40994 Carry out extrication and stabilisation in emergency situations

Kaupae | Level	4
Whiwhinga | Credit	15
Whāinga | Purpose	This skill standard is for people working as part of an industry-based first response team in high-risk industrial environments, including heights, confined spaces, fixed and mobile plant, tunnel boring machines, shafts, and similar specialist contexts where there may be additional hazards such as gases, toxicity, or structural instability. Learners will be able to assess emergencies, plan and conduct rescues, stabilise plant, vehicles or machinery, use equipment and tools, and extricate and care for casualties, and carry out post-incidence procedures in compliance with the Health and Safety at Work Act 2015 and WorkSafe NZ-approved codes of practice or guidelines. This standard may be used in programmes leading to New Zealand Certificate in Emergency Response (Level 4).
Whakaakoranga me mātua oti | Pre-requisites	• Unit standard 24473: Respond to local emergencies and incidents at an extractive site • Unit standard 6400: Manage first aid in an emergency situation • Unit standard 6401: Provide first aid • Unit standard 6402: Provide basic life support Or • Unit standard 29321: Provide basic emergency care

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

Hua o te ako | Learning outcomes	**Paearu aromatawai**	Assessment criteria
1. Assess the emergency scene for hazards, casualties, and organise tools and equipment in preparation to carry out casualty rescue.	a. Emergency scene hazards are identified and assessed in terms of their potential risk to rescuers, casualties, and bystanders, in accordance with site procedures and emergency response requirements.
	b. Casualties are located and assessed to determine immediate risks, visible injuries, and factors influencing rescue priorities, in accordance with emergency care and rescue principles.
	c. Tools, equipment, and resources required for casualty rescue are selected, organised, and positioned to ensure safe and efficient access, in accordance with operational requirements and manufacturers' instructions.
	d. Scene control measures are established, including cordons, access routes, communication protocols, and designation of safe zones, to maintain a controlled and secure operating environment.
2. Carry out casualty rescue, extrication, and stabilisation of plant, vehicles, or machinery in emergency incidents.	a. Develop and communicate an extrication plan that incorporates risk controls, team roles, access path planning, and casualty condition.
	b. Select and operate rescue tools and equipment to create safe access to entrapped persons, including glass removal and structural displacement.
	c. Stabilise plant, vehicles, or machinery using appropriate cribbing, blocking, lifting or isolation systems to prevent unintended movement or uncontrolled release of energy.
	d. Casualties are assessed in terms of injuries and how these are factored into equipment used and extrication techniques
	e. Protect casualties during rescue operations using shielding, positioning aids, and controlled extrication techniques.
	f. Extricate trapped personnel using appropriate tools, equipment and techniques suitable for the entrapment scenario.

Hua o te ako | Learning outcomes	**Paearu aromatawai** | Assessment criteria
	g. Coordinate with emergency personnel and medical responders to support treatment, casualty packaging, and safe transfer.
	h. Monitor equipment and scene conditions to manage dynamic risk or emerging hazards during rescue operations.
3. Carry out post-incident procedures	a. Complete post-incident response, equipment recommissioning, documentation, and participate in debriefing in line with site procedures.

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

Assessment specifications:

Learners must either be active members of an emergency response team or have structured access to a simulated environment where rescue operations can be safely demonstrated under supervision.

Assessment must be **simulated** rescues, carried out in realistic conditions, using equipment and techniques consistent with current industry best practice. Evidence may be gathered through observation, and/or documented workplace practice.

Learners must demonstrate competence in at least **two different rescue scenarios** involving varied entrapment contexts (e.g., vehicle stabilisation and confined space extraction). Each scenario must enable learner to demonstrate their competence in the assessment criteria. Scenarios must provide the opportunity for hazard assessment, coordination of roles, application of tools and techniques, casualty protection, and ongoing risk management in line with the site's emergency management plan.

Scenarios must present multi-factor challenges such as machinery entrapment, load instability, or confined space hazards, and reflect the site-specific risk profile. All activities must comply with:

- Health and Safety at Work Act 2015
- Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016 (for extractive sites)
- Health and Safety at Work (General Risk and Workplace Management) Regulations 2016.

Learners must also show knowledge of:

- Scene assessment and hazard identification
- Rescue equipment use, characteristics, and limitations
- Patient handling risks and trauma-informed care
- Legislative and regulatory requirements
- Team roles, communication, and command systems.

Maintaining an up-to-date emergency equipment register and conducting regular readiness drills is recommended.

Personnel should be aware of, and respect, any relevant cultural protocols, site-specific tikanga, or local iwi requirements that may apply to the site or the people involved in the incident.

Assessment must be conducted by assessors with technical expertise in emergency response operations, and experience in surface or underground extractive or industrial environments.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content

Hazard identification and assessment

- Types of hazards at emergency scenes:
  - fire, fuel spills, electrical hazards, pressurised systems, moving machinery, unstable structures, environmental conditions (weather, water, terrain).
  - hazardous substances and atmospheres.
  - dynamic hazards emerging during rescue.
- Risk assessment methods:
  - visual scanning, hazard matrix, initial hazard sweep, continuous monitoring.
- Establishing personal and team safety priorities.
- Use of PPE for initial approach.

Casualty location and assessment

- Conducting an initial casualty survey:
  - number of casualties, location, entrapment, accessibility.
- Assessing casualty condition using recognised frameworks.
- Considering injuries and how they influence rescue technique selection.
- Identifying life-threatening hazards affecting casualties (crushing, entanglement, hazardous atmospheres).
- Communication with medical responders for triage and rescue priorities.

Organisation of tools and equipment

- Identifying rescue tools required based on scene and casualty assessment:
  - cutting tools, spreaders, stabilisation equipment, cribbing, lighting, glass-management tools, PPE.
- Pre-use checks: condition, functionality, availability, fuel/air/power.
- Setting up tool staging areas within safe zones.
- Ensuring equipment is accessible for efficient workflow.
- Isolation and lock-out of plant or machinery when required.
- Working within manufacturer instructions, operational guides, and site procedures.

Scene control

- Establishing cordons, barriers, and safe working areas.
- Determining safe and unsafe approach routes.
- Allocating roles for traffic management, hazard watchers, and communication leads.
- Setting up communication systems: radios, hand signals, command structure.
- Maintaining a controlled perimeter to prevent bystander or crew exposure to risk.
- Documentation of initial scene layout.

Stabilisation Equipment

- Cribbing blocks (timber or plastic/rubber).
- Step chocks and wedges.
- High-lift jacks.
- Vehicle support stands.
- Airbags (low-pressure and high-pressure).
- Ropes, straps, tie-downs.

Cutting/Spreading Tools

- Hydraulic rescue tools (cutters, spreaders).
- Hydraulic power units (battery, electric, petrol).
- Reciprocating saw (with metal-cutting blades).
- Hand saws, bowsaws.
- Bolt cutters.
- Hacksaws.

Lifting/Displacement Equipment

- Hydraulic rams.
- Mechanical jacks.
- Pry bars, crowbars.
- High-pressure lifting bags.
- Chain blocks and pulley systems.
- Come-alongs.

Glass Management

- Center punches.
- Glass saws/tools.
- Adhesive film/tape.
- Glass protection sheets.
- Brushes and brooms.

Patient Protection and Packaging

- Hard/soft protection shields.
- Tarpaulins and blankets.
- Back boards.
- Scoop stretchers.
- Rescue baskets.
- Head immobilisation devices.
- Extrication devices.

Lighting and Power

- Portable scene lights.
- Headlamps.
- Rechargeable batteries.
- Portable generator (if required).

Personal Protective Equipment (PPE) for Rescuers

- Helmets.
- Safety glasses, goggles, face shields.
- Cut-resistant gloves.
- Hi-vis clothing.
- Respiratory protection (P2 masks or better).
- Safety boots.

Communications

- Two-way radios or satellite phones / mobile phones.
- Incident command board.

Medical/Trauma Kit

- First aid kit (including trauma and bleeding control).
- Oxygen resuscitation equipment.
- Automated external defibrillator (AED).

Rauemi | Resources

Legislation, regulations and/or industry standards

Primary Legislation

- Health and Safety at Work Act 2015 (HSWA) https://www.legislation.govt.nz/act/public/2015/0070/latest/DLM5976660.html.

Regulations

- Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016 https://www.legislation.govt.nz/regulation/public/2016/0017/latest/DLM6732829.html.
- Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 https://www.legislation.govt.nz/regulation/public/2016/0013/latest/dlm6727530.html.

- Health and Safety at Work (Worker Engagement, Participation, and Representation) Regulations 2016 https://www.legislation.govt.nz/regulation/public/2016/0016/latest/dlm6314002.html.
- Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Regulations 2005 https://www.legislation.govt.nz/regulation/public/2005/0032/latest/DLM313966.html.

Codes of Practice and Guidelines

- Emergency Preparedness in Mining and Tunnelling Operations – WorkSafe 2016 https://www.worksafe.govt.nz/topic-and-industry/extractives/guidance-position-statements/emergency-preparedness-in-mining-and-tunnelling-acop/.
- Health and Safety at Opencast Mines, Alluvial Mines and Quarries – WorkSafe 2025 https://www.worksafe.govt.nz/topic-and-industry/extractives/guidance-position-statements/health-and-safety-at-opencast-mines-alluvial-mines-and-quarries/.
- Emergency Preparedness and Response Guidelines – WorkSafe NZ 2019.
- Approved Code of Practice for Cranes (3rd edition) – WorkSafe New Zealand, 2020 https://www.worksafe.govt.nz/topic-and-industry/cranes/.
- Best Practice Guidelines for Safe Use of Lifting Equipment – WorkSafe NZ.

Standards and Related References https://www.standards.govt.nz/

- AS/NZS ISO 31000:2025 Risk Management – Principles and Guidelines.
- AS/NZS 4801:2001 Occupational Health and Safety Management Systems (or its replacement AS*/NZS ISO 45001:2018)*.

Medical and Casualty Transfer Guidance

- ACC and St John Trauma Protocols.
- NZQA First Aid Training Requirements.

Site-specific documents and plans

- Site Emergency Management Plans.
- Principal Hazard Management Plans (PHMPs).
- Principal Control Plans (PCPs).
- Standard Operating Procedures (SOPs)

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	Engineering and Technology > Extractive Industries Management > Extractive Industries Management
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga | CMR	0014

Hātepe | Process	**Putanga** | Version	**Rā whakaputa** | Review Date	**Rā whakamutunga mō te aromatawai** | Last date for assessment
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Kōrero whakakapinga | Replacement information	N/A		
Rā arotake | Planned review date	31 December 2030		

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