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| <b>Title</b> | <b>Prepare production process equipment, and maintain and restore process conditions in an energy and chemical plant</b> |                |          |
| <b>Level</b> | <b>3</b>   | <b>Credits</b> | <b>7</b> |

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| <b>Purpose</b> | 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. |
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| <b>Classification</b> | Energy and Chemical Plant > Monitoring of Energy and Chemical Plant |
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| <b>Available grade</b> | 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.

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## 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.

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| <b>Planned review date</b> | 31 December 2025 |
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**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 | N/A                      |

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

0079

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

**Comments on this unit standard**

Please contact the Primary Industry Training Organisation [standards@primaryito.ac.nz](mailto:standards@primaryito.ac.nz) if you wish to suggest changes to the content of this unit standard.