# 40242 Maintain actuators and positioners in an industrial context

Kaupae   Level	4
Whiwhinga   Credit	4
<b>Whāinga</b>   Purpose	This skill standard recognises the skills required to check, calibrate and service actuators and positioners used in an industrial environment.
	This skill standard may contribute to the New Zealand Certificate in Industrial Measurement and Control (Practice) (Level 4) [Ref: 2251].

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

Hua o te ako   Learning outcomes			Paearu aromatawai   Assessment criteria		
1.	Manage risks when maintaining actuators and positioners.	a.	Risks in maintenance of components are identified and control measures are followed.		
2.	2. Calibrate actuators and positioners.		a. Test equipment is selected relevant to the task being carried out.		
		b.	Devices are calibrated as specified by relevant process documentation and/or specifications.		
		C.	Results from calibrations are accurately reported and documented to meet compliance and quality management requirements.		
3.	Service actuators and positioners.	a.	Actuators and positioners are serviced to ensure continued operation using relevant technical information.		
		b.	Service outcomes are accurately reported and documented to meet compliance and quality management requirements.		
4.	Carry out in-service preventative maintenance inspection on actuators and positioners.	a.	Wear and/or damage that could cause future component failures is identified and recorded in accordance with industry requirements.		
		b.	Worn or damaged components are reported in accordance with company and/or contractual requirements.		

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

Assessment specifications:

Examples of test equipment relevant to the task include pneumatic test-set including regulated airsignal sources and test gauges, DC signal source, and proprietary field communicators.

Identification of risks may be assessed orally, and should include consideration of people, plant, equipment, product quality and the environment.

To achieve this standard the candidate must be capable of consistently:

- performing the skill to the required industry standard
- repeating the skill on demand
- performing the skill without supervision
- applying the skill to other work.

*Industry requirements* refer to all asset owner requirements; manufacturers' specifications; enterprise requirements which cover the documented workplace policies, procedures, specifications, and business requirements; and quality management requirements relevant to the workplace.

#### Ngā momo whiwhinga | Grades available

Achieved

#### Ihirangi waitohu | Indicative content

- Stroke-check actuators.
- Calibrate positioners, for example, specified air-supply pressure, actuator stroke, actuator bench set, positioner zero, span and characteristic.
- Calibration procedure.
- Safe working practices: isolations applied, process media drained, trapped-pressure released, stored energy (mechanical or pneumatic).
- Selection and use of test equipment relevant to task
- Typical actuator errors such as packing friction, stem wear, lost motion, weak springs, diaphragm failure, pneumatic leaks, incorrect air supply pressure, incorrect calibration, lost data.
- Damage identification in operating environment, vibration, air quality, valve-action, diaphragm failure, stem wear, incorrect set-up and adjustment.
- Reports and documentation in accordance with industry requirements.
- Servicing of positioners tools, materials, parts, techniques, specifications; positioner types 4-20 mA, pneumatic, force balance, motion balance, electro-pneumatic, digital, electro-hydraulic.

#### Rauemi | Resources

- Programme guidance available from <u>gualifications@waihangaararau.nz</u>.
- Manufacturers' instructions and device specification sheets relevant to the systems and equipment used for the task.
- Electricity Act 1992.
- Electricity (Safety) Regulations 2010.
- All vocabulary will align to the IEC 60050 International Electrotechnical Vocabulary (IEV) available at IEC 60050 International Electrotechnical Vocabulary.

# Pārongo Whakaū Kounga | Quality assurance information

<b>Ngā rōpū whakatau-paerewa</b>   Standard Setting Body	Waihanga Ara Rau Construction and Infrastructure Workforce Development Council		
Whakaritenga Rārangi Paetae Aromatawai   DASS classification	Engineering and Technology > Industrial Measurement and Control > Industrial Measurement and Control - Maintenance		
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga   CMR	0003		

Hātepe   Process	<b>Putanga</b>   Version	<b>Rā whakaputa  </b> Review Date	<b>Rā whakamutunga mō te aromatawai</b>   Last date for assessment		
Rēhitatanga   Registration	1	30 January 2025	N/A		
<b>Kōrero whakakapinga</b>   Replacement information	This skill standard replaced unit standard 2640.				
<b>Rā arotake  </b> Planned review date	31 December 2029				

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council <u>qualifications@waihangaararau.nz</u> to suggest changes to the content of this skill standard.