

40586**Operate shredding equipment to process organic materials in a resource recovery environment**

Kaupae Level	3
Whiwhinga Credit	15
Whāinga Purpose	<p>This skill standard is intended for people who are already working in a resource recovery environment which processes organic materials for compost production, anaerobic digestion or biofuel. People credited with this skill standard will be able to operate shredding equipment to process organic materials, monitor feedstock conditions and carry out routine machine maintenance in a resource recovery environment.</p> <p>This skill standard aligns with the New Zealand Certificate in Resource Recovery (Level 3) with strands in Organic Materials Processing, Recovery and Recycling, and Metal Recycling [Ref: 2744].</p>
Whakaakoranga me mātua oti Pre-requisites	Learners/ākonga must have completed a workplace health and safety induction or demonstrate equivalent knowledge and skills.

Hua o te ako me Paearu aromatawai | Learning outcomes and assessment criteria

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Prepare to operate a shredder in a resource recovery environment.	a. Set up machine to process organic materials.
	b. Prepare work area for operations.
	c. Assess hazards and risks, and follow risk controls for shredder machinery and equipment.
	d. Conduct a prestart check of machinery and equipment.
	e. Confirm job requirements or handover details.
	f. Rectify or report any issues affecting quality or safety requirements.
2. Operate a shredder to process organic materials in a resource recovery environment.	a. Carry out machine start up and parking procedures safely.
	b. Operate shredder in accordance with conditions and equipment operating capacities.
	c. Carry out shredder operations in accordance with site operations plan and job requirements.

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
3. Monitor feedstock conditions in a resource recovery environment.	a. Measure feedstock parameters.
	b. Record and/or report feedstock measurements.
4. Maintain a shredder in a resource recovery environment.	a. Conduct maintenance inspection of shredder machinery.
	b. Carry out routine maintenance of shredder machinery.
	c. Report any specialist maintenance requirements or faults to supervisor.
	d. Maintain shredder operational records.

Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria

Assessment specifications:

Evidence presented for assessment against this skill standard must be consistent with safe working practices and be in accordance with applicable service information, workplace procedures and legislative requirements.

Definitions

Feedstock refers to organic materials used for composting or related biological treatment systems.

Organic refers to materials that are putrescible or are of animal or vegetable origin.

Workplace procedures refer to organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, manufacturer's requirements, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the resource recovery industry.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content**Preparation**

- Machine set up including ensuring machine is level, stable and accessible to other machinery, adequate lighting, selecting appropriate basket size for material being shredded.
- Prestart check including walk around inspection – fluids & grease checks, inspection for damage to teeth and conveyor belts, running speeds.
- Preparation of work area such as complementary machinery, input materials and output locations.
- Correct use of Personal Protection Equipment (PPE).

Machine operations

- Awareness of potential contamination in input materials and risk controls.
- Operation of machinery according to conditions such as load capacity, material types, material conditions, contamination, suitability of location, weather, visibility and time of day.
- Safe operating procedures such as working clearances, safety checks, safety of all personnel and other machines, emergency procedures.
- Site operations plan including quality requirements, resource consent and local authority permits.

Maintenance

- Safety guidelines regarding lock-out tag-out procedures and policies before undertaking maintenance.
- Routine maintenance such as greasing moving parts, checking oil levels, replacing or cleaning filters, refuelling, and cleaning.
- Reporting specialist maintenance requirements such as replacing rollers and conveyor belts.

Monitoring feedstock

- Monitoring of feedstock conditions (pre and post shredding operations) – moisture, particle size, contamination, blending of feedstock.

Rauemi | Resources

Legislation, regulations and industry guidelines relevant to this skill standard include but are not limited to:

- Hazardous Substances and New Organisms Act 1996.
- Health and Safety at Work Act 2015.
- New Zealand Standards. NZS 4454:2005 Composts, soil conditioners and mulches. Available from: <https://www.standards.govt.nz/>.
- Bioenergy Association. *Solid Biofuel Classification Guidelines, Technical Guide 1: Solid Biofuel Classification Guidelines*. Available from: <https://www.usewoodfuel.org.nz/>.
- Bioenergy Association. *Solid Biofuel Classification Guidelines, Technical Guide 5: Standard methods for verifying the quality of solid biofuels*. Available from: <https://www.usewoodfuel.org.nz/>.
- BSI PAS 110: 2014 Specification for whole digestate, separated liquor and separated fibre derived from anaerobic digestion of source-separated biodegradable materials. Available from: <https://www.wrap.ngo/>.
- UK Environment Agency. (current edition). *Technical Guidance Note (Monitoring), M9. Environmental monitoring of bioaerosols at regulated facilities*. Available from: <https://www.gov.uk/>.
- WasteMINZ. (2009). *Consent Guide for Composting Operations in New Zealand*. Available from: <https://www.wasteminz.org.nz/guidelines>.

Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this skill standard will take precedence for assessment purposes, pending review of this skill standard. Legislation can be accessed at:

<https://www.legislation.govt.nz>.

Pārongo Whakaū Kouna | Quality assurance information

Ngā rōpū whakatau-paerewa Standard Setting Body	Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council
Whakaritenga Rārangi Paetae Aromatawai DASS classification	Service Sector > Resource Recovery > Composting
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	0014

Hātepe Process	Putanga Version	Rā whakaputa Review Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitatanga Registration	1	27 March 2025	N/A
Kōrero whakakapinga Replacement information	This skill standard replaced unit standard 23305.		
Rā arotake Planned review date	31 December 2029		

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development at qualifications@hangaarorau.nz to suggest changes to the content of this skill standard.