler system in this area is 4 bales high. This also ensures sufficient freeboard is maintained between the stockpile and the top of the fire rated bunker walls.
		(f) Maintaining shallow stockpile faces reduces potential radiant heat availability between stockpiles if a fire were to occur.
19	The licence holder must:	Arson is a potential external factor that can
	(a) erect and maintain suitable fencing to prevent unauthorised access to the site;	cause a waste storage fire. Appropriate security arrangements are required to mitigate this risk for premises that pose a potential fire risk.
	(b) ensure that any entrance gates to the premises are securely locked when the premises is unattended; and	
	(c) undertake regular inspections of all security measures and repair damage as soon as practicable.	

Condition	Requirements	Justification
20	The license holder must: (a) ensure that at all times, fire-fighting equipment and systems are in good working order and capable of controlling a loose material or bale storage fire; (b) in the event of an emergency ensure that gate valves on the sunken loading dock and stormwater and fire washwater system are adequately closed to separate the system into four catchment areas as shown in Schedule 1: Figure 5. (c) ensure that water and other waste that may result from firefighting on the Premises is captured and contained within the Premises; and (d) ensure that any fires on the Premises are extinguished as soon as possible.	 The requirements of this condition have been included for the following reasons; (a) The licence holder's proposed controls rely on the efficient operation of multiple fire-fighting systems working simultaneously. These systems need to be maintained according to manufacturer specifications. (b) Relates to fire washwater emissions. See Section 4.4.10 for justification of the sub-condition. (c) Relates to fire washwater emissions. See Section 4.4.10 for justification of the sub-condition. (d) A rapid response is required to ensure that fires at the premises are not able to spread further.

4.4 Detailed risk assessment – Fire washwater emissions

4.4.1 Description of risk event

The Premises has the potential to emit fire washwater in the event that a waste storage fire occurs. The risk event may occur where large quantities of water and/or flame retardant chemicals are required to extinguish a fire.

During the November 2019 fire, the turn-around time for tankering vehicles was considered to be a key contributory factor that resulted in the discharge of fire washwater through the offsite drainage network into the Swan River. A temporary earthen bund was installed in the open drain to act as a dam and contain the fire washwater for removal by vacuum tanker. However, the disposal location for the tankers was located in Henderson, resulting in a turnaround time of approximately 2 hrs. The impact of this turnaround time eventually resulted in overflow from the drainage network. Approximately 4 ML was removed from the drainage network by tanker and approximately 200 kL is considered to have potentially entered the Swan River.

Access to the Premises for tanker removal of fire washwater was limited during the November 2019 fire. This was due to space requirements for emergency responders and safety concerns. This was considered to be a contributor to the discharge of fire washwater to the Swan River during the fire event.

4.4.2 Identification and general characterisation of emission

A waste storage fire at the Premises is expected to burn and smoulder for an extended period of time due to the large proportion of plastic within the waste stream and concentration of plastic waste into high fuel load bales. The burning of plastic material generally requires larger volumes of water and fire retardant chemicals to effectively extinguish the source of the fire.

The washwater is likely to contain hydrocarbons, ketone solvents, PAHs, VOCs, dioxins, furans, metals, phosphates and fire retardant chemicals. The concentration and volume of contaminants in washwater is expected to vary considerably depending on the fuel source (waste type), volume of water used and usage of fire retardant chemicals.

4.4.3 Description of potential adverse impact from emission

Overland flow of fire washwater may result in discharges outside of the Premises boundary. This has the potential to impact aquatic organisms of the Swan River, where discharge through the local stormwater network is unable to be prevented. Infiltration of fire washwater through soil to groundwater may also occur within the drainage network, resulting in potential contamination of groundwater and sediment.

4.4.4 Criteria for assessment

The DWER guideline Assessment and Management of Contaminated Sites (DER 2014) provides relevant assessment levels for water, soil and sediment. These include criteria for the non-potable use of groundwater. The Australian and New Zealand Guidelines for Fresh & Marine Water Quality also provide default toxicant values for marine and freshwater ecosystems, dependent on the environmental value of the relevant water body.

Any discharges into the environment may be subject to the *Environmental Protection* (Unauthorised Discharges) Regulations 2004. Fire washwater and any other wastes generated in the event of a fire may be subject to the *Environmental Protection* (Controlled Waste) Regulations 2004.

4.4.5 Specific characterisation of emission

During the November 2019 fire, sampling was undertaken on the stormwater network at its discharge point to the Swan River. Sampling was also undertaken on fire washwater pooling upstream of the dammed section of the drainage network. Nutrient concentrations within the discharge water were found to be above average concentrations within the river and two nearby stormwater drains. Hydrocarbons present within the fire washwater were found to be predominately non-harmful combustion by-products, with the exception of anthracene, benzo(a)pyrene and phenathrene exceeding 95% species protection criteria. Copper, cadmium, lead and zinc were found in concentrations exceeding the 95% species protection criteria for both marine and freshwater ecosystems. Nickel was found to exceed the 95% species protection criteria for freshwater ecosystems. Speciation of chromium was not undertaken and it is uncertain if any screening criteria were exceeded.

4.4.6 Key findings

The Delegated Officer has reviewed the information regarding fire washwater emissions and has found:

- The Licence Holder is proposing to install a tankering point, accessible from outside the perimeter fence, to allow for removal of fire washwater and improve tanker access to the premises in the event of a fire. This new infrastructure is intended to address the issues associated with fire washwater removal identified during the November 2019 fire.
- 2. A formalised procedure is required to clearly define the responsibilities for operation of isolation valves for the stormwater network during an emergency, as well as the initiation and coordination of controlled waste tankering vehicles for offsite disposal of fire washwater. This is to be included within the amended licence.

4.4.7 Consequence

Considering the location of the Swan River at the terminus of the offsite drainage network, the Delegated Officer has determined that the emissions may cause short term impact to an area of special significance. Monitoring following the November 2019 fire event showed that Specific Consequence Criteria at the discharge point for the network were exceeded. Therefore, the Delegated Officer considers the consequence of fire washwater emissions to be **Major**.

4.4.8 Likelihood

The Licence Holder is proposing to seal the internal drainage network, install a shut-off valve at the discharge point to the offsite network and provide tankering points that allow for unrestricted access. This is intended to assist with the containment of fire washwater within the Premises and allow for continual removal during a fire response.

The Delegated Officer has determined that in the event of a fire on the premises, the risk event could occur at some time. Therefore, the Delegated Officer considers the likelihood to be **Possible**.

4.4.9 Overall rating of fire washwater emission and impact

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix contained in *Guidance Statement: Risk Assessment* (DER 2017) and determined that the overall rating for the risk of fire washwater emissions is **High**.

The Delegated Officer notes that although the risk event has a high rating, the event is not representative of a continuous emission from everyday operations at the premises. The event is considered to have a possible occurrence during a fire at the premises and is not something that could occur through day to day operations.

High risk events may be acceptable provided they are subject to multiple regulatory controls. This generally means the inclusion of both outcome-based and management conditions on the issued licence. These conditions will be comprised of Licence Holder proposed controls along with further controls imposed by DWER.

4.4.10 Justification for additional regulatory controls

Condition	Requirements	Justification
5	· ·	The licence holder has proposed specific management related controls that rely on operation of specific infrastructure to be effective. This should be documented in an emergency response plan so that responsibilities are clear during an emergency event.

Condition	Requirements	Justification
6	The Site Emergency Response Procedure required by condition 5, must include as a minimum the following:	The minimum requirements for the Site Emergency Response Procedure have been included for the following reasons;
	 (a) the intended disposal facility or mechanism for fire washwater removed from the premises during a fire event. The turnaround time for disposal must be listed and considered in response procedures requiring the removal of fire washwater; (b) credible emergency scenarios 	(a) The significant turnaround time for tankering vehicles was considered a contributory factor to the discharge of fire washwater to the Swan River. As the licence holder's controls rely on continual removal of washwater, the impact of the disposal location needs to be factored into emergency response planning.
	and clear procedures to manage them, including initial intervention measures, personnel responsibilities, notification and escalation procedures. Responsibilities for isolation of the stormwater and fire washwater system, and the sunken loading dock must be assigned;	 (b) The closure of gate valves to isolate the stormwater system is a key control proposed by the licence holder. The responsibility for isolating the system must be determined to ensure a quick response to an emergency situation. (c) Intervention in the offsite drainage network mitigated potential impacts to the Swan River during the November 2019 fire.
	(c) a list of contingency actions to be undertaken in the event that fire washwater discharge to the offsite drainage network occurs;	(d) Flare-ups of smouldering waste was an identified issuing following the November 2019 fire.
	(d) post fire management procedures for smouldering waste;	(e) Staff require training in the use of proposed early intervention controls in order to be effective.
	(e) training requirements and schedule for delivery of training for early intervention by operational staff; and	(f) The Site Emergency Response Procedure must be tested and updated to ensure it remains effective.
	(f) a schedule and process for reviewing, updating and testing the emergency response procedures.	

Condition	Requirements	Justification
20	The license holder must: (a) ensure that fire-fighting equipment and systems are in good working order and capable of controlling a loose material or bale storage fire; (b) in the event of an emergency ensure that gate valves on the sunken loading dock and stormwater and fire washwater system are adequately closed to separate the system into four catchment areas as shown in Schedule 1: Figure 5. (c) ensure that water and other waste that may result from firefighting on the Premises is captured and contained within the Premises; and (d) ensure that any fires on the Premises are extinguished as soon as possible.	 The requirements of this condition have been included for the following reasons; (a) Relates to smoke and particulate emissions. See Section 4.3.11 for justification of the sub-condition. (b) The closure of gate valves to isolate the stormwater system into separate catchment areas is a key control proposed by the licence holder. (c) Containment of fire washwater within the premises is a key outcome of the licence holder's proposed controls. (d) Relates to smoke and particulate emissions. See Section 4.3.11 for justification of the sub-condition.

5. Consultation

A summary of the consultation undertaken for the application is contained in Appendix 1. Table 10 lists the direct interest stakeholder consultation and the comments received from members of the public during the public submission period. Table 11 contains the licence holder's comments on the risk assessment and draft conditions.

6. 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.

6.1 Summary of amendments

Table 8 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 8: Summary of licence amendments

Condition no.	Proposed amendments		
1	Inclusion of minimum design and construction requirements for the proposed works. These requirements were specified in the application by the licence holder and were the key infrastructure controls considered in the risk assessment.		
2	A condition restricting construction to the hours in which construction work is exempt from the requirements of the Noise Regulations (Regulation 13).		
3 and 4	Compliance reporting to satisfy the CEO that the works have been installed in accordance with the submitted application and are free from material defects.		
5 and 6	Refer to Section 4.4.10.		
11	The process limits for Inert Waste Type 1 and 2 and Putrescible waste have been modified to account for the new fire control system and storage location changes proposed in the application. The rate at which hazardous waste is removed from the premises has been specified as a regulatory control. This is in-line with assumptions made in the risk assessment based on the Licence Holder's proposed removal of the waste stream being 1 to 2 times per week.		
12 and 13	Refer to Section 4.3.11.		
14	Amended to include the additional infrastructure proposed in the application and slight modifications to naming.		
15	A condition requiring vehicle washdown to only be done in the vehicle washdown bay.		
16 and 17	Conditions requiring the clean-up of hazardous waste spills and removal to an appropriate offsite facility. These conditions are generally imposed as standard on facilities accepting hazardous waste.		
18	Condition requiring the containment, inspection and removal of windblown waste. This condition is generally imposed as standard on waste transfer depots.		
19	Refer to Section 4.3.11.		
20	Refer to Section 4.4.10.		

Table 9: Consolidation of licence conditions in this amendment

	kisting ondition	Condition summary	Revised licence condition	Conversion notes
1.1	1.1 – 1.1.4	Definitions and interpretation	Interpretation section Definition section	Changed to layout and wording in accordance with current DWER format

Existing condition	Condition summary	Revised licence condition	Conversion notes
1.2.1	Waste acceptance	8	Changed to layout and wording in accordance with current DWER format. Inclusion of bread and hazardous waste from Amendment Notice 2.
1.2.2	Non-conforming waste	9 and 10	Changed to layout and wording in accordance with current DWER format.
1.2.3	Waste processing	11	Changed to layout and wording in accordance with current DWER format. Amalgamation of Amendment Notice 2 requirements. Modifications in accordance with amendment as above.
1.2.4	Containment infrastructure	14	Changed to layout and wording in accordance with current DWER format. Modifications in accordance with amendment as above.
2.1.1	Monitoring	21	Changed to layout and wording in accordance with current DWER format.
3.1.1	Book keeping	24 and 25	Changed to layout and wording in accordance with current DWER format.
3.1.2	Annual compliance report	23	Changed to layout and wording in accordance with current DWER format.
3.1.3	Complaints management	22	Changed to layout and wording in accordance with current DWER format.

References

- 1. 360 Environmental 2020a. *Detailed Site Investigation, Cleanaway Materials Recovery Facility 72 Hyne Road, South Guildford.* Unpublished report.
- 2. 360 Environmental 2020b. *Licence Amendment Supporting Information, South Guildford Material Recovery Facility.* Unpublished report.
- 3. City of Swan 2008, as amended 2020. Local Planning Scheme No. 17 (District Zoning Scheme) Scheme Text. Perth, Western Australia.
- 4. Department of Biodiversity, Conservation and Attractions (DBCA) 2020. Statement of environmental impact to the Swan and Canning estuary from the South Guildford Cleanaway facility fire. Perth, Western Australia.
- 5. Department of Environment Regulation (DER) 2014. Assessment and management of contaminated sites Contaminated Sites Guidelines. Perth, Western Australia.
- 6. DER 2015. Guidance Statement: Setting Conditions. Perth, Western Australia.
- 7. DER 2016. Guidance Statement: Environmental Siting. Perth, Western Australia.
- 8. DER 2017. Guidance Statement: Risk Assessments. Perth, Western Australia.
- 9. DWER 2020. Cleanaway Materials Recovery Facility Fire Hyne Road, South Guildford 25/11/19 Pollution Response Unit Action Report. Perth, Western Australia.
- 10. Department of Fire and Emergency Services (DFES) 2019. *Structure fire investigation report*. Perth, Western Australia.
- 11. Department of Health (DoH) 2012. Bushfires and Other Vegetative Fires, Protecting Community Health and Well Being from Smoke Exposure. Perth, Western Australia.
- 12. Environmental Protection Authority Victoria 2018. *Management and storage of combustible recyclable and waste materials guideline.* Melbourne, Victoria.
- 13. Stantec Australia Pty Ltd 2020. Fire Risk Assessment Review, Cleanaway South Guildford Facility. Unpublished report.
- 14. United States Environmental Protection Agency (USEPA) 2020. Acute Exposure Guideline Levels for Airbourne Chemicals. https://www.epa.gov/aegl
- 15. Water Quality Australia 2018. *Guidelines for Fresh and Marine Water Quality*. https://www.waterquality.gov.au/anz-guidelines
- 16. Western Australia Legislative Assembly 2001. *Bellevue Hazardous Waste Fire Inquiry*. Perth, Western Australia.

Appendix 1: Consultation Summary

Table 10: Summary of direct interest stakeholder and public comments on the application

Consultation method	Comments received	Department response
City of Swan advised of proposal (23/06/2020)	None received	N/A
City of Bayswater advised of proposal (24/06/2020)	None received	N/A
Town of Bassendean advised of proposal (24/06/2020)	None received	N/A
Department of Fire and Emergency Services (DFES) advised of proposal (24/06/2020)	Refer to Section 4.3.6	N/A
River and Estuaries Division of the Department of Biodiversity, Conservation and Attractions (DBCA) advised of proposal (23/06/2020)	None received	N/A
South Guildford Community Association Inc. advised of proposal (23/06/2020)	None received	N/A
Local resident with direct interest advised of proposal (23/06/2020)	None received	N/A
Local resident with direct interest advised of proposal (26/06/2020)	None received	N/A
Local resident with direct interest advised of proposal (26/06/2020)	None received	N/A

Application advertised on the department's website (22/06/2020) (Community organisation)

We request the proposal is rejected in this location, or any location close to sensitive human and environmental receptors.

Summary of comments relevant to the assessment received 12 July 2020:

- The site is located 325 m from residences, 400 m from a day care and close to an indigenous hostel with patients coming from country areas for treatment. It is 620 m from the Swan River
- We are concerned that the current reduction of Red Tape in planning as a result of COVID 19 may result in this Amendment being rushed through with inadequate environmental assessment.
- The Association understands the City of Swan Council were not involved in a decision on this DA in 2016/2017. We understand the only input was from City Officers who are guided by the DWER assessment and licence conditions.
- 4. We understand that the amended 2018 Licence did not go before Council when the facility changed to one that would handle Hazardous waste. There is no evidence of an Environmental Impact Assessment with this amendment.
- 5. The original licence approval process in May 2017 lacked community consultation, open information and an overall transparency. Today, this current amended licence lacks openness, with reports not being made available to the community, such lack of transparency is disappointing and a social injustice.
- 6. The South Guildford MRF facility had five fires in four months (between 19.10.2019 2.1.2020) including the devastating November 25th fire.

DWER notes that the majority of issues raised in the submission relate to the previous risk assessment rather than the content of the current application. DWER provides the following responses:

- DWER considers the proximity and sensitivity of potential receptors when conducting a risk assessment for emissions and discharges from the premises. The Risk Assessment is contained in Section 4 above.
- Land use planning and environmental approvals are different statutory processes.
 DWER conducts its environmental risk assessment independent of planning legislation and no exemptions to requirements under Part V of the EP Act have been granted during the current State of Emergency.
- DWER records indicate that the original Development Approval was determined by the Metro East Joint Development Assessment Panel. DWER records indicate that works approval W5983/2016/1 and licence L8993/2016/1 were granted after the Licence Holder received Development Approval.
- 4. The City of Swan Council is not a decision making authority under the EP Act, and there is no legal requirement to consult on licence amendments under Part V of the EP Act. In granting the licence amendment in 2018, DWER conducted a risk assessment for the amendment in accordance with the Guidance Statement: Risk Assessments (DER 2017). Environmental Impact Assessments are conducted on significant proposals referred to the Environmental Protection Authority (EPA) under Part IV of the EP Act. DWER considers that the application is not a significant proposal that requires referral to the EPA under Part IV

- 7. There is inability to control what is in the waste stream (e.g. lithium batteries in waste bales) and hence an inability to control and limit risk of fire.
- 8. Acceptance of hazardous waste onto the site in the amended licence effectively makes the facility a non-conforming land use under the City of Swan Land use and Zonings Policies.
- Bulk Storage Diesel is included in the Hazmat sign on the front gate but no mention is made of this.
- The classification of this facility needs to be reviewed now that it takes and stores hazardous waste (bulk diesel, waste oil and batteries) in addition to other combustibles.
- 11. Mitigation may control but will not stop fires at this facility- it is not an adequate planning response.
- 12. Given over 3 million litres of water was used in this fire, will the planned facility have adequate holding and containment onsite facilities for this amount of water?
- 13. This facility must be relocated to an area with adequate buffer zones and reduced risk to community, businesses and environment.

- of the EP Act. DWER considers that in line with previous applications for such activities on the premises, the application can be managed under Part V of the EP Act. DWER consulted the EPA on this application and they advised that the proposal is unlikely to require referral under Part IV of the EP Act.
- 5. DWER records indicate that the works approval application was advertised in the West Australian and DWER website for public comment on 26 September 2016 and the licence application was advertised on 10 October 2016. No comments on the applications were received. The granted licence was advertised in the West Australian and DWER website for appeal on 15 May 2017.
- 6. DWER and DFES records indicate that the facility experienced two minor fire events prior to the fire on 25 November 2019. Subsequent fires at the facility were considered flare-ups of residual material from the 25 November fire.
- 7. DWER understands that the Licence Holder's waste acceptance process involves two stages for manual inspection and removal of unsuitable material. An initial inspection and removal of larger unsuitable material occurs at the Tipping Floor, prior to the sorting process. Waste entering the sorting process then passes through a manual pre-sorting station where smaller unsuitable material can be identified and removed. DWER considers this step reduces the potential for small items such as lithium ion batteries to enter waste bales.
- 8. The suitability of a premises from a planning perspective is not a matter to be determined by DWER. DWER notes however, that the

- definition of *Industry Noxious* in Local Planning Scheme No. 17 refers to offensive trades under the *Health Act 1911*. DWER further notes that waste storage is not an offensive trade listed in Schedule 2 of the *Health Act 1911*.
- 9. The storage of diesel (as a product) in these quantities is not a primary activity regulated under Part V of the EP Act.
- 10. The acceptance, processing and temporary storage of solid waste fits the description of a Category 61A and Category 62 premises, as listed in Schedule 1 of the Environmental Protection Regulations 1997 (EP Regulations). The acceptance, processing and temporary storage of liquid waste fits the description of a Category 61 premises, as listed in Schedule 1 of the EP Regulations. DWER considers that the classification of the facility is correct, in regards to licensing requirements under Part V of the EP Act.
- 11. Mitigation of fire impacts reduces the likelihood of occurrence and the potential consequence. As stated in Section 4.3, DWER considers these controls have resulted in a High risk rating when applying the risk assessment criteria as established in the *Guidance Statement: Risk Assessment* (DER 2017). A risk event with a high risk rating is considered acceptable, subject to multiple regulatory controls.
- 12. The premises is designed to have the capacity to contain 549kL of fire washwater in the event of fire. Four standpipes are provided at the premises boundary to allow for vacuum tanker removal without potential access constraints.

Consultation method	Comments received	Department response
		DWER considers this to be adequate for the containment and removal of fire washwater.
		13. DWER notes that the provision of buffer zones is a land use planning matter. Section 4 of this report contains a site specific risk assessment for the potential environmental and public health impacts from the premises. DWER considers the level of risk at the premises to be acceptable for its location.

Application advertised on the department's website (22/06/2020) (Private resident)

I object to the planned rebuild and amended license for Cleanaway, 72 Hynes Road, South Guildford, because it is the view of myself and others that fires at a facility like Cleanaway are inevitable. In light of the fire triangle, the three components required for a fire are heat (and ignition source), fuel and oxygen.

- Because of the size of the facility, there is always availability of oxygen
- because of the nature of the business, there is always a fuel source, paper, oil and plastics as specifically defined within the licence
- Finally, ignition source cannot be excluded some are outside of the control of Cleanaway i.e. self ignition of paper, equipment failure, batteries in the waste, friction etc.

Summary of comments relevant to the assessment received 13 July 2020:

- The probability of occurrence is almost certain based on the fact that in the time of operation there was one catastrophic fire and a number of minor fires. In terms of consequence, considering that the fire that occurred was significant enough to completely destroy the facility the consequence would need to be considered as catastrophic. This makes the risk extreme.
- It needs to be acknowledged that the wind direction and speed as well as inversions could result in very different placement of airborne contaminants.
- It is clear from the planning scheme that the intent is to not have noxious industries within the general industry areas. It is acknowledged that in normal operations, that waste management can be considered as being benign. However in the situation where fires occur, which is inevitable,

DWER notes the comments and provides the following responses:

- DWER conducts its risk assessment for emissions and discharges under Part V of the EP Act in accordance with the risk assessment criteria contained within the *Guidance* Statement: Risk Assessments (DER 2017).
 Damage to infrastructure is not considered when determining the consequence of a risk event. The risk criteria and ratings for the premises are contained in Section 4 of this amendment report.
- 2. DWER considers potential pathways and receptors when conducting a risk assessment, as detailed in the *Guidance Statement: Risk Assessments* (DER 2017)
- The suitability of a premises from a planning perspective is not a matter to be determined by DWER. DWER notes however, that the facility does not appear to fit the definition of *Industry* – *Noxious* in Local Planning Scheme No. 17.
- DWER notes that situation reports during the fire response state that Class A non-PFAS firefighting foams were used. The source of PFAS in groundwater is yet to be determined.
- 5. DWER conducts its assessment of emissions and discharges for relevant prescribed activities under the EP Act, considering the impacts to human health and the environment relating specifically to the prescribed premises under assessment. Broader issues relating to the movement or processing capacity of recyclable materials throughout the State is not considered as part of this assessment process.
- 6. The Fire Risk Assessment Review (Stantec 2020) was referred to DFES for review of

Consultation method	Comments received	Department response
	the pollutants emitted suggests that the industry is noxious. 4. It is noted that the site has been potentially contaminated with PFAS. The likelihood is that this comes from firefighting. The fact that the fire necessitated use of foams that result in site contamination raises the question about suitabili of the location and of particular concern is its proximity to residents and other sensitive receptors, currently and in the future. 5. It is questionable whether DWER is independen enough to make decisions, due to the associate public perception that there is a reduced recyclir capability. 6. The risk assessment in the Stantec report is extremely poor.	control systems and infrastructure, designed to address shortcomings identified following the November 2019 fire event. DFES determined the document to be suitable. Notwithstanding this assessment by DFES, DWER has conducted its own risk assessment on the proposed activities, consolidating all available information and considering external advice and Licence Holder controls. 7. DWER considers the acceptability of risk events based on it's <i>Guidance Statement: Risk Assessments</i> (DER 2017). DWER considers
	7. I accept that Cleanaways design is reasonable with respect to meeting compliance requirement With high risk operations, the expectation is that risk is as low as reasonably practicable (ALARP In light of the fact that the risk would be considerably lower in a different location, I believe that the risk is not ALARP.).

Application advertised on the department's website (22/06/2020)

(Environmental organisation)

I object to the planned rebuild and amended licence for Cleanaway, 72 Hynes Road, South Guildford.

Summary of comments relevant to the assessment received 13 July 2020:

- Rejects claims made by the proponent that this
 proposal is not significant and therefore does not
 require an Environmental Impact Assessment
 process. Therefore, we request that the Minister
 for the Environment and the DWER refer this
 proposal to the EPA for assessment at the level
 of Public Environmental Review.
- 2. We believe the original assessment (L8993/2016/1) for the facility and subsequent amendments (amendment 1. Aug 2017 and Amendment 2. Sep 2018) were insufficient and failed to provide adequate, if any, risk assessment for fire at the premises. The addition of waste classification 61 for waste oil and batteries was fatally flawed by the absence of a full risk assessment including the risk of fire for the 300 tonnes of waste oil allowed to be stored on site.
- 3. Waste Oil is a classified dangerous good. Why is Cleanaway (and DWER) not requiring a Dangerous Goods licence? Furthermore, storing waste oil in such quantities at any location whether in 10l drums or one tank has no material difference when it comes to a fire. It makes no sense therefore to allow industry to evade a dangerous goods licence when storing 300 tonnes in separate 10l drums. Given the extreme toxicity and hazards waste oil fires cause and the admission that Cleanaway intends to decanter and mix waste oil at the premises the failure to have required a full EIA for the project and

DWER notes the comments and provides the following responses:

- DWER considers that the application is not a significant proposal that requires referral to the EPA under Part IV of the EP Act. DWER considers that in line with previous applications for such activities on the premises, the application can be managed under Part V of the EP Act. DWER consulted the EPA on this application and they advised that the proposal is unlikely to require referral under Part IV of the EP Act.
- 2. DWER notes that the assessed capacity limit of 300 tonnes (for Category 61) is the yearly throughput quantity and not necessarily the volume of waste oil stored on the Premises at any one time. Waste oil is accepted in 5L or 10L containers and stored in minor quantities. As the addition of Category 61 was done through an amendment to an existing licence, the risk assessment at the time only considered the activities relevant to that amendment.
- 3. The Department of Mines, Industry Regulation and Safety (DMIRS) is the relevant authority for Dangerous Goods licensing. DWER notes that a Dangerous Goods licence is required where Dangerous Goods exceed the listed manifest quantities for the relevant material types and facility configuration. The relevant manifest quantity is 100,000L and the Licence Holder has advised that storage volumes on the Premises are below this volume. DWER notes that should the storage of any dangerous goods trigger Dangerous Goods licencing, this is regulated under the Dangerous Goods Safety Act and administered by DMIRS. DWER also notes that a specific risk assessment for

Consultation method	Comments received	Department response
	 specific risk assessment for these activities cannot be supported. 4. Cleanaway is well known to have been prosecuted for environmental discharges and a range of other waste management, fire and accident related offences all over Australia. A simple google search will reveal prosecutions in nearly every state of Australia. Why is Cleanaway misleading the DWER and state government? 5. The fire in November 2019 had significant impacts on the surrounding community and their health. These impacts are likely to be long term given the contaminant profile of the waste burnt (plastic, waste oil and batteries) which will have included the generation of persistent organic pollutants and the large quantities of fire smoke, particulates and waste water that entered the swan river and local airshed. 6. We therefore request a full independent inquiry into this event and the potential for other MRF and waste facilities in WA to catch fire. 7. This facility has now been identified as containing PFAS chemical contamination and therefore requires an investigation to determine the nature and extent of such contamination. Therefore, it makes no sense to grant a licence amendment or allow this company to rebuild and carry out waste services until the site has been remediated and all risks have been identified and resolved. 	the acceptance and temporary storage of hydrocarbon wastes was undertaken in 2018 and is contained in Amendment Notice 2. 4. DWER notes that the section of the application regarding prosecution history was marked as not applicable. DWER is not able to make determinations under Part V of the EP Act based solely on the fitness and competence of the Licence Holder. DWER does however, consider the compliance history of the Licence Holder with regards to the relevant premises and other licences held in the State when undertaking its risk assessment. 5. The impact of smoke and fire washwater emissions have been considered when determining the consequence criteria in Section 4.3 and 4.4. 6. DWER notes this is outside the scope of an application under Part V of the EP Act. 7. DWER notes that situation reports during the fire response state that Class A non-PFAS firefighting foams were used. The source of PFAS in groundwater is yet to be determined. Further investigations and any potential remedial actions at the Premises are managed under the Contaminated Sites Act 2003 (CS Act). The granting of a licence amendment allowing the rebuild of the facility does not absolve the Licence Holder from their requirements under the CS Act.

Consultation method	Comments received	Department response
Application advertised on the department's website (22/06/2020) (Private Resident)	I object to the planned rebuild, Amended License and Works Approval for Cleanaway, 72 Haynes Road, South Guildford, because it is an inappropriate site for such a facility. Summary of comments relevant to the assessment received 8 July 2020: 1. The facility had five fires in only four months. The last of these fires that occurred on the 25th November 2019 led to approximately 200,000 litres of fire runoff entering the Swan River. The health impacts to residents are still unknown. 2. No robust environmental assessment has taken place and without this occurring, it would be negligent to approve rebuilding the facility. You have a responsibility to protect the community and the environment from hazardous industries. This site does not belong in South Guildford.	 DWER notes the comments and provides the following responses: DWER and DFES records indicate that the facility experienced two minor fire events prior to the November 25th fire. Subsequent fires at the facility were considered flare-ups of residual material from the November 25th fire. DWER has undertaken a risk assessment for potential emissions and discharges from the premises. The risk assessment takes into account surrounding receptors along with the consequence and likelihood of certain risk events. The risk assessment is carried out in accordance with the <i>Guidance Statement: Risk Assessments</i> (DER 2017).

Consultation method	Comments received	Department response
Application advertised on the department's website (22/06/2020) (Private Resident)	I object to the planned rebuild, Amended License and Works Approval for Cleanaway, 72 Haynes Road, South Guildford. Summary of comments relevant to the assessment received 8 July 2020: 1. It does not belong in this location. No matter how good the newly designed plant may be, its location is wrong. It is too near the residential and other industrial properties around the area. It lies under the Perth Airport flightpath and is too near to the Swan River and the Roe Highway Midland Bypass. In light of the history of fires at this location, by this operator, there needs to be a proper assessment of the operator, the revised plans and actual build of the proposed plant. In addition, there ought to be a buffer area around the facility and the location of the facility ought to be questioned closely. It should be distanced from all likely properties (residential or industrial) and people who could possibly be affected by any further fires or the after-effects of the containment and of such fires or additional dangerous matters that could arise from such a plant. 2. Does the proposed plant align with the newly proposed government approach to recycled materials? 3. The current site must be remediated to an agreed standard supervised by the environmental departments of the State and federal government.	DWER notes the comments and provides the following responses: 1. DWER has undertaken a risk assessment for potential emissions and discharges from the premises. The risk assessment takes into account surrounding receptors along with the consequence and likelihood of certain risk events. The risk assessment is carried out in accordance with Guidance Statement: Risk Assessments (DER 2017) and potential receptors are determined in accordance with Guidance Statement: Environmental Siting (DER 2016). This risk assessment is informed through infrastructure plans and supporting information submitted by the Licence Holder. DWER notes that the provision of buffer zones is a land use planning matter and is outside the scope of an application under Part V of the EP Act. 2. DWER notes that this is outside the scope of assessment of an application under Part V of the EP Act. 3. Potential remediation of the site is managed under the Contaminated Sites Act 2003, with investigations and remediation plans submitted for approval to the Science and Planning Directorate of DWER. The Federal Department of Agriculture, Water and the Environment does not have statutory authority to oversee remediation of contaminated sites on nonfederal land.

Application advertised on the department's website (22/06/2020) (Private resident)

While I strongly support recycling, this needs to occur in a safe and appropriate location. For this reason, I strongly object to Cleanaway rebuilding in this location.

Summary of comments relevant to the assessment received 8 July 2020:

- Cleanaway has not been afforded any robust environmental assessment and this must occur with the amended licence and works permit.
- Fires will continue to be a risk at this type of facility and mitigation of such an event is an inadequate planning, health and environmental response. Fires also affect adjacent homes and businesses and have an economic impact on the area.
- An accidental burning of plastic, batteries and waste oil, as stored on this site, can generate highly toxic, bio-accumulative and persistent pollution that can affect humans and the environment for decades.
- 4. The Department of Water and Environmental Regulation (DWER) has a responsibility to protect the community and environment from hazardous industries, and those that become hazardous upon burning. DWER should reject this license and works amendment for this location.
- Planning policies seek to protect communities but have failed because of apparent inadequate DWER recommendations and failure to conduct an Environmental Impact Assessments.

DWER notes the issues and provides the following responses:

- DWER, in granting the original works approval and licence, conducted a risk assessment of potential emissions and discharges from the premises. These assessments are contained in the Decision Reports appended to the issued instruments.
- 2. Mitigation of fire impacts reduces the likelihood of occurrence and the potential consequence of the risk event. As stated in Section 4.3, DWER considers these controls have resulted in a High risk rating when applying the risk assessment criteria as established in the *Guidance Statement: Risk Assessment* (DER 2017). A risk event with a high risk rating is considered acceptable, subject to multiple regulatory controls. Economic impacts are outside the scope of assessments under Part V of the EP Act.
- The characterisation of emissions and their potential consequence are considered in the risk assessment in Section 4.
- 4. The consequence and likelihood of potential emissions impacting on surrounding receptors has been considered in Section 4 above.
- 5. DWER in its regulatory function under Part V of the EP Act does not conduct Environmental Impact Assessments for applications. Environmental Impact Assessments are conducted on significant proposals referred to the Environmental Protection Authority under Part IV Section 38 of the Act. DWER has consulted EPA and considers that the premises is not a significant proposal requiring referral.

Consultation method	Comments received	Department response
		DWER considers the premises can be managed under Part V.
Application advertised on the department's website (22/06/2020) (Private business)	Comments received 10 July 2020 on a template submission and were the same as above.	As above
Application advertised on the department's website (22/06/2020) (Private resident)	I object to the planned rebuild, Amended Licence and Works approval for Cleanaway, 72 Hayes Rd, Sth Guildford. Summary of comments relevant to the assessment received 12 July 2020: 1. The results of the last fire are not clear- in terms of chemicals released into the river and the atmosphere. Has the cause been identified? 2. There should be a thorough environmental assessment of the operation before a further licence is issued. There have been too many fires in the past and I am not confident there will not be more. It is located too close to homes.	DWER notes the comments and provides the following responses: 1. Investigations into the specific events of the November 2019 fire are outside the scope of the application. Section 4 above outlines the potential contaminants and cause of emissions from the premises, with regards to actual fire events that have occurred. 2. DWER has conducted a risk assessment for potential emission and discharges from the premises. This is contained in Section 4 above.

Consultation method	Comments received	Department response
Application advertised on the department's website (22/06/2020) (Private resident)	I object to the planned rebuild, Amended License and Works Approval for Cleanaway, 72 Haynes Road, South Guildford. Summary of comments relevant to the assessment received 12 July 2020: 1. The factual evidence of the five fires in 4 months shows that this facility is too hazardous to human health to be in such close proximity to residences and community facilities, therefore the license must be rejected along with associated works. The entities who approved this facility in the first instance so close to a residential area should be held accountable. There has been no new environmental assessment of this facility. This facility should be moved to an area that affords a very large buffer away from populated areas.	DWER notes the comments and provides the following responses: 1. Section 4 of this report contains a site specific risk assessment for the potential environmental and public health impacts from the premises. This assessment takes into account the proximity of surrounding receptors along with the likelihood and consequence of a risk event occurring. DWER considers the level of risk at the premises to be acceptable for its location.

Consultation method	Comments received	Department response
Application advertised on the department's website (22/06/2020) (Private resident)	I object to the planned rebuild, Amended License and Works Approval for Cleanaway, 72 Hynes Road, South Guildford. Summary of comments relevant to the assessment received 11 July 2020: 1. Fires are unfortunately almost inevitable in a waste facility of this kind. Despite assurances from the company that first class warning and management fire systems will be in place, the number and severity of fire to date proves that the problem will re-occur with seriously detrimental results for the environment and the community. 2. Before any rebuilding is considered a thorough impact study must be conducted, taking as a starting point the virtual inevitability of another major fire. 3. The area will continue to develop over time which will only add to any future harm when the place burns down again. Far better to redevelop the facility somewhere less vulnerable to the social and environmental damage which has occurred repeatedly at the existing site.	 DWER notes the comments and provides the following responses: DWER and DFES records indicate that the facility experienced two minor fire events prior to the fire on 25 November 2019. Subsequent fires at the facility were considered flare-ups of residual material on the premises. This has been taken in to account when determining the likelihood of the fire related risk events in Section 4. Section 4 of this report contains a site specific risk assessment for the potential environmental and public health impacts from the premises. This assessment takes into account the proximity of surrounding receptors along with the likelihood and consequence of a risk event occurring. Risk assessments for applications under Part V of the EP Act consider receptors present at the time of the application and does not account for future developments in an area. Zoning for future use is considered under planning legislation.

Consultation method	Comments received	Department response
Application advertised on the department's website (22/06/2020) (Private resident)	I object to the planned rebuild, Amended License and Works Approval for Cleanaway, 72 Hynes Road, South Guildford. Summary of comments relevant to the assessment received 10 July 2020: 1. Whilst I appreciate that we need to have facilities for materials recovery and waste disposal, it is the urban location of this site, amazingly without an Environmental Impact Assessment and adequate buffer zones that is really disturbing and ill-considered in this licence application. 2. I have seen the smoke plumes on 5 occasions since Oct 2019. We know that burning of plastic, batteries and waste oil (as stored on this site) can generate highly toxic, bio-accumulative and persistent pollution that can affect humans and the environment for decades and we can see the wind pick up the plumes and blow it over to us. 3. The facility has a terrible track record and there does not seem to be any controls introduced to minimise the risk of further.	DWER notes the comments and provides the following responses: 1. DWER in its regulatory function under Part V of the EP Act does not conduct Environmental Impact Assessments for applications. Environmental Impact Assessments are conducted on significant proposals referred to the Environmental Protection Authority under Part IV Section 38 of the Act. DWER considers that the application is not a significant proposal that requires referral to the EPA under Part IV of the EP Act. DWER considers that in line with previous applications for such activities on the premises, the application can be managed under Part V of the EP Act. DWER consulted the EPA on this application and they advised that the proposal is unlikely to require referral under Part IV of the EP Act. 2. Section 4 of this report contains a site specific risk assessment for the potential environmental and public health impacts from the premises. This assessment takes into account the proximity of surrounding receptors along with the likelihood and consequence of a risk event occurring. 3. The primary focus of the application was the installation of additional controls for the prevention, early detection and mitigation of fire at the premises. Additional infrastructure for the control of fire washwater has also been proposed. The specific Licence Holder controls and how they relate to emission risk at the premises is contained in Section 4.

Application advertised on the department's website (22/06/2020) (Private resident)

I wish to object to the planned rebuild and amended license for Cleanaway, 72 Hynes Road, South Guildford, for environmental and health reasons

Summary of comments relevant to the assessment received 13 July 2020:

- 1. I do not believe an industry of this nature should be placed adjacent to residential areas with homes just 320m away, 360m from a child care facility and near an indigenous hostel and Guildford Primary School. The facility had five fires in four months including a major fire in November 2019, requiring some residents to be relocated due to the toxic smoke. Fires will continue to be a risk despite any mitigation measures and will have an impact on people and the sensitive Swan River environment.
- DWER's pollution response unit's air monitoring showed harmful particulates were recorded to be as high as 1430 per cubic metre in South Guildford. Under Department of Health particulate guidelines, the highest alert level is level 5 for readings above 500m3.
- 200,000 litres of firefighting run-off water, containing polycyclic aromatic hydrocarbons (PAHs), escaped into the river. Samples showed heavy metal levels exceeded "many of the acute toxicity thresholds determined for both marine and freshwater species."
- 4. The Facility was licensed to store 300 tonnes of waste oil - a hazardous waste material. I understand DWER did not assess the fire risk of waste oil storage in their licence amendment document that approved this waste oil storage in 2018. In effect this facility is a hazardous waste facility regulated and advertised to the public as a safe municipal waste recycling centre.

DWER notes the comments and provides the following responses:

- Section 4 of this report contains a site specific risk assessment for the potential environmental and public health impacts from the premises. This assessment takes into account the proximity of surrounding receptors along with the likelihood and consequence of a risk event occurring. DWER records indicate that the facility experienced two minor fire events prior to the November 25th fire. Subsequent fires at the facility were from flare-ups of residual material on the premises. This has been taken in to account when determining the likelihood of the fire related risk events.
- Air monitoring undertaken during the November 2019 fire has been considered when characterising the potential emission of smoke and particulates from the premises. See Section 4.3 above.
- 3. Sampling of fire washwater undertaken after the November 2019 fire has been considered when characterising the potential emission of fire washwater from the premises. See Section 4.4 above.
- 4. The facility is not licensed to store 300 tonnes of waste oil, it has a yearly throughput of 300 tonnes of waste oil. The waste oil is received in 5L or 10L containers and is stored in small quantities. Due to the small quantity on the premises expected at one time, it was not considered to increase fire risk in relation to the previous assessment.

Consultation method	Comments received	Department response
Application advertised on the department's website (22/06/2020) (Private resident)	While I am aware of the need a business like this to collect from the public waste products and recycle as much as possible, I'm hoping that very serious steps will be taken to prevent the unfortunate polluting fire that occurred to this business last year. Summary of comments relevant to the assessment received 14 July 2020: 1. Do these works need to be near the waterways that lead to the rivers? Do they need to be in close proximity to residences? Would it not be a good time to get this works out of the suburbs seeing it is (I presume) beginning afresh? The desired outcome of this license in my opinion would be to get works like this outside of the City. 2. Is it possible to fit traps so that if overflows occurs tanks can take toxic material off the hardstand without having to try to mop it up before damage to the environment occurs? 3. Will the site be fitted with automatic sprinklers to extinguish fires that could occur? 4. Will there be a safety body available to monitor what is happening on site during operation?	 DWER notes the comments and provides the following responses: DWER considers the proximity and sensitivity of potential receptors when conducting a risk assessment for emissions and discharges from the premises. The Risk Assessment is contained in Section 4 above. The proposed amendment includes additional controls for emission of fire washwater from the premises. The Licence Holder proposes to seal the internal drainage network, install a shut-off valve at the discharge point to the offsite network and provide four tankering points with no access constraints. This may contain fire washwater within the Premises and allow for continual removal during a fire response. The primary focus of the application was the installation of additional controls for the prevention, early detection and mitigation of fire at the premises. This has included an improved automatic sprinkler system within the building, provided with nozzles with differing application rates. Higher flow rate nozzles at a reduced ceiling height are provided to the waste storage bunkers where fuel load is highest. DWER conducts regular scheduled and unscheduled inspections of prescribed premises throughout the state as part of its functions under Part V of the EP Act.

Table 11: Summary of licence holder's comments on risk assessment and draft conditions

Condition	Summary of Licence Holder's comment	Department's response
Condition 1, Table 1, row number 2	The Figure referenced in this section has since been outdated following more detailed design. An updated figure has been provided.	The Delegated Officer notes that the figure contains a different footprint for processing infrastructure compared to the arrangement submitted with the application. There is also the re-inclusion of optical sorters within the process line. DWER has reviewed the proposed changes and considers that:
		 Optical sorters were used within the premises prior to the fire (as part of original operations on the premises);
		The optical sorters are within the 'like for like' replacement principle for the premises,
		The glass trommel remains within the enclosed warehouse and is located near a leachate drain;
		 Rapid close doors are present which are located away from the direction of sensitive receptors;
		 There are no recorded noise complaints or noise issues during previous operations;
		 Previous noise modelling conducted for the premises determined that noise emissions received at the nearest sensitive receptors were >10dB below the assigned daytime and night time levels; and
		 The design change does not appear to impact the function of the fire control system. The production equipment remains separated from the bale storage area and is within the area covered by the automatic sprinkler and aspirating smoke detection systems.
		Based on the above, the Delegated Officer considers that the proposed change to production equipment layout will not result in a material change to emission risks from the Premises. The revised figure and equipment layout will be incorporated into the amended Licence.

Condition	Summary of Licence Holder's comment	Department's response
Condition 8(a)	"only accept onto the premises waste of a type that: does not exceed the rate at which that waste is received;	The condition is the standard wording used for waste acceptance in contemporary waste licences. The <i>rate at which waste is received</i> refers to the heading for Column 2 of Table 2 in the Licence. This column provides the waste acceptance limit for an annual period, based on waste type.
	Wording is confusing, recommend amend or clarify.	In order to clarify, the condition will be changed to:
		The licence holder must only accept onto the premises waste of a type that:
		(a) does not exceed the corresponding rate at which waste is received; and
		(b) meets the relevant acceptance specification,
		as set out in Table 2.
Condition 9	1st sentence. Delete "Condition 7" insert "Condition 8"	Noted and corrected reference.
Condition 11, Table 3 Column 1 "waste Type"	There is reference to waste type. Please note that operations cannot distinguish between waste types as separate waste streams	DWER understands that the Inert Waste Type 1, Inert Waste Type 2 and Putrescible Waste types are not able to be fully distinguished at acceptance due to the nature of the waste stream. These waste types have been listed as they are considered to be the components of the waste stream.
Condition 11, Table 3 Column 2 "Processes"	Change "Glass crushing to a 5mm fraction via a glass crushing process" to "Glass will be broken down and separated into two categories: 12mm under and 12mm to 50mm" There are now 2 categories of crushed glass	The description of the glass crushing process was taken directly from the pre-amended format of the licence. DWER does not consider the intent was to specify a glass fraction size as this would have been listed as a process specification. The description will be reworded to: Glass processing to smaller fractions via a glass breaking process.
Condition 11, Table 3, row "hazardous waste", Column 3 (c)	Delete "weekly" insert "monthly" or "every two months" Delete weekly as this is arduous and not required. Monthly or every two months is more appropriate. 3 bunded pallets for holding batteries are on site. Once full these are removed.	The Delegated Officer notes that the condition was worded based on the removal of hazardous waste being once to twice weekly in the original application. In order to more accurately reflect operations and control onsite storage, the condition will be modified to include the actual volumes for removal rather than a time based condition. The sub condition will be developed further to:
	2 x 1kL IBCs are on site - once full they are removed. This can sometime take up to 3 months. Cleanaway would prefer every 2 months.	No more than 3 bunded pallets of waste batteries shall be stored at one time. No more than 2kL of hydrocarbon waste shall be stored at one time.

Condition	Summary of Licence Holder's comment	Department's response					
Condition 14, Table 4, row "Material recycling and glass crushing", column 3	Delete "production area" insert "tipping floor" Revised location as per revised figure 3. Glass crushing is now undertaken on the Tipping Floor.	Noted and revised.					
Condition 21, table 5 "waste inputs and outputs"	All waste received is co-mingled waste. Inert waste type 1 & 2, putrescible waste and Hazardous waste cannot be weighed as it enters the facility. Putrescible waste (other than paper cardboard) or hazardous waste are not an accepted waste stream received at the waste in the facility and would be turned away prior to entry. This is waste resulting from the sorting process which is accepted as a co-mingled load. This cannot be separated at this stage. Hazardous waste can be measured as an outgoing weight.	The intent was not to determine weights for the individual waste types within the co-mingled stream. The condition is to ensure each waste load being received at the premises is weighed. The table has been further clarified to indicate that the measured unit for the waste types should be a combined tonnage for each load of the co-mingled stream entering the premises.					
Decision Report							
Section 3.3, Key Findings item 1	Delete "Fire washwater however, may have caused groundwater contamination." Insert "GW contamination has been identified within the site however the source(s) of the contamination is not conclusively related to the fire washwater" The distinction is important as the reader may conclude that Cleanaway is known to be the responsible party.	Noted and revised to : Groundwater contamination has been identified within the premises and further determination of the source is required.					
Section 4.3.12 Table Condition 6 row "requirements"	Delete Condition "6" insert "5"	Noted and corrected reference.					

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)								
Application type								
Works approval								
		Relevant works approval number:		None				
		Has the works approval been complied with?		Yes □ No □				
Licence		Has time limited operations under the works approval demonstrated acceptable operations?		Yes □ No □ N/A □				
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?		Yes □ No □				
		Date Report received:						
Renewal		Current licence number:						
Amendment to works approval		Current works approval number:						
Amendment to licence	\boxtimes	Current licence number:	L8993/2016/1	93/2016/1				
Amendment to licence		Relevant works approval number:		N/A	\boxtimes			
Registration		Current works approval number:		None				
Date application received	12 May 2020							
Licence Holder and Premises details								
Licence Holder name/s (full legal name/s)	Cleanaway Pty Ltd							
Premises name	Guildford Materials Recovery Facility							
Premises location		Lot 62 on Diagram 60242. 72 Hyne Rd, South Guildford						
Local Government Authority		City of Swan						
Application documents								
HPCM file reference number:	A1892709							
Key application documents (additite to application form):	Licence Amendment Supporting Information (360 Environmental) Fire Risk Assessment Review (Stantec) Plans and Drawings							
Scope of application/assessment								

Operation of a material recovery facility, categories 61, 61A and 62. Licence amendment to authorise reconstruction of the premises following a significant fire event. The amendment also includes changes to fire control infrastructure and the Summary of proposed activities or additional activity of waste truck washdown on the premises. changes to existing operations. The existing instrument will need to be changed to include the additional proposed infrastructure and construction related conditions such as those generally contained in a works approval. Category number/s (activities that cause the premises to become prescribed premises) Table 1: Prescribed premises categories Prescribed premises category Assessed production or Proposed changes to the and description design capacity production or design capacity (amendments only) No change to capacities are Category 61: liquid waste facility 300 tonnes per annual period proposed. Excluding the truck 500,000 tonnes per annual washdown area and improved Category 61A: solid waste facility period fire and stormwater controls, the facility should be like for like. 500,000 tonnes per annual Category 62: solid waste depot period Legislative context and other approvals Referral decision No: Has the Licence Holder referred, or do they intend to refer, their proposal to Yes □ No ⊠ Managed under Part V □ the EPA under Part IV of the EP Act as a significant proposal? Assessed under Part IV □ Ministerial statement No: Does the Licence Holder hold any existing Part IV Ministerial Statements Yes □ No ⊠ **EPA Report No:** relevant to the application? Has the proposal been referred and/or Reference No: Yes □ No ⊠ assessed under the EPBC Act? Certificate of title □ General lease ⊠ Expiry: Has the Licence Holder demonstrated Yes ⊠ No □ occupancy (proof of occupier status)? Mining lease / tenement □ Expiry: Other evidence \square Expiry: Has the Licence Holder obtained all Approval: City of Swan relevant planning approvals? development approval Yes □ No ⊠ N/A □

Status: Currently progressing in parallel with this application.

Has the Licence Holder applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes □ No ⊠	No clearing is proposed.
Has the Licence Holder applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes □ No ⊠	No clearing is proposed.
Has the Licence Holder applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes □ No ⊠	Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes □ No ⊠	The proposal is located in the Perth Groundwater Area however there is no discharge of waste.
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes □ No ⊠	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes □ No □ N/A ☒
Is the Premises subject to any other Acts or subsidiary regulations (e.g. Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx)	Yes ⊠ No □	Dangerous Goods Safety Act 2004 (placard quantity) Environmental Protection (Controlled Waste) Regulations 2004
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes □ No ⊠	
Is the Premises subject to any EPP requirements?	Yes □ No ⊠	

Is the Premises a known or suspected contaminated site under the Contaminated Sites Act 2003?		Classification: PC-IR Date of classification: 27/05/20
	Yes ⊠ No □	