

40822

Determine compliance and safety management obligations for explosives in an extractive blasting operation

Kaupae Level	4
Whiwhinga Credit	5
Whāinga Purpose	This skill standard is for surface and underground extractive site managers to determine their obligations regarding explosives and blasting in an extractive blasting operation to ensure safe practices are observed. This skill standard will equip extractive site managers with the knowledge of types of explosives, contents of a blasting plan and relevant legislation, regulations and compliance requirements necessary for blasting operations. This skill standard may be used in programmes leading to qualifications and micro-credentials at Level 4 or above in extractive operations.

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

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Determine relevant legislation, regulations, and compliance obligations for extractives blasting operations.	a. Explain relevant legislation, regulations, and compliance requirements for blasting operations.
	b. Describe the roles and responsibilities of those involved in blasting activities in accordance with legislation and regulations.
	c. Explain requirements for safe handling, storage and transportation of explosives with reference to relevant legislation and regulations.
2. Identify the types, properties and uses of explosives for extractives blasting operations.	a. Describe the types of explosives used in extractive blasting operations and their properties.
	b. Describe how different explosives are used in blasting operations, including their suitability for various conditions and safety considerations.
3. Identify the contents and purpose of a blasting plan.	a. Identify the key contents of a blasting plan.
	b. Explain the purpose of a blasting plan and how it supports safe blasting operations.

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

Assessment specifications:

Evidence presented for assessment against this skill standard may include oral, visual, video, written and practical activities demonstrated in the workplace.

The Environmental Protection Authority (EPA) is responsible for assessing and approving hazardous substances and, where appropriate, setting controls on the way the substances are used. Any questions relating to the provisions for hazardous substances should be directed to EPA New Zealand. Contact information <https://www.epa.govt.nz/contact-information/>.

Definitions:

Blasting plan refers to site assessment, objectives, blast design, safety measures, environmental considerations monitoring and control, emergency response, documentation and reporting, including pre-blast, blast logs, monitoring data and post-blast assessment.

Company procedures are the documented methods for performing work activities. They include health and safety, operational, environmental, and quality management requirements. They may refer to legislation, manuals, codes of practice, or policy statements.

Extractive sites include mining, underground and surface, quarrying and tunnelling operations.

Personnel include site management and those undertaking blasting activities.

Roles and responsibilities include site preparation and handover to the blasting crew supervisor.

Ngā momo whiwhinga | Grades available

Achieved.

Ihirangi waitohu | Indicative content

Legislation, regulations and/or industry standards

- Hazardous Substances and New Organisms (HSNO) Act 1996;
<https://www.legislation.govt.nz/act/public/1996/0030/latest/DLM381222.html>.
 - Health and Safety at Work Act 2015 (HSW);
<https://www.legislation.govt.nz/act/public/2015/0070/latest/DLM5976660.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>.
 - 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 (Hazardous Substances) Regulations 2017;
<https://www.legislation.govt.nz/regulation/public/2017/0131/latest/DLM7309401.html>.
 - Safe Work Instruments (SWIs) published by WorkSafe NZ.
 - MinEx, Extractives industry safe drill and blast in surface operations code of practice.
 - MinEx, Guidelines for the safe use, storage, and disposal of explosives in surface mines and quarries.
 - Approved codes of practice issued pursuant to the HSW Act.
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- Land Transport Act 1998 and associated Regulations;
<https://www.legislation.govt.nz/act/public/1998/0110/latest/DLM433613.html>.
- WorkSafe NZ's Good Practice Guidelines for the extractives industries, available from <https://worksafe.govt.nz/>.
- Health and Safety at Opencast Mines, Alluvial Mines and Quarries good practice guidelines.
- AS 2187.0:1998 *Explosives – Storage, transport and use – Terminology*.
- AS 2187.1:1998 *Explosives – Storage, transport and use – Storage*.
- AS 2187.2:2006 *Explosives – Storage, and use – Use of Explosives*.
- Territorial and/or Local Authority plans and bylaws for the storing of explosives.
- Occupational health and safety guidelines, available at <https://worksafe.govt.nz/>.

Where any Acts, regulations, standards, codes of practice, guidelines, or authority requirements and conditions cited in this skill standard are amended, replaced, or superseded during the lifetime of the standard, the current versions shall apply for assessment purposes until this skill standard is formally reviewed.

Blast Plan key content

- Blast design
- Rock properties
- Explosive selection and charge weight per hole
- Drilling pattern
 - Hole placement
 - Hole diameter, depth and spacing
- Timing and sequencing
- Initiation system
- Monitoring/analysis of blast
- Safety measures
- Water management.

Explosives

- Packaged or bulk
 - ANFO (Ammonium Nitrate/Fuel Oil)
 - Emulsions
 - Detonating Cord (Det Cord)
 - Water Gel Explosives
 - Slurry Explosives
 - Powder Explosives
 - Initiation methods, e.g. electric or non-electric.
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Explosives uses and environments

- Underground
- Confined spaces
- Construction
- Tunnelling
- Land
- Air
- Water.

Safe handling, transportation and storage considerations

- Storage facilities
- Security measures
- Handling procedures
- Stock control
- Stock register
- Stock rotation
- Shelf life
- Ventilation
- Emergency procedures
- Authorised personnel.

Rauemi | Resources

- Companies and/or contractors blasting policy and procedures.
 - Blast management plans.
 - Principal Hazard Management Plan for explosives.
 - Emergency plan.
 - Material safety data sheets.
 - Explosive technical data sheets.
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Pārongo Whakaū Kouna | 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 > Extractive Industries Management
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	CMR 0014

Hātepe Process	Putanga Version	Rā whakaputa Review Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitatanga Registration	1	25 September 2025	N/A
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.