

Title	Prepare production process equipment, and maintain and restore process conditions in an energy and chemical plant		
Level	3	Credits	7

Purpose	<p>People credited with this unit standard are able to: prepare production process equipment, and describe deviations and required actions; maintain control of the production process and describe process waste management; restore required production process conditions in the event of process problems; and complete production processing documentation, and describe, communicate and record actions, in an energy and chemical plant.</p>
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Classification	Energy and Chemical Plant > Monitoring of Energy and Chemical Plant
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Available grade	Achieved
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Guidance Information

- 1 Legislation relevant to this unit standard includes but is not limited to:
 - Health and Safety at Work Act 2015;
 - Health and Safety at Work (Hazardous Substances) Regulations 2017;
 - Resource Management Act 1991; and any subsequent amendments.

- 2 Definitions

Energy and chemical plant may be in – energy and chemical, 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.

- 3 For the purposes of assessment:
 - evidence for the practical components of this unit standard must be supplied from the workplace.
 - evidence for all outcomes must be presented in accordance with organisational requirements.

Outcomes and performance criteria

Outcome 1

Prepare production process equipment, and describe deviations and required actions in an energy and chemical plant.

Performance criteria

- 1.1 Locate and describe documentation for managing the quality of production processes.
- 1.2 Check feed materials for the correct identity, quality, and specified quantity to ensure processing can commence and continue without shortage of supply.
- 1.3 Identify the status of production process equipment.
- 1.4 Adjust controls for specified production.
- 1.5 Identify tests for production processes and take samples.
- 1.6 Identify critical operating parameters for the operation of each unit of production equipment.
- 1.7 Describe any deviations from each of the critical operating parameters in terms of consequences.
- 1.8 Describe actions to take in the event of deviations from each of the critical operating parameters.

Outcome 2

Maintain control of the production process and describe process waste management in an energy and chemical plant.

Performance criteria

- 2.1 Check production products, materials, and components to ensure they meet site requirements for quality.
- 2.2 Set aside and store any products, materials, or components which fail to meet production specifications.
- 2.3 Initiate corrective actions for out-of-specification products, materials, or components.
- 2.4 Check operational and associated activities for meeting time, quality, efficiency, and production requirements.
- 2.5 Describe the procedures for disposal and/or recovery of waste materials.

2.6 Describe required actions when emergency shut down procedures are initiated.

Outcome 3

Restore required production process conditions in the event of process problems.

Performance criteria

3.1 Identify and describe possible process faults in terms of their causes and how they may be recognised by the process operator.

Range three faults.

3.2 Identify and investigate any faults and causes of problems and take remedial action.

3.3 Report any problems which cannot be remedied within the candidate's authority to the supervisor.

Range significant deviations from quality specification, departure of process parameters from expected parameters under candidate's control, within operational area.

3.4 Restore normal process conditions without delay and without compromising safety standards.

Outcome 4

Complete production processing documentation, and describe, communicate and record actions, in an energy and chemical plant.

Performance criteria

4.1 Complete documentation of final test results, weights, composition and instrument readings.

4.2 Record data related to setting up and adjustments of plant and equipment.

4.3 Describe, communicate and record actions taken to deal with abnormal conditions and their results and identify trends and product quality deviations.

Replacement information	This unit standard was replaced by skill standard 40360.
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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	6 February 1997	31 December 2018
Revision	2	3 August 2000	31 December 2018
Review	3	24 January 2002	31 December 2018
Review	4	20 February 2009	31 December 2018
Rollover and Revision	5	20 April 2017	31 December 2022
Review	6	27 February 2020	31 December 2026
Review	7	30 January 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>.