Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report

Application for Licence Amendment

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

Works Approval Number	W6848/2023/1
Works Approval Holder	Complete Tyre Solutions Tyre Recycling Pty Ltd
ACN	644 200 528
File Number	APP-0026579
Premises	CTS Tyre Recycling 82 and 86 Altitude Drive NEERABUP WA 6031 Legal description – Lot 104 on Deposited Plan 426671 and Lot 105 on Deposited Plan 425769 As defined by the premises maps attached to the revised works approval
Date of Report	23 November 2025
Decision	Revised works approval granted

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1. Decision summary

Works approval W6848/2023/1 is held by Complete Tyre Solutions Tyre Recycling Pty Ltd (works approval holder) for CTS Tyre Recycling (the premises), located at 82 and 86 Altitude Drive, Neerabup.

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 construction and operation of the premises. As a result of this assessment, revised works approval W6848/2023/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

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

2.2 Overview of premises

The works approval holder currently operates a tyre recycling facility at the premises under licence L3032/2025/1 which was constructed in accordance with works approval W6848/2023/1. The facility includes storage of up to 250,000 end-of-life tyres with infrastructure to process (shred) and recycle 30,000 tonnes of waste tyres per annum. End products include rubber crumb, tyre derived fuel (shred) and waste steel.

The premises relates to the categories and assessed production / design capacity under Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations) which are defined in works approval W6848/2023/1. 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 works approval W6848/2023/1.

2.3 Amendment summary

On 29 November 2024 the works approval holder submitted an application to the department to amend works approval W6848/2023/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Installation of additional tyre processing infrastructure and equipment including:
  - A knives sharpening machine.
  - An MT RX, Wolverine and Raptor & Debeader machines for the processing / shredding of OTR tyres.
  - A tyre-buffing unit (to remove worn tread and contaminants from used tyres)
  - A small bags packing machine (to package processed rubber into 20-25kg bags)
  - A ‘Quality Upgrade System’ consisting of:
    - a C26 screener (separates the stones, dust and textile and then further classified and either bagged as granular product).
    - 30,000m^3/hr secondary dust extraction and air filtration system (second baghouse and emission point).
  - A Salvadori Titan System consisting of:
    - Rubber moulding press (Using a polyurethane chemical binder to process crumb rubber into a cylinder mould).
    - F&K Slicing machine (Cuts cylinder moulded rubber into desired lengths).
    - Salvadori winder (winds binded rubber into cylinders).

- Acceptance and processing of up to of an additional 10,000 tonnes per year of waste conveyor belt rubber.

Time-limited operations were conducted under W6848/2023/1 for stage 1 infrastructure from 4 December 2024 to 31 August 2025. The works approval will be amended to include infrastructure under stage 2 and permit a stage 2 time-limited operations phase once the relevant requirements specified in W6848/2023/1 are met.

3. Risk assessment

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

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

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

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

Table 1: Works approval holder controls

Emission	Sources	Potential pathways	Proposed controls
Installation			
Dust	Vehicle movements Placement and installation of infrastructure and equipment	Air/windborne pathway	Dust controls for construction activities not provided.
Noise			Construction noise to comply with requirements of the Environmental Protection (Noise) Regulations 1997 (EP Noise Regulations).
Operation			
Noise	Vehicle movements Receival, unloading and storage of used tyres and conveyor belts Operation of additional tyre and conveyor belt processing infrastructure and equipment	Air/windborne pathway	• Majority of the additional processing machinery will be located within the enclosed warehouse except for the conveyor belt pre-cutting machine and secondary baghouse. • Applicable controls recommended in the updated acoustic report for compliance with the EP Noise Regulations to be implemented. ○ BarkerBille silencer or equivalent on the suction side air intake and pressure side of the baghouse. ○ Full extent of exposed circular duct sections of baghouse to be wrapped in loaded vinyl wrap with surface mass of ≥ 8.0kg/m^2 to mitigate duct wall noise radiation.

Emission	Sources	Potential pathways	Proposed controls
			○ Minimum 4.5m height solid screen/retaining wall constructed on the eastern lot boundary. ○ North façade and east façade roller doors closed during tyre shredding operations.
Dust	Use of the C26 screener to separate out stones, dust and textile material	Air/windborne pathway	• Majority of tyre processing and all crumb storage is contained within an enclosed warehouse. • Primary dust extraction system and baghouse connected to rasper, steel cleaning system, fine granulators and C26 screener. • Secondary dust extraction and baghouse system connected to the cracker mill. • Tyre-buffing unit equipped with a small vacuum system for buffing collection and storage in bags. • Baghouse and machinery maintained in accordance with manufacturer's instructions. • Regular cleaning and housekeeping.
Smoke and particulates	Fire incident during waste tyre and conveyor belt storage and processing	Air/windborne pathway	• Rubber conveyor belts stored securely on spools or in hook lift bins in the dedicated conveyor belt storage area prior to processing. • Compliance with the Department of Fire and Emergency Services *Guidance Note:GN02 Bulk Storage of Rubber Tyres Including Shredded and Crumbed Tyres*. • Implementation of a Fire and Emergency Management Plan in accordance with Australian Standard AS 3745. • External yard and access way to be kept clear for emergency service vehicle access. • Fire fighting equipment installed as per works approval W6848/2023/1 and maintained in accordance with AS 1851.
Fire wash water		Overland runoff potentially causing ecosystem disturbance or impacting surface water/groundwater quality	• Containment of fire water achieved by bunding on the site and retaining water on the concrete hardstand, with the stormwater system shut off via isolation valves on the general fire alarm activation from any detection or sprinkler alarm.
Spills of chemicals	Chemical storage Operation of rubber moulding press	Direct discharge to land and subsurface seepage causing impacts to groundwater sources	• Deployment of spill kits and booms where required. • Designated area for storage of chemicals. • Implementation of a spill management plan

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the works approval 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 2 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 premises boundary**
-	Commercial and industrial premises	Immediately surrounding commercial and industrial premises within the Neerabup Meridian Park Estate.
A - H	Semi-rural residential premises	Approximately 9 residential premises located within 1km (south) (Figure 1).
-	Aboriginal site and heritage place – Lake Neerabup (ID: 3693)	Approximately 300m west.
	Environmental receptors	**Distance from prescribed premises boundary**
-	Threatened/Priority Fauna	5 species mapped within 2km.
-	One confirmed and one unconfirmed black cockatoo roost site	Located within 2km.
-	Threatened Ecological Communities (TEC) and Priority Ecological Communities (PEC)	5 species mapped within 2km. Prescribed premises located within a Priority 3 PEC buffer zone.
-	Wanneroo Groundwater Area (1)	Prescribed premises located within this RIWI Act groundwater area.
I	Neerabup Lake	Located approximately 1.5km west.
-	Lake Pinjar	Located approximately 2.8km north-east.
J	Drinking water source areas	Perth coastal and Gwelup underground water pollution control area (P3) is approximately 2km south-west. Gnangara underground water pollution control area (P1) is approximately 2.5km north-east.
-	Bushforever area (230)	Located approximately 700m west.
-	Groundwater Surface geology is Tamala Limestone, predominately calcarenite.	Groundwater mapped flowing from north-east to south-west across the prescribed premises. Depth to historical max groundwater mapped at approximately 31-32m AHD Groundwater salinity mapped at <500 TDS.

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 those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

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

Additional regulatory controls may be imposed where the works approval holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

The revised works approval W6848/2023/1 that accompanies this Amendment Report authorises construction and time-limited operations. The conditions in the revised works approval have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence amendment is required following the time-limited operational phase authorised under this works approval amendment to authorise emissions associated with the ongoing operation of the infrastructure and equipment subject of this works approval amendment. A risk assessment for the operational phase has been included in this Amendment Report, however licence conditions will not be finalised until the department assesses the licence amendment application.

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

Risk Event					Risk rating[1] C = consequence L = likelihood	Works approval Holder's controls sufficient?	Conditions[2] of works approval	Justification for additional regulatory controls / reasoning
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Works approval holder's controls**				
Construction and Installation								
Placement and installation of infrastructure and equipment Vehicle movements	Dust	Air/windborne pathway causing impacts to health and amenity	Human receptors listed in Table 2	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	N/A	The Delegated Officer considers dust emissions associated with construction and installation activities can be adequately regulated by the general provisions of the EP Act.
	Noise				C = Slight L = Unlikely **Low Risk**	Y	N/A	The Delegated Officer considers that noise emissions from construction activities can be sufficiently managed through the EP Noise Regulations.
Operation (including time-limited-operations operations)								
Receival, unloading and storage of conveyor belt rubber Operation of tyre and conveyor belt rubber cutting, shredding, de-beading, screening and baghouse machinery Vehicle movements	Noise	Air/windborne pathway causing impacts to health and amenity	Human receptors listed in Table 2	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	Y	Condition 2, Table 1, 3h, 3i Condition 9, Table 4, 2d Condition 15, 16, 17, 18	The Delegated Officer considers the controls proposed and implemented by the applicant to be adequate to prevent impacts under normal operating conditions. The provisions of the EP Noise Regulations apply. Submission of an updated noise assessment and verification of ongoing compliance with the EP Noise Regulations is required once the infrastructure has been installed under this works approval amendment. Any official reports of unreasonable noise to the department will be investigated to ensure compliance with the EP Noise Regulations.
	Dust and air particulates		All receptors listed in Table 2		C = Moderate L = Unlikely **Medium Risk**	Y	Condition 2, Table 1, 3e, 3f Condition 11, Table 6 Condition 13, Table 7	Refer to Section 3.3.
Storage of chemical binder Operation of rubber moulding press	Chemical spills	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality			C = Minor L = Unlikely **Medium Risk**	Y	Condition 2, Table 1, 6a	The Delegated Officer considers the controls proposed by the works approval holder to be adequate in containing and cleaning up chemical spills if they should occur. The requirement to provide a chemical spill kit onsite has been added to the works approval.
	Chemical volatilization	Air/windborne pathway causing impacts to health and amenity			C = Minor L = Unlikely **Medium Risk**	Y	Condition 2, Table 1, 6b	After review of the works approval holders Air Quality Assessment Report, the Delegated Officer considers the potential for emissions from the production of moulded products using a methylene diphenyl isocyanate (MDI) binder to be low risk. The low vapour pressure, cold compression process, and containment indicates that the volatilization (and potential for air emission) of the MDI binder is expected to be negligible. The works approval holder is required to manage this chemical products storage and handling in accordance with the applicable material safety data sheet.
Fire incident during waste tyre / conveyor belt rubber storage and rubber crumb processing and storage	Fire, smoke and particulates	Air / windborne pathway causing impacts to health and amenity			C = Major L = Unlikely **Medium Risk**	Y	Condition 1 Condition 2, Table 1, 1c, 2, 3d, 3g, 3j, 3k, 3l, 4a, 4b, 4c, 4d Condition 9, Table 4, 1a, 1b, 1c, 1e, 2b, 3a, 3b Condition 10, Table 5, 2a, 2b, 2c, 3a	The Delegated Officer is satisfied that the existing and proposed infrastructure and management controls are sufficient to effectively manage the risk of impacts from fire-related emissions associated with the additional acceptance, storage and processing of conveyor belt rubber. Proposed storage and management controls for this waste type have been included as conditions on the works approval. The Delegated Officer notes that the works approval holder's fire and emergency management plan should be updated to include reference to the conveyor belt rubber storage area and has added this requirement into Condition 1.

Risk Event					Risk rating[1] C = consequence L = likelihood	Works approval Holder's controls sufficient?	Conditions[2] of works approval	Justification for additional regulatory controls / reasoning
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Works approval holder's controls**				
Fire incident during waste tyre / conveyor belt rubber storage and rubber crumb processing and storage	Contaminated firefighting water and/or stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water/groundwater quality	All receptors listed in Table 2	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 1 Conditon 2, Table 1, 1a, 1b, 3c, 5a, 5b, 5c, 6a, 6b Conditon 9, Table 4, 1d, 2c Condition 10, Table 5, 1a, 1b, 1c, 1d, 1e, 3a	The Delegated Officer is satisfied that the existing infrastructure and management controls are sufficient to effectively manage the risk of impacts from contaminated firefighting water and/or stormwater associated with the acceptance, storage and processing of conveyor belt rubber.

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

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

3.3 Detailed considerations – risk assessment for dust emissions

Air emissions from the premises are expected to include dust generated during materials processing, as well as particulate matter emissions from an existing emissions stack. This stack is connected to a dust extraction system equipped with a 70,000 m³/hr primary baghouse servicing the shredding and granulating plant. As part of this works approval amendment, an additional emissions stack is proposed. It will be connected to a dust extraction system featuring a 30,000 m³/hr secondary baghouse associated with the C26 screener.

Specifically, these emissions from premises activities are expected to include particulate matter as total suspended particulate matter (TSP), being nuisance dust and PM^{10} particulate matter with equivalent aerodynamical particle diameter of 10 µm or less. PM^{10} is generally considered as the (upper) threshold particle size fraction that is inhalable. The performance of both dust filtration systems is understood to result in maximum particulate matter emissions of 5 mg/m^3 from each baghouse. As per the manufacturers' system standard, both stack heights will be constructed to 12.3m.

To support the assessment of the existing and proposed air emissions from the existing and proposed baghouses, the works approval holder provided an air emissions assessment report, completed by Airen Consulting. The assessment concludes that air emissions from the facility do not pose an unacceptable risk to human health, amenity, or the environment providing dust extraction systems are operational during processing activities and they are maintained in accordance with manufacturers recommendations. These requirements are included in the works approval as regulatory controls.

4. Consultation

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

Table 4: Consultation

Consultation method	Comments received	Department response
Works approval holder was provided with draft amendment on 10 November 2025	*Refer to Appendix 1*	*Refer to Appendix 1*

5. Conclusion

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

5.1 Summary of amendments

Table 5 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the revised works approval as part of the amendment process.

Table 5: Summary of works approval amendments

Condition/Table no.	Proposed amendments
Conditions 1	Inclusion of conveyor belt rubber storage plans into the fire and emergency management plan.

Condition/Table no.	Proposed amendments
Condition 2, Table 1	Inclusion of the following: • Minor specification clarifications on the existing infrastructure. • Separation of infrastructure and equipment into stages 1 (existing) and 2 (proposed). • Addition of a requirement specified in the Environmental Noise Assessment to wrap exposed circular duct sections of the primary and secondary baghouses with loaded vinyl wrap to mitigate duct wall noise radiation. • Inclusion of specifications for the secondary baghouse to ensure noise, fire and dust controls are installed. • Addition of requirements for spill kits and a designated chemical storage area to be provided at the premises.
Condition 4	Standard requirement added to the Environmental Compliance Report submission to include photographs of the installations.
Condition 7, Table 2	Addition of 10,000 tonnes per annual period of waste rubber conveyor belts to waste acceptance at the premises.
Condition 8, Table 3	Addition of conveyor belt rubber to the waste processing specifications.
Condition 9, Table 4	• Inclusion of storage specifications for conveyor belt rubber storage. • Addition of conveyor belt rubber product to warehouse storage requirements. • Requirement to ensure spill kits are maintained and available in the warehouse. • Operational requirement specified in the Environmental Noise Assessment to keep the north façade and east façade roller doors closed during tyre shredding operations has been included.
Condition 10, Table 5	Reference to belt crumb included in specification to minimise size of stockpiles of recycled material.
Condition 11, Table 6	Addition of the second discharge point (E2) for the secondary baghouse stack and corresponding particulate matter limit of < 5 mg/m^3.
Condition 13, Table 7	Addition of monitoring requirements for the second emission point (E2) for the secondary baghouse stack.
Condition 14, Table 8	Inclusion of conveyor belts in the tracking of incoming waste onto the premises.
Condition 15	Revised wording to require a noise assessment report once the infrastructure listed in stage 2 has been constructed to confirm noise emissions continue to be compliant with the EP Noise Regulations. Additional wording to ensure the noise assessment undertaken is representative of premises operations.
Condition 19	Added requirement to submit an updated fire and emergency management plan which includes the conveyor belt rubber storage plans.
Table 9: Definitions	Additions of definitions for ‘OTR’, ‘spill kit’, inclusion of the additional environmental noise assessments undertaken and included references to ‘stage 1 time-limited operations’ (already completed) and stage 2 time-limited operations (to commence after submission of an Environmental Compliance Report for stage 2 infrastructure.
Figure 3: Proposed additional infrastructure and air emission monitoring point plan	Additional figure showing the additional infrastructure to be installed and air emission point.

Condition/Table no.	Proposed amendments
Figure 4: Map of the proposed external tyre and conveyor belt storage area	Addition of the conveyor belt storage area.

References

1. Department of Environmental Regulation (DER), July 2015. *Guidance Statement: Regulatory principles*. Perth, Western Australia. Accessed at: www.wa.gov.au
2. DER, October 2015. *Guidance Statement: Setting conditions*. Perth, Western Australia. Accessed at: www.wa.gov.au
3. DWER, June 2019. Guideline: Decision Making. Perth, Western Australia. Accessed at www.wa.gov.au
4. DWER, June 2019. *Guideline: Industry Regulation Guide to Licensing*. Perth, Western Australia. Accessed at www.wa.gov.au
5. DWER, December 2020, *Guideline: Environmental Siting*, Perth, Western Australia. Accessed at: www.wa.gov.au
6. DWER, December 2020, *Guideline: Risk Assessments*, Perth, Western Australia. Accessed at: www.wa.gov.au
7. Department of Fire and Emergency Services, July 2023, *Guidance Note: GN02 Bulk Storage of Rubber Tyres Including Shredded and Crumbed Tyres*. Perth, Western Australia. Accessed at: https://publications.dfes.wa.gov.au/publications/guidance-note-gn-02-version-1-bulk-storage-of-rubber-tyres-including-shredded-and-crumbed-tyres
8. Lloyd George Acoustics, August 2023, *Environmental Noise Assessment – Neerabup Tyre Recycling Facility Ref: 23017843-01_Rev2.* Perth, Western Australia. DWER Reference: DWERDT852913
9. DWER, October 2024, DWER *Works Approval W6848/2023/1,* Perth, Western Australia. Accessed at: W6848/2023/1
10. CTS Tyre Recycling, September 2024, *DWER Licence Application form* (and supporting documents) – *Attachment 3B – Proposed Activities,* Perth, Western Australia. DWER Reference: APP-0029379
11. Lloyd George Acoustics, May 2025, *Environmental Noise Assessment – Neerabup Tyre Recycling Facility Ref: 23017843-03.* Perth, Western Australia. DWER Reference: APP-0026579
12. Lloyd George Acoustics, May 2025, *Compliance Noise Assessment – Neerabup Tyre Recycling Facility Ref: 23017843-04.* Perth, Western Australia. DWER Reference: APP-0029379
13. Ektimo, May 2025, *Works Approval Emission Testing Report R018950.* Perth, Western Australia. DWER Reference: APP-0026579
14. Lloyd George Acoustics, September 2025, *Compliance Noise Assessment – Neerabup Tyre Recycling Facility Ref: 23017843-03A.* Perth, Western Australia. DWER Reference: APP-0029379
15. Airen Consulting, October 2025, *Air Quality Assessment Project 25093*. Perth, Western Australia. DWER Reference APP-0026579

Appendix 1: Summary of works approval holder's comments on risk assessment and draft conditions

Condition/Table	Summary of works approval holder's comment	Department's response
Condition 2, Table 1	Confirmation provided that the: • Primary baghouse dust extraction system is connected to the rasper, steel cleaning system, fine granulators, and C26 screener. • Secondary baghouse dust extraction system is connected to the cracker mill.	The Delegated Officer notes the information and has updated the works approval to include these connections in the infrastructure table.
	Request to add the following infrastructure to the works approval: • Tyre-buffing unit to remove worn tread and contaminants from used tyres prior to processing. The machine will be located inside the warehouse and is equipped with its own vacuum system for dust collection. Source sound power levels indicate <75 dB(A) • A small bags packing machine located in the warehouse which will be used to bag processed rubber. Source sound power levels indicate <75 dB(A)	The Delegated Officer has considered the proposed additional equipment and determined that its inclusion does not materially alter the risk assessment for: • **Noise emissions**: Based on the submitted sound power level data and the equipment's location within the enclosed warehouse. The works approval imposes conditions requiring the applicant to undertake post-installation noise monitoring to verify compliance with the EP Noise Regulations. • **Dust emissions**: As the tyre-buffing unit is fitted with an integrated dust collection system and is situated within the warehouse. The works approval further requires the applicant to ensure the dust collection system remains operational during use and is maintained in accordance with manufacturer specifications. Accordingly, the Delegated Officer approves the inclusion of the additional equipment under this works approval amendment.