
ENVIRONMENTAL MANAGEMENT PLAN

Tyre Recycling Operations

TOA RECYCLING

Darwin, Northern Territory, Australia

February 2026



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Executive Summary

This Environmental Management Plan (EMP) establishes the framework for TOA RECYCLING to manage the environmental aspects of its tyre recycling operations in Darwin, Northern Territory. The plan outlines our commitment to environmental protection, regulatory compliance, and continual improvement in all activities related to the collection, storage, processing, and disposal of end-of-life tyres.

TOA RECYCLING operates under the Waste Management and Pollution Control Act 1998 (NT) and maintains all necessary Environment Protection Licences issued by the Northern Territory Environment Protection Authority (NT EPA). This EMP aligns with the Tyre Stewardship Australia (TSA) Best Practice Guidelines for tyre storage and fire emergency preparedness.

Key environmental aspects addressed in this plan include: air quality management through dust suppression and emission controls; water management including stormwater containment and leachate prevention; waste minimization through recycling and resource recovery; fire prevention and emergency response protocols; and occupational health and safety measures to protect workers and the community.

The implementation of this EMP ensures that TOA RECYCLING operates in an environmentally responsible manner while contributing to the circular economy through the recovery of valuable resources from waste tyres, including rubber crumb, steel, and fiber materials.

Introduction and Scope

Company Overview

TOA RECYCLING is a tyre recycling company based in Darwin, Northern Territory, Australia. The company specializes in the collection, storage, processing, and recycling of end-of-life tyres (ELTs) from passenger vehicles, light trucks, heavy vehicles, and off-the-road (OTR) equipment. Our facility serves the Northern Territory region, addressing the unique challenges of tyre waste management in remote and tropical environments.

The company operates under the following key parameters:

- Location: Darwin, Northern Territory, Australia
- Primary Activity: Tyre recycling and resource recovery
- Processing Capacity: Up to 5,000 tonnes per annum
- Operating Hours: Monday to Friday, 7:00 AM to 5:00 PM
- Employees: 3-5 full-time staff

Regulatory Framework

TOA RECYCLING operates within a comprehensive regulatory framework governing waste management and environmental protection in the Northern Territory. The key legislation and requirements include:

Northern Territory Legislation

- Waste Management and Pollution Control Act 1998 (NT) - Primary legislation for waste management
- Fire and Emergency Regulations 1996 (NT) - Requirements for stacked tyre storage
- Environment Protection Licence issued by NT EPA
- Development approval/permit from local council

National Requirements

- National Environmental Protection (Movement of Controlled Waste) Measure 2004
- Work Health and Safety Act 2011 (Cth) and harmonised WHS Regulations

- National Construction Code (Building Code of Australia) - Part E for indoor storage
- Australian Recycling and Waste Reduction Act 2020 - for export activities

Industry Guidelines

- Tyre Stewardship Australia (TSA) Best Practice Guidelines for Tyre Storage and Fire Emergency Preparedness
- TSA Quick Reference Guide for Northern Territory tyre storage regulations

Environmental Policy

TOA RECYCLING is committed to environmental leadership in the tyre recycling industry. Our Environmental Policy reflects our dedication to sustainable practices, regulatory compliance, and continuous improvement.

TOA RECYCLING ENVIRONMENTAL POLICY

We are committed to:

0. **Compliance:** Complying with all applicable environmental legislation, regulations, and licence conditions governing our operations in the Northern Territory.
1. **Prevention:** Preventing pollution by implementing effective controls for air emissions, water discharge, and waste generation.
2. **Resource Recovery:** Maximizing the recovery of valuable materials from waste tyres including rubber, steel, and fiber components.
3. **Continual Improvement:** Regularly reviewing and improving our environmental performance through monitoring, auditing, and management review processes.
4. **Stakeholder Engagement:** Communicating openly with employees, regulators, customers, and the community about our environmental performance.
5. **Training:** Ensuring all employees receive appropriate environmental training to perform their duties responsibly.
6. **Emergency Preparedness:** Maintaining effective emergency response procedures for fire, spill, and other potential environmental incidents.

Environmental Aspects and Impacts

This section identifies the significant environmental aspects of TOA RECYCLING's operations and the associated environmental impacts. An environmental aspect is an element of the organization's activities that can interact with the environment, while an environmental impact is any change to the environment resulting from the aspect.

Air Quality Management

Tyre recycling operations can generate dust and particulate matter during shredding, grinding, and material handling processes. TOA RECYCLING implements the following controls to manage air quality:

- Installation of dust suppression systems at material transfer points
- Use of enclosed processing equipment where practicable
- Regular maintenance of equipment to minimize emissions
- Water spraying systems for dust suppression during dry periods
- Monitoring of ambient air quality in accordance with licence conditions

Water Management

Water management at the TOA RECYCLING facility addresses both stormwater runoff and potential leachate from tyre storage areas. Key management measures include:

Stormwater Management

- Installation of diversion banks and cut-off drains to separate clean and potentially contaminated stormwater
- Stormwater retention and settlement ponds for water quality treatment
- Regular inspection and maintenance of drainage infrastructure
- Monitoring of discharge quality in accordance with licence conditions

Leachate Prevention

- Proper storage of tyres to minimize water accumulation within tyre cavities
- Regular inspection of storage areas for standing water

- Implementation of mosquito breeding prevention measures
- Covering of stored materials where appropriate

Waste Management

TOA RECYCLING operates on the principles of the waste hierarchy, prioritizing waste avoidance, reduction, reuse, and recycling. The facility generates several waste streams that require management:

Recovered Materials

- Rubber crumb and granules - sold for use in asphalt, sports surfaces, and molded products
- Steel wire - recovered and sold to steel recyclers
- Textile fibers - recovered for use in cement kilns or other applications

Residual Wastes

- General office waste - segregated and disposed of through municipal waste services
- Hazardous materials (oils, fuels) - stored and disposed of through licensed contractors
- Packaging materials - recycled where possible

Operational Controls

Tyre Storage Requirements

TOA RECYCLING complies with the Northern Territory Fire and Emergency Regulations 1996 and TSA Best Practice Guidelines for tyre storage. The following storage requirements are implemented:

Stack Dimensions

- Maximum stack height: 3 metres
- Maximum base layer length: 45 metres
- Maximum base layer width: 5 metres
- Maximum side slope: 1:1 (45 degrees)

Separation Distances

- Minimum distance between tyre stacks: 6 metres
- Minimum distance from site boundaries: 10 metres
- Minimum distance from buildings and structures: 10 metres
- Clear access for fire-fighting vehicles maintained at all times

Storage Area Management

- Hardstand surface for all storage areas to prevent ground contamination
- Regular inspection for mosquito breeding and standing water
- Fire breaks maintained between storage zones
- Security fencing to prevent unauthorized access

Fire Prevention and Emergency Response

Fire safety is a critical aspect of tyre recycling operations. TOA RECYCLING maintains comprehensive fire prevention and emergency response measures:

Fire Prevention Measures

- No smoking policy enforced throughout the facility

- Hot work permits required for any welding or cutting operations
- Regular removal of vegetation and combustible materials from storage areas
- Lightning protection systems installed on buildings
- Electrical systems maintained to prevent ignition sources

Fire-Fighting Systems

- On-site water storage with minimum 100,000 litre capacity
- Fire hydrants strategically located throughout the facility
- Portable fire extinguishers at all buildings and processing areas
- Fire blanket fills between storage cells where applicable

Emergency Response

- Emergency Response Plan developed and maintained
- Regular emergency drills conducted (minimum annually)
- 24-hour emergency contact system in place
- Liaison with Northern Territory Fire and Rescue Service

Processing Operations

TOA RECYCLING employs mechanical processing methods to convert waste tyres into valuable recycled products. The processing operations include:

Receiving and Inspection

- All incoming tyres inspected for contamination and suitability
- Waste tracking documentation completed for regulatory compliance
- Tyres sorted by type and size for efficient processing

Primary Processing

- Whole tyres fed into primary shredder for size reduction
- Magnetic separation removes steel components
- Fiber separation using air classification systems

Secondary Processing

- Granulation to produce rubber crumb of specified sizes
- Screening and quality control of finished products
- Packaging and storage of finished products for sale

Monitoring and Reporting

Effective monitoring and reporting are essential components of the environmental management system. TOA RECYCLING maintains comprehensive monitoring programs to track environmental performance and ensure regulatory compliance.

Environmental Monitoring

The following monitoring activities are conducted in accordance with licence conditions and best practice:

Parameter	Frequency	Method	Responsible
Air Quality (Dust)	Monthly	Visual inspection	Site Supervisor
Stormwater Quality	Quarterly	Laboratory analysis	Environmental Officer
Tyre Storage Areas	Weekly	Visual inspection	Operations Manager
Fire Equipment	Monthly	Functional test	Safety Officer
Waste Tracking	Per load	Documentation review	Administration

Table 1: Environmental Monitoring Schedule

Reporting Requirements

TOA RECYCLING maintains regular reporting to regulators and stakeholders:

- Annual Return to NT EPA - submitted by 30 September each year
- Incident reporting to NT EPA within 24 hours for significant environmental incidents
- Quarterly reporting to Tyre Stewardship Australia (if applicable)
- Annual Environmental Management Report to management

Training and Competency

TOA RECYCLING recognizes that well-trained employees are essential for effective environmental management. A comprehensive training program ensures all staff understand their environmental responsibilities and can perform their duties safely and responsibly.

Training Program

The following training is provided to employees:

- Induction training for all new employees covering environmental policy, procedures, and emergency response
- Job-specific training on equipment operation and environmental controls
- Fire safety and emergency response training (annual refresher)
- Spill response and hazardous materials handling training
- Waste classification and tracking training for relevant personnel

Training Records

All training is documented and records maintained including:

- Training attendance registers
- Training content and materials
- Competency assessments
- Refresher training schedules

Emergency Preparedness

TOA RECYCLING maintains comprehensive emergency preparedness procedures to respond effectively to environmental incidents. The Emergency Response Plan (ERP) addresses potential emergencies including fire, spills, and severe weather events.

Emergency Response Plan

The ERP includes the following key elements:

- Emergency contact list including NT Fire and Rescue Service, NT EPA, and company personnel
- Evacuation procedures and assembly points
- Fire response procedures specific to tyre storage areas
- Spill containment and cleanup procedures
- Severe weather response (cyclone, flooding)
- Communication protocols during emergencies

Emergency Equipment

The following emergency equipment is maintained on-site:

Equipment	Quantity	Location
Fire extinguishers (various types)	15	Buildings and processing areas
Fire hydrants	6	Strategic locations around facility
Fire hose reels	4	Main building and storage areas
Spill kits	8	Processing areas and storage zones
First aid kits	6	All buildings and vehicles
Emergency shower/eyewash	2	Processing area

Table 2: Emergency Equipment Inventory

Continual Improvement

TOA RECYCLING is committed to continual improvement of its environmental performance. The following processes support this commitment:

Management Review

Annual management reviews are conducted to assess the effectiveness of the environmental management system. Reviews include:

- Assessment of environmental performance against objectives and targets
- Review of incidents, non-conformances, and corrective actions
- Evaluation of monitoring results and trends
- Assessment of regulatory compliance status
- Identification of opportunities for improvement

Internal Audits

Internal environmental audits are conducted at least annually to verify:

- Compliance with this Environmental Management Plan
- Effectiveness of operational controls
- Adequacy of training and competency
- Maintenance of emergency preparedness

Objectives and Targets

Environmental objectives and targets are established annually and monitored throughout the year. Current objectives include:

Objective	Target	Timeline
Maintain zero environmental incidents	Zero significant incidents	Ongoing
Increase material recovery rate	95% recovery rate	By end 2026

Objective	Target	Timeline
Reduce energy consumption	10% reduction	By end 2026
Achieve regulatory compliance	100% compliance	Ongoing
Staff training completion	100% of relevant staff	Ongoing

Table 3: Environmental Objectives and Targets

Appendices

Appendix A: Regulatory Contacts

- NT Environment Protection Authority (NT EPA) - (08) 8924 4218
- Northern Territory Fire and Rescue Service - 000 (Emergency)
- Tyre Stewardship Australia - www.tyrestewardship.org.au
- NT WorkSafe - (08) 8999 5011

Appendix B: Definitions

- ELT - End-of-Life Tyre: A tyre that can no longer be used for its original purpose
- EPU - Equivalent Passenger Unit: A standard measure equal to one passenger tyre (approximately 10kg)
- EMP - Environmental Management Plan: This document
- NT EPA - Northern Territory Environment Protection Authority
- TSA - Tyre Stewardship Australia
- OTR - Off-The-Road: Large tyres used on mining and construction equipment

Appendix C: Document Control

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