

**40464****Coordinate a planned operational outage for a complex energy and chemical plant**

<b>Kaupae   Level</b>	5
<b>Whiwhinga   Credit</b>	30
<b>Whāinga   Purpose</b>	<p>This skill standard is intended for experienced personnel working in supervisory roles in a complex energy and chemical plant.</p> <p>People credited with this skill standard are able to: contribute to a plan for the outage; coordinate the operational shutdown and plant isolation; coordinate operational components during the execution of the outage plan; coordinate the commissioning and testing of equipment and plant; coordinate the plant handover and start-up; contribute to the outage debriefing; and evaluate own performance in coordinating operational components of the outage plan, in a complex energy and chemical plant.</p> <p>This skill standard can be used in the New Zealand Energy and Chemical qualifications at Level 5.</p>

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

<b>Hua o te ako   Learning outcomes</b>	<b>Paearu aromatawai   Assessment criteria</b>
1. Contribute to a plan for the outage in a complex energy and chemical plant.	a. Identify operational activities intended to be completed in the outage and collate information for the outage plan.
	b. Provide operational input into the management, performance, and implementation of the outage plan.
	c. Liaise with outage stakeholders to confirm operational aspects of the outage plan and collate information.
	d. Identify and resolve any conflicts arising in operational activities.
	e. Communicate the outage plan to outage stakeholders.
2. Coordinate the operational shutdown and plant isolation in a complex energy and chemical plant.	a. Monitor activities in the shutdown plan and take action to maintain the required progress.
	b. Monitor activities in the isolation plan and take action to ensure the safety of personnel and plant.
	c. Complete communication and reporting requirements for the shutdown and isolation plans.

Hua o te ako   Learning outcomes	Paearu aromatawai   Assessment criteria
3. Coordinate operational components during the execution of the outage plan in a complex energy and chemical plant.	a. Implement and monitor safe work management system requirements for the daily work plans to ensure a safe work environment.
	b. Review human and physical resources required for daily work plans and take action to ensure timely progress against the outage plan.
	c. Communicate progress of operational components and any amendments to the outage plan to outage stakeholders.
4. Coordinate the commissioning and testing of equipment and plant in a complex energy and chemical plant.	a. Review human and physical resource plans for commissioning and testing and take action to ensure scheduled activities are completed as planned.
	b. Implement and monitor safe work management system requirements for the scheduled commissioning and testing to ensure a safe work environment.
	c. Communicate and report commissioning and testing progress to outage stakeholders.
5. Coordinate the plant handover and start-up in a complex energy and chemical plant.	a. Confirm completion of the outage work plan with outage stakeholders.
	b. Complete operational acceptance of equipment.
	c. Monitor activities in the plant de-isolation plan and take action to ensure personnel and plant safety.
	d. Monitor activities in the pre-start and start-up plan and take action to maintain progress.
	e. Communicate and report progress of the start-up to outage stakeholders.
6. Contribute to the outage debriefing in a complex energy and chemical plant.	a. Analyse operational personnel, resource and timeframe overruns to determine the root cause.
	b. Communicate outcomes of the analysis to outage stakeholders.
	c. Recommend modifications to the methodology, tasks, activities, personnel, resources, timeframes and safe work management system to improve future outage planning.

Hua o te ako   Learning outcomes	Paearu aromatawai   Assessment criteria
7. Evaluate own performance in coordinating operational components of the outage plan in a complex energy and chemical plant.	a. Evaluate own performance reviewing actions and decisions in coordinating operational components of the outage plan.
	b. Analyse the outcomes of actions and decisions to determine what worked well and areas for improvement.
	c. Record recommendations for improvement in line 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.
- evidence for all outcomes must be presented in accordance with organisational requirements.
- 1c: stakeholders include internal and external.

Definitions:

*Complex energy and chemical plant* – a plant that consists of multiple integrated processing units, interdependent systems, and advanced control mechanisms, requiring coordinated operations for safe and efficient production. Examples include petrochemical refineries, power generation facilities, large-scale dairy and meat processing plants, and other operations with significant process integration.

*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.

*Outage* – the planned shutdown and maintenance or inspection of equipment and plant and the re-establishment of plant operation.

*Outage stakeholders* – personnel in other parts of the plant that are involved or impacted by the outage, and external suppliers, contractors and customers.

*Plant* – the operational unit, equipment and/or workplace at which the person is working.

### Ngā momo whiwhinga | Grades available

Achieved

### Ihirangi waitohu | Indicative content

- Outage operational activities such as – shutdown equipment, isolations, housekeeping, equipment preparation, hand over, inspections, de-isolation, re-commissioning, testing, start-up.
- Operational activities information such as– activity timeframes, personnel requirements, materials, equipment, activity start conditions, other resources.

**Rauemi | Resources**

Legislation relevant to this skill standard includes but is not limited to:

- Hazardous Substances and New Organisms Act 1996;
  - Health and Safety at Work Act 2015;
  - Resource Management Act 1991;
- and any subsequent amendments.

**Pārongo Whakaū Kounga | 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   Process</b>	<b>Putanga   Version</b>	<b>Rā whakaputa   Review Date</b>	<b>Rā whakamutunga mō te aromatawai   Last date for assessment</b>
<b>Rēhitatanga   Registration</b>	1	24 April 2025	N/A
<b>Kōrero whakakapinga   Replacement information</b>	This skill standard replaced unit standard 28165.		
<b>Rā arotake   Planned review date</b>	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.