



Australian Government

Department of Education, Employment and Workplace Relations

RIIBLA305A Conduct secondary blasting

Release: 1

RIIBLA305A Conduct secondary blasting

Modification History

Not applicable.

Unit Descriptor

This unit covers conducting secondary blasting in resources and infrastructure industries. It includes: planning and preparation; conducting blasting; and completing blasting operations.

Application of the Unit

This unit is appropriate for those working in operational roles, at worksites within:

- Civil construction
- Coal mining
- Extractive industries
- Metalliferous mining

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for blasting	1.1. Access, interpret and apply compliance documentation relevant to secondary blasting 1.2. Obtain, confirm and apply work instructions for the allocated task 1.3. Inspect and assess site conditions and identify, manage and report all potential hazards and ensure work area is safe 1.4. Carry out calculations to enable pattern design, loading and tying in of shots 1.5. Identify and confirm the explosives and accessories required for the work 1.6. Access safety information in accordance with site procedures 1.7. Coordinate vehicle, equipment and personnel support requirements for the work 1.8. Use personal protective equipment appropriate for the job 1.9. Manage environmental issues 1.10. Ensure area is free of blasting fumes before entry into work area
2. Conduct blasting	2.1. Carry out pre blasting procedures and establish exclusion zone 2.2. Use appropriate explosives and/or techniques to achieve blast objective 2.3. Activate warnings and notify relevant personnel of intended blasting in accordance with site procedures 2.4. Hook up and initiate blast
3. Complete blasting operations	3.1. Carry out post blast coordination and declare area safe for re-entry 3.2. Inspect site and deal with non-conforming conditions 3.3. Inspect equipment for defects and conduct housekeeping activities 3.4. Complete reports 3.5. Pass on end of shift information to oncoming shift

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to mobilise equipment and materials:

- apply legislative, organisation and site requirements and procedures
- apply operational safety requirements
- read, interpret and apply technical information
- apply operational planning skills
- apply work coordination skills
- apply mathematical calculations using addition, subtraction, multiplication and division
- apply workplace communication techniques
- apply explosives preparation and mixing procedures
- apply diagnostic techniques
- apply explosives storage, handling and transport procedures
- apply hazard identify procedures
- apply procedures for identifying non-conformities
- apply record and report maintenance procedures
- apply environmental compliance requirements
- use relevant equipment

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to mobilise equipment and materials:

- relevant legislation, Australian standards and code of practice
- site and equipment safety procedures
- environmental requirements, including vibration, noise, dust and chemicals
- site environmental requirements and constraints
- types, physical and technical characteristics, uses and limitations of explosives and protection measures associated with their use
- basic geological and technical information
- blast plans
- site operational procedures
- planning processes
- explosive handling, transportation and storage requirements

- equipment characteristics, technical capabilities and limitations
- equipment maintenance procedures
- isolation and lock out procedures
- selection of appropriate explosives to meet site conditions
- site charging procedures
- emergency procedures
- risk management including application of appropriate controls to identified risks
- start-up and shutdown procedures
- non-conforming conditions

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for conducting secondary blasting • implementation of requirements, procedures and techniques for the safe, effective and efficient conducting of secondary blasting • working with others to undertake and complete secondary blasting that meets all of the required outcomes • consistent timely completion of secondary blasting that safely, effectively and efficiently meets the required outcomes
Context of and specific resources for assessment	• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues.

	• Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.
Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods: • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistently achieving the required outcomes • first hand testimonial evidence of the candidate's: • working with others to undertake and complete the conducting of secondary blasting
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Relevant compliance documentation may include:	• legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • code of practice • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Work instructions may come from briefings, handovers, plans and work orders and may be written or verbal, formal or informal and may include:	• nature and scope of tasks and achievement targets • site location and layout • out of bounds areas • operational conditions • coordination requirements or issues • hazards and potential hazards • waste management requirements • environmental control requirements worksite inspection requirements • barricade and signage requirements • obtaining of permits required • type and quantity of explosives and accessories • equipment availability and/or requirements • plant or equipment defects • transport arrangements and/or requirements • safe storage requirements • public relations requirements
Site conditions may include:	• ventilation • ground conditions (e.g. scaling) • illumination • radioactivity • weather conditions • water
Hazards and associated risks may	• ground conditions

include:	• loose rocks from overhead • tipping hazards • fire/flames • not following safety precautions near an open stope • broken detonation leads • premature explosion • atmospheric contaminants • debris • faulty equipment • air blast and fly • high air and water pressures • high voltage electricity • oxygen-deficient atmosphere • unauthorised personnel • wet holes • radio frequencies and transmitters • EMF hazards (e.g. static electricity, lightning) • hot material • lost holes • drilling in butts • drilling into misfires
Explosives may include:	• high explosives • permitted explosives • propellant charges • black powder • shaped charges • plaster charges or charges in drill holes
Explosives and associated materials may include:	• blasting agents • detonators • detonating cords • water gels or emulsions • bulk or packaged • shaped charges • permitted explosives • high explosives • propellants • pressure loaders (kettle) • detonation mechanisms including: • bell wire • delay mechanisms • initiators

	• meter readings • safety fuses and tapes • tape • exploders • circuit testers • connecting wire and cables • crimpers • approved detonator chord cutters • stemming rods • loading poles • gas bags • decking • stemming • hole liner • blast monitoring equipment • firing cables/bell wire • remote firing equipment (e.g. PED)
Equipment may include:	• drill rig • pneumatic or electric drill/machine drill • other hand held tools • explosives and accessories • poles or rods • recommended/required PPE • ties and bagging material • sandbags • stemming • blast mats
Support requirements may include	• other equipment and their operators • vehicles • public and site notification
Environmental issues may include:	• ventilation • fume • dust
Pre-blasting procedures may include:	• warnings • sentries • area clearance
Exclusion zones may be marked or delineated by one or more of the following:	• signage • windrow • bund wall • ribbon • tape

	• witches' hats • rope • flags or pegs • sentries • gates
Techniques may include:	• drilling • shotfiring • snake-holding • bombing • penetration cone fracture (PCF) • cannon • plastering • popping rocks with small charges
Blast objective may include:	• breaking oversize materials • unblocking
Post blast coordination may include:	• withdrawal of sentries • return of unused explosives and equipment • removal of signs • turning off safety devices • ventilation of area • use of gas detectors
Non-conforming conditions may include:	• misfires • blockages • break through • deviation • undercut • ground conditions • ventilation • water/wet holes • hot ground • fumes • dust

Unit Sector(s)

Blasting

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.