

<b>Title</b>	<b>Demonstrate knowledge of, interpret, and sketch process drawings for an energy and chemical plant</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	<p>This unit standard is intended for people working as boiler operators and energy and chemical process operators in an energy and chemical plant.</p> <p>People credited with this unit standard are able to: demonstrate knowledge of process drawings used in an energy and chemical plant; interpret process drawings of an energy and chemical plant; and sketch a section of an energy and chemical plant.</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

- Legislation and regulations relevant to this unit standard include but are not limited to:
  - Health and Safety at Work Act 2015;
  - Health and Safety at Work (Hazardous Substances) regulations 2017 (HSWA);
  - 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.

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## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of process drawings used in an energy and chemical plant.

#### Performance criteria

- 1.1 Identify symbol legend charts related to plant drawings, and interpret symbols used on process drawings.
- 1.2 Describe plant-specific drawings in terms of type.
- Range drawings may include but are not limited to – piping and instrumentation diagrams, logic drawings, process flow diagrams, vendor drawings, equipment data sheets; evidence of three drawings is required.

### Outcome 2

Interpret process drawings of an energy and chemical plant.

#### Performance criteria

- 2.1 Locate and identify drawings for specified sections of plant in accordance with the plant documentation coding system and organisational requirements.
- Range drawings may include but are not limited to – piping and instrumentation diagrams, logic drawings, process flow diagrams, vendor drawings, equipment data sheets; evidence of three drawings is required.
- 2.2 Interpret plant and equipment on the drawings and relate to actual plant equipment and systems in accordance with organisational requirements.
- Range evidence is required of – two different vessels; one each of - temperature, pressure, flow and level instruments; three different services pipelines; two types of pumps; three types of – valves, fan, compressor.

### Outcome 3

Sketch a section of an energy and chemical plant.

**Performance criteria**

- 3.1 Specify the plant equipment and the features of the process on the sketch in accordance with organisational requirements.

Range plant equipment may include but is not limited to – pumps, valves, vessels, compressors, fans, pipe work;  
features may include but are not limited to – instrumentation, control loops, shut down loops, temperatures, pressures, vessel details, flow directions.

- 3.2 Use plant-specific symbols on the sketch in accordance with organisational requirements.

<b>Replacement information</b>	This unit standard was replaced by skill standard 40384.
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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	8 November 1995	31 December 2014
Revision	2	15 December 1998	31 December 2014
Review	3	29 May 2000	31 December 2014
Revision	4	24 July 2002	31 December 2014
Review	5	27 June 2005	31 December 2014
Rollover and Revision	6	25 July 2006	31 December 2014
Review	7	22 May 2009	31 December 2016
Review	8	24 October 2014	31 December 2022
Review	9	27 February 2020	31 December 2026
Review	10	27 March 2025	31 December 2026

<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>.