Application for licence

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

Licence number	L9228/2019/1
Applicant	Hazrad Australia Pty Ltd
ACN	626 763 782
DWER file number	DER2019/000607
Premises	Hazrad Australia 34 Cocos Drive Bibra Lake WA 6090 Legal description Lot 145 on Plan 19074 Certificate of Title Volume 2172 Folio 221 As defined by the Premises map attached to the issued licence
Date of report	4 February 2020
Decision	Licence Granted

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1. Definitions

Key terms relevant to this decision report and their associated definitions are listed in **Table 1**.

Table 1: Definitions

Term	Definition
Applicant	Hazrad Australia Pty Ltd
AS 1940-2004	means Australian Standard AS 1940-2004 *The storage and handling of flammable and combustible liquids.*
BC Act	*Biodiversity Conservation Act 2016* (WA)
Bq/g	Becquerels per gram
Category / categories	Categories of prescribed premises as set out in Schedule 1 of the EP Regulations.
CW Regulations	*Environmental Protection (Controlled Waste) Regulations 2004*
Decision Report	refers to this document.
Delegated Officer	An officer delegated under section 20 of the EP Act.
Department	The department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the *Public Sector Management Act 1994* and is responsible for the administration of the *Environmental Protection Act 1986* along with other legislation.
Emission	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 2001* (C'Wth)
IAEA Safety Guide No. RS-G-1.9	means the document titled *Categorization of Radioactive Sources*, published by the International Atomic Energy Agency, as amended from time to time.
Landfill Definitions	means the document titled *Landfill Waste Classification and Waste Definitions* 1996, as amended from time to time.

Term	Definition
mbgl	Metres below ground level
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
NORM	Naturally occurring radioactive material(s)
Occupier	has the same meaning given to that term under the EP Act.
Prescribed premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report
Risk Event	As described in *Guidance Statement: Risk Assessment*
Sealed Source	has the same meaning given to that term in the *National Directory for Radiation Protection*, as amended from time to time and published by the Australian Radiation Protection and Nuclear Safety Agency.
Works Approval	refers to works approval W6253/2019/1

2. Licence, works approval and amendment history

Table 2 provides the EP Act Part V Division 3 history for the Premises.

Table 2: Instruments issued under Part V Division 3 of the EP Act for the Premises

Instrument	Issued	Nature and extent of works approval, licence or amendment
W6253/2019/1	10/09/2019	Works approval issued to cause the Premises to become prescribed.
L9228/2019/1	04/02/2020	Licence issued for operational aspect.

3. Purpose and scope of assessment

Hazrad Australia Pty Ltd (the Applicant) submitted a licence application (the Application) to the Department of Water and Environmental Regulation (DWER) to operate a solid and liquid waste processing and transfer facility.

The Delegated Officer has assessed the operational impacts of these activities and these are documented through this Decision Report.

The Decision Report explains how DWER has assessed and determined the application and provides a record of DWER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this documented is limited to DWER's assessment and decision-making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the Applicant's responsibility to ensure that they have all relevant approvals for their Premises.

4. Application details

Hazrad Australia Pty Ltd submitted a licence application on 6 November 2019 for a new solid and liquid waste processing and transfer facility at Lot 145 on Plan 19074, 34 Cocos Drive, Bibra Lake (the Premises).

The Applicant finalised construction of the Premises under works approval W6253/2019/1 in October 2019 and submitted a compliance certification report to DWER on 6 November 2019. DWER was unable to assess compliance with some specifications because they were not addressed directly in the report. Assessment of the Licence application was placed on hold, pending revision of the compliance certification report, which was received on 6 December 2019. The revised report was subsequently assessed, at which point it was determined that construction of the Premises had met the requirements of the works approval. The Licence application was then able to be assessed.

Table 3 lists the documents submitted during the assessment process which form the basis for this Decision Report.

Table 3: Documents and information submitted during the assessment process

Document/information description	Date received
Works Approval compliance certification report	6 November 2019
Licence application and supporting documentation	11 November 2019
Revised Works Approval compliance certification report	6 December 2019

5. Overview of Premises

The Applicant proposes to operate a Category 61, 61A and 62 prescribed premises, as defined under Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations) and detailed in Table 4. No previous licence applies to the Premises for the proposed activities, with the site being constructed under works approval W6253/2019/1. This Works Approval was assessed and approved, subject to conditions, on 10 September 2019 for categories 61, 61A and 62. The Applicant finalised construction of the Premises in October 2019.

Table 4: Classification of Premises and assessed design capacity

Category	Description	Assessed design capacity or throughput
Category 61	**Liquid waste facility:** premises on which liquid waste produced on other premises (other than sewerage waste) is stored, reprocessed, treated or irrigated.	2,000 tonnes per annual period
Category 61A	**Solid waste facility:** premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land.	2,000 tonnes per annual period
Category 62	**Solid waste depot:** premises on which waste is stored, or sorted, pending final disposal or reuse.	1,500 tonnes per annual period

6. Description of proposed activities

The Applicant proposes to receive packaged and bulk Controlled Wastes from Perth and Western Australian industry, primarily manufacturing, oil and gas, mining, government, healthcare and automotive industries. The average load size will be less than 20 tonnes.

The Applicant proposes to undertake the following activities on the Premises:

- Acceptance, consolidation and storage of bulk and packaged controlled wastes;
- Acceptance and storage of low level radioactive waste;
- Acceptance and storage of asbestos waste;
    - These activities will be undertaken by Thuroona Services Pty Ltd (Thuroona Services) a sister company of the Applicant. Thuroona Services holds a WorkSafe Unrestricted Asbestos Licence.
- Consolidation of compatible wastes by decanting;
- Treatment of wastes including:
    - acid-base neutralisation (dosing to achieve pH between 6 to 9); and
    - spading/adsorption of non-reactive liquid/sludge waste to meet Class III waste acceptance criteria (as specified in the *Landfill Waste Classification and Waste Definitions 1996 (as amended 2019)*);

The above activities have been labelled Stage 1 by the Applicant, as they also intend to upgrade the Premises in the near future to allow for further processing (Stage 2). Stage 2 was not assessed or authorised under works approval W6253/2019/1 and consequently won't form part of this licence assessment. For information purposes the activities proposed under Stage 2 are;

- chemical immobilisation of lead waste via the operation of a ball mill; and
- bailing of plastics and cardboard derived from waste packaging.

The Delegated Officer notes that:

1) Stage 2 works and activities were not assessed under W6253/2019/1.
2) Installation and operation of the ball mill and bailing infrastructure proposed for stage 2 at the Premises will require a subsequent works approval or licence amendment application.
3) No assessment of Stage 2 operations has been undertaken during this Decision Report.
4) Recent DWER procedural changes published in the Industry Regulation Guide to Licensing (DWER, June 2019) outlines an updated assessment process for works approvals which allows for time-limited operations to occur under a works approval.

6.1 Infrastructure

The infrastructure and equipment at the Premises are outlined in Table 5 below and the site layout is shown in Figure 1.

Table 5: Premises infrastructure and equipment

Infrastructure	Site Plan Reference (Figure 1)
Main warehouse: • Bunded to 65 mm high with a 91 kL capacity. • Contains a sealed concrete hardstand with a permeability less than $1x10^{-9}$ m/s.	N/A
Vehicle loading/unloading area: • Used for waste receival, inspection and dispatch. • Contains a 5kL bunded sorting area.	Receipt/Dispatch Area
Bulk waste holding tank: • Located within an internally bunded Dangerous Goods sea container. • Situated above a bitumen hardstand with a permeability less than $1x10^{-9}$ m/s.	10ft DG3 Container
Packaged waste store: • Pallet racking segregated by Dangerous Goods/hazard class. • Bunded to 270 mm high.	Mixed DG Class Store
Waste decanting area: • Bunded to 250 mm high.	Decant Station
Empty bin/drum/container storage area: • Situated above a bitumen hardstand with a permeability less than $1x10^{-9}$ m/s.	Yard Storage

Infrastructure	Site Plan Reference (Figure 1)
Dangerous Goods storage sea containers for larger quantities – radioactive: • Internally bunded.	20ft DG7 Store Storage
Dangerous Goods storage sea containers for larger quantities – flammable materials: • Internally bunded. • Situated above a bitumen hardstand with a permeability less than $1x10^{-9}$ m/s.	20ft DG3 Container
General storage area	Racking – Non DG Storage Area
Chemical treatment and adsorption equipment	N/A
General site infrastructure and equipment	
Spill kits	Spill Response Station
Stormwater control equipment to site drainage network (unsealed drains): • Drain covers. • Drain warden fitted with absorbent hydrocarbon pillow. • Wet vacuums.	Stormwater Drain
Fire protection equipment	Fire Hose Reel Fire Extinguisher Mobile Fire Extinguisher Fire Hydrant
5 tonne fixed overhead gantry crane	N/A
Gas monitoring equipment	N/A
Breathing apparatus equipment	N/A
Radiation survey equipment	N/A
Emergency response equipment including emergency shower	Emergency Shower & Eyewash
Sealed roadways: • Bitumen hardstand with a permeability less than $1x10^{-9}$ m/s.	N/A
Perimeter fence and ram raid bollards and/or electric security gate	N/A
Security cameras and lighting	N/A

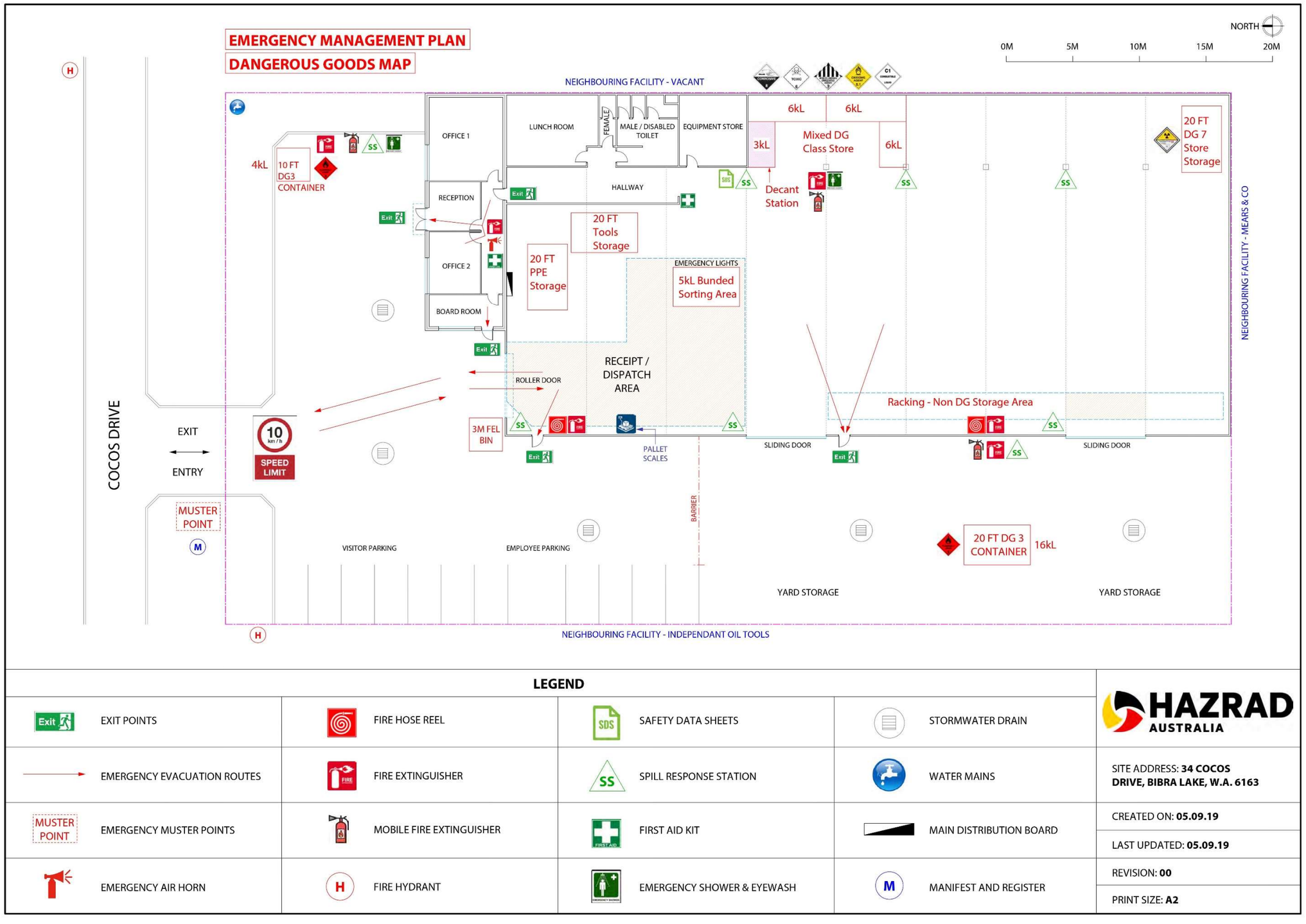

Figure 1: Premises site plan

6.2 Waste acceptance

The Applicant proposes to accept the following waste and controlled waste types as detailed in Table 6.

Table 6: Waste types proposed to be accepted at the Premises

Waste type	Controlled Waste Category Group	Rate at which waste is received	Acceptance specification
Acids	B	Combined total of no more than 2,000 tonnes per annual period of liquid and 2,000 tonnes per annual period of solids	Tankered into the Premises or delivered in intermediate bulk containers (IBC), drums or other containers
Bases	C		
Ethers and highly flammable hydrocarbons	G100		
Non-halogenated organic solvents	G110		
Inorganic cyanide	A130		Delivered in intermediate bulk containers (IBC), drums or other containers
Inorganic chemicals	D		
Reactive chemicals	E		
Paints, resins, inks and organic sludges	F		
Organic solvents	G130		
	G150		
	G160		
Pesticides	H		
Oils	J		
Food and beverage processing waste	K200		
Industrial wash waters	L		
Organic chemicals	M		
Soils and sludge	N		
Clinical and pharmaceutical	R		
Waste chemicals from research, photographic processing and used tyres	T		

Waste type	Controlled Waste Category Group	Rate at which waste is received	Acceptance specification
NORM waste	N/A		(a) Delivered in sealed intermediate bulk containers (IBC), drums or other containers. (b) Has an individual radionuclide activity concentration below 50 Bq/g
Sealed Source radioactive waste	N/A		(a) Delivered in sealed intermediate bulk containers (IBC), drums or other containers. (b) Fits Category 3, 4 and 5 criteria as defined in the IAEA Safety Guide No. RS-G-1.9
Special Waste Type 1 (asbestos waste)	N220	Combined total of no more than 1,500 tonnes per annual period	(a) Separated from other material. (b) Sealed in double-lined or double bagged, heavy duty plastic sheeting of at least 0.2 mm thickness. (c) Labelled with the words 'CAUTION – ASBESTOS' in letters not less than 50 mm high.
Inert Waste Type 2 (Plastic)	N/A		Only accepted as part of waste packaging and containment

Note 1: The Controlled Waste category list arranges the controlled wastes listed in Schedule 1 of the CW Regulations into 15 broad waste groups and assigns a waste code to each waste type within the group. The waste codes are used by industry and DWER regulation for waste tracking and reporting purposes.

Upon arrival all wastes will be inspected and assessed in a designated unloading area to determine their suitability for acceptance at the Premises. Wastes will be assessed against the following documents:

- Daily job sheet and manifest;
- Quotation conditions;
- Controlled waste tracking form;
- Waste or Dangerous Goods transport document (if applicable) and labels; and

- Waste acceptance form

Once accepted, packaged wastes will be placed in an inspection and processing area and bulk wastes will be transferred to a holding tank. The wastes will then undergo more detailed assessment prior to allocation to an appropriate storage area.

6.3 Waste processing and storage

6.3.1 Consolidation and decanting

The main form of waste processing occurring on the Premises will be the consolidation of smaller volume (< 200 L) packaged wastes into larger containers (200 L drums or 1000 L IBCs) to allow for more efficient shipment off-site. Decanting of liquid wastes will take place in a bunded decanting area with a permeability less than 1 x 10^{-9} m/s and located within the main warehouse.

6.3.2 Treatment

Acidic and basic wastes that are received at the Premises will be dosed to achieve a neutralised pH value of 6 - 9. The neutralised waste stream will then be consolidated, sampled and dispatched from the Premises to an appropriate final treatment facility.

The Applicant also proposes to undertake physical waste treatment by spading and adsorption of small quantities (<1 tonne per week) of non-reactive liquid or sludge wastes. The liquid or sludge wastes will be mixed with a solid matrix such as saw-dust with the addition of lime or potash to produce a spadeable neutralised waste material, where required. This material will then be further blended to meet Class III landfill acceptance criteria as specified in the Landfill Definitions.

Due to the neutralisation and adsorption processes only being applied to small volumes of wastes, the Applicant will undertake these activities in open topped IBCs. The open topped IBCs will be located in the main warehouse which is entirely bunded to a capacity of 91 kL and sits above a sealed concrete hardstand with a permeability lower than 1 x 10^{-9} m/s.

The Delegated Officer notes that:

1. The Licence Holder seeks to mix liquid and sludge wastes with an organic solid matrix to produce a spadeable neutralized waste material that is blended to meet Class III landfill acceptance criteria.
2. DWER has identified the use of organic based materials (such as saw-dust and/or shredded timber and compost) as an absorbent for liquid wastes to be problematic when this waste is subsequently disposed of to landfill.
3. Organic based materials readily biodegrade once landfilled and/or readily release liquids when compressed, as might occur during routine landfill operations. The acceptability of this practice is currently under review by the Department.
4. DWER recommends the use of a non-biodegradable sorbent that can retain liquid when compressed be considered as an alternative to the use of saw-dust.

6.3.3 Storage

Wastes received at the Premises which have undergone detailed assessment and/or consolidation are allocated a storage bay appropriate to the waste's characteristics. The bays are segregated and bunded according to the following categories:

- Combustible liquids (hydrocarbons)

- Non-hazardous solids and liquids
- Flammable solids and liquids
- Corrosive solids and liquids
- Oxidising solids and liquids
- Environmentally hazardous solids and liquids
- Toxic solids and liquids
- Radioactive material (low level)

Segregation of the storage bays will prevent the mixing of incompatible waste types and will reduce the potential ignition and fire risk of wastes at the Premises. Storage of radioactive wastes will be in accordance with the Applicant's Radiation Management Plan approved under the *Radiation Safety Act 1975*.

6.4 Dispatch and disposal

Wastes will be stored at the Premises until an appropriately sized load has been aggregated, usually 10 to 20 tonnes, depending on the characteristics of the waste material. The aggregated waste will then be dispatched to an approved reuse, recycling, treatment or disposal facility located either intrastate, interstate or international.

Transportation of radioactive wastes will be in accordance with the Applicant's approved Radiation Transport Management Plan.

6.5 Legislative context and other approvals

Table 7: Summary of emissions and applicant controls

Legislation	Approval	Status	Description
Dangerous Goods Safety Act 2004	Dangerous Goods Licence (DGL)	Not currently licensed	Current storage volumes are below the minimum Dangerous Goods storage limits.
Radiation Safety Act 1975	Radiation Council Registration of Premises	Registered	The Premises is registered under instrument RS142/2018 29860. The Applicant also has an approved Radiation Management Plan and Radiation Transport Management Plan.
Occupational Safety and Health Regulation 1996	Unrestricted Asbestos Licence WA 184	Licensed	Licence is in the name of Hazrad Australia's sister company Thuroona Services Pty Ltd.
Environmental Protection (Controlled Waste) Regulations 2004	Listing on Controlled Waste Tracking System	Assessment in progress	The Applicant has sought this approval from DWER.
Planning and Development Act 2005	Planning and Development approval	Granted	Change of Use application submitted to the City of Cockburn on 28 February 2019. DA19/0123 – 4413053 granted on 5 August 2019 with no expiry date.

7. Emission sources, receptors and pathways

7.1 Emissions

The potential for emissions to impact on sensitive receptors has been assessed in accordance with the Department's Risk Framework. The key emissions during Premises operation which have been considered in this report are **dust, noise, odour, asbestos fibres**, **spills and seepage of leachate or liquid waste** and **emissions in the event of a fire.**

The Applicant has proposed measures to assist in controlling these emissions, where necessary. The control measures are outlined in Section 8 below and have been considered when undertaking the risk assessment detailed in Section 9.

7.2 Environmental siting and receptors

The Premises is situated between 28-29 mAHD on the Spearwood System of the Swan Coastal Plain, approximately 17.5 km south of the Perth CBD. The Premises and surrounding area are zoned Industry under the Metropolitan Regional Scheme and the City of Cockburn's Local Planning Scheme No. 3.

7.2.1 Potential receptors and environmental aspects

Risk is assessed as a combination of emission sources, the proximity and sensitivity of receptors to those emission sources and any pathways that can allow the emission to reach and potentially harm the receptor. Figure 2 and the table below provides a summary of human and environmental receptors in proximity to the Premises which have a potential to be impacted from site activities, and the risk assessment in Section 9 considers these receptors in the context of emissions and potential pathways.

Table 8: Summary of potential receptors

Human receptors	**Description of receptor**	**Distance from activity or prescribed premises**
Sensitive receptors	Yangebup residential area	260 m south-east of the Premises boundary.
Industrial receptors	Adjacent industrial premises	Immediately adjacent to the north, south, east and west.
Environmental receptors	**Description of receptor**	**Distance from activity / prescribed premises**
RAMSAR wetland	Thomsons Lake Nature Reserve	3.8 km south and cross-hydraulic gradient of the Premises.
Geomorphic Wetlands of the Swan Coastal Plain	South Lake: resource enhancement basin sumpland	435 m north and up-hydraulic gradient of the Premises.
	Little Rush Lake: conservation category basin sumpland	500 m east and up-hydraulic gradient of the Premises.
	Yangebup Lake: conservation category basin lake	1 km south east and up-hydraulic gradient of the Premises.

	Bibra Lake: resource enhancement basin lake	1.3 km north-east and up-hydraulic gradient of the Premises.
	Various unnamed wetlands: resource enhancement basin sumpland	3.4 km west and down-hydraulic gradient of the Premises.
Bush Forever sites	Bush Forever site 254 associated with South Lake.	385 m north of the Premises boundary.
	Bush Forever site 256 associated with Little Rush Lake and Yangebup Lake.	450 m east of the Premises boundary.
Regional Park	Beeliar Regional Park	390 m north, 480 m east and 3.4 km west of the Premises boundary.
Threatened Ecological Communities and Priority Ecological Communities Buffers	Banksia dominated woodland of the Swan Coastal Plain IBRA Region (BC Act Priority 3) / Banksia Woodlands of the Swan Coastal Plain (EPBC Act Endangered)	190 m north, 240 m south, 260 m east and 660 m west of the Premises boundary.
Threatened/Priority Flora and Fauna	*Isoodon fusciventer* Priority 4 fauna species recorded via survey in remnant vegetation of the Bibra Lake area.	The closest record is 410 m south of the Premises boundary.
Public Drinking Water Source Areas	Priority 2 and 3 areas of the Jandakot Underground Water Pollution Control Area	3.7 km east and hydraulically up-gradient of the Premises boundary.

Groundwater	The Premises is within the Kogalup Subarea of the Cockburn Groundwater Area. The inferred groundwater flow is from east to west. Groundwater is within the marginal range with a total dissolved solids concentration of 500-1000 mg/L. Beneficial uses of groundwater in the area are likely to be for non-potable domestic, industrial and municipal purposes. The nearest registered down-gradient abstraction bore is located 575 m west south-west of the Premises boundary. The groundwater system provides ecological value with linkages to groundwater dependent wetland ecosystems up, cross and down hydraulic gradient of the Premises. Groundwater provides a potential pathway for contaminants to reach down hydraulic gradient receptors such as non-potable groundwater users at adjacent industrial premises and wetlands to the west of the Premises.	Groundwater is located approximately 17.3 mbgl at the Premises.

Figure 2: Context of surrounding receptors. The drop point indicates the Premises location

7.3 Pathways

Due to the type of emissions identified in Section 7.1 air, soil, surface run-off and groundwater have been considered potential pathways during the assessment. The meteorological, geological and drainage conditions at the Premises have been presented in the subsections below and this information has been considered in the risk assessment tables in Section 9. Groundwater information is contained in Section 7.2.1 above, as it is considered both a potential pathway and receptor.

7.3.1 Soil type and geology

Table 9: Geology and soil information at and surrounding the Premises

Factor	Details
Soil type	Spearwood System S7 Phase: yellow deep sands comprised of pale and olive yellow, medium to coarse-grained, sub-angular to sub-rounded quartz, traces of feldspar, moderately sorted and of residual origin.
Surface geology	Tamala Limestone: comprised of variably lithified aeolian calcarenite and leached quartz sands.
Acid Sulfate Soils (ASS)	Within an area of no known risk.

The Delegated Officer considers the soil type and surface geology to be of a medium permeability which may allow a pathway to groundwater, located approximately 17.3 m below ground level.

7.3.2 Drainage

Overland (surface) runoff through both on and off-site drainage are also considered pathways to both surface water and groundwater receptors. There are five unsealed soak-wells situated within the Premises and these connect to the local drainage network, terminating at a compensation basin approximately 535 m northeast. The Premises drainage layout is depicted in Figure 3 and the connected drainage network is shown in Figure 4 below.

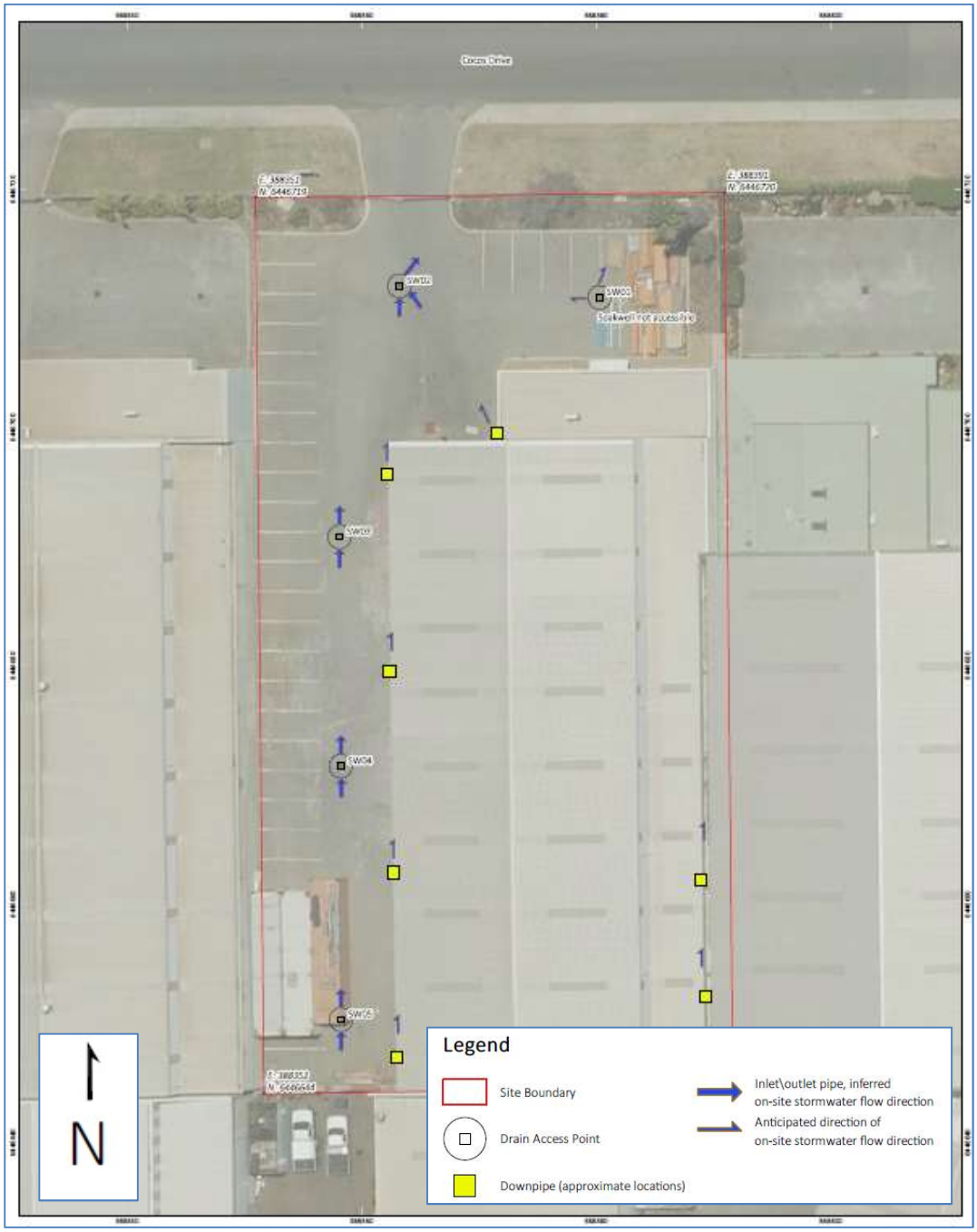

Figure 3: Premises drainage map

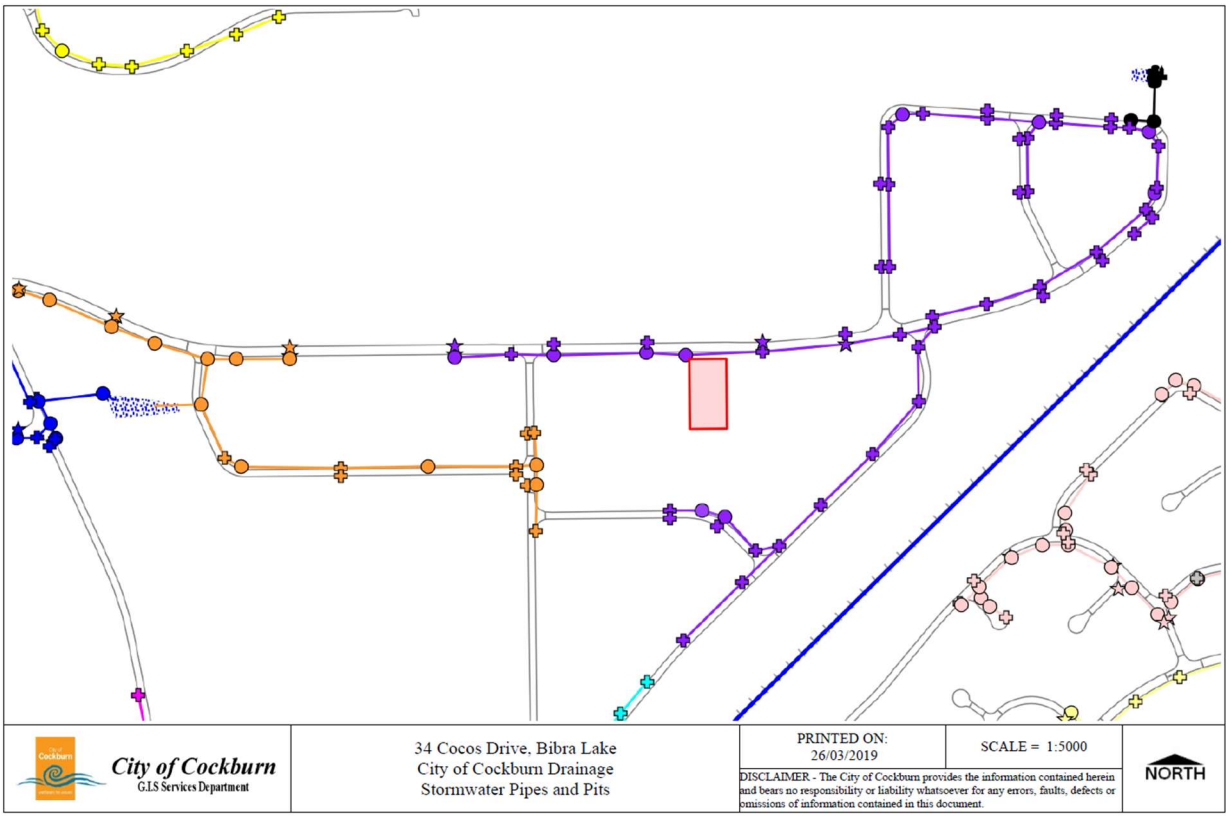

Figure 4: Layout of the City of Cockburn drainage network connected to the Premises

7.3.3 Meteorology

Using information available on the Bureau of Meteorology's website, the closest available weather station for meteorological data is Jandakot Aero (No. 009172). This weather station is located approximately 5.6 km east of the Premises and is considered an accurate representation of average climatic conditions.

Wind frequency data collected at the Jandakot station from February 1989 to August 2019, shows the prevailing wind direction is east to north-easterly in the morning and west to south-westerly in the afternoon (Figure 5). The predominant wind speed is between 20 - 29 km/hr during the morning and afternoon.

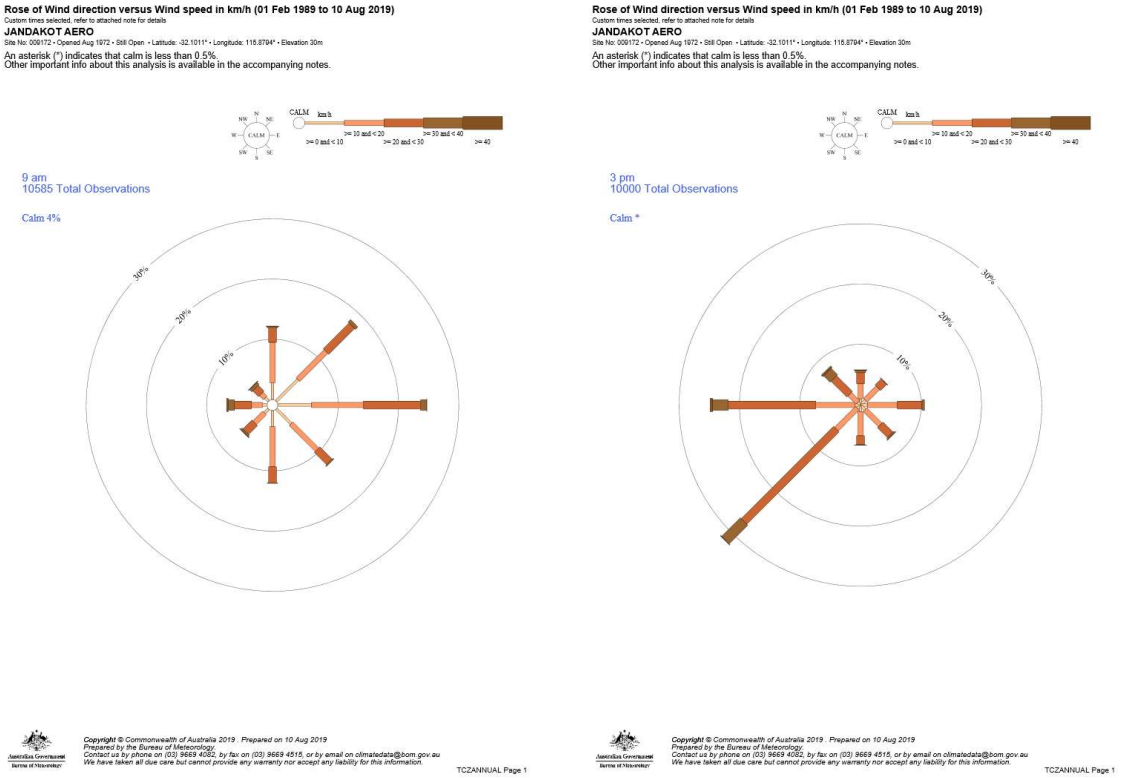

Figure 5: Mean annual wind speeds and direction at 9am (left) and 3pm (right) for Jandakot Source: Bureau of Meteorology website www.bom.gov.au

The mean monthly rainfall and maximum temperatures at the Jandakot weather station are shown in Figure 6. Rainfall at the Premises is expected to occur predominately during the winter months, peaking in July and corresponding to lower maximum temperatures. The Premises is likely to receive a mean annual rainfall of 816.6 mm.

Table 10 shows that mean monthly evaporation is generally higher than rainfall excluding the May to August period.

Table 10: A comparison of mean evaporation with rainfall rates for the Northam area. Maximum and minimum values are shown in red and blue respectively.

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Evaporation (mm)	300	250	200	125	80	60	60	80	100	150	250	250	1800
Rainfall (mm)	16.5	17.6	16.1	41.6	104.8	153.5	173.1	129.1	84.2	46.0	27.1	10.7	816.6

Source: Bureau of Meteorology website www.bom.gov.au

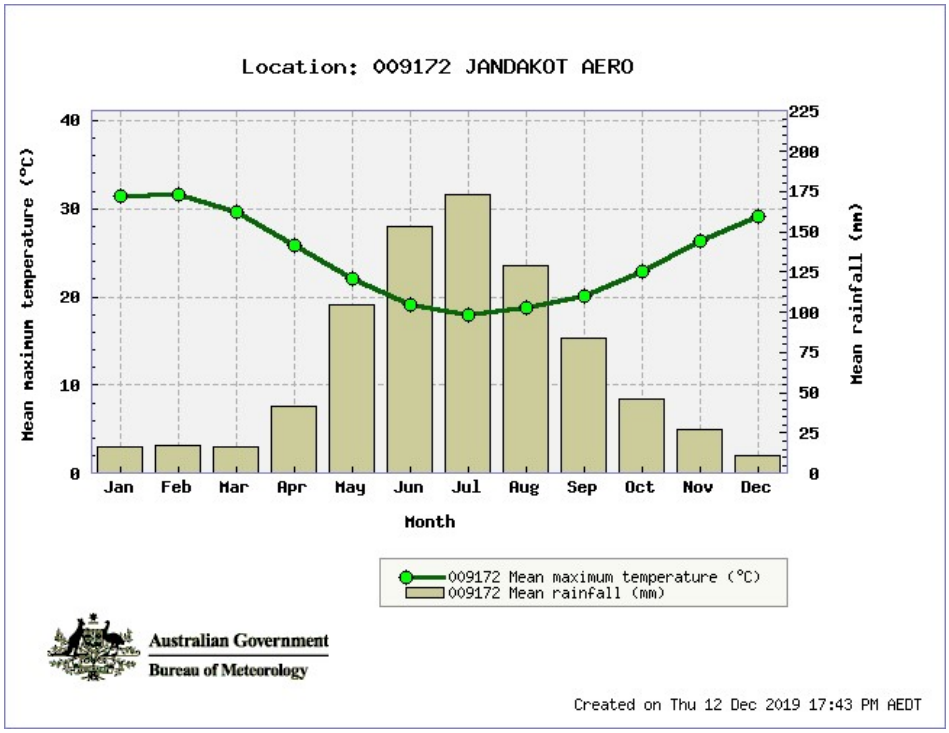

Figure 6: Mean monthly rainfall and maximum temperature at the Jandakot weather station (1972 to 2019) Source: Bureau of Meteorology website www.bom.gov.au

8. Applicant controls

The Applicant has proposed the following management measures and controls as part of the application:

Table 11: Summary of emissions, potential sources and applicant controls

Emission (as identified above)	Source	Proposed controls
Dust	• Vehicle movements	• Sealed roadways. • Complaints register will be implemented. Any complaints will be investigated with corrective action taken as required.
Asbestos fibres	• Acceptance and storage of asbestos wastes	• Maximum 10 tonne of asbestos/ACM waste to be stored onsite at any time. • Any asbestos/ACM will be received onsite securely wrapped and labelled. • Any asbestos/ACM will be stored for a maximum of 10 days before being removed offsite for disposal. • Removal offsite will be undertaken in accordance with the National *Code of Practice for the Safe Removal of Asbestos* [NOHSC:2002(2005)].

Emission (as identified above)	Source	Proposed controls
Odour	• Liquid and solid waste acceptance, handling, processing and storage.	• All wastes will be received onsite and stored in sealed containers. • All waste will be stored and handled in an enclosed structure. • All waste received onsite will be risk assessed and if odour may be generated, the adjacent receptors will be notified. • Spading/adsorption activities limited to less than 1 tonne per week.
Noise	• Vehicle movements (including reversing alarms); • Acceptance and handling of waste.	• Onsite speed limit of 10 km/ hr. • Normal hours of operation are proposed to be between 7am to 5pm Monday to Friday, which is within 'day-time' hours of the Noise Regulations. The Premises will occasionally receive wastes outside of 'day-time' hours during emergency situations.
Smoke, noxious gases and particulates (in the event of a fire)	• Mixing of incompatible wastes; • Spills; • Arson; • Spontaneous combustion.	• Consolidation will only occur between compatible waste types. Compatibility will be informed by an assessment of the following characteristics by a suitably qualified onsite professional: o Physical form o Hazard – Dangerous Goods Class (i.e. reactivity, flammability, acidity etc.) o Waste type and contaminants o Package quality, size and type • The following fire-fighting equipment will be located onsite: • 2 x dedicated & plumbed fire hose reels • 3 x 50L mobile foam units • 10 x 9kg portable foam units • 1 x 9kg $C0_2$ unit • 2 x fire blankets • Material Safety Data Sheets (MSDS) will be available onsite. • Security controls such as: o Perimeter fence and ram raid bollards and/or electric security gate; and o Security cameras and lighting.

Emission (as identified above)	Source	Proposed controls

Leachate/liquid waste	• Acceptance, receival, treatment, consolidation and storage of controlled wastes;
	• Spills;
	• Fire event (generation of fire wash waters);
	• Stormwater becoming contaminated from general spills/leaks of oils, fuels and other hydrocarbons associated with vehicles and machinery.
		• Waste will be assessed by a technically qualified onsite professional in accordance with the following:
		  o Physical form;
		  o Hazard/dangerous good class;
		  o Waste type and contaminants; and
		  o Package quality, size and type.
		• Only compatible wastes will be consolidated into 200L and 1,000L containers.
		• Non-conforming loads will not be received;
		• All operations, including unloading and storage areas to be undertaken within bunded hardstands inside enclosed structures;
		• All storage areas will be constructed within an impervious bund and designed to meet AS 1940-2004 with segregation of incompatible waste types;
		• Spill kits available onsite;
		• Any spills or incidents will be reported to the Technical Manager and where required, reported to the appropriate regulatory body;
		• Daily checks for identification of spills/leaks with corrective action taken where required;
		• Material Safety Data Sheets (MSDS) will be available onsite to be used in emergencies and to assist onsite personnel with the daily management of wastes;
		• Spading activities limited to less than 1 tonne per week;
		• No more than 200 tonnes of waste will be stored onsite at any one time;
		• All fuels, oils, chemicals and other hydrocarbons associated with vehicles and machinery will be stored within impervious and bunded containers and/or areas;
		• Equipment cleaning will only occur within areas with bunding and hardstand.
		• Each unsealed drain is fitted with drain wardens and absorbent hydrocarbon pillows. Drain covers and wet vacuums to be utilised in the event of a spill. On-call bulk tanker to attend any emergency events.

9. Risk assessment

The identification of the sources, pathways and receptors to determine Risk Events are set out in Table 12 below, consistent with the *Guidance Statement: Risk Assessments*. Risk ratings have been assessed for each key emission source and take into account potential source-pathway-receptor linkages. The mitigation measures and controls proposed by the Applicant have been considered in determining the risk rating. Receptors that are up-hydraulic gradient have not been included in the risk assessment below as the Delegated Officer considers that no pathway exists.

The conditions in the issued Licence, as outlined in Table 12, have been determined in accordance with the *Guidance Statement: Setting Conditions*.

9.1 Risk assessment – operation

Table 12: Identification of emissions, pathway and receptors during operation of the Premises

Risk Event				Consequence rating[1]	Likelihood rating[1]	Risk[1]	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	**Potential emissions**	**Potential receptors, pathway and impact**	**Applicant controls**					
Liquid and solid waste acceptance, handling, storage, processing and treatment. Vehicle movements.	Noise	Air/windborne pathway causing impacts to health and amenity of closest human receptors being the adjacent industrial premises and residential receptors located 260 m south-east of Premises boundary.	As described in Section 8	**Minor:** human receptors may experience low level impacts to amenity.	**Unlikely**	**Medium**	The Applicant has not demonstrated that the Noise Regulations can be met, however operations undertaken at the Premises during Stage 1 are not considered significant sources of noise. Operational activities at the Premises will also generally occur during daytime hours within an enclosed building, which reduces the potential for noise emissions from the Premises. There is potential for human receptors to experience some impacts from noise emissions generated by vehicles delivering waste outside of daytime hours. As the Applicant intends for this to occur during emergency remediation situations only, it is unlikely for these impacts to occur under normal conditions. The Delegated Officer considers that noise emissions are regulated under the *Environmental Protection (Noise) Regulations 1997* and that further regulatory controls are not required.	N/A
	Dust	Air/windborne pathway causing impacts to health and amenity of closest human receptors being the adjacent industrial premises and residential receptors located 260 m south-east of Premises boundary.	As described in Section 8	**Moderate:** human receptors may experience mid-level impacts to amenity and low level impacts to health.	**Rare**	**Medium**	The Premises is comprised of either sealed concrete or bitumen hardstand which significantly reduces the potential for dust generation through operational activities. Wastes with a potential for dust generation will be received at the Premises in a packaged/sealed form, as only liquid wastes are proposed to be accepted in bulk. Due to the packaged/sealed form of potential dust generating wastes, dust emissions are not expected to occur outside of exceptional circumstances. The Delegated Officer considers that the Applicant's proposed controls and activities are likely to be sufficient at mitigating dust emissions. These will be included in the granted instrument as regulatory controls.	Conditions 1-6: *Waste acceptance* Condition 11: *Infrastructure and equipment*
		Air/windborne pathway causing impacts to surface water quality and flora within wetlands and sumplands (Little Rush Lake is the closest receptor in the direction of the prevailing wind, being 500 m from the Premises).		**Moderate:** low-level local scale offsite impacts.	**Rare**	**Medium**		
	Asbestos fibres	Air/windborne pathway causing impacts to health of closest human receptors being the adjacent industrial premises and residential receptors located 260 m south-east of Premises boundary.	As described in Section 8	**Severe:** high level or ongoing medical treatment for asbestos related illness such as cancer and asbestosis	**Rare**	**High**	Although the consequence is severe, the likelihood of an adverse event occurring is only expected to happen in exceptional circumstances. The Delegated Officer considers that the Applicant's proposed controls are likely to be sufficient at mitigating asbestos fibre emissions. These will be included in the granted instrument as regulatory controls.	Conditions 1-6: *Waste acceptance*
	Odour	Air/windborne pathway causing impacts to health and amenity of closest human receptors being the adjacent industrial premises and residential receptors located 260 m south-east of Premises boundary.	As described in Section 8	**Moderate:** human receptors may experience mid-level impacts to amenity.	**Unlikely**	**Low**	Some waste types proposed to be received may emit odour however the proposed low waste volumes and activities occurring within an enclosed structure are unlikely to result in significant odour emissions. The Delegated Officer considers that the Applicant's proposed controls are likely to be sufficient at mitigating odour emissions. These will be included in the granted instrument as regulatory controls.	Conditions 1-6: *Waste acceptance* Condition 11: *Infrastructure and equipment*

Risk Event				Consequence rating[1]	Likelihood rating[1]	Risk[1]	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	**Potential emissions**	**Potential receptors, pathway and impact**	**Applicant controls**					
	Leachate/liquid waste	Seepage through infrastructure and soil to groundwater causing deterioration of water quality and potential impacts to down-gradient non-potable groundwater users. Infiltration of spills and seepage from overland runoff and from contaminants/runoff entering onsite soak-wells.	As described in Section 8	**Major:** mid-level offsite impacts. The Department of Health Non-Potable Groundwater Use assessment criteria are likely to be exceeded.	**Unlikely**	**Medium**	The Applicant proposes to undertake all handling, storage, consolidation and treatment of wastes within bunded areas situated above impermeable hardstands (<1 x 10^{-9} m/s permeability). Storage of higher risk wastes considered to be Dangerous Goods will occur above segregated bunds located within the bunded main warehouse structure. This provides a double layer of containment for any leachate or liquid waste prior to the material potentially reaching any stormwater drains located on the Premises. The Applicant has also installed drain wardens and drain covers, with the ability to deploy a wet vacuum pump located at the Premises in an emergency/spill situation. The Delegated Officer considers that the Applicant's proposed controls are likely to be sufficient at managing spills and emissions of leachate/liquid wastes from the Premises. These will be included in the granted instrument as regulatory controls, along with standard licence conditions relevant to a Category 61, 61A and 62 prescribed premises.	Conditions 1-6: *Waste acceptance* Conditions 7-8: *Waste characterization* Conditions 9-10: *Waste processing* Condition 11: *Infrastructure and equipment* Condition 12-14: *Spill and stormwater controls*
		Where gross contamination occurs through overland runoff, infiltration or seepage, impacted groundwater may also cause impacts to water quality in down-gradient surface water receptors, the closest being the unnamed swampland 3.4 km west of Premises, which is likely to be a groundwater fed system.		**Moderate:** the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (2018) are at risk of being exceeded.	**Unlikely**	**Medium**		
	Smoke, particulates and noxious vapors in the event of a fire or other incident	Air/windborne pathway causing impacts to health and amenity of closest human receptors being the adjacent industrial premises and residential receptors located 260 m south-east of Premises boundary.	As described in Section 8	**Major:** mid-level health impacts; mid to high level impact to amenity.	**Rare**	**Medium**	Although impacts to receptors are considered major, the likelihood of an adverse event occurring would only occur in exceptional circumstances. The Delegated Officer considers that the Applicant's proposed controls are generally suitable for mitigating fire and other incident risks. These will be included in the granted instrument as regulatory controls.	Conditions 7-8: *Waste characterization* Conditions 9-10: *Waste processing* Condition 11: *Infrastructure and equipment* Condition 15: *Site security*
		Air/windborne pathway causing impacts to surface water quality (from ash fall out) at Little Rush Lake, being the closest surface water receptor in the direction of the prevailing wind (500 m from Premises)		**Moderate:** low-level offsite impacts.	**Rare**	**Medium**		

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)

10. Consultation

Table 13: Summary of consultation

Method	Comments received	DWER response
Application advertised on DWER website (19/12/2019)	None received	N/A
Local Government Authority advised of proposal (19/12/2019)	None received	N/A
Department of Mines, Industry Regulation and Safety, Dangerous Goods Licensing and Critical Risks Directorate advised of proposal (19/12/2019)	• The Applicant's planned storage quantities will require a Dangerous Goods licence. However based on current quantities a licence is not yet needed. • The Applicant references the superceded Australian Standard AS1940:2004. Australian Standard AS1940:2017 is the more current version which should be followed. • The site is storing multiple classes of Dangerous Goods and should consider also using Australia Standard AS3833:2007 *The storage and handling of mixed classes of Dangerous Goods in packages and intermediate bulk containers.*	DWER relayed the comments to the Applicant and facilitated communications between the Applicant and the Dangerous Goods Licensing and Critical Risks Directorate.
Department of Fire and Emergency Services advised of proposal (19/12/2019)	None received	N/A
Radiological Council advised of proposal (19/12/2019)	• The Radiation Management Plan has been reviewed and approved by the Radiological Council. • Radiation monitoring specified in the management plan will be submitted to the Radiological Council for review. • The premises is considered low risk in terms of potential radiation emissions as the proposed wastes have a low radioactivity, are sealed/packaged and are only proposed for storage.	Radiation monitoring will not be included in the Issued Licence as this would be a duplication of requirements already imposed by the Radiological Council through its approval processes.

Method	Comments received	DWER response
Applicant referred draft documents (24 January 2020)	The Applicant confirmed that waste quantities had been allocated correctly in the draft licence and provided an updated ASIC extract showing their new registered address.	N/A

11. Conclusion

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

Jarrod Abrahams 2020.02.04 15:45:19 +08'00'

MANAGER WASTE INDUSTRIES
REGULATORY SERVICES (INDUSTRY REGULATION)
An officer delegated by the CEO under section 20 of the EP Act

Appendix 1: Key documents

Document title	Availability
Licence (L9228/2019/1) application form and supporting documentation (November, 2019)	DWER records (A1840017)
Hazrad Radiation Management Plan	DWER records (A1856917)
Hazrad Radiation Transport Management Plan	DWER records (A1856920)
Hazrad Radiation Waste Acceptance Criteria	DWER records (A1856915)
Hazrad Waste Acceptance Procedure	DWER records (A1856923)
Hazrad Waste Acceptance Form	DWER records (A1856925)
Hazrad Waste Assessment Form	DWER records (A1856924)
Hazrad Transfer Station Daily Checklist	DWER records (A1856916)
DER, July 2015. *Guidance Statement: Regulatory principles.* Department of Environment Regulation, Perth.	accessed at www.dwer.wa.gov.au
DER, October 2015. *Guidance Statement: Setting conditions.* Department of Environment Regulation, Perth.	
DER, August 2016. *Guidance Statement: Licence duration.* Department of Environment Regulation, Perth.	
DER, February 2017 *Guidance Statement: Risk Assessments*. Department of Environment Regulation, Perth.	
DER, February 2017. *Guidance Statement: Decision Making*. Department of Environment Regulation, Perth.	