



Application for Licence

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

Licence Number	L9448/2024/1
Applicant	Tyrecycle Pty Ltd
ACN	085 545 053
File number	DER2024/000418
Premises	Tyrecycle Rockingham 371 Mandurah Road EAST ROCKINGHAM WA 6168 Legal description Part of Lot 850 on Deposited Plan 415740 As defined by the coordinates in Schedule 2 of the licence
Date of report	19 November 2024
Decision	Licence granted

Abbie Crawford

MANAGER, WASTE INDUSTRIES

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

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during operation of the premises. As a result of this assessment, licence L9448/2024/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary and overview of premises

On 25 July 2024, Tyrecycle Pty Ltd (the applicant) submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act).

The application sought a licence relating to the operation of a Category 57 used tyre storage facility and a Category 61A solid waste facility at the premises, which were constructed in accordance with Works Approval W6820/2023/1. The premises is approximately 1.8 km east of the city of Rockingham.

The applicant is currently operating the facility under time-limited operations in compliance with condition 9 of the Works Approval W6820/2023/1.

The premises is currently receiving and processing a total of 42,000 tonnes per annum of a combination of whole and pre-cut end-of-life tyres and conveyor belts. This will consist of up to 12,000 tonnes per annum of pre-cut rubber pieces and conveyor belts, plus 30,000 tonnes per annum, or up to 23,529 whole tyres at any one time received direct to the premises. The used tyres and conveyor belts will be reprocessed into 6 inch shred, 1.5 inch chip, crumb and granular product that will be used as a tyre-derived fuel source exported to Japan or South Korea, in road surfaces, sporting, playground and soft fall surfaces and tile adhesives.

The applicant also intends on accepting 78 tonnes per annum of used lead acid batteries (ULABs) and 26 tonnes per annum of used oil filters from their customers who are operating motor mechanical businesses. ULABs and oil filters will be stored at the premises prior to further transportation to a licensed premises for disposal or recycling. This will be offered as a service to clients only, with no processing or disposal of the waste at this premises.

The premises relates to the categories and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in licence L9448/2024/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with Guideline: Risk Assessments (DWER 2020) are outlined in licence L9448/2024/1.

2.2.1 Environmental compliance report

An Environmental Compliance report (ECR) has been submitted by the applicant to demonstrate compliance with condition 3 and 4 of Works Approval W6820/2023/1. DWER has reviewed this report and has determined that the provided information meets the construction requirements for the item 1 to 9 listed in condition 2, Table 1 and confirms compliance with conditions of the Works Approval W6820/2023/1.

2.2.2 Fire and Emergency Management Plan

As an additional regulatory control for fire emissions, DWER has added the requirement to implement a fire and emergency management plan under condition 1 of Works Approval W6820/2023/1 for the premises. The applicant complied with the requirements of Works Approval W6820/2023/1 condition 25 by submitting the fire and emergency management plan with the new licence application.

After reviewing the plan, DWER has concluded that it satisfies condition 1 of the Works Approval W6820/2023/1.

3. Risk assessment

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

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

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Operation			
Noise	Acceptance, storage and processing of used tyres and cut rubber pieces	Air / windborne pathway	<ul style="list-style-type: none"> The processing activities and all machinery will occur in fully enclosed buildings. Modelling has shown noise emissions for both the nighttime period from 10 pm to 7 am, and daytime including evenings and Sundays / public holidays will comply with the 'assigned levels' of the EP Regulations.
Dust	Vehicle movements	Air / windborne pathway	<ul style="list-style-type: none"> Outside areas are bitumen. Tyre and conveyor belt reprocessing will take place in an enclosed warehouse. Regular cleaning and housekeeping will be carried out. Emissions to air will be filtered through the baghouse filters within two 5.2 m (minimum height) stacks prior to discharge via the stacks. Modelling has shown particulate emissions will be very low level, below NEPM requirements.
Unauthorised fires – smoke and fire spread	Acceptance, storage and processing of used tyres and cut rubber pieces	Air / windborne pathway	<p>External tyre storage:</p> <ul style="list-style-type: none"> Tyres to be stored on a hardstand pad. Tyre groups are to be no more than 2.7m high with a maximum 50 tonne of tyres stored in any single Group

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> • A fire wall achieving an FRL of 240/240/240 to be provided between tyre stacks or provided with a separation of at least 18m. • Combustible material and site boundaries should not be located within 18m of the tyre stacks, unless shielded by a fire wall. • Each stack shall be no closer than 6.0m from any object. <p>Internal tyre storage:</p> <ul style="list-style-type: none"> • Tyre-derived fuel product will be stored within pallets, upon two sets of racks able to store a total of 432 pallets. • Racks are to be open framed and not to exceed 7 m high. • Reprocessed tyres (crumb and cut pieces) stored within the delivery truck awaiting dispatch from site. <p>Management control</p> <ul style="list-style-type: none"> • Hot works (welding, grinding, oxygen cutting) to be undertaken in a planned manner with tyres moved away so they are no closer than 18 m during hot works events. • Electrical equipment shall be installed in accordance with AS3000, including AS61439 and will be tested and tagged in accordance with AS/NZS 3760:2010, with switchboards undergoing thermal graphic imagery scanning at least once a year to minimise the risk of faults and electrical fires. • Staff training to manage fire events with one person per shift trained in the use of the fire hose reel and portable fire extinguisher systems to assist in early suppression should a fire event occur and prior to arrival of the fire brigade • An 6m clearance around the building shall be maintained for fire truck access and to limit the potential for fire spread to neighbouring buildings. • Fire systems shall be maintained in accordance with AS1851 • A fire hydrant system designed and installed in compliance with AS2419.1-2005 and DFES guideline GN2 designed to operate 3 hydrants at 10l/s each (30l/s total) for a minimum of 4 hours.

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> • Fire and emergency management plan to be enforced
Contaminated firefighting water and/or stormwater	Acceptance, storage and processing of used tyres and cut rubber pieces	Overland flow Subsurface seepage	<ul style="list-style-type: none"> • All firewater and stormwater will be retained within the premises boundary by the use of barrier kerbing along all external fence lines. • All firewater and stormwater will be filtered by an Atlan Spillceptor underground filtration system prior to discharge utilizing the upgraded stormwater system. The Spillceptor will be treated all flows and is sized to contain more than the anticipated maximum oil spillage and is fully operational in treating stormwater runoff at all times. • Filtered water from the Spillceptor is discharged into the stormwater retention basin located adjacent to the premises, within Lot 850 on Deposited Plan 415740 and Lot 804 on Deposited Plan 70633.
Hydrocarbon spills during refuelling	Acceptance, storage and processing of used tyres and cut rubber pieces	Overland flow Subsurface seepage	<ul style="list-style-type: none"> • Spill kits will be available, and staff trained for response.
Mosquito breeding in pooled water in tyres		Air / wind dispersion	<ul style="list-style-type: none"> • Tyres will be stored at the premises for between 24 and 48 hours before they will be reprocessed and shredded.
Acceptance and storage of ULABs	Acceptance and storage of ULABs	Direct discharge to land	<ul style="list-style-type: none"> • ULABs will not undergo any reprocessing at Tyrecycle's premises. • Stored onsite for a maximum of 13 days; collected fortnightly by an appropriate transporter for delivery to a licensed premises for recycling. • Stored in a designated external storage area . • ULABs will be stored upright within prefabricated, self-bunded Battery Rescue ULAB boxes, with a maximum of 4 layers of ULABs per box. • Spill kit will be located in the storage area and team members will be provided regular training. • Regular inspections of the storage area will be carried out by the Supervisor and any issues, actions required or incidents will be reported via Tyrecycle's online Health, Safety, Environment and Quality reporting platform Skytrust.

Emission	Sources	Potential pathways	Proposed controls
Hydrocarbon spills during storage	Acceptance and storage of used oil filters	Direct discharge to land Subsurface seepage	<ul style="list-style-type: none"> • Used oil filters will not undergo any reprocessing at Tyrecycle’s premises. • Stored onsite for a maximum of 13 days; collected fortnightly by an appropriate transporter for delivery to a licensed premises for recycling. • Stored in a designated external area. • Spill kit will be located in the storage area and team members will be provided training. • Used oil filters will be transported by an appropriate transporter to licensed facilities for recycling. • Regular inspections of the storage area will be carried out by the Supervisor and any issues, actions required or incidents will be reported via Tyrecycle’s online Health, Safety, Environment and Quality reporting platform Skytrust
Unauthorised fires – smoke and fire spread	Storage of 200 tyres in the warehouse for rim removal	Air/windborne pathway	<ul style="list-style-type: none"> • Maximum pile size will be limited to 16m² or 200 tyres.

3.1.2 Receptors

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

Table 2 and Figure 1 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental Siting* (DWER 2020)).

Table 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Residential Premises	1.8 km south of the Premises
Industrial premises	Premises located within general industrial area
Environmental receptors	Distance from prescribed activity
Threatened and Priority ecological communities	Priority 3 -Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain – approximately 50 m west of the premises boundary Woodlands over Sedgeland in Holocene dune swales of the southern Swan Coastal Plain – approximately 630 m southwest of the premises boundary
Threatened and priority fauna	There are six threatened and priority fauna within 1 km of the premises boundary, including <ul style="list-style-type: none"> • One occurrence of Carnaby's cockatoo an endangered bird species; • One occurrence of Peregrine falcon a specially protected bird species; and • 10 occurrences of Quenda, southwestern brown bandicoot a Priority 4 mammal species.
Geomorphic wetland	Sumpland – approximately 250 m east of the premises boundary Sumpland – approximately 680 m southwest of the premises boundary
Right In Water Irrigation Act Groundwater area	Premises located within Cockburn Groundwater Area
DBCA Managed lands	Conservation and recreation reserve 450 m south east Leda Nature Reserve 1.3 km south east



Figure 1: Distance to sensitive receptors

3.2 Risk ratings

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

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant'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 applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

Licence L9448/2024/1 that accompanies this decision report authorises emissions associated with the operation of the premises.

The conditions in the issued licence, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 3: Risk assessment of potential emissions and discharges from the premises during operation

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Acceptance, storage and processing of used tyres and cut rubber pieces	Dust and air particulate emissions	Air/windborne pathway Causing impacts to health and amenity	Residential premises ~1.8 south of the premises Adjacent industrial offices and workplaces	Refer to Section 3.1	C = Minor L = Unlikely Low Risk	Yes	Condition 1, 2, 3, 9, 10, 12, 15 and 19	The Delegated Officer considers the present infrastructure and controls proposed by the Applicant are sufficient to prevent dust and/or air particulate emissions occurring under most circumstances.
	Noise			Refer to Section 3.1	C = Minor L = Unlikely Low Risk	Yes	Condition 1, 3 and 15	The Delegated Officer considers the controls proposed by the Applicant are sufficient to prevent impacts from noise emissions occurring under most circumstances. Noise emissions are adequately regulated under the <i>Environmental Protection (Noise) Regulations 1997</i> .
	Unauthorised fires – smoke and fire spread			Refer to Section 3.1	C = Severe L = Unlikely High Risk	Yes	Condition 1, 2, 3, 4, 5, 15 and 19	The Delegated Officer considers the controls proposed by the Applicant are sufficient to prevent unauthorised fires occurring under most circumstances The Delegated Officer has reviewed the fire and emergency management plan submitted in accordance with condition 25 of the Works Approval

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
								W6820/2023/1 and has determined that the provided information meets the requirements in condition 1 the Works Approval W6820/2023/1.
	Contaminated firefighting water and/or stormwater	Direct discharge to land Subsurface seepage Causing impacts to groundwater sources	Surrounding conservation reserves, TECs and priority fauna	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Yes	Condition 1, 6, 7, 9, 10, 13, 15 and 19	The delegates officer considers that the applicant's proposed infrastructure and management controls are likely to be sufficient to mitigate the risk occurring from contaminated firewater and/or stormwater.
	Hydrocarbon spills during refuelling	Direct discharge to land Subsurface seepage Causing impacts to groundwater sources	Beneficial users of groundwater Surrounding conservation reserves, TECs and priority fauna	Refer to Section 3.1	C = Minor L = Unlikely Low Risk	Yes	Condition 1, 2, 7, 8, 15 and 19	The Delegated Officer considers that the Applicant's proposed infrastructure and management controls are likely to be sufficient at mitigating emissions from spills of hydrocarbon.
	Mosquito breeding in pooled water in tyres	Air/windborne pathway Causing impacts to health and amenity	Residential premises ~1.8 south of the premises Adjacent industrial offices and workplaces	Refer to Section 3.1	C = Minor L = Unlikely Low Risk	Yes	Condition 15	The Delegates Officer considers that the applicant's proposed infrastructure and management controls are likely to be sufficient to prevent mosquito breeding occurring under most circumstances.

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Storage of 200 tyres in the warehouse for rim removal	Unauthorised fires – smoke and fire spread	Air/windborne pathway Causing impacts to health and amenity	Residential premises ~1.8 south of the premises Adjacent industrial offices and workplaces	Refer to Section 3.1	C = Severe L = Unlikely High Risk	Yes	Condition 1, 2, 3, 4, 5, 15 and 19	The Delegated Officer considers that the Applicant's proposed infrastructure and management controls are likely to be sufficient to prevent unauthorised fires occurring under most circumstances The Delegated Officer has reviewed the fire and emergency management plan submitted in accordance with condition 25 of the Works Approval W6820/2023/1 and has determined that the provided information meets the requirements in condition 1 the Works Approval W6820/2023/1.
Acceptance and storage of ULABs	Acceptance and storage of ULABs	Spills of hazardous chemicals and lead.	Direct discharge to land Causing impacts to groundwater sources	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Yes	Condition 2, 3, 15 and 19	The Delegated Officer considers that the Applicant's proposed infrastructure and management controls are likely to be sufficient at mitigating emissions from spills of hazardous chemicals and lead.
Acceptance and storage of used oil filters	Hydrocarbon spills during storage	Direct discharge to land Subsurface	Beneficial users of groundwater Surrounding conservation reserves, TECs	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Yes	Condition 2, 3, 15 and 19	The Delegated Officer considers that the Applicant's proposed infrastructure and management controls are likely to be sufficient at

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Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		seepage Causing impacts to groundwater sources	and priority fauna					mitigating emissions from spills of hydrocarbon.

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

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

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 4 September 2024	None received	N/A
Local Government Authority advised of proposal on 7 October 2024	The City of Rockingham confirmed that a Development Approval for a Change of Use for Tyre Recycling Facility was issued on 4 August 2023 for this premises. The city's Environmental Health officers do not foresee any concerns or comments regarding the two categories listed in the licence application.	Conditions within the development approval are considered by the delegated officer during the risk assessment.
Applicant was provided with draft documents on 1 November 2024	Refer to appendix 1	Refer to appendix 1

5. 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.

References

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

Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Condition	Summary of applicant's comment	Department's response
Cover page – prescribed premises category	The applicant inquired about the appropriate category for rubber tracks and conveyor belts.	The delegated officer confirms that rubber tracks and conveyor belts are included in category 61A.
Condition 1, Table 1 - row 1	The applicant requested to remove the requirement of "concrete floor to be maintained to ensure a permeability of $\leq 1 \times 10^{-9}$ m/sec.	The condition has been changed as requested since maintaining permeability will be ensured by the requirement that the "concrete floor be free of leaks and defects."
Condition 1, Table 1 - row 2	The applicant requested that the phrase "Eldan tyre recycling plant must comprise of" be changed to "Eldan tyre recycling plant including" in order to accommodate upcoming process modifications, efficiency improvements, equipment replacements, etc.	The equipment listed in condition 1 is what informed the risk assessment, and a licence amendment will need to be made to add or alter equipment. In accordance with Section 53(1)(b) of the <i>Environmental Protection Act 1986</i> , an individual who constructs, installs, or alters any equipment on the prescribed premises commits an offence unless they do so in accordance with a licence..
Condition 1, Table 1 - row 6	The applicant requested that rubber tracks and conveyor belts be added as types of waste that are to be stored in the storage bunkers.	The condition has been amended as request as this does not change the risk profile of the site.
Condition 2, Table 2	The applicant requested that the waste acceptance table be updated to include the conveyor belt waste type, with annual limits of 10,000 tonnes.	The delegated officer agreed to add conveyor belts and rubber tracks to the waste acceptance table. Cut rubber pieces, conveyor belts, and rubber tracks are allowed under category 61A, which has a total annual capacity of 12,000 tonnes. The remaining 30,000 tonnes will be utilised to account for the processing of whole tyres. If the applicant wishes to increase Category 61A capacity it can be done at a later date through a licence amendment.
	The applicant requested that the OTR tyres, solid tyre and rubber tracks be added to acceptance specification of inert waste type 2	The delegated officer agreed to add the OTR tyres and solid tyres to the acceptance specifications. However, rubber tracks were added separately due to it not being classified as a type of tyre.
Condition 3, Table 3	The applicant requested to add process specification of "cut and load OTR tyres and solid tyres for export" The applicant also requested to process OTR via shearing with an excavator.	The delegated officer notes that there is a ban on the export of tyres without an appropriate licence. As the delegated officer has not signed a waste export licence a condition acknowledging export has not been added. The processing of tyres via the use of shears has not been risk assessed. The applicant can apply for an amendment to add this piece of equipment so that it can be risk assessed. If the processing of OTRs occurs within the warehouse then it can be done in accordance with dot point one of condition 3.
	The applicant requested that conveyor belts be added to the waste processing table as a waste type.	The condition has been amended as request.
	The applicant requested to include a small working pile for tyres on rim just inside the NE warehouse roller door	The warehouse did not previously have any tyre storage. As a result, a risk assessment was conducted for storage of tyres within the warehouse, and then the condition was amended as requested.
	The applicant requested to update the requirement of "Tyres must be processed within 72 hours of receipt at the premises"	This requirement was added as a control of mosquito breeding. However, the delegated officer notes that there is a high turnover of tyres (estimated 24-48 hours) and it will be difficult to demonstrate compliance with this condition. Therefore, the delegated officer has removed this condition as requested.

Condition	Summary of applicant's comment	Department's response
	The applicant requested to update the requirement of "Stored at the premises for no more than 13 days" to maximum storage quantity.	The condition was amended by the delegated officer, who acknowledged that it would be challenging to demonstrate compliance. Therefore, three ULAB storage boxes and a maximum storage capacity of three tonnes was specified in the amended condition.
	The applicant confirmed that the ULAB and oil filters storage areas are located within the warehouse.	The condition has been updated to reflect the provided information.
Schedule 1, Figures	The applicant referred to updated firewater containment and drainage plan in the supporting documents and provided updated premises layout as request.	The figures have been updated to reflect the provided information.