

## 40447 Operate geothermal steam-field processes and equipment in an energy and chemical plant

<b>Kaupae   Level</b>	4
<b>Whiwhinga   Credit</b>	20
<b>Whāinga   Purpose</b>	<p>This skill standard is intended for people working as energy and chemical process operators in an energy and chemical plant.</p> <p>People credited with this skill standard are able to operate geothermal steam-field processes and equipment 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. Operate geothermal steam-field processes and equipment in an energy and chemical plant.	a. Identify hazards associated with working in a geothermal steam-field operation and apply steps to minimise the risk.
	b. Carry out procedures for entering the geothermal steam-field in accordance with organisational requirements.
	c. Identify consents associated with the operation of the geothermal steam-field in terms of their requirements for a site.
	d. Carry out well operating procedures.
	e. Carry out plant equipment operating procedures.
	f. Carry out routine inspections, testing and monitoring.
	g. Identify geothermal steam-field equipment faults and take corrective actions in accordance with organisational requirements.

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

- evidence for this skill standard must be supplied from the workplace.
- evidence must be presented in accordance with organisational requirements.
- 1a: evidence of a minimum of five (5) hazards is required.
- 1d: evidence of at least five (5) is required.
- 1e: plant equipment – evidence of at least five (5) is required; plant equipment procedures – evidence of at least five (5) is required.
- 1g: evidence of fault identification and corrective actions must be documented in accordance with organisational requirements; evidence of at least five (5) faults 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**

- Consent requirements such as – total production, reinjection, discharges to air, water and ground, noise.
- Well operating procedures such as – vent gas cap, warm up, place on bleed, bring on-line, shut in, isolate, de-isolate down-hole testing.
- Plant equipment such as – steam field pipeline/production/ reinjection/protection, separator, scrubber, pumps, dump station, vent station.  
Plant equipment operating procedures such as – de-isolate, warm up, bring on-line, take out of service, isolate, test protection and protective devices, cross country pipeline warming, pipelines with low points, precautions against water hammer.

**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 Kouna | Quality assurance information**

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

<b>Hātepe  </b> Process	<b>Putanga  </b> Version	<b>Rā whakaputa  </b> Review Date	<b>Rā whakamutunga mō te aromatawai  </b> Last date for assessment
<b>Rēhitatanga  </b> Registration	1	24 April 2025	N/A
<b>Kōrero whakakapinga  </b> Replacement information	This skill standard replaced unit standard 28160.		
<b>Rā arotake  </b> Planned review date	31 December 2029		

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council at [qualifications@hangaarorau.nz](mailto:qualifications@hangaarorau.nz) to suggest changes to the content of this skill standard.