Title	**Operate a lifting magnet at a scrap metal recycling yard**		
Level	**3**	**Credits**	**5**

Purpose	This unit standard is for people working in the scrap metal recycling industry. People credited with this unit standard are able to: explain the hazards, characteristics, and uses of lifting magnets in scrap metal recycling; prepare to operate a lifting magnet; operate a lifting magnet for handling scrap metals; and demonstrate operator maintenance for a lifting magnet.

Classification	Resource Recovery > Scrap Metal Recycling

Available grade	Achieved

Prerequisites	Unit 17593, *Apply safe work practices in the workplace*, or demonstrate equivalent knowledge and skills.

Guidance Information

1 All work practices must comply with:
Hazardous Substances and New Organisms Act 1996;
Health and Safety at Work Act 2015;
Resource Management Act 1991;
Equipment operating manuals.

2 Hazard controls, safety procedures, and personal protective equipment must be used throughout operations in accordance with company procedures.

3 Assessment against this unit standard excludes the operation of the machine to which the magnet is attached.

4 Definitions
Company procedures mean the documented methods for performing work activities and include health and safety, environmental, and quality management requirements. They may refer to manuals, codes of practice, or policy statements.
Industry publications refer to published material in hard or electronic copy such as articles available at http://www.recyclingtoday.com.
Lifting magnet refers to equipment that lifts ferrous scrap by electromagnetic force.
Operating manuals refer to the plant operating manual and manuals written for specific components or items of plant and equipment that may be published by the manufacturer or the company.

Outcomes and performance criteria

Outcome 1

Explain the characteristics, function, hazards, and uses of lifting magnets in scrap metal recycling.

Performance criteria

1.1 The characteristics and function of a magnet and its components are explained in accordance with operating manuals and/or company procedures.

Range characteristics include but are not limited to – electromagnetic force, magnetic field. Components include but are not limited to – magnet controller, generator, coil, hydraulic system, pumps; components may include – rectifier.

1.2 The hazards of magnet operations are identified and their controls are explained in accordance with operating manuals and/or company procedures.

1.3 The explanation outlines the uses of magnets in scrap metal recycling in accordance with industry publications.

Outcome 2

Prepare to operate a lifting magnet.

Performance criteria

2.1 Work requirements are confirmed in accordance with company procedures.

2.2 Prestart checks for magnet operations are demonstrated in accordance with operating manuals and/or company procedures.

Range check includes but is not limited to – cables, plugs, attachment.

2.3 A lifting magnet is fitted and secured in accordance with operating manuals.

2.4 Work area is checked for hazards in accordance with legislation and company procedures.

Outcome 3

Operate a lifting magnet for handling scrap metals.

Performance criteria

3.1 Magnet is operated within the rated operating parameters and without damage to coil, plate, or casing.

3.2 Magnet is operated with adequate clearances in accordance with operating manuals and company procedures.

Range clearances include but are not limited to – people, property, services, access, adjacent stockpiles, overhead obstructions.

3.3 Operation of magnet controller produces controlled pickup and letdown of ferrous objects in accordance with operating manuals.

3.4 Work method ensures that metals are selected, sorted, and placed in accordance with company procedures.

Range selection includes but is not limited to – extracting an item from within a stockpile; sorting may include but is not limited to – separating ferrous from nonferrous metals, grading, sizing; placing includes but is not limited to – stockpiling, loading, feeding a conveyor or hopper.

3.5 Magnet is used to sweep an area clean of ferrous scrap in accordance with company procedures.

3.6 Communication is maintained with work crew during operations in accordance with company procedures.

3.7 Processing throughput is maintained in accordance with company's schedule.

Outcome 4

Demonstrate operator maintenance for a lifting magnet.

Performance criteria

4.1 Lifting magnet maintenance is demonstrated and/or reported in accordance with company procedures.

Range maintenance includes but is not limited to – storage; may include but is not limited to – minor adjustment to equipment.

4.2 Generator maintenance is demonstrated and/or reported in accordance with company procedures.

Range static or hydraulic.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 January 2007	31 December 2025
Rollover and Revision	2	28 March 2019	31 December 2025
Review	3	27 March 2025	31 December 2025

Consent and Moderation Requirements (CMR) reference	0014

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.