

40449 Operate valves in an energy and chemical plant

Kaupae Level	4
Whiwhinga Credit	7
Whāinga Purpose	<p>This skill standard is intended for people working as boiler operators and process operators in an energy and chemical plant.</p> <p>People credited with this skill standard are able to: describe valves used in the energy and chemical industry, describe valve security; and operate valves, in an energy and chemical plant.</p> <p>This skill standard can be used in the New Zealand Energy and Chemical qualifications at Level 4 and above.</p>

Hua o te ako me Paearu aromatawai | Learning outcomes and assessment criteria

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Describe valves used in the energy and chemical industry.	a. Describe valves in terms of the process uses, design concepts and methods of operation.
	b. Describe the components of types of valves in terms of their function.
	c. Describe materials used in valve construction in terms of process conditions and product compatibility.
2. Describe valve security in an energy and chemical plant.	a. Describe site specific valve security procedures in terms of organisational requirements.

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
3. Operate valves in an energy and chemical plant.	a. Locate valves in accordance with the site-specific asset tagging system and organisational requirements.
	b. Describe methods of valve actuation in terms of their application.
	c. Describe methods of determining valve position in terms of their application.
	d. Operate valves suitably for their type and application to avoid damage, in accordance with organisational requirements.
	e. Carry out plant checks on valves in accordance with organisational requirements.
	f. Complete all plant documentation related to the process and valve operation in accordance with organisational requirements.

Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria

Assessment specifications:

- evidence for the practical components of this skill standard must be supplied from the workplace.
- 1a: valves include but are not limited to – gate, globe, needle, butterfly, ball, safety, non-return, relief, plug, parallel slide, diaphragm.
- 1b: components may include but are not limited to – body, flanges, stem, seal, bonnet, gaskets, packing.
- 1c: materials include but are not limited to – carbon steel, stainless steel, alloy steels, plastics, teflon, ceramic, non-ferrous metals.
- 2a: valve security procedures include but are not limited to –operations lock, lock wire, security seals.
- Learning outcome 3: evidence of at least four (4) types of valves is required.
- 3b: methods include but are not limited to – manual, pneumatic, hydraulic, electrical.
- 3c: evidence of at least three (3) methods is required.

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.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content

None

Rauemi | Resources

Legislation relevant to this skill 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.

Pārongo Whakaū Kounga | Quality assurance information

Ngā rōpū whakatau-paerewa Standard Setting Body	Hanga-Aro-Rau Workforce Development Council
Whakaritenga Rārangi Paetae Aromatawai DASS classification	Manufacturing > Energy and Chemical Plant > Operation of Energy and Chemical Plant
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	0079

Hātepe Process	Putanga Version	Rā whakaputa Review Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitatanga Registration	1	24 April 2025	N/A
Kōrero whakakapinga Replacement information	This skill standard replaced unit standard 3032		
Rā arotake Planned review date	31 December 2029		

Please contact Hanga-Aro-Rau Workforce Development Council at qualifications@hangaarorau.nz to suggest changes to the content of this skill standard.