

<b>Title</b>	<b>Operate equipment for distillation in an energy and chemical plant</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>8</b>

<b>Purpose</b>	<p>This unit standard is intended for people working in an energy and chemical plant who operate complex plant from a panel.</p> <p>People credited with this unit standard are able to: operate energy and chemical distillation equipment in stable conditions; and identify and describe responses to deviations from stable conditions in an energy and chemical process.</p>
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<b>Classification</b>	Energy and Chemical Plant > Operation 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;
  - Hazardous Substances and New Organisms Act 1996;
  - Resource Management Act 1991;
  - and any subsequent amendments.
  
- 2 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.
  
- 3 For the purposes of assessment:
  - evidence for the practical components of this unit standard must be supplied from the workplace.
  - evidence for all outcome must be presented in accordance with organisational requirements.

## Outcomes and performance criteria

### Outcome 1

Operate energy and chemical distillation equipment in stable conditions.

#### Performance criteria

- 1.1 Operate the distillation equipment to achieve maximum efficiency.  
Range product specifications, environmental impact, economic.
- 1.2 Assess upstream and downstream effects of the operation to determine operating requirements.
- 1.3 Report and log process changes.
- 1.4 Carry out preventative maintenance and routine procedures.  
Range monitoring, trip testing, maintenance related log keeping.

### Outcome 2

Identify and describe responses to deviations from stable conditions in an energy and chemical process.

#### Performance criteria

- 2.1 Identify minor deviations from stable operating conditions and describe the steps to avoid and recover.  
Range temperature and pressure deviation, mechanical failure, vapour locking.
- 2.2 Identify deviations that may lead to emergency situations and describe plant emergency response procedures.  
Range flooding, fire, toxic emissions.

<b>Replacement information</b>	This unit standard and unit standard 18423 replaced unit standard 9615.
<b>Planned review date</b>	31 December 2025

**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	24 January 2002	31 December 2018
Review	2	20 February 2009	31 December 2018
Rollover and Revision	3	20 April 2017	31 December 2022
Review	4	27 February 2020	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0079
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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.