



Australian Government

Department of Education, Employment and Workplace Relations

RIIBLA306A Conduct accretion firing

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers conducting accretion firing in the metalliferous mining industry. It includes: planning and preparing for firing; preparing the site; charging and firing the shot; and completing the process.

Application of the Unit

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

- 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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for firing	1.1. Access, interpret and apply compliance documentation relevant to conducting accretion firing 1.2. Receive, interpret and clarify accretion shooting details, and confirm blast objective by preliminary site inspection 1.3. Identify and manage potential hazards and risks 1.4. Apply basic calculations for accretion shooting in accordance with site procedures to validate the blast objective criteria 1.5. Identify, confirm and collect equipment required for the task 1.6. Complete permits or other required documentation
2. Prepare site	2.1. Coordinate support requirements and personnel 2.2. Install and utilise barricades or other safety provisions 2.3. Utilise appropriate personal protective 2.4. Set up/assemble tools and associated equipment 2.5. Establish blast pipe into accretion in accordance with blast objective 2.6. Prepare and test the blast pipe in readiness for explosives 2.7. Remove excess equipment to appropriate storage area
3. Charge and fire the shot	3.1. Set up exclusion zones and clear non-essential personnel from the area 3.2. Collect required quantities of appropriate explosive to carry out blast objective 3.3. Prepare the charges 3.4. Activate warning devices and notify relevant personnel of intended blast 3.5. Charge the blast pipe and hook up the firing circuit 3.6. Fire the shot 3.7. Complete required reports/documentation

4. Complete process	4.1. Disconnect the firing circuit and secure the firing device 4.2. Declare the area safe and inspect the blast area to verify blast objective has been attained 4.3. Manage misfires 4.4. Remove safety provisions, deactivate warning devices and give clearances 4.5. Conduct housekeeping activities
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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 conduct accretion firing:

- apply legislative, organisation and site requirements and procedures
- apply workplace communication skills
- apply documentation requirements
- apply hazard identification and management requirements and procedures
- use hand tools
- perform basic calculations required to perform accretion firing tasks
- apply diagnostic techniques
- apply explosives handling and transport requirements and procedures

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 conduct accretion firing:

- site procedures
- explosives legislation
- emergency procedures/environmental procedures
- equipment purpose, technical capability and limitations
- equipment safety requirements
- causes of accretion/effects of accretion
- hazardous goods procedures (handling and transport)
- blast area security
- safe operating procedures and techniques
- risk management including application of appropriate controls to identified risks
- start-up and shutdown procedures
- explosives storage procedures
- types and characteristics of blasting agents, explosives and initiation systems

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 accretion firing • Implementation of requirements, procedures and techniques for the safe, effective and efficient conducting of accretion firing • working with others to undertake and complete accretion firing that meets all of the required outcomes • consistent timely completion of accretion firing 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 accretion firing
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
Accretion may be defined as:	• 'A solid build up of any material or substance being processed which will require blasting to dislodge it'.
Accretion may include:	• lead cooling in a furnace • build up of material inside a mill
Potential hazards and risks may include:	• heat • manual handling • tripping hazards • confined spaces • open voids/working at height • moving equipment • fire/flames • broken detonation leads • premature explosion • atmospheric contaminants • debris • faulty equipment • high air and water pressures • high voltage electricity • gases and fumes • unauthorised personnel • radio frequencies and transmitters • EMF hazards (e.g. static electricity, lightning) • hot material
Basic calculations may include:	• depth of blast pipe

	• quantity of explosives • pipe placement • timing
Equipment may include:	• water/air hoses • jack hammer • thermal lance • shotgun • drill steels • piping • PPE • skewers • hand tools • vice • winch • exploder • bomb points • blast pipe
Support requirements may include:	• environmental monitoring • trucks, excavators, bobcats or other machinery • assistants • metallurgists • furnace/mill operators • observers • cranes/winches
Personnel may include:	• other operators • metallurgists • assistants • trainers/assessors • furnace operators • mobile equipment operators • supervisors
Safety provisions may include:	• warning whistles • signs and barricades • sentries • flashing lights • broadcasts • exclusion zones • blast shields
Establishing blast pipe may include:	• jack hammering • use of thermal lance • use of a shotgun

Prepare and test may include:	• cooling • inserting dummy explosive prior to blasting
Explosives may include:	• high explosives • permitted explosives • detonators
Warning devices may include:	• firing whistles • flashing lights • broadcasts

Unit Sector(s)

Blasting

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.