

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

Purpose	<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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Classification	Energy and Chemical Plant > Operation of Energy and Chemical Plant
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Available grade	Achieved
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Guidance Information

- 1 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.

- 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.

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.

Planned review date	31 December 2024
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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	N/A

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>.

Comments on this unit standard

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