40389 Transfer energy and chemical bulk product by pipeline

Kaupae | Level	3
Whiwhinga | Credit	4
Whāinga | Purpose	People credited with this skill standard are able to: prepare for the transfer of energy and chemical bulk product; carry out and monitor the transfer of energy and chemical bulk product by pipeline; and complete shutdown process for the transfer of energy and chemical bulk product by pipeline. This skill standard can be used in the New Zealand Energy and Chemical qualifications at Level 3 and above.

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

Hua o te ako | Learning outcomes	**Paearu aromatawai** | Assessment criteria
1. Prepare for the transfer of energy and chemical bulk product.	a. Identify information and documentation for required transfer.
	b. Select the transfer route.
	c. Confirm availability and readiness of safety equipment.
	d. Confirm availability and specification of product.
	e. Confirm availability and readiness of transfer equipment.
2. Carry out and monitor the transfer of energy and chemical bulk product by pipeline.	a. Assess potential hazards of the transfer operation in terms of the steps to control them.
	b. Establish and maintain communication with all affected parties.
	c. Start and operate transfer equipment.
	d. Monitor pumping equipment and valves for potential problems.
	e. Monitor transfer operations.
	f. Identify any abnormal conditions affecting a transfer and the steps to rectify them.
3. Complete shutdown process for the transfer of energy and chemical bulk product by pipeline.	a. Verify transfer is complete and equipment is shut down.
	b. Complete and distribute documentation to appropriate personnel.

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.
- evidence for all outcomes must be presented in accordance with organisational requirements.
- 1a: includes but is not limited to – source, destination, route, quantity and/or volume, line clear and/or line plug volume, maximum allowable operating pressure, interface volume quality, ullage, tank level, time-frames, third parties, drawings and procedures, safety data sheets, site emergency procedures.
- 1b: pumps, pumping stations, block valve stations, meter systems, sampling equipment, additive injection equipment, leak detection equipment, tanks.
- 1d: quality checks, volume checks, ullage, temperature, water and/or glycol draining, additives.
- 1e: flow rates, pump selection, fill rates, injection systems, metering, estimated time of completion, protection systems.
- 2d: seal leakage, overload, cavitation, lubrication, vibration, filters, winding temperatures, current draw, packing, passing.
- 2e: pressure, flow, level, temperature, density, trending, product quality, batch tracking, line clear and/or line plug calculations, interface location and control, leak detection, control and trip systems.
- 2f: emergency stop, power failures, communications failure, spills, contamination, control and trip systems, pump pressures, maximum allowable operating pressure, sabotage, vandalism, adverse weather conditions, unscheduled events.
- 3a: manual stop, auto stop, emergency stop, product change, sampling, test results, communication.

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 unit standard includes but is 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.

Pārongo Whakaū Kounga | Quality assurance information

Ngā rōpū whakatau-paerewa | Standard Setting Body	Hanga-Aro-Rau Manufacturing, Engineering and Logistics 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	27 March 2025	N/A
Kōrero whakakapinga | Replacement information	This skill standard replaced unit standard 9586.		
Rā arotake | Planned review date	31 December 2029		

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