

<b>Title</b>	<b>Operate robotic equipment in the manufacturing industry</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>6</b>

<b>Purpose</b>	<p>This unit standard is for people who are currently working, or who intend to work, in the manufacturing industry using robotic equipment.</p> <p>People credited with this unit standard are able to: demonstrate knowledge of potential problems or hazards prior to start up and shut down; prepare for operation; start up and operate; perform quality control checks; and perform routine shut down procedures on robotic equipment.</p>
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<b>Classification</b>	Mechanical Engineering > Engineering - Robotics
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<b>Available grade</b>	Achieved
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### Guidance Information

#### 1 Definitions

*Organisational procedures* refer to documents that include: worksite rules, codes, and practices; equipment operating instructions; documented quality management systems; and health and safety requirements.

*Robotic equipment* refers to: a reprogrammable multifunction manipulator designed to move material, parts, tools or specialised devices through variable programmed motions for the performance of a variety of tasks; *plus* a robotic controller unit; *plus* one or more of the following - hand-held control unit; pendant control unit, visual display unit; keyboard; mouse.

- 2 Legislation relevant to this unit standard includes but is not limited to the Health and Safety in Employment Act 1992, the Resource Management Act 1991, and their subsequent amendments.

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### Outcomes and performance criteria

#### Outcome 1

Demonstrate knowledge of potential problems or hazards prior to start up and shut down of robotic equipment.

**Performance criteria**

- 1.1 Potential problems or hazards in start up of robotic equipment are described in terms of causes and likely effects.

Range environment, maintenance, programming, sequence, position; evidence for a minimum of one of each is required.

- 1.2 Potential problems or hazards in shut down of robotic equipment are described in terms of causes and likely effects.

Range environment, maintenance, programming, sequence, position; evidence for a minimum of one of each is required.

**Outcome 2**

Prepare for operation of robotic equipment.

**Performance criteria**

- 2.1 Appropriate clothing is worn in a manner that protects personnel and complies with organisational procedures.

- 2.2 Work environment is free from obstacles and hazards.

Range personnel, equipment, raw material, processed product.

- 2.3 Potential problems with robotic equipment prior to start up are identified where possible and remedied if appropriate, or reported to authorised personnel in accordance with organisational procedures.

- 2.4 Product to be processed is confirmed as specified in the production schedule.

**Outcome 3**

Start up and operate robotic equipment.

**Performance criteria**

- 3.1 Start up of robotic equipment complies with organisational procedures.

Range start up position, orientation of equipment, raw material and/or processed product position.

- 3.2 Robotic equipment is operated in a manner consistent with organisational procedures.

- 3.3 Production requirements as advised in the production schedule are followed according to organisational procedures.

- 3.4 Problems encountered during the operation of robotic equipment are identified and remedied if appropriate or reported to authorised personnel in accordance with organisational procedures.
- 3.5 Emergency shut down procedures are complied with in accordance with organisational procedures.

#### **Outcome 4**

Perform quality control checks on output from robotic equipment.

##### **Performance criteria**

- 4.1 Interpretation of equipment feedback is made within a timeframe that minimises operation downtime and maximises product output and quality.
- Range feedback may include but is not limited to – robotic control unit, lights, alarms, visual display unit messages, auditory and visual observations.
- 4.2 Non-conforming variations in product output are identified, and corrective action is taken in accordance with organisational procedures.
- 4.3 Documentation relating to operation of robotic equipment is completed in accordance with organisational procedures.
- Range documentation may include but is not limited to – Statistical Process Control charts, production schedules, cycle times, product counts; evidence of one is required.

#### **Outcome 5**

Perform routine shut down procedures on robotic equipment.

##### **Performance criteria**

- 5.1 Shut down of robotic equipment complies with organisational procedures.
- Range shut down position, orientation of equipment, product cycle complete.
- 5.2 Problems encountered during the shut down of robotic equipment are identified and remedied if appropriate, or reported to authorised personnel in accordance with organisational procedures.
- 5.3 Disposal of any waste material resulting from production is in accordance with organisational procedures and legislative requirements.
- 5.4 Work environment is free from hazards and obstacles in preparation for subsequent operations.

**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 August 2002	31 December 2026
Review	2	26 September 2024	31 December 2026

**Consent and Moderation Requirements (CMR) reference**

0013

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