

Title	Demonstrate knowledge of the principles of isolating and isolate and reinstate a section of an energy and chemical plant		
Level	4	Credits	10

Purpose	<p>This unit standard is intended for people working as boiler operators and process operators in an energy and chemical plant.</p> <p>People credited with this unit standard are able to: demonstrate knowledge of the principles of isolating a section of an energy and chemical plant; isolate; and prepare for and reinstate a section of an energy and chemical plant and describe the impact of isolation on the process.</p>
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Classification	Energy and Chemical Plant > Operation of Energy and Chemical Plant
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Available grade	Achieved
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Guidance Information

- Legislation relevant to this unit standard includes but is not limited to:
 - Health and Safety at Work Act 2015;
 - Hazardous Substances and New Organisms Act 1996;
 - Resource Management Act 1991;
 - and any subsequent amendments.
- Definitions

Energy and chemical plant may be in – petrochemical, agri-nutrient, power generation, dairy processing, meat processing, and wood fibre manufacturing, or other plants that operate with a combination of high temperatures, pressures, steam and/or chemicals in gas, liquid or solid form.

Organisational requirements – documented policies and procedures. These may include: equipment manufacturers' procedures; plant procedures; suppliers' instructions; site signage; codes of practice; company health and safety plans; on site briefings; and supervisor's instructions. This includes all regulatory and legislative obligations that apply to the plant.

Plant – the operational unit, equipment and/or workplace at which the person is working.
- For the purposes of assessment:
 - evidence for the practical components of this unit standard must be supplied from the workplace.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the principles of isolating a section of an energy and chemical plant.

Performance criteria

- 1.1 Describe isolation and reinstatement procedures in terms of site-specific requirements.
- 1.2 Describe the reasons for isolation in terms of site-specific requirements.
- Range evidence of three reasons is required.
- 1.3 Describe isolation methods in terms of their application.
- Range methods include but are not limited to – double block and bleed, spading, blinding, tagging, lockout, stopple plugs, bladders, freezing, spool piece removal.
- 1.4 Describe testing methods in terms of verifying the integrity of the electrical isolation.
- Range evidence of two methods is required.
- 1.5 Describe testing methods in terms of verifying the integrity of the mechanical isolation.
- Range evidence of three methods is required.

Outcome 2

Isolate a section of an energy and chemical plant and describe the impact of isolation on the process.

Range evidence of three plant section isolations is required.

Performance criteria

- 2.1 Identify boundaries of isolation in accordance with organisational requirements.
- 2.2 Describe the impact of isolation on the process in accordance with organisational requirements.
- 2.3 Prepare and verify isolation documentation in accordance with organisational requirements.
- 2.4 Isolate a section of the plant and verify the isolation integrity in accordance with organisational requirements.

- 2.5 Document and report the isolation in accordance with organisational requirements.

Outcome 3

Prepare for and reinstate a section of an energy and chemical plant.

Range evidence of three plant section reinstatements is required.

Performance criteria

- 3.1 Verify the section of the plant as ready for reinstatement in accordance with organisational requirements.
- 3.2 Prepare for, plan, and carry out de-isolations in accordance with organisational requirements.
- Range planning includes but is not limited to – authorisations, procedures, instructions.
- 3.3 Reinstate the section of the plant in accordance with organisational requirements.
- 3.4 Document plant status in accordance with organisational requirements.

Replacement information	This unit standard was replaced by skill standard 40441.
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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	27 June 2005	31 December 2014
Rollover and Revision	2	25 July 2006	31 December 2014
Review	3	22 May 2009	31 December 2016
Review	4	24 October 2014	31 December 2022
Review	5	27 February 2020	31 December 2026
Review	6	24 April 2025	31 December 2026

Consent and Moderation Requirements (CMR) reference	0079
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.