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Sent: Tuesday, September 25, 2007 9:05 PM
To: usmra@usmra.com; zzMSHA-Asst Sec of Labor for Mine Safety Group
Subject: Mine Rescue Qualifications for Competition.

Greetings Team,

I was reading one of your articles on the purposed rules of mine rescue competition when I read that the clarification of mine rescue certification came up and I wondered if some of the work I have recently completed here in Queensland Australia might be helpful.

We have developed a internationally recognised qualification called Certificate 3 in Mine Rescue and Emergency Response. This qualification is not just a fire brigade rewrite but a purpose built qual for any serious team and coordinators alike. Ill attach the competencies.

We have the manuals the written and skill assessments and scenario's to match. Benchmarking qualification makes for much safer team practise.

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Good Health and Best Regards

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Attachments: MNM30605 Certificate III in Mine Emergency Response and Resc.doc; MNMC201A.doc; MNMC202A.doc; MNMC203A.doc; MNMC205A.doc; MNMRR301A.doc; MNMRR303A.doc; MNMRR305A.doc; MNMRR306A.doc; MNMRR307A.doc; MNMRR309A.doc; MNMRR310A.doc; MNMRR411A.doc; PMAOHS211A.doc; PMAOMIR444A.doc; PUAAMS007A.doc; PUADEFEO201A.doc; PUAEME001A.doc; PUAEME002B.doc; PUAFIR207A.doc; PUAFIR306A.doc; PUAFIR307A.doc; PUAOPE002A.doc; PUASAR004A.doc; PUASAR005A.doc; PUASAR008A.doc

MNM30605 Certificate III in Mine Emergency Response and Rescue

The Certificate III in Mine Emergency Response and Rescue reflects the role of response and rescue team members in a metalliferous mine who perform tasks involving a broad range of skilled applications applied in a wide variety of contexts, which may involve application of some discretion and judgement in selecting equipment, services or contingency measures.

Requirements

Successful completion of a total of sixteen (16) units of competency made up of:

- six (6) mandatory units of competency, **PLUS**
- ten (10) electives units drawn from the elective units listed.

Certificate III in Mine Emergency Response and Rescue	
Mandatory units — total 6	
Core	
MNMC201A	Work safely
MNMC202A	Communicate in the workplace
MNMC203A	Contribute to quality work outcomes
MNMC205A	Conduct local risk assessment
General	
HLTFA1A	Apply basic First Aid
HLTFA2A	Apply advanced First Aid
Elective units — total 10	
Response and rescue	
MNMRR301A	Respond to mine incident
MNMRR303A	Operate in self-contained regenerative oxygen breathing apparatus
MNMRR305A	Control underground fires
MNMRR306A	Conduct underground search
MNMRR307A	Extricate casualties from underground incident
MNMRR309A	Establish and operate from fresh air base
MNMRR310A	Provide support for rescue operations
MNMRR411A	Lead rescue team
PUAEME001A	Provide emergency care
PUAEME002B	Manage injuries at emergency incident
PUADEFEO201A	Respond to fire
PUAFIR207A	Operate breathing apparatus open circuit
PUAFIR306A	Render hazardous materials incidents safe
PUAFIR307A	Monitor hazardous atmospheres
PMAOMIR444A	Develop incident containment strategies

PMAOHS211A	Prepare equipment for emergency response
PUAAMS007A	Coordinate search and rescue operations
PUAOPE002A	Operate communications systems and equipment
PUASAR004A	Undertake vertical rescue
PUASAR005A	Undertake confined space rescue
PUASAR008A	Search as a member of a land search team
Note	**Care must be taken to ensure that all prerequisites specified within an imported unit of competency, chosen as an elective, are complied with. See Appendix 2 — Imported Units of Competency and Prerequisites.**
	The Senior First Aid Certificate requires two units of competency HLTFA1A Apply basic First Aid and HLTFA2A Apply advanced First Aid.

MNMC201A Work safely

1219-AB53-COMM-1-B

Unit Descriptor

This unit applies in all contexts to working safely on the mine site.

Units replaced

This unit replaces the following:

- MNMCCCOO002A Work safely

	ELEMENT		PERFORMANCE CRITERIA
1	Access and apply site safety procedures	1.1	Conduct all work according to *current relevant legislation, codes and standards*
		1.2	Access, interpret and implement relevant mine site safety policies and procedures
		1.3	Apply *mine site safe operating procedures* for managing *potential hazards, risks and emergencies*
		1.4	Apply mine site safety reporting procedures
2	Apply personal safety measures	2.1	Maintain a clean and tidy workplace
		2.2	Use appropriate *personal protective equipment*
		2.3	Apply safe manual handling practices
		2.4	Apply correct hazardous substances safety procedures
		2.5	Identify and conform to appropriate procedures for working in confined spaces
		2.6	Identify and conform to appropriate procedures for working at heights
		2.7	Identify and conform to appropriate isolation procedures
		2.8	Obtain permits and clearance before specialised work is carried out, according to site procedures
3	Identify and report incidents/hazards	3.1.	Identify, manage and report *potential hazards, risks and emergencies*
		3.2.	Report incidents and/or injury to approved personnel
		3.3.	Record clearly and concisely the details of any incident, hazards and/or injury

4	Apply emergency procedures	4.1.	Recognise and respond to alarms and warning devices according to mine site procedures
		4.2.	Identify and correctly use *self rescue equipment* in accordance with manufacturer's instructions and site procedures
		4.3.	Apply basic fire fighting techniques according to mine site procedures
		4.4.	Maintain familiarity with emergency escape route(s) according to mine site procedures
		4.5.	Apply mine site emergency response plans and procedures
5	Maintain personal well-being	5.1.	Adhere to mine site policies in relation to smoking, alcohol and drug use
		5.2.	Maintain *standards of health, fitness and well-being* according to site and/or industry medical criteria

RANGE STATEMENT

The following range of variables is subject to site-specific operations, but is not limited to the following details. Site procedures, regulations and occupational health and safety and other relevant legislation apply to all elements and performance criteria.

Current relevant legislation, regulations, codes and standards may include:

- safety and health management system
- explosive legislation
- OH&S legislation
- Australian Standards
- industry guidelines and Codes of Practice
- manufacturers' specifications and recommendations
- hazardous substances management, including material safety data sheets (MSDSs)
- AS/NZS 4360

Mine site safe operating procedures may include:

- awareness and access to emergency exits
- carrying out safety checks (e.g. safety showers and eye washes)
- emergency procedures
- First Aid procedures
- hazard identification and recognition procedures
- work access permit
- hot work procedures
- housekeeping standards

- observing smoking, use of radio and mobile phone restrictions at certain locations or times or during specific activities
- observing electrical and mechanical procedures
- observing right of way of heavy equipment
- observing site speed limits
- occupational health, safety and environment procedures around equipment, vehicles and personnel
- tagging procedures (e.g. out-of-service tags, danger tags, restrictive operations tags)
- use of barricades and guards
- use of fire extinguishers
- hazardous substances safety procedures, including use of material safety data sheets (MSDSs)
- use of two-way radios and site telephones
- wearing equipment restraints
- wearing personal protective equipment
- working in confined spaces
- wearing of seat belts
- ensuring ventilation is operating
- awareness of and access to escape ways
- breakdown and recovery procedures
- sign and barricade erection (including cleaning of signs)
- observing right of way

Potential hazards, risks and emergencies may include:

- personal safety (e.g. crush injuries, burns, slips, trips, falls, chemical exposure, fatigue)
- plant (e.g. structural damage, emergency shut down)
- environment (e.g. seepage, emissions, chemical spills, pollution, anything detrimental to fauna and flora)

Personal protective equipment may include:

- eye protection (e.g. glasses)
- hearing protection (e.g. ear plugs)
- protection from the elements (e.g. sun block)
- protective clothing (e.g. gloves, safety boots, helmet, shin guards, long sleeved shirt and trousers)
- chemical/gas detectors
- respiratory devices
- safety harness when working at heights

Self rescue equipment may include:

- self rescuers (underground only)

- respiratory devices / breathing apparatus
- life jacket

Standards of health, fitness and well-being may include:

- health surveillance and testing at intervals in accordance with mine site, industry and/or State regulatory requirements
- drug and alcohol
- stress
- communicable diseases
- adverse personal hygiene
- remote lifestyle (moves, time away from home base)
- shift work
- fatigue management
- heat stress and hypothermia
- hydration

EVIDENCE GUIDE

Critical Aspects of Evidence

The evidence required to demonstrate this competency must be relevant to work site operations. In addition to satisfying the requirements of all elements, performance criteria, required knowledge and skills, evidence must include demonstration of:

- knowledge of all procedures, requirements and instructions to work safely appropriate to a mine site, and;
- implementation of appropriate procedures and techniques to efficiently and effectively work safely appropriate to a mine site, while complying with site risk control, health, safety, environmental, quality and communication requirements. This will include:
    a. accessing and applying site safety procedures
    b. applying personal safety measures
    c. identifying and reporting incidents/hazards
    d. applying emergency procedures
    e. maintaining personal well-being

Required Knowledge

Specific knowledge is required to achieve the performance criteria in this unit to the standards of performance required in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. Assessment requires evidence of the ability to identify and explain the purpose of:

- emergency procedures
- equipment safety requirements
- hazardous substances procedures and handling techniques, including understanding of material safety data sheets (MSDSs) and their use
- isolation procedures

- lifting techniques (manual, automated)
- mine site safety requirements
- occupational health and safety procedures
- primary and secondary ventilation
- site safety procedures
- participative procedures for workplace management of OH&S (e.g. consultation, safety representatives, committees, dispute resolution)
- health/safety effects of working on a mine site (e.g. circadian rhythms, sleep, alertness, fatigue, stress, effects of heat stress and hypothermia).

Required Skills

Specific skills are required to achieve the performance criteria in this unit. In addition to the generic skills identified in the Key Competencies section of this unit, assessment needs to obtain evidence of the ability to:

- identify and control hazards
- report incidents
- wear appropriate personal protective equipment
- demonstrate personal and co-worker safety

Assessment and Interdependence of Units

This unit may be assessed with other relevant units forming a cohesive work function, according to specific mine site requirements.

Resource Implications

Assessment of this competency requires typical resources normally used in a mine site work environment. Selection and use of resources for particular sites may differ due to site conditions, equipment availability, equipment/plant types and different contexts.

Consistency in Performance

To ensure consistency in performance, this unit may be assessed over a period of time and a range of work and site conditions. Local site factors will influence the breadth of evidence required to demonstrate the competency.

Context for Assessment

This unit should be assessed in the work environment where possible. Some assessment events may be conducted under simulated conditions where issues of safety and environmental damage are limiting factors.

All assessments must be valid, reliable, fair and flexible, accumulating sufficient evidence to demonstrate the required competence.

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.

Methods of Assessment

Appropriate methods of assessment for this unit will usually include:

- workplace observation of processes and procedures

- oral and/or written questioning on required knowledge
- testimony from supervisors, colleagues, clients and/or other appropriate persons
- simulation and/or scenario analysis

Where performance is not directly observed and/or is required to be demonstrated over a period of time and/or in a number of locations, any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons.

Questioning should be undertaken in a manner appropriate to the language and literacy levels of the candidate and to the requirements of the unit of competency.

Assessment should also reinforce the integration of the Key Competencies.

Key Competencies

A number of basic skills that are learnt through work and life are required in all jobs, and enable people to transfer and apply knowledge and skills developed in classrooms and other learning situations to the workplace. These skills are commonly referred to as the seven Key Competencies. There are three levels at which these Key Competencies can be applied:

Level 1 — Perform the process/task

Level 2 — Perform and administer the process/task

Level 3 — Perform, administer and evaluate/design the process/task

The level of application of each Key Competency in the context of **this** unit is:

Key Competency	Example of Application	Performance Level
Collect, analyse and organise information	To access, interpret and implement mine site safety policies and procedures.	**1**
Communicate ideas and information	To report incidents and/or injuries.	**1**
Plan and organise activities	To follow mine site safe operating procedures.	**1**
Work with others and in teams	To maintain a clean and tidy workplace.	**1**
Use mathematical ideas and techniques	To apply basic fire-fighting techniques.	**1**
Solve problems	To recognise and respond to alarms.	**1**
Use technology	To use personal protective equipment.	**1**

MNMC202A Communicate in the workplace

1219-AB53-COMM-1-C

Unit Descriptor

This unit applies in all contexts to communication in the workplace.

Units replaced

This unit replaces the following:

- MNMCCCOO001A Communicate in the workplace

	ELEMENT		PERFORMANCE CRITERIA
1	Access *shift change-over details*	1.1.	Access information from appropriate sources
		1.2.	Follow *site procedures* for accessing information
2	*Communicate* with personnel	2.1.	Communicate clearly and concisely to ensure information is understood
		2.2.	Ask questions and confirm meaning of information where required
		2.3.	Maintain *communication* processes with other personnel to assist flow of work activities
		2.4.	Use approved *signalling methods* to convey information
		2.5.	Listen for information being supplied
		2.6.	Participate in discussion to obtain relevant information and clarify meaning
		2.7.	Communicate efficiently using *Plain English*
		2.8.	Communicate cooperatively with other personnel
		2.9.	Communicate according to site procedures and legislative requirements
3	Complete written *documentation*	3.1	Complete written *documentation*/computer generated documentation and convey meaning
		3.2	Complete all required *documentation* clearly, concisely and on time
		3.3	Use approved documents as required according to site procedures
		3.4	Pass on written information to appropriate personnel
4	Identify and access mine communication equipment/system	4.1.	Identify and access *mine communication system*

		4.2.	Establish and maintain *communication* within the mine according to site procedures and *relevant legislation*
		4.3.	Access and apply all *safety procedures* involved with utilising communication equipment/system
5	Communicate using mine equipment system	5.1.	Select and use most efficient and appropriate *communication* method
		5.2.	Use communications equipment according to site procedures and relevant legislation
		5.3.	Communicate clearly and efficiently/effectively
		5.4.	Direct different types of communication through correct channels, hierarchies and frequency
		5.5.	Maintain radio contact with surrounding equipment operators and personnel
		5.6.	Use safety light and other *signals* when operating equipment
		5.7.	Identify and report faults in communication equipment
		5.8.	Follow communication emergency procedures

RANGE STATEMENT

The following range of variables is subject to site-specific operations, but is not limited to the following details. Site procedures, regulations and occupational health and safety and other relevant legislation apply to all elements and performance criteria.

Communications may include:

- verbal (teamwork interaction and personal)
- written information
- signals (hand)
- audible sounds (bells, whistles, sirens)
- visual signs (flashing lights, lamps)
- authorised signaling methods
- computer based systems
- emergency alarms
- PA system
- sirens and clear calls
- telemetry
- telephone

- two-way radio
- whistles

Signals may include:

- hand signals
- horn and/or whistle
- safety lights
- cap lamp
- emergency communication and signaling procedures

Mine communications systems may include:

- system overview
- operating directories
- site-specific procedures and constraints
- communication infrastructure

Plain English can be defined as:

- Presenting information which is:
  - visually inviting
  - logically organised
  - understandable on the first reading
  - in an order the reader will understand

Safety procedures may include:

- standard work instructions or equivalent
- avoidance of energy sources
- care of equipment
- compliance with hazardous zone procedures

Shift change-over details may include:

- adequacy of lighting (all plant and work areas)
- materials and equipment to be used
- authorisations
- clearances
- environmental considerations
- hazards and problems (current and potential)
- instructions
- isolation requirements
- metallurgical information
- nature and scope of work
- plant conditions and requirements

- resource requirements and allocations
- safety requirements
- schedule
- services
- site characteristics and requirements
- supplies log
- verbal briefing of issues arising during shift
- work log
- access road plan and haul routes
- survey plan
- geological details
- face plan

Documentation may include:

- end of shift documentation
- work log
- supplies log
- computer readings
- personal danger tags
- warning tags

Site procedures may include:

- induction documentation
- safety and health management system
- material safety data sheets (MSDSs)
- operations manual
- policy and procedures documents
- standard work instructions or equivalent
- training materials
- verbal instructions

Relevant legislation may include:

- explosives legislation
- safety and health management system
- OH&S
- environment legislation

EVIDENCE GUIDE

Critical Aspects of Evidence

The evidence required to demonstrate this competency must be relevant to work site operations. In addition to satisfying the requirements of all elements, performance criteria, required knowledge and skills, evidence must include demonstration of:

- knowledge of all procedures, requirements and instructions to carry out workplace communication appropriate to a mine site, and;
- implementation of appropriate procedures and techniques for efficient and effective communication in the workplace appropriate to a mine site, while complying with site risk control, health, safety, environmental, quality and communication requirements. This will include:
    a. accessing shift change-over details
    b. communicating with personnel
    c. completing written documentation
    d. identifying and accessing mine communication equipment/system
    e. communicating using mine equipment system

Required Knowledge

Specific knowledge is required to achieve the performance criteria in this unit to the standards of performance required in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. Assessment requires evidence of the ability to identify and explain the purpose of:

- mine site communication procedures
- communication equipment operating procedures (e.g. two-way radio, telephone, distribution control system, computers)
- signaling procedures
- approved signals
- emergency communication procedures
- radio communication methods/telephone communication methods

Required Skills

Specific skills are required to achieve the performance criteria in this unit. In addition to the generic skills identified in the Key Competencies section of this unit, assessment needs to obtain evidence of the ability to:

- assess and interpret information
- interpret communications (e.g. plans, reports, maps, conversations)
- listen to information
- monitor information provided
- read and understand
- talk clearly

Assessment and Interdependence of Units

This unit may be assessed with other relevant units forming a cohesive work function, according to specific mine site requirements.

Resource Implications

Assessment of this competency requires typical resources normally used in a mine site work environment. Selection and use of resources for particular sites may differ due to site conditions, equipment availability, equipment/plant types and different contexts.

Consistency in Performance

To ensure consistency of performance, this unit may be assessed over a period of time and a range of work and site conditions. Local site factors will influence the breadth of evidence required to demonstrate the competency.

Context for Assessment

This unit should be assessed in the work environment where possible. Some assessment events may be conducted under simulated conditions where issues of safety and environmental damage are limiting factors.

All assessments must be valid, reliable, fair and flexible accumulating sufficient evidence to demonstrate the required competence.

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.

Methods of Assessment

Appropriate methods of assessment for this unit will usually include:

- workplace observation of processes and procedures
- oral and/or written questioning on required knowledge
- testimony from supervisors, colleagues, clients and/or other appropriate persons
- simulation and/or scenario analysis

Where performance is not directly observed and/or is required to be demonstrated over a period of time and/or in a number of locations, any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons.

Questioning should be undertaken in a manner appropriate to the language and literacy levels of the candidate and to the requirements of the unit of competency.

Assessment should also reinforce the integration of the Key Competencies.

Key Competencies

A number of basic skills that are learnt through work and life are required in all jobs, and enable people to transfer and apply knowledge and skills developed in classrooms and other learning situations to the workplace. These skills are commonly referred to as the seven Key Competencies. There are three levels at which these Key Competencies can be applied:

Level 1 — Perform the process/task

Level 2 — Perform and administer the process/task

Level 3 — Perform, administer and evaluate/design the process/task

The level of application of each Key Competency in the context of **this** unit is:

Key Competency	Example of Application	Performance Level
Collect, analyse and organise information	To ask questions and confirm meaning of information.	**1**
Communicate ideas and information	To pass on written information to appropriate personnel.	**1**
Plan and organise activities	To negotiate processes to monitor and adjust team performance.	**1**
Work with others and in teams	To establish and clarify defined purpose, roles, responsibilities and accountabilities.	**1**
Use mathematical ideas and techniques	To use approved signalling methods.	**1**
Solve problems	To identify and report faults in communications equipment	**1**
Use technology	To use communications equipment.	**1**

1219-AB53-COMM-1-D

MNMC203A Contribute to quality work outcomes

Unit Descriptor

This unit covers individual involvement in the achievement of quality work outcomes throughout work activities.

Units replaced

This unit replaces the following:

- MNMCCCOO004A Contribute to quality work outcomes

	ELEMENT		PERFORMANCE CRITERIA
1	Plan and prepare for quality work outcomes	1.1	Identify relevant *quality procedures* from site/enterprise and team quality requirements
		1.2	Identify and agree on *performance indicators* for individual work with the appropriate persons
		1.3	Plan and facilitate work process for the achievement of quality work outcomes
2	Achieve and maintain quality work outcomes	2.1	Monitor quality of outputs and implement changes as necessary in accordance with site procedures
		2.2	Adjust and apply *performance indicators* to satisfy changing circumstances
		2.3	Minimise *loss and damage* by monitoring work processes, reporting incidents/hazards and applying local risk control processes
		2.4	Communicate procedural change and improvement to the relevant people
3	Participate in and facilitate teamwork	3.1	Establish and clarify clearly defined purpose, roles, responsibilities and accountabilities with team members
		3.2	Negotiate processes to monitor and adjust team performance with other team members
		3.3	Recognise the differences and individual contribution of each team member

RANGE STATEMENT

The following range of variables is subject to site-specific operations, but is not limited to the following details. Site procedures, regulations and occupational health and safety and other relevant legislation apply to all elements and performance criteria.

Quality procedures may include:

- work instructions

- safe work procedures or equivalent
- safety and health management system
- product ore specifications
- equipment maintenance schedules
- technical procedures
- adopted or specifically prepared standards

Performance indicators may include:

- issues of time
- quantity
- quality

Loss and damage may include:

- personal injury
- loss and damage of plant
- loss and damage of equipment and materials

EVIDENCE GUIDE

Critical Aspects of Evidence

The evidence required to demonstrate this competency must be relevant to mine site operations. In addition to satisfying the requirements of all elements, performance criteria, required knowledge and skills, evidence must include demonstration of:

- knowledge of all procedures, requirements and instructions to contribute to quality work outcomes appropriate to a mine site, and;
- implementation of appropriate procedures and techniques for efficient and effective contribution to quality work outcomes appropriate to a mine site, while complying with site risk control, health, safety, environmental, quality and communication requirements. This will include:
    a. planning and preparing for quality work outcomes
    b. achieving and maintaining quality work outcomes.

Required Knowledge

Specific knowledge is required to achieve the performance criteria in this unit to the standards of performance required in the workplace, to transfer the skills to other contexts and to deal with unplanned events. Assessment requires evidence of the ability to identify and explain the purpose of:

- operational safety requirements
- enterprise quality processes
- enterprise loss and damage control systems
- work planning processes

Required Skills

Specific skills are required to achieve the performance criteria in this unit. In addition to the generic skills identified in the Key Competencies section of this unit, assessment needs to obtain evidence of the ability to:

- apply operational safety/quality controls
- plan and prepare for work
- identify performance indicators
- monitor and adjust performance indicators to meet changing circumstances
- satisfy performance indicators
- access, interpret and apply information on enterprise quality processes
- communicate in the workplace
- monitor and recommend changes to systems/plant
- maintain records and/or reporting processes
- formulate performance indicators for own work

Assessment and Interdependence of Units

This unit may be assessed with other relevant units forming a cohesive work function, according to specific mine site requirements.

Resource Implications

Assessment of this competency requires typical resources normally used on a mine site work environment. Selection and use of resources for particular sites may differ due to site conditions, equipment availability, equipment/plant types and different contexts.

Consistency in Performance

To ensure consistency of performance, this unit may be assessed over a period of time and a range of work and site conditions. Local site factors will influence the breadth of evidence required to demonstrate the competency.

Context for Assessment

This unit should be assessed in the work environment where possible. Some assessment events may be conducted under simulated conditions where issues of safety and environmental damage are limiting factors.

All assessments must be valid, reliable, fair and flexible accumulating sufficient evidence to demonstrate the required competence.

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.

Methods of Assessment

Appropriate methods of assessment for this unit will usually include:

- workplace observation of processes and procedures
- oral and/or written questioning on required knowledge
- testimony from supervisors, colleagues, clients and/or other appropriate persons

- simulation and/or scenario analysis

Where performance is not directly observed and/or is required to be demonstrated over a period of time and/or in a number of locations, any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons.

Questioning should be undertaken in a manner appropriate to the language and literacy levels of the candidate and to the requirements of the unit of competency.

Assessment should also reinforce the integration of the Key Competencies.

Key Competencies

A number of basic skills that are learnt through work and life are required in all jobs, and enable people to transfer and apply knowledge and skills developed in classrooms and other learning situations to the workplace. These skills are commonly referred to as the seven Key Competencies. There are three levels at which these Key Competencies can be applied:

Level 1 — Perform the process/task

Level 2 — Perform and administer the process/task

Level 3 — Perform, administer and evaluate/design the process/task

The level of application of each Key Competency in the context of **this** unit is:

Key Competency	Example of Application	Performance Level
Collect, analyse and organise information	To interpret environmental requirement for the work.	**1**
Communicate ideas and information	To communicate procedural improvements.	**1**
Plan and organise activities	To plan and facilitate the work process for the achievement of quality work outcomes.	**2**
Work with others and in teams	To identify and agree performance indicators with appropriate person.	**1**
Use mathematical ideas and techniques	To monitor work processes.	**1**
Solve problems	To monitor, control, measure and implement environmental requirements.	**1**
Use technology	To interpret environmental requirements.	**1**

1219-AB53-COMM-1-E

MNMC205A Conduct local risk assessment

Unit Descriptor

This unit covers the skills and knowledge required to apply basic *risk* control processes at a mine site. It includes the identification of *hazards*; assessing *risk*; identifying unacceptable *risk*; identifying/analyzing and implementing *risk treatment*; and completing records and reports.

Links outside this unit

The work covered in this unit relates to the Australian Standard AS/NZS 4360 *Risk Management*

The work described in this unit is equivalent to MNCC1006A Conduct local risk control.

	ELEMENT		PERFORMANCE CRITERIA
1	Identify hazards	1.1	Analyse work area conditions to identify/recognise potential *hazards* in the workplace
		1.2	Access and analyse relevant safety systems information to eliminate situations covered by existing and adequate procedures
		1.3	Recognise the type and scope of unresolved hazards and their likely impact
2	Assess risk and identify unacceptable risk	2.1	Evaluate and determine *consequence* if the event should occur
		2.2	Consider and determine *likelihood* of the event
		2.3	Identify criteria for the acceptability/ unacceptability of the risk or source from the appropriate party
		2.4	Evaluate risk against criteria to identify if it warrants '*unacceptable risk*' status and either action or refer to the appropriate party
3	Identify, analyse and implement risk treatments	3.1	Identify and consider all possible *risk treatment* options
		3.2	Identify feasible options by preliminary analysis and consideration of possible options
		3.3	Analyse feasible options, including the identification of resource requirements
		3.4	Select most appropriate action for dealing with the situation
		3.5	Plan and prepare the course of action in detail and acquire/obtain required resources
		3.6	Implement the course of action

4	Complete records and reports	4.1	Communicate information on the course of action and implementation to the relevant people
		4.2	Complete *records and reports* for hazards and actions from personal risk assessment as specified by legislative and site requirements

RANGE STATEMENT

The following range of variables is subject to site-specific operations, but is not limited to the following details. Site procedures, regulations and occupational health and safety and other relevant legislation apply to all elements and performance criteria.

Risk is defined as:

> the chance of something happening that will have an impact upon objectives.
> It is measured in terms of consequences and likelihood.
> (AS/NZS 4360:1999 *Risk Management*)

Hazard is defined as:

> a source of potential harm or a situation with a potential to cause loss.
> (AS/NZS 4360:1999 *Risk Management*)

Risk treatment is defined as:

> selection and implementation of appropriate options for *dealing with risk.* (AS/NZS 4360 *Risk Management*)

Hazards may include:

- equipment
- methods/plans
- people
- the work environment

Consequence is defined as:

> the outcome of an event expressed qualitatively or quantitatively, being a loss, injury, disadvantage or gain. There may be a range of possible outcomes associated with an event (AS/NZS 4360:1999 *Risk Management*).

Frequency is defined as:

> a measure of the rate of occurrence of an event expressed as the number of occurrences of an event in a given time. (AS/NZS 4360:1999 *Risk Management*)

Likelihood is used as:

> a qualitative description of probability and frequency.
> (AS/NZS 4360:1999 *Risk Management*)

Probability is defined as:

> the likelihood of a specific outcome, measured by the ratio of specific events or outcomes to the total number of possible events or outcomes. Probability is expressed as a number between 0 and 1, with 0 indicating an impossible event or outcome and 1 indicating an event or outcome is certain.
> (AS/NZS 4360:1999 *Risk Management*)

Criteria for the acceptability/unacceptability of the risk must be determined by the organisation's internal policy, goals and/ or objectives in reference to relevant legislation.

Risk treatment options may include:

- eliminating the hazard
- substitution
- engineering controls
- administrative controls (procedures, etc.)
- personal protective equipment

Records and reports may include:

- hazard reporting forms
- supervisor/deputy's/OCE reports
- incident reports
- near-miss reports
- shift reports

EVIDENCE GUIDE

Critical Aspects of Evidence

The evidence required to demonstrate this competency must be relevant to mine site operations. In addition to satisfying the requirements of all elements, performance criteria, required knowledge and skills, evidence must include demonstration of:

- knowledge of procedures, requirements and instructions to conduct local risk assessment appropriate to a mine site, and;
- implementation of appropriate procedures and techniques for the efficient and effective conduct local risk assessment appropriate to a mine site, while complying with site safety, environmental, quality and communication requirements. This will include:
  a. identifying hazards
  b. assessing risk and identifying unacceptable risk
  c. identifying, analysing and implementing risk treatments
  d. completing records and reports

Required Knowledge

Specific knowledge is required to achieve the performance criteria in this unit to the standards of performance required in the workplace, to transfer the skills to other contexts and to deal with unplanned events. Assessment requires evidence of the ability to identify and explain the purpose of:

- risk management processes and methods, including: identifying hazards, assessing risks, determining acceptability of risks, identifying controls

- mine site risk management procedures
- mine site safety systems information
- mine site communication, reporting and recording procedures

Required Skills

Specific skills are required to achieve the performance criteria in this unit. In addition to the generic skills identified in the Key Competencies section of this unit, assessment needs to obtain evidence of the ability to:

- proactively identify hazards
- take action in response to risks

Assessment and Interdependence of Units

This unit may be assessed with other relevant units forming a cohesive work function, according to specific mine site requirements.

Resource Implications

Assessment of this competency requires typical resources normally used in a mine site work environment. Selection and use of resources for particular mine sites may differ due to mine site conditions, equipment availability, equipment/plant types and different contexts.

Consistency in Performance

To ensure consistency of performance, this unit may be assessed over a period of time and a range of work and site conditions. Local site factors will influence the breadth of evidence required to demonstrate the competency.

Context for Assessment

This unit should be assessed in the work environment where possible. Some assessment events may be conducted under simulated conditions where issues of safety and/or environmental damage are limiting factors.

All assessments must be valid, reliable, fair, flexible and sufficient evidence should be accumulated to demonstrate the required competence.

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.

Methods of Assessment

Appropriate methods of assessment fro this unit will usually include:

- observation of processes and procedures
- oral and/or written questioning on required knowledge and skills
- testimony from supervisors, colleagues, clients and/or other appropriate persons
- simulation and/or scenario analysis

Where performance is not directly observed and/or is required to be demonstrated over a period of time and/or in a number of locations, any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons.

Questioning should be undertaken in such a manner as is appropriate to the language and literacy levels of the candidate and to the requirements of the unit of competency.

Assessment should also reinforce the integration of the Key Competencies.

Key Competencies

A number of basic skills that are learnt through work and life are required in all jobs, and enable people to transfer and apply knowledge and skills developed in classrooms and other learning situations to the workplace. These skills are commonly referred to as the seven Key Competencies. There are three levels at which these Key Competencies can be applied:

Level 1 — Perform the process/task

Level 2 — Perform and administer the process/task

Level 3 — Perform, administer and evaluate/design the process/task

The level of application of each Key Competency in the context of this **unit is:** **Key Competency**	**Example of Application**	**Performance Level**
Collect, analyse and organise information	To access, interpret and apply mine site information on risk control systems.	**1**
Communicate ideas and information	To convey information about potential hazards and incidents.	**1**
Plan and organise activities	To plan and organise a work task, taking into account the mine site risk control systems.	**1**
Work with others and in teams	To work with other team members on identifying hazards, assessing risks, and deciding on control measures.	**1**
Use mathematical ideas and techniques	To perform a basic 'risk ranking' of hazards.	**1**
Solve problems	To evaluate consequence and frequency, and to analyse and select control options.	**1**
Use technology	n/a	**n/a**

1219-AB53-COMM-1-F

MNMRR301A Respond to mine incident

Unit Descriptor

This unit covers the general procedures necessary when called out to respond to an incident in a metalliferous mine. The Unit covers the initial response to the incident and the preparations which are necessary to allow people to safely enter the mine.

	ELEMENT		PERFORMANCE CRITERIA
1.	Evaluate readiness for rescue response	1.1	Identify, obtain and test emergency *equipment* in accordance with standard operating procedures, manufacturer's specifications and statutory requirements
		1.2	Evaluate personal fitness for operation
		1.3	Maintain individual competencies, medical standards and fitness levels in accordance with mine and statutory *medical standards* and fitness standards
2.	Respond to incident	2.1	Assemble at designated assembly point in accordance with standard operating procedures and guidelines
		2.2	Report to appropriate official or *Incident Control* and receive briefing on incident and mine conditions
		2.3	Confirm the location, nature and personnel involved in the incident and *record* on mine plan
		2.4	Identify and access standard rescue operation equipment according to standard operating procedures
		2.5	Access any identified necessary additional equipment required for the rescue operation accordance with standard operating procedures
3.	Prepare for mine entry	3.1	Establish safest route to be taken from current mine plans and verify with Team Leader
		3.2	Evaluate mine *atmosphere* to determine location and establish *incident control point(s)*
		3.3	Establish *communications* systems and brief team members on communication protocols
		3.4	Constitute *team* with numbers between the maximum and minimum specified in rescue guidelines, and allocate *team roles*

3.5	Ensure that any required *stand-by team* is available
3.6	Receive and verify pre-operational briefing from Team Leader
3.7	Identify recommended routes from the mine plan
3.8	Select appropriate gas measurement instruments and equipment and make pre-operational tests and inspections
3.9	Identify, check and test minimum and additional mines rescue equipment for the tasks
3.10	Commence operations from established *incident control point(s)*

RANGE STATEMENT

The following range of variables is subject to site specific operations, but is not limited to the following details. Site procedures, regulations and occupational health and safety and other relevant legislation apply to all elements and performance criteria.

Incident Control has overall planning, approval and control of an incident and may include **fresh air base** which may be defined as a continuously monitored station for dispatch or return of rescue teams in close proximity to irrespirable zones in known fresh air.

Teams can comprise two or more members, depending on such factors as:

- respiratory protection
- distance
- communications

Team roles may include:

- rescue team leader
- deputy leader
- rescue team members

Stand-by team can be defined as a fully equipped team in readiness to assist the active team

Mines rescue procedures may include:

- active team procedures
- exploration
- search and rescue
- fire fighting
- life support
- transport
- recovery
- restoration
- ventilation
- re-opening

Atmospheric testing may include:

- hand-held instruments
- tube detectors

- telemetric remote sampling
- chromatography

Records are permanent records which may be in the following formats:

- written
- photographic
- electronic

Medical fitness is that determined by a medical practitioner, on behalf of the mine manager, to certify fitness for rescue operations

Communications may include:

- telephones
- radios
- runners
- two way radio
- computer

EVIDENCE GUIDE

Critical Aspects of Evidence

The evidence required to demonstrate this competency must be relevant to work site operations. In addition to satisfying the requirements of all elements, performance criteria, required knowledge and skills, evidence must include demonstration of:

- knowledge of all procedures, requirements and instructions to respond to a mine incident appropriate to a mine site; and
- implementation of appropriate procedures and techniques for the efficient and effective response to a mine incident appropriate to a mine site, while complying with site risk control, health, safety, environmental, quality and communication requirements. This will include:
  a ensuring readiness for rescue response
  b responding to incident
  c preparing for mine entry

Required Knowledge

Specific knowledge is required to achieve the performance criteria in this unit to the standards of performance required in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. Assessment requires evidence of the ability to identify and explain the purpose of:

- rescue guidelines
- call-out procedures
- rescue team structure, roles and responsibilities
- mining environment
- types and effects of mine gases
- entrapment procedures
- gas testing and monitoring instruments – types, limitations, function and operation
- operation and limitations of breathing apparatus
- air measurement and ventilation systems
- effects on people working in hot and humid atmospheres
- minimum equipment requirements for rescue operations

- requirements for personal readiness
- rescue team call-out procedures and equipment
- specialised rescue equipment
- standby/emergency procedures for incident control
- ground support types and construction

Required Skills

Specific skills are required to achieve the performance criteria in this unit. In addition to the generic skills identified in the Key Competencies section of this unit, assessment needs to obtain evidence of the ability to:

- operate gas testing and monitoring instruments
- interpret mine gas testing instruments
- wear and use escape apparatus
- operate in breathing apparatus
- select extrication methods and operate extrication equipment
- take and analyse gas samples
- use communications and signals
- read and interpret mine plan symbols
- work as a team member
- assess a situation and make effective, safe decisions
- plan and make contingency plans
- read mine plans and orientate in the mine
- carry out risk assessments
- select and use appropriate PPE
- take air measurement and ventilation readings
- take temperature and relative humidity measurements

Assessment and Interdependence of Units

This unit may be assessed with other relevant units forming a cohesive work function, according to specific mine site requirements.

Resource Implications

Assessment of this competency requires typical resources normally used on a mine site work environment. Selection and use of resources for particular sites may differ due to site conditions, equipment availability, equipment/plant types and different contexts.

Consistency in Performance

To ensure consistency of performance, this unit may be assessed over a period of time and a range of work and site conditions. Local site factors will influence the breadth of evidence required to demonstrate the competency.

Context for Assessment

This unit should be assessed in the work environment where possible. Some assessment events may be conducted under simulated conditions where issues of safety and environmental damage are limiting factors.

All assessments must be valid, reliable, fair and flexible accumulating sufficient evidence to demonstrate the required competence.

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.

Methods of Assessment

Appropriate methods of assessment for this unit will usually include:

- workplace observation of processes and procedures
- oral and/or written questioning on required knowledge
- testimony from supervisors, colleagues, clients and/or other appropriate persons;
- simulation and/or scenario analysis

Where performance is not directly observed and/or is required to be demonstrated over a period of time and/or in a number of locations, any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons.

Questioning should be undertaken in a manner appropriate to the language and literacy levels of the candidate and to the requirements of the unit of competency.

Assessment should also reinforce the integration of the Key Competencies.

Key Competencies

A number of basic skills that are learnt through work and life are required in all jobs, and enable people to transfer and apply knowledge and skills developed in classrooms and other learning situations to the workplace. These skills are commonly referred to as the seven Key Competencies. There are three levels at which these Key Competencies can be applied:

Level 1 — Perform the process/task

Level 2 — Perform and administer the process/task

Level 3 — Perform, administer and evaluate/design the process/task

The level of application of each Key Competency in the context of **this** unit is:

Key Competency	Example of Application	Performance Level
Collect, analyse and organise information	To ensure readiness for rescue response.	**1**
Communicate ideas and information	To receive briefing on incident and mine conditions.	**1**
Plan and organise activities	To confirm the location, nature and personnel involved in the incident and record on mine plan	**1**
Work with others and in teams	To allocate team roles.	**1**
Use mathematical ideas and techniques	To establish safest route to be taken from current mine plans	**1**
Solve problems	To identify recommended routes from the mine plan.	**1**
Use technology	To check and test rescue equipment.	**1**

1219-AB53-COMM-1-G

MNMRR303A Operate in self-contained regenerative oxygen breathing apparatus

Unit Descriptor

This unit covers the competency requirements for the safe and effective operation and care of self-contained regenerative oxygen breathing apparatus used by rescue team personnel working in irrespirable atmospheres. It covers the testing and operation of the breathing apparatus by working rescue team members.

	ELEMENT		PERFORMANCE CRITERIA
1	Prepare for operations in *self-contained regenerative oxygen breathing apparatus*	1.1	Ensure fitness levels are suitable to operate breathing apparatus
		1.2	Carry out *pre-operational equipment tests* in accordance with manufacturer's specifications and OHS hygiene codes
		1.3	Record test outcomes according to manufacturer's specifications and legislative and site requirements
		1.4	Inspect apparatus for damage and missing components and readiness for operation before entering mine
		1.5	Don and adjust self-contained regenerative oxygen breathing apparatus for comfort and correct operation
		1.6	Select additional personal protective equipment appropriate for work activities
2.	Operate in *self-contained regenerative oxygen breathing apparatus* in *irrespirable atmosphere*	2.1	Navigate in breathing apparatus in adverse underground conditions
		2.2	Identify, monitor and control *hazards* in accordance with site procedures
		2.3	Establish and maintain *communication* with team members and leader throughout the activity
		2.4	Apply breathing apparatus techniques and procedures by undertaking activities as a member of a team, in accordance with site procedures
		2.5	Monitor the operation of the breathing apparatus and the *condition of the wearer*
		2.6	Operate in breathing apparatus in *emergency situations*
		2.7	Follow *entrapment procedures* in accordance with site procedures
			Maintain personal safety at all times

3.	Carry out post-operation breathing apparatus activities	3.1 Close down self-contained regenerative oxygen breathing apparatus in accordance with procedures
		3.2 Remove self-contained regenerative oxygen breathing apparatus in accordance with procedures
		3.3 Report operational activities to appropriate personnel according to site and legislative requirements
		3.4 Strip, clean, service, check, reassemble and test breathing apparatus in accordance with site procedures, manufacturer's specification and the Code of Practice on transmittable diseases
		3.5 Store equipment ready for operational use in accordance with site procedures

RANGE STATEMENT

The following range of variables is subject to site specific operations, but is not limited to the following details. Site procedures, regulations and occupational health and safety and other relevant legislation apply to all elements and performance criteria.

Self-contained regenerative oxygen breathing apparatus may be defined as:

"an apparatus which is worn by the wearer which contains all the functions to allow breathing in a hostile atmosphere without any connection to normal atmospheric conditions, and where the exhaled atmosphere is cleansed of carbon dioxide and the remaining oxygen can be re-used"

Irrespirable Atmosphere is considered an atmosphere which is unsafe for a person to breathe as a result of either oxygen depletion or the presence of:

- toxic fumes
- gases
- contaminants
- smoke or suspended particles
- heated atmospheres

Pre-operational equipment tests may include:

- visual inspection
- exhalation and inhalation valve operation
- positive and negative pressure leak tests
- pre-flushing
- cylinder contents
- pressure relief valve
- dosage
- high pressure leaks
- lung demand valve opening pressure
- pressure gauge zero test

Condition of wearer may include:

- economic breathing techniques
- oxygen capacity and temperature
- wearer stress

Emergency Situations may include:

- high pressure oxygen leak
- collapsed team member
- entrapment
- low pressure oxygen leak
- high pressure leak
- evacuation

Communications may include:

- distress signals
- portable radio
- communications equipment
- signal lines
- hand signals
- telephone
- mobile phone

Entrapment procedures may include:

- ceasing all strenuous activity
- activating distress signals
- relocating to safest available place
- calling for assistance.

Hazards may include**:**

- fire
- explosion
- failure to maintain a face seal
- exhaustion of oxygen supply
- malfunction of equipment
- disorientation in smoke/darkness or confinement
- structural hazards and/or hazardous materials
- entrapment

EVIDENCE GUIDE

Critical Aspects of Evidence

The evidence required to demonstrate this competency must be relevant to work site operations. In addition to satisfying the requirements of all elements, performance criteria, required knowledge and skills, evidence must include demonstration of:

- knowledge of all procedures, requirements and instructions to operate in self-contained regenerative oxygen breathing apparatus in the underground mine appropriate to a mine site, and;

- implementation of appropriate procedures and techniques for efficient and effective operation in self-contained regenerative oxygen breathing apparatus in the underground mine appropriate to a mine site, while complying with site risk control, health, safety, environmental, quality and communication requirements. This will include:
  a preparing for operations in self-contained regenerative oxygen breathing apparatus
  b operating in self-contained regenerative oxygen breathing apparatus in irrespirable atmospheres
  c carrying out post-operation breathing apparatus activities

Required Knowledge

Specific knowledge is required to achieve the performance criteria in this unit to the standards of performance required in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. Assessment requires evidence of the ability to identify and explain the purpose of:

- respiratory system, effects of irrespirable atmospheres on the body
- protective equipment
- characteristics, component parts, operation of self-contained regenerative oxygen breathing apparatus
- testing parameters and methods
- operational testing
- standard operating procedures
- safe work practices when wearing breathing apparatus
- operating breathing apparatus
- use of distress signals
- communication methods and protocols
- use of the breathing apparatus control equipment
- self-contained regenerative oxygen breathing apparatus cleaning and hygiene requirements
- operating limits/entrapment procedure

Required Skills

Specific skills are required to achieve the performance criteria in this unit. In addition to the generic skills identified in the Key Competencies section of this unit, assessment needs to obtain evidence of the ability to:

- select and use appropriate PPE
- conduct pre operational checks and testing of equipment
- operate in escape apparatus
- work as a team member
- read mine plans and symbols and orientate in the mine
- use communications and signals
- identify adverse conditions
- interpret monitoring device readings
- apply basic life support
- interpret manufacturers' specifications
- strip and reassemble equipment
- clean, service and test equipment

Assessment and Interdependence of Units

This unit may be assessed with other relevant units forming a cohesive work function, according to specific mine site requirements.

Resource Implications

Assessment of this competency requires typical resources normally used on a mine site work environment. Selection and use of resources for particular sites may differ due to site conditions, equipment availability, equipment/plant types and different contexts.

Consistency in Performance

To ensure consistency of performance, this unit may be assessed over a period of time and a range of work and site conditions. Local site factors will influence the breadth of evidence required to demonstrate the competency.

Context for Assessment

This unit should be assessed in the work environment where possible. Some assessment events may be conducted under simulated conditions where issues of safety and environmental damage are limiting factors.

All assessments must be valid, reliable, fair and flexible accumulating sufficient evidence to demonstrate the required competence.

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.

Methods of Assessment

Appropriate methods of assessment for this unit will usually include:

- workplace observation of processes and procedures
- oral and/or written questioning on required knowledge
- testimony from supervisors, colleagues, clients and/or other appropriate persons;
- simulation and/or scenario analysis

Where performance is not directly observed and/or is required to be demonstrated over a period of time and/or in a number of locations, any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons.

Questioning should be undertaken in a manner appropriate to the language and literacy levels of the candidate and to the requirements of the unit of competency.

Assessment should also reinforce the integration of the Key Competencies.

Key Competencies

A number of basic skills that are learnt through work and life are required in all jobs, and enable people to transfer and apply knowledge and skills developed in classrooms and other learning situations to the workplace. These skills are commonly referred to as the seven Key Competencies. There are three levels at which these Key Competencies can be applied:

Level 1 — Perform the process/task

Level 2 — Perform and administer the process/task

Level 3 — Perform, administer and evaluate/design the process/task

The level of application of each Key Competency in the context of **this** unit is:

Key Competency	Example of Application	Performance Level

Key Competency	Example of Application	Performance Level
Collect, analyse and organise information	To inspect apparatus for damage and missing components and readiness for operation before entering mine.	**1**
Communicate ideas and information	To report operational activities to appropriate personnel.	**2**
Plan and organise activities	To prepare for operations in self-contained regenerative oxygen breathing apparatus.	**2**
Work with others and in teams	To establish and maintain communication with team members and leader.	**1**
Use mathematical ideas and techniques	To read mine plans and symbols.	**1**
Solve problems	To monitor the operation of the breathing apparatus and the condition of the wearer for economic breathing techniques, oxygen capacity and temperature, and wearer stress.	**2**
Use technology	To carry out pre-operational equipment tests.	**1**

1219-AB53-COMM-1-H

MNMRR305A Control underground fires

Unit Descriptor

This Unit describes the competency requirements for the control of fire emergencies in underground mines. It covers the selection and operation of fire-fighting equipment, hazard assessment, fire control action planning, and safety of fire-fighters.

ELEMENT	PERFORMANCE CRITERIA
1. Assess situation and prepare for fire control operations	1.1 Interpret data and reports to determine cause and location of *fire* and record on the mine plan
	1.2 Assess type, size and spread of *fire* to determine *risk* to people and plant/machinery
	1.3 Identify and assess *potential ignition sources* for further *fires* to determine control measures, and record on the mine plan
	1.4 Assess *secondary risks* and recommend actions to control these risks and protect people
	1.5 Assess *fire-fighting* personnel's exposure to *fire*, and identify methods and equipment to control these identified risks
	1.6 Determine personnel numbers, equipment and *personal protective equipment* requirements for fire control operations
	1.7 Determine fire-fighting strategy and procedures to best control the situation
	1.8 Assess *fire control equipment* and *fire fighting media* capability and quantity and make decisions about the most appropriate course of action
	1.9 Assign duties to personnel available to control the *fire*
	1.10 Identify and apply ventilation monitoring and control measures
	1.11 Assess need for evacuation of personnel and take appropriate action
	1.12 Prepare *action plan* for fire control operations

2.	Control underground mine fire	2.1 *Secure* fire area/zone to prevent entry of non-involved personnel
		2.2 Access, assemble and test equipment determined in the action plan to manufacturer's instructions and recommended/site practices and safety parameters
		2.3 Employ *fire fighting* techniques and methods determined in the action plan, within given personnel competence and availability and equipment constraints to standard operating procedures.
		2.4 Maintain *communication* with other fire-fighters and *Incident Control* on condition of fire and status of fire control operations
		2.5 Continuously monitor *fire* and put controls in place to ensure the safety of personnel in the vicinity of the *fire*
		2.6 Continuously reassess and apply ventilation control measures to operations
		2.7 Continuously monitor *fire* and *fire-fighting* activities to determine ability to continue to handle the situation, and take action
		2.8 Minimise damage and disruption to mine working during the *fire* control operation, consistent with safety requirements
		2.9 Assess *fire* intensity and magnitude and withdraw from fire zone and relocate fire control equipment to a safe place if *fire* is uncontrollable
		2.10 Bring *fire* safely under control and extinguish
		2.11 Monitor fire site and take actions to prevent possible re-ignition according to site-recommended procedures
		2.12 Report to *Incident Control* according to site-recommended procedures
		2.13 Monitor for *structural* and ground support *integrity*

3.	Restore and refurbish fire equipment to operational condition	3.1 Inspect equipment for any damage sustained in *fire* control operations 3.2 Repair, replenish or replace defective/depleted *equipment* to meet manufacturer's specifications and/or Australian Standards 3.3 Tag and quarantine unusable equipment 3.4 Return fire control system and *equipment* to *operational readiness*

RANGE STATEMENT

The following range of variables is subject to site specific operations, but is not limited to the following details. Site procedures, regulations and occupational health and safety and other relevant legislation apply to all elements and performance criteria.

Fires may include:

- A, B, C, D, F class fires and E rated fires (International Standard-check name)
- accessible
- inaccessible
- uncontrolled fires
- mobile plant
- structural fires

Fire fighting is limited to fires within the capability of the rescue team members.

Potential ignition sources may include but limited to:

- ignition sources associated with friction eg belt conveyors
- ignition sources associated with fuel and oil storage/service bays
- ignition sources associated with electricity eg battery charging stations, shorting of cables
- frictional ignition sources at the mining face eg explosives, gases
- static electricity as an ignition source
- ignition sources associated with the combustion of synthetic materials
- hot materials/surfaces

Fire control equipment may include:

- fire hoses and fittings
- extinguishers
- mine water supply systems
- hydrants
- foam generators
- water turbine
- vehicles
- fixed and mobile fire suppression plant
- ladders

Fire fighting media may include:

- water
- low expansion foam
- high expansion foam
- dry chemical powder
- Carbon Dioxide
- vaporising liquid
- alcohol rated foam
- dry agents

Incident Control has overall planning, approval and control of an incident

Secondary risks may include:

- environmental
- electrical
- smoke
- toxic gases
- loss of visibility
- volatile substances (oxidising agents)
- heat illness
- secondary explosions
- burns
- spillage
- structural collapse

Personal protective equipment may include:

- industrial clothing
- thermal suits
- face shields
- eye protection
- respiratory protection
- safety footwear
- head protection
- hand protection

Action plans may include:

- RECEO VS – (rescue exposures control/contain extinguish overhaul – ventilate and salvage) International Response
- fire control equipment requirements
- fire fighting capability
- personnel numbers and experience
- duties assigned to fire control and support personnel
- fire fighting strategy and procedures
- PPE requirements
- communications methods and protocols
- risk assessment requirements

- ventilation management
- emergency and First Aid procedures
- contingency plans

Communications may include:

- reports
- two way radio
- telephone
- mobile phone
- hand signals
- runners
- light signals

Returning equipment to **operational readiness** may include:

- inspection
- cleaning
- repair
- replacement
- re-fill

Structural integrity may include:

- stability of walls and backs in underground
- stability of major structures on surface

EVIDENCE GUIDE

Critical Aspects of Evidence

The evidence required to demonstrate this competency must be relevant to work site operations. In addition to satisfying the requirements of all elements, performance criteria, required knowledge and skills, evidence must include demonstration of:

- knowledge of all procedures, requirements and instructions to control underground fires in the underground mine appropriate to a mine site, and;
- implementation of appropriate procedures and techniques for efficient and effective control of fires in the underground mine appropriate to a mine site, while complying with site risk control, health, safety, environmental, quality and communication requirements. This will include:
    a assessing situation and preparing for fire control operations
    b controlling underground mine fire
    c restoring and refurbishing equipment to operational condition

Required Knowledge

Specific knowledge is required to achieve the performance criteria in this unit to the standards of performance required in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. Assessment requires evidence of the ability to identify and explain the purpose of:

- the location of fire fighting equipment on mine sites
- interpretation of emergency preparedness plans
- response to call-outs to fires

- types of fire and associated risks and control measures
- mine plant and fire suppression systems
- ventilation management during fire situations
- operation of fixed and portable fire suppression equipment
- the correct use of ladders and other devices
- interpretation of hazchem labels and signs
- hazard/risk management principles and practices (including assessment and control)
- the hazards associated with hazardous chemicals and how to handle them in a fire situation
- identification, selection and operation of appropriate equipment
- identification and application of appropriate personal safety equipment
- identification of the properties of extinguishing media and the selection of those appropriate to the situation
- communications systems' types and protocols
- fire-ground management procedures
- utilisation and troubleshooting of water supply systems and identification of alternative systems
- interpretation and use of signals
- refurbishment of fire-fighting equipment and systems

Required Skills

Specific skills are required to achieve the performance criteria in this unit. In addition to the generic skills identified in the Key Competencies section of this unit, assessment needs to obtain evidence of the ability to:

- locate fire fighting equipment on mine sites
- interpret emergency preparedness plans
- navigate in underground mines
- read maps and interpret symbols
- respond to call-outs to fires
- work as a member of a team
- handle and control hazardous substances in a fire situation
- locate plant and fire suppression systems on a mine layout plan
- locate and operate fixed and portable fire suppression equipment
- locate and demonstration the correct use of ladders and other approved devices
- select appropriate extinguishing media for fire control and extinguishment
- operate emergency communications systems
- carry out effective fire-ground management procedures
- utilise and trouble-shoot water supply systems and identify alternative systems
- interpret and use signals
- access, interpret and apply technical and safety information
- apply diagnostic/faultfinding techniques
- comply with environmental requirements
- apply isolation procedures

Assessment and Interdependence of Units

This unit may be assessed with other relevant units forming a cohesive work function, according to specific mine site requirements.

Resource Implications

Assessment of this competency requires typical resources normally used on a mine site work environment. Selection and use of resources for particular sites may differ due to site conditions, equipment availability, equipment/plant types and different contexts.

Consistency in Performance

To ensure consistency of performance, this unit may be assessed over a period of time and a range of work and site conditions. Local site factors will influence the breadth of evidence required to demonstrate the competency.

Context for Assessment

This unit should be assessed in the work environment where possible. Some assessment events may be conducted under simulated conditions where issues of safety and environmental damage are limiting factors.

All assessments must be valid, reliable, fair and flexible accumulating sufficient evidence to demonstrate the required competence.

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.

Methods of Assessment

Appropriate methods of assessment for this unit will usually include:

- workplace observation of processes and procedures
- oral and/or written questioning on required knowledge
- testimony from supervisors, colleagues, clients and/or other appropriate persons;
- simulation and/or scenario analysis

Where performance is not directly observed and/or is required to be demonstrated over a period of time and/or in a number of locations, any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons.

Questioning should be undertaken in a manner appropriate to the language and literacy levels of the candidate and to the requirements of the unit of competency.

Assessment should also reinforce the integration of the Key Competencies.

Key Competencies

A number of basic skills that are learnt through work and life are required in all jobs, and enable people to transfer and apply knowledge and skills developed in classrooms and other learning situations to the workplace. These skills are commonly referred to as the seven Key Competencies. There are three levels at which these Key Competencies can be applied:

Level 1 — Perform the process/task

Level 2 — Perform and administer the process/task

Level 3 — Perform, administer and evaluate/design the process/task

The level of application of each Key Competency in the context of **this** unit is:

Key Competency	Example of Application	Performance Level

Key Competency	Example of Application	Performance Level
Collect, analyse and organise information	To interpret data and reports to determine cause and location of fire.	**1**
Communicate ideas and information	To prepare action plan for fire control operations.	**2**
Plan and organise activities	To assess situation and prepare for fire control operations.	**2**
Work with others and in teams	To maintain communication with other fire-fighters and Incident Control on condition of fire and status of fire control operations	**1**
Use mathematical ideas and techniques	To determine personnel numbers, equipment and personal protective equipment requirements.	**1**
Solve problems	To determine fire-fighting strategy and procedures to best control the situation.	**2**
Use technology	To repair, replenish or replace defective/depleted equipment.	**1**

MNMRR306A Conduct underground search

Unit Descriptor

This Unit describes the requirements for conducting a search in an underground metalliferous mine. It covers the planning and conduct of the search.

	ELEMENT		PERFORMANCE CRITERIA
1.	Plan underground search	1.1	Receive and analyse information and clarify *factors to be considered* in the search plan
		1.2	Identify, liaise and clarify roles with relevant *external agencies* which may be called upon to assist with the search
		1.3	Develop a workable search plan and contingency plans in consultation with *external agencies* and mine operational personnel
		1.4	Identify and access *equipment* required for the search operation
		1.5	Select personal protective equipment appropriate for search activities
		1.6	Document search strategy and plot search patterns and routes on mine plan
2.	Conduct search	2.1	Define possible and probable search areas based on mine configuration and personal/work factors
		2.2	Conduct risk assessment to identify the risks to the search party, and identify the necessary controls according to site procedures and legislative requirements
		2.3	Make sure search period/area does not exceed air/oxygen working duration and search personnel fitness
		2.4	Establish and maintain *communications* procedures and protocols
		2.5	Conduct search methodically using appropriate, recommended pattern and *techniques*
		2.6	Manoeuvre hostile ground using standard equipment, techniques and procedures
		2.7	Maintain *physical contact* with other search team members at all times during the search
		2.8	*Mark route* to allow safe egress from mine or allow location of search team by back-up team if necessary

3	Manage *unplanned event or change in circumstances*	3.1	Evaluate the event and changes in circumstances.
		3.2	Identify, implement and monitor procedures to deal with the event.
		3.3	Communicate details of the event or changes in circumstances to *Incident Control* for advice on actions to be taken
		3.4	Communicate requests for further assistance or advice of withdrawal.
4.	Finalise search	4.1	Negotiate the *conclusion* of the search in consultation with external agencies and mine operational personnel
		4.2	Collect and reserve all relevant information
		4.3	Debrief with relevant personnel
		4.4	Complete all required reports
		4.5	Review search operation and recommend improvements

RANGE STATEMENT

The following range of variables is subject to site specific operations, but is not limited to the following details. Site procedures, regulations and occupational health and safety and other relevant legislation apply to all elements and performance criteria.

Factors to be considered may include:

- timeframe for survival of search object
- other time factors
- ground/structural conditions
- human resources
- communications
- capacity of the missing person/party
- place and time last seen
- size of search area
- availability of food and water
- availability of shelter
- availability of respirable air

External agencies may include:

- Police search and rescue
- State Emergency Service
- Ambulance
- mine rescue services (mutual aid agreements/arrangements)
- Critical Incident Stress Debriefing (CISD) agencies
- fire and rescue services
- counselling agencies

Incident Control has control and makes decisions on the operations associated with dealing with the incident and could be located at a **Fresh air base** (FAB) which can be defined as a continuously monitored station for dispatch or return of teams in close proximity to active zones in known fresh air

Equipment may include:

- communication systems and equipment
- respiratory protection for team and casualty
- First Aid equipment
- casualty/equipment transport (stokes litter).
- site/area map
- telephone contact details
- gas detection equipment
- self rescuer
- rope bag and contents
- scaling bars
- portable lights
- PPE
- guide lines
- tag lines
- vehicles
- ropes
- lights
- breathing apparatus
- search kits

Communications may include:

- two way radio
- telephone
- mobile phone
- hand signals
- runners
- light signals

Search **techniques** may include:

- line of sight
- systematic coverage of area radiating from last point of contact of search object
- link lines/guide lines
- walking/crawling.
- sweep
- grid patterns
- feelings

Physical contact may include:

- personal contact
- link line/guide line

- visual
- radio communication

Route marking may include:

- chemical light sticks
- wall markings
- barricades
- luminous tape/guide lines or hoses

Unplanned event or change in circumstances may include:

- route impassable
- collapsed team member
- unacceptable environment changes
- communications failure
- search team member equipment failure
- directed withdrawal
- team time expiry
- team lost, withdrawal
- notification to team from incident control

Conclusion of search may include:

- object of search found
- recommendation that search be called off
- further search

EVIDENCE GUIDE

Critical Aspects of Evidence

The evidence required to demonstrate this competency must be relevant to work site operations. In addition to satisfying the requirements of all elements, performance criteria, required knowledge and skills, evidence must include demonstration of:

- knowledge of all procedures, requirements and instructions to conduct an underground search appropriate to a mine site; and
- implementation of appropriate procedures and techniques for efficient and effective conduct of an underground search appropriate to a mine site, while complying with site risk control, health, safety, environmental, quality and communication requirements. This will include:
  a planning underground search
  b conducting search
  c finalising search

Required Knowledge

Specific knowledge is required to achieve the performance criteria in this unit to the standards of performance required in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. Assessment requires evidence of the ability to identify and explain the purpose of:

- search procedures and techniques
- local communication systems
- roles of external agencies
- local hazards and environmental threats
- operation of communication systems
- legal requirements in the event of a death or accident
- search equipment
- navigating in underground mines
- breathing apparatus

Required Skills

Specific skills are required to achieve the performance criteria in this unit. In addition to the generic skills identified in the Key Competencies section of this unit, assessment needs to obtain evidence of the ability to:

- flexibility to change plans
- adaptability and resourcefulness
- problem solving and planning to organise an immediate response
- questioning to determine accurate details concerning the situation
- decision making to determine the best course of action
- observations skills/navigate in underground mines
- read maps and interpret symbols
- respond to call-outs
- work as a member of a team

Assessment and Interdependence of Units

This unit may be assessed with other relevant units forming a cohesive work function, according to specific mine site requirements.

Resource Implications

Assessment of this competency requires typical resources normally used on a mine site work environment. Selection and use of resources for particular sites may differ due to site conditions, equipment availability, equipment/plant types and different contexts.

Consistency in Performance

To ensure consistency of performance, this unit may be assessed over a period of time and a range of work and site conditions. Local site factors will influence the breadth of evidence required to demonstrate the competency.

Context for Assessment

This unit should be assessed in the work environment where possible. Some assessment events may be conducted under simulated conditions where issues of safety and environmental damage are limiting factors. All assessments must be valid, reliable, fair and flexible accumulating sufficient evidence to demonstrate the required competence.

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.

Methods of Assessment

Appropriate methods of assessment for this unit will usually include:

- workplace observation of processes and procedures
- oral and/or written questioning on required knowledge
- testimony from supervisors, colleagues, clients and/or other appropriate persons;
- simulation and/or scenario analysis

Where performance is not directly observed and/or is required to be demonstrated over a period of time and/or in a number of locations, any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons.

Questioning should be undertaken in a manner appropriate to the language and literacy levels of the candidate and to the requirements of the unit of competency.

Assessment should also reinforce the integration of the Key Competencies.

Key Competencies

A number of basic skills that are learnt through work and life are required in all jobs, and enable people to transfer and apply knowledge and skills developed in classrooms and other learning situations to the workplace. These skills are commonly referred to as the seven Key Competencies. The three levels at which these can be applied are:

Level 1 — Perform the process/task

Level 2 — Perform and administer the process/task

Level 3 — Perform, administer and evaluate/design the process/task

The level of application of each Key Competency in the context of **this** unit is:

Key Competency	Example of Application	Performance Level
Collect, analyse and organise information	To receive and analyse information and clarify factors to be considered in the search plan.	**2**
Communicate ideas and information	To document search strategy.	**1**
Plan and organise activities	To plan underground search.	**2**
Work with others and in teams	To develop a workable search plan and contingency plans in consultation with external agencies and mine operational personnel.	**1**
Use mathematical ideas and techniques	To plot search patterns and routes on mine plan.	**1**

Key Competency	Example of Application	Performance Level
Solve problems	To conduct risk assessment to identify the risks to the search party.	**1**
Use technology	To establish and maintain *communications* procedures and protocols.	**1**

MNMRR307A Extricate casualties from underground incident

Unit Descriptor

This Unit describes the competency requirements for the selection and operation of extrication equipment to extricate casualties from underground incidents, stabilise casualty and transport to a place of safety.

	ELEMENT		PERFORMANCE CRITERIA
1.	Prepare for extrication of casualties	1.1	Interpret *incident* information to determine location, type of *incident* and personnel involved and record on the mine plan
		1.2	Fit appropriate *safety equipment* and navigate to *incident* site according to site and standard operating procedures
		1.3	Identify, address and report potential *hazards*, and risks to rescue team members and entrapped personnel
		1.4	Assess the possible type and extent of injuries to entrapped personnel
		1.5	Assess the *incident* and determine the appropriate method of extricating casualties
		1.6	Determine extrication procedures and strategy and develop an *action plan* for extrication operations
2	Establish extrication system and extricate casualty	2.1	Identify and obtain required *extrication equipment* and check for operational ability
		2.2	Set up *equipment* to extricate casualty according to manufacturer's specifications and site and safe operating procedures
		2.3	Test the extrication system and *equipment* to manufacturers' specifications and safe operating procedures before extrication operations are undertaken
		2.4	Employ *equipment* and techniques to extricate people according to manufacturer's specifications and site and safe operating procedures
		2.5	Maintain *communication* with other team members and *Incident Control* on condition of casualties and status of extrication operations

3.	Stabilise casualty	3.1	Perform Primary and Secondary assessments to check casualty's condition to recognised life support guidelines
		3.2	Apply identified life support requirements
		3.3	Continuously monitor casualty and record vital signs
		3.4	*Communicate* casualty information to *Incident Control* and/or *medical personnel*
4.	Transport casualty to a place of safety	4.1	Evaluate the need for, and equip casualties with escape apparatus
		4.2	Assess the availability and adequacy of transport resources and obtain additional assistance and resources where required
		4.3	Prepare stretcher patients and other casualties for safe transport to a place of safety according to site and safe operating procedures
		4.4	Monitor casualties and check vital signs during transport
		4.5	Employ techniques and procedures to transport casualties to a place of safety according to site and safe operating procedures
		4.6	Ensure that casualties are handed over to medical professionals
		4.7	*Communicate* status of incident site, casualties, personnel and *equipment* to *Incident Control*
5.	*Restore and refurbish* equipment	5.1	Inspect all *equipment* used for any damage sustained in the extrication operation
		5.2	Repair or replace defective *equipment* to meet manufacturers' specifications or Australian Standards
		5.3	Tag and quarantine unusable *equipment*
		5.4	*Return* the rescue system and *equipment* to *operational readiness* according to manufacturers' specifications and/or Australian Standards

RANGE STATEMENT

The following range of variables is subject to site specific operations, but is not limited to the

following details. Site procedures, regulations and occupational health and safety and other relevant legislation apply to all elements and performance criteria.

Incidents may include those associated with:

- heights
- depths
- plant and equipment entrapment
- light vehicles
- heavy vehicles
- mining equipment
- transport equipment
- shafts and winders
- toxic environment

Safety equipment may include:

- breathing apparatus
- industrial clothing
- thermal suits
- face shields
- eye protection
- respiratory protection
- safety footwear

Hazards may include:

- environmental
- electrical
- smoke
- chemicals
- toxic atmosphere/gases
- loss of visibility
- volatile substances
- heat
- heights/depths
- ground/wall collapse
- unstable ground
- engulfment
- bulk fuel storage
- fuel transportation
- unsafe working practices
- explosives

Incident Control has overall planning, approval and control of an incident

Action plans may include:

- extrication equipment requirements
- personnel capability and numbers
- duties assigned to extrication and support personnel
- extrication strategy and procedures
- safety equipment requirements
- communications methods and protocols
- risk assessment requirements
- emergency procedures
- life support arrangements
- transport
- contingency plans

Extrication equipment may include:

- hydraulic rescue equipment
- pneumatic lifting equipment
- crowbars
- hand tools
- hacksaws
- abrasive saws
- cutting equipment
- Tirfor
- oxygen therapy/resuscitation equipment
- rescue boards
- first aid equipment
- roping equipment
- ladders

Communications may include:

- reports
- two way radio
- telephone
- mobile phone
- hand signals
- runners
- light signals

Medical personnel may include:

- doctors
- ambulance officers
- paramedics
- site medical officer
- Royal Flying Doctor Service

Returning equipment to operational readiness may include:

- inspection
- cleaning
- repair
- replacement/re-fill

EVIDENCE GUIDE

Critical Aspects of Evidence

The evidence required to demonstrate this competency must be relevant to work site operations. In addition to satisfying the requirements of all elements, performance criteria, required knowledge and skills, evidence must include demonstration of:

- knowledge of all procedures, requirements and instructions to extricate casualties from underground mine incidents appropriate to a mine site; and
- implementation of appropriate procedures and techniques for efficient and effective extrication of casualties from underground mine incidents appropriate to a mine site, while complying with site risk control, health, safety, environmental, quality and communication requirements. This will include:
  a preparing for extrication of casualties
  b establishing extrication system and extricating casualty
  c stabilising casualty
  d transporting casualty to a place of safety
  e restoring and refurbishing equipment

Required Knowledge

Specific knowledge is required to achieve the performance criteria in this unit to the standards of performance required in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. Assessment requires evidence of the ability to identify and explain the purpose of:

- extrication equipment - types, construction and operation
- manufacturer's recommendations for safe use and care of extrication equipment
- basic life support
- primary assessment/secondary assessment
- hazard/risk management principles and practices (including assessment and control)
- types and availability of transport resources
- types and availability of medical facilities
- lashing techniques for stretchers
- systems and methods of extrication
- location of extrication equipment
- inspection and refurbishment of extrication equipment
- hazards of underground mine operations
- hazards associated with large mobile mine equipment
- mine traffic procedures and rules
- communication systems and protocols
- infectious disease and waste management

Required Skills

Specific skills are required to achieve the performance criteria in this unit. In addition to the generic skills identified in the Key Competencies section of this unit, assessment needs to obtain evidence of the ability to:

- locate extrication equipment on mine site
- navigate in underground mines
- read maps and interpret symbols
- respond to call-outs
- work as a member of a team
- locate and demonstrate the correct use of ladders and other devices
- operate emergency communications systems
- interpret and use signals
- access, interpret and apply technical and safety information
- apply diagnostic/faultfinding techniques
- comply with environmental requirements
- apply isolation procedures
- use hand and power tools

Assessment and Interdependence of Units

This unit may be assessed with other relevant units forming a cohesive work function, according to specific mine site requirements.

Resource Implications

Assessment of this competency requires typical resources normally used on a mine site work environment. Selection and use of resources for particular sites may differ due to site conditions, equipment availability, equipment/plant types and different contexts.

Consistency in Performance

To ensure consistency of performance, this unit may be assessed over a period of time and a range of work and site conditions. Local site factors will influence the breadth of evidence required to demonstrate the competency.

Context for Assessment

This unit should be assessed in the work environment where possible. Some assessment events may be conducted under simulated conditions where issues of safety and environmental damage are limiting factors.

All assessments must be valid, reliable, fair and flexible accumulating sufficient evidence to demonstrate the required competence.

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.

Methods of Assessment

Appropriate methods of assessment for this unit will usually include:

- workplace observation of processes and procedures
- oral and/or written questioning on required knowledge
- testimony from supervisors, colleagues, clients and/or other appropriate persons;

- simulation and/or scenario analysis

Where performance is not directly observed and/or is required to be demonstrated over a period of time and/or in a number of locations, any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons.

Questioning should be undertaken in a manner appropriate to the language and literacy levels of the candidate and to the requirements of the unit of competency.

Assessment should also reinforce the integration of the Key Competencies.

Key Competencies

A number of basic skills that are learnt through work and life are required in all jobs, and enable people to transfer and apply knowledge and skills developed in classrooms and other learning situations to the workplace. These skills are commonly referred to as the seven Key Competencies. There are three levels at which these Key Competencies can be applied:

Level 1 — Perform the process/task

Level 2 — Perform and administer the process/task

Level 3 — Perform, administer and evaluate/design the process/task

The level of application of each Key Competency in the context of **this** unit is:

Key Competency	Example of Application	Performance Level
Collect, analyse and organise information	To assess the incident and determine the appropriate method of extricating casualties.	**1**
Communicate ideas and information	To communicate incident site status of personnel and equipment to Incident Control.	**1**
Plan and organise activities	To prepare for extrication of casualties.	**1**
Work with others and in teams	To employ techniques and procedures to transport casualty to a place of safety.	**1**
Use mathematical ideas and techniques	To test the extrication system and equipment.	**1**
Solve problems	To determine extrication procedures and strategy and develop an action plan for extrication operations.	**1**
Use technology	To repair or replace defective equipment.	**1**

MNMRR309A Establish and operate from fresh air base

Unit Descriptor

This unit covers the competency to establish a fresh air base, manage the resources of the *fresh air base*, oversee rescue operations from the *fresh air base*, and communicate between rescue teams and *Incident Control* personnel.

	ELEMENT		PERFORMANCE CRITERIA
1.	Prepare to establish *fresh air base*	1.1	Develop strategy for the establishment of the *fresh air base*
		1.2	Analyse mine plans, characteristics, data and reports to locate and assess potential affected zones
		1.3	Confirm effected fresh air zones through *atmospheric testing.*
		1.4	Identify and organise/obtain *fresh air base resources*
		1.5	Check all fresh air base resources for correct, safe operation to manufacturer's specifications and mine requirements
		1.6	Check selected testing and monitoring instruments for correct operation to manufacturer's specifications and mine requirements
		1.7	Appoint *fresh air base* personnel with required competence
2.	Establish the *fresh air base*	2.1	Transport to and install all allocated *fresh air base resources*
		2.2	Test site gas levels to ensure they are within specified limits
		2.3	Inspect roof, sides and floor for stability and safety
		2.4	Install *monitoring equipment* in appropriate locations
		2.5	Monitor atmosphere to maintain integrity of *fresh air base* in event of atmospheric changes
		2.6	Maintain *fresh air base* in respirable air
		2.7	Ensure escape strategy and equipment are available to enable *fresh air base* personnel to effect escape in emergency conditions
		2.8	Install *communication* equipment in *fresh air base* and test for effective, clear and reliable operation

3.	Operate from fresh air base	3.1	Monitor atmosphere to ensure compliance with designated limits and *log* at recommended intervals
		3.2	Communicate *atmosphere conditions* to *Incident Control* for *instructions*
		3.3	Relocate *fresh air bases* if atmosphere becomes outside designated limits
		3.4	Inform *rescue team* of *fresh air base* relocation and reason for decision to relocate
		3.5	Control and monitor rescue team activities and movements to ensure team safety, duty of care and team tasks are achieved
		3.6	Make available and keep all *fresh air base* equipment in a state of readiness for use in case of emergency
		3.7	Brief, equip, check, log and dispatch rescue team to meet rescue operations requirements
		3.8	Coordinate and control *ancillary personnel* and operations working from *fresh air base*
		3.9	Maintain *communications* with teams and *Incident Control* to ensure safety of rescue teams and fresh air base personnel
		3.10	Carry out handover briefings to ensure continuity of operations and team safety by oncoming personnel.

RANGE STATEMENT

The following range of variables is subject to site specific operations, but is not limited to the following details. Site procedures, regulations and occupational health and safety and other relevant legislation apply to all elements and performance criteria.

Fresh air base may be defined as a continuously monitored station for dispatch or return of rescue teams in close proximity to irrespirable zones in known fresh air.

Incident Control has overall planning, approval and control of an incident

Atmospheric testing may include:

- hand-held instruments
- tube detectors
- telemetric remote sampling

Monitoring equipment refers to portable:

- electronic / chemical instruments
- ventilation measuring instruments

Fresh air base resources may include:

- escape unit
- first aid equipment
- resuscitators
- stretchers
- pain relievers
- medical staff
- ambulance staff

Instructions may include:

- relocation
- evacuation
- notification to active team
- notification to back up team
- notification to surface

Ancillary personnel may include:

- tradespeople
- doctors
- paramedics
- clergy
- gas monitoring
- communications
- technicians
- mine officials

Communications may include:

- telephones
- radios
- runners
- two way radio
- computer

Information may be **logged** by:

- log books
- duty cards
- tape recorder

Atmosphere conditions may include:

- temperature
- humidity
- noise
- gas levels
- dust air-borne contaminations

EVIDENCE GUIDE

Critical Aspects of Evidence

The evidence required to demonstrate this competency must be relevant to work site operations. In addition to satisfying the requirements of all elements, performance criteria, required knowledge and skills, evidence must include demonstration of:

- knowledge of all procedures, requirements and instructions to establish and operate from a fresh air base appropriate to a mine site; and
- implementation of appropriate procedures and techniques for the efficient and effective establishment and operation from a fresh air base appropriate to a mine site, while complying with site risk control, health, safety, environmental, quality and communication requirements. This will include:
  a preparing to establish fresh air base
  b establishing the fresh air base
  c operating from fresh air base

Required Knowledge

Specific knowledge is required to achieve the performance criteria in this unit to the standards of performance required in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. Assessment requires evidence of the ability to identify and explain the purpose of:

- role and responsibilities of the fresh air base controller
- standby / emergency procedures for fresh air base
- entrapment procedures
- underground environment
- underground transport systems
- ignition sources
- gas testing and monitoring instruments – types, limitations, function and operation
- types of fire and fire control methods
- detection, effects and contingencies with explosions
- call-out procedures
- equipment requirements for rescue operations
- rescue team procedures and equipment
- standby/emergency procedures for fresh air base
- effects on people working in hot and humid atmospheres
- atmospheric monitoring
- types of breathing apparatus, their construction, operating principles and limitations
- factors affecting oxygen / air consumption
- fresh air base procedures and communications
- structure, role and responsibilities of Incident Control
- extrication methods
- ground support types and construction

Required Skills

Specific skills are required to achieve the performance criteria in this unit. In addition to the generic skills identified in the Key Competencies section of this unit, assessment needs to obtain evidence of the ability to:

- work as a team member
- assess a situation and make effective, safe decisions
- plan and make contingency plans
- apply basic life support
- read mine plans and orientate in the underground mine
- locate and set up a fresh air base
- use communications and signals
- establish search patterns and mark underground routes
- identify ground conditions
- brief and de-brief team members and Incident Control
- write reports
- carry out risk assessments
- select and use appropriate PPE
- show competence in the use of escape and relevant breathing apparatus
- read and interpret mine plan symbols
- monitor and interpret atmospheric conditions

Assessment and Interdependence of Units

This unit may be assessed with other relevant units forming a cohesive work function, according to specific mine site requirements.

Resource Implications

Assessment of this competency requires typical resources normally used on a mine site work environment. Selection and use of resources for particular sites may differ due to site conditions, equipment availability, equipment/plant types and different contexts.

Consistency in Performance

To ensure consistency of performance, this unit may be assessed over a period of time and a range of work and site conditions. Local site factors will influence the breadth of evidence required to demonstrate the competency.

Context for Assessment

This unit should be assessed in the work environment where possible. Some assessment events may be conducted under simulated conditions where issues of safety and environmental damage are limiting factors.

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Methods of Assessment

Appropriate methods of assessment for this unit will usually include:

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- oral and/or written questioning on required knowledge
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Key Competencies

A number of basic skills that are learnt through work and life are required in all jobs, and enable people to transfer and apply knowledge and skills developed in classrooms and other learning situations to the workplace. These skills are commonly referred to as the seven Key Competencies. There are three levels at which these Key Competencies can be applied:

Level 1 — Perform the process/task

Level 2 — Perform and administer the process/task

Level 3 — Perform, administer and evaluate/design the process/task

The level of application of each Key Competency in the context of **this** unit is:

Key Competency	Example of Application	Performance Level
Collect, analyse and organise information	To analyse mine plans, characteristics, data and reports to locate contaminated zones.	**1**
Communicate ideas and information	To communicate atmosphere conditions to Incident Control.	**1**
Plan and organise activities	To identify and organise/obtain fresh air base resources.	**2**
Work with others and in teams	To appoint fresh air base personnel with required competence.	**1**
Use mathematical ideas and techniques	To test site gas levels to ensure they are within specified limits.	**1**
Solve problems	To inspect roof, sides and floor for stability and safety.	**1**
Use technology	To install monitoring equipment in appropriate locations.	**1**

MNMRR310A Provide support for rescue operations

Unit Descriptor

This unit describes the competency requirements of persons on the surface who support the activities of mine rescue teams during rescue operations. It covers the organisation and equipping of rescue team members, and the allocation and continuity of resources for rescue operations.

	ELEMENT		PERFORMANCE CRITERIA
1.	Muster teams	1.1	Validate team members' current rescue competency and constitute teams to incident requirements, and rescue guidelines
		1.2	Record rescue team membership
		1.3	Assess and monitor team members' state of readiness for rescue operation
		1.4	Allocate individual team preparation and mustering areas
		1.5	Maintain team's state of readiness and utilise when advised by *Incident Control*
		1.6	Regularly update team members on incident status
2.	Organise team and equipment	2.1	Enlist and utilise support personnel
		2.2	Identify and procure appropriate *equipment* to meet response to the incident
		2.3	Allocate *equipment* to team and record allocation details
		2.4	Repair, or replace and test faulty *equipment*
		2.5	Record and review test results to ensure compliance with rescue guidelines, legislative requirements and site procedures
		2.6	Advise and consult *Incident Control* on personnel and *equipment* status.
3.	Maintain supply of resources	3.1	Arrange transport for teams entering the mine
		3.2	Identify, locate and procure ongoing resource requirements
		3.3	Report unavailability of vital *equipment* to *Incident Control*
		3.4	Distribute ongoing resource requirements to teams and *fresh air base*

		3.5	Ensure continuity of catering and supplies for team
		3.6	Ensure *equipment* is tested before going underground.
4	Record and report resource allocation and usage	4.1	Keep and collate written records at completion of duties
		4.2	Log in and out and account for *equipment*
		4.3	Carry out handover briefings to ensure continuity of operations and team safety by on coming personnel

RANGE STATEMENT

The following range of variables is subject to site specific operations, but is not limited to the following details. Site procedures, regulations and occupational health and safety and other relevant legislation apply to all elements and performance criteria.

Incident Control has control and makes decisions on the operations associated with dealing with the incident

Fresh air base can be defined as a continuously monitored station for dispatch or return of teams in close proximity to active zones in known fresh air

Equipment may include:

- vehicles
- competent personnel
- breathing apparatus
- team safety equipment
- atmospheric monitoring equipment
- hydraulic and pneumatic rescue equipment
- rope equipment
- incident-specific equipment such as body bags

EVIDENCE GUIDE

Critical Aspects of Evidence

The evidence required to demonstrate this competency must be relevant to work site operations. In addition to satisfying the requirements of all elements, performance criteria, required knowledge and skills, evidence must include demonstration of:

- knowledge of all procedures, requirements and instructions to provide support for rescue operations appropriate to a mine site; and
- implementation of appropriate procedures and techniques for the efficient and effective provision of support for rescue operations appropriate to a mine site, while complying with site risk control, health, safety, environmental, quality and communication requirements. This will include:
  - a mustering teams
  - b organising team and equipment
  - c maintaining supply of resources
  - d recording and reporting resource allocation and usage

Required Knowledge

Specific knowledge is required to achieve the performance criteria in this unit to the standards of performance required in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. Assessment requires evidence of the ability to identify and explain the purpose of:

- role and responsibilities of support person
- mine surface layout
- use and care of self-rescuers
- breathing apparatus equipment and operation
- identification, sourcing and pre-testing of mine gas testing and monitoring instruments
- types of fire and fire fighting equipment
- equipment requirements for rescue operations
- rescue team procedures and equipment
- call-out procedures
- team composition and procedures
- air measurement and ventilation equipment
- extrication equipment
- hydraulic rescue equipment
- transport systems
- stretchers and lashings
- roping equipment
- communications equipment and signals
- route marking equipment
- ground support systems and equipment
- role of external services and agencies
- roles and responsibilities and membership of Incident Control

Required Skills

Specific skills are required to achieve the performance criteria in this unit. In addition to the generic skills identified in the Key Competencies section of this unit, assessment needs to obtain evidence of the ability to:

- coordinate activities and resources
- access and coordinate external services and agencies
- plan and solve problems
- read maps and interpret symbols
- respond to call-outs
- work as a member of a team

Assessment and Interdependence of Units

This unit may be assessed with other relevant units forming a cohesive work function, according to specific mine site requirements.

Resource Implications

Assessment of this competency requires typical resources normally used on a mine site work environment. Selection and use of resources for particular sites may differ due to site conditions,

equipment availability, equipment/plant types and different contexts.

Consistency in Performance

To ensure consistency of performance, this unit may be assessed over a period of time and a range of work and site conditions. Local site factors will influence the breadth of evidence required to demonstrate the competency.

Context for Assessment

This unit should be assessed in the work environment where possible. Some assessment events may be conducted under simulated conditions where issues of safety and environmental damage are limiting factors.

All assessments must be valid, reliable, fair and flexible accumulating sufficient evidence to demonstrate the required competence.

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.

Methods of Assessment

Appropriate methods of assessment for this unit will usually include:

- workplace observation of processes and procedures
- oral and/or written questioning on required knowledge
- testimony from supervisors, colleagues, clients and/or other appropriate persons;
- simulation and/or scenario analysis

Where performance is not directly observed and/or is required to be demonstrated over a period of time and/or in a number of locations, any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons.

Questioning should be undertaken in a manner appropriate to the language and literacy levels of the candidate and to the requirements of the unit of competency.

Assessment should also reinforce the integration of the Key Competencies.

Key Competencies

A number of basic skills that are learnt through work and life are required in all jobs, and enable people to transfer and apply knowledge and skills developed in classrooms and other learning situations to the workplace. These skills are commonly referred to as the seven Key Competencies. There are three levels at which these Key Competencies can be applied:

Level 1 — Perform the process/task

Level 2 — Perform and administer the process/task

Level 3 — Perform, administer and evaluate/design the process/task

The level of application of each Key Competency in the context of **this** unit is:

Key Competency	Example of Application	Performance Level
Collect, analyse and organise information	To assess and monitor team members' state of readiness for rescue operation.	**1**
Communicate ideas and information	To keep and collate written records at completion of duties.	**1**
Plan and organise activities	To organise team and equipment.	**2**

Key Competency	Example of Application	Performance Level
Work with others and in teams	To assess and monitor team members' state of readiness for rescue operation.	**1**
Use mathematical ideas and techniques	To test equipment.	**1**
Solve problems	To record and review test results.	**1**
Use technology	To repair, or replace and test faulty equipment.	**1**

1219-AB53-COMM-1-M

MNMRR411A Lead rescue team

Unit Descriptor

This unit covers the competency of the leader of a rescue team in managing the team members and resources during a rescue operation, and the team leader's responsibility toward the team members' health, safety and emotional wellbeing.

	ELEMENT		PERFORMANCE CRITERIA
1.	Prepare for rescue operation	1.1	Obtain and verify *information* about the rescue operation
		1.2	Obtain mine plan and determine route of travel and mark on mine plan
		1.3	Develop, or agree with *Incident Control*, the strategy and contingency plans for the rescue operation
		1.4	Implement *communication* system and equipment
		1.5	Assess team members' competence to meet the rescue situation and task requirements and constitute *team*
		1.6	Allocate *team roles* to best utilise individual team member competence
		1.7	Identify, test and allocate rescue and safety *equipment* and materials to team members
		1.8	Determine and ensure availability of any ancillary equipment required with *Incident Control* and/or mining personnel
2.	Brief team members	2.1	Provide information to team members on their roles, tasks and responsibilities to allow effective, safe rescue operation
		2.2	Ascertain team members understanding of their roles, tasks and responsibilities
3.	Report to and liaise with *Incident Control*	3.1	Observe reporting formats and protocols
		3.2	Confirm rescue strategies with *Incident Control*
		3.3	Receive and follow *operational advice* from *Incident Control*
		3.4	Relay *information* to *Incident Control* which can affect *team* operations or safety to *team* members
		3.5	Complete records required in accordance with legislative requirements or site requirements

4.	Lead and monitor rescue team	4.1	Carry out recommended procedures for entering hazardous or *irrespirable atmospheres* and situations
		4.2	Continually assess environment, tasks and hazards associated with rescue team's safety, and apply judgements to ensure tasks and procedures are carried out within rescue team's ability
		4.3	Continuously assess hazards and implement appropriate controls
		4.4	Monitor team members' *physical* and *emotional* condition and take appropriate action to address any problems
		4.5	Provide information to team members about changes which can affect their operations or safety
		4.6	Ensure *team* adheres to *team* rescue procedures according to standard rescue guidelines
		4.7	Implement coaching processes within the *team* and identify further assistance
5.	Complete team operation	5.1	Provide verbal report to *Incident Control* to advise of status of operation and significant variations to expected conditions
		5.2	Formally de-brief *team* to obtain and collate incident and procedural information
		5.3	Provide comprehensive verbal and written *report* on team's deployment and consequential outcomes to *Incident Control*
		5.4	*Report* on significant physical or emotional condition of *team* members
		5.5	Offer *team* members Critical Incident Stress Debriefing (explain in ROV) and counselling in an appropriate environment

RANGE STATEMENT

The following range of variables is subject to site specific operations, but is not limited to the following details. Site procedures, regulations and occupational health and safety and other relevant legislation apply to all elements and performance criteria.

Teams may comprise two or more members, depending on such factors as:

- respiratory protection
- distance/communications

Team roles may include:

- rescue team leader
- deputy rescue team leader
- rescue team member

Incident Control has overall planning, approval and control of an incident and may include:

Fresh air base which may be defined as a continuously monitored station for dispatch or return of rescue teams in close proximity to irrespirable zones in known fresh air.

Equipment is the equipment specified in the mine's rescue guidelines and protocols

Communications may include:

- reports
- two way radio
- telephone
- mobile phone
- hand signals
- runners
- light signals

Irrespirable atmosphere is considered as an atmosphere which is unsafe for a person to breathe as a result of either oxygen depletion or the presence of:

- toxic fumes
- gases
- contaminants

Operational advice may include:

- re-location
- evacuation
- notification to active team
- notification to surface

Information my include:

- arrivals
- departures
- team names
- suit/set identification numbers
- route of travel
- expected time of return

Physical condition may be affected by:

- heat exhaustion
- dehydration
- injuries from slipping / tripping / falls
- respiratory problems
- physical exhaustion
- vomiting
- workload

Emotional condition may be affected by:

- panic
- fright
- stress
- distress
- claustrophobia

Reports may be written or verbal

EVIDENCE GUIDE

Critical Aspects of Evidence

The evidence required to demonstrate this competency must be relevant to work site operations. In addition to satisfying the requirements of all elements, performance criteria, required knowledge and skills, evidence must include demonstration of:

- knowledge of all procedures, requirements and instructions to lead a mine rescue team appropriate to a mine site, and;
- implementation of appropriate procedures and techniques for the efficient and effective leadership of a rescue team appropriate to a mine site, while complying with site risk control, health, safety, environmental, quality and communication requirements. This will include:
  a prepare for rescue operation
  b brief team members
  c report to and liaise with fresh air base or incident control
  d lead and monitor rescue team
  e complete team operation

Required Knowledge

Specific knowledge is required to achieve the performance criteria in this unit to the standards of performance required in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. Assessment requires evidence of the ability to identify and explain the purpose of:

- principles of leadership
- counselling techniques
- rescue guidelines
- reporting and recording methods and protocols
- entrapment procedures
- mining methods and environment
- transport systems
- ignition sources
- gas testing and monitoring instruments – types, limitations, function and operation
- types of fire and fire control methods
- call-out procedures
- rescue team procedures and equipment
- standby / emergency procedures
- effects on people working in hot and humid atmospheres
- air measurement and ventilation systems

- atmospheric monitoring and ventilation systems
- types of breathing apparatus: their construction, operating principles and limitations
- factors affecting oxygen/air consumption
- techniques for resuscitation in irrespirable atmospheres
- fresh air base procedures and communications
- structure, role and responsibilities of Incident Control
- CISD
- hazardous substances: their effects and controls
- extrication methods
- risk management

Required Skills

Specific skills are required to achieve the performance criteria in this unit. In addition to the generic skills identified in the Key Competencies section of this unit, assessment needs to obtain evidence of the ability to:

- apply leadership skills
- work with teams
- assess a situation and make effective, safe decisions
- apply basic life support
- establish search patterns and mark routes
- carry out risk assessments
- take contingency measures with breathing apparatus in emergency situations
- select and use PPE/operate in escape apparatus
- read and interpret mine plans and symbols
- take air measurement and ventilation readings
- take temperature and relative humidity measures
- interpret and use signals
- access, interpret and apply technical and safety information
- apply diagnostic/faultfinding techniques
- apply isolation procedures

Assessment and Interdependence of Units

This unit may be assessed with other relevant units forming a cohesive work function, according to specific mine site requirements.

Resource Implications

Assessment of this competency requires typical resources normally used on a mine site work environment. Selection and use of resources for particular sites may differ due to site conditions, equipment availability, equipment/plant types and different contexts.

Consistency in Performance

To ensure consistency of performance, this unit may be assessed over a period of time and a range of work and site conditions. Local site factors will influence the breadth of evidence required to demonstrate the competency.

Context for Assessment

This unit should be assessed in the work environment where possible. Some assessment events may be conducted under simulated conditions where issues of safety and environmental damage are limiting factors.

All assessments must be valid, reliable, fair and flexible accumulating sufficient evidence to demonstrate the required competence.

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.

Methods of Assessment

Appropriate methods of assessment for this unit will usually include:

- workplace observation of processes and procedures
- oral and/or written questioning on required knowledge
- testimony from supervisors, colleagues, clients and/or other appropriate persons;
- simulation and/or scenario analysis

Where performance is not directly observed and/or is required to be demonstrated over a period of time and/or in a number of locations, any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons.

Questioning should be undertaken in a manner appropriate to the language and literacy levels of the candidate and to the requirements of the unit of competency.

Assessment should also reinforce the integration of the Key Competencies.

Key Competencies

A number of basic skills that are learnt through work and life are required in all jobs, and enable people to transfer and apply knowledge and skills developed in classrooms and other learning situations to the workplace. These skills are commonly referred to as the seven Key Competencies. There are three levels at which these Key Competencies can be applied:

Level 1 — Perform the process/task

Level 2 — Perform and administer the process/task

Level 3 — Perform, administer and evaluate/design the process/task

The level of application of each Key Competency in the context of **this** unit is:

Key Competency	Example of Application	Performance Level
Collect, analyse and organise information	To obtain mine plan and determine route of travel and mark on mine plan.	**2**
Communicate ideas and information	To provide information to team members about changes which can affect their operations or safety.	**1**
Plan and organise activities	To develop, or agree with Incident Control, strategy and contingency plans.	**2**
Work with others and in teams	To monitor team members' physical and emotional condition.	**1**
Use mathematical ideas and techniques	To read and interpret mine plans and symbols.	**1**

Key Competency	Example of Application	Performance Level
Solve problems	To continually assess environment, tasks and hazards associated with rescue team's safety, and apply judgements to ensure tasks and procedures are carried out for team's physical and emotional welfare.	**2**
Use technology	To carry out recommended procedures for entering hazardous or irrespirable atmospheres.	**1**

PMAOHS211A Prepare equipment for emergency response

Unit descriptor

This competency unit relates to the preparation of equipment used to respond to emergency situations.

Prerequisites

This unit **has no** prerequisites.

ELEMENT	PERFORMANCE CRITERIA
1. Identify emergency equipment.	1.1 Locate emergency equipment
	1.2 Ensure access is provided to emergency equipment.
2. Inspect and assemble emergency equipment.	2.1 Inspect emergency equipment for faults or damage
	2.2 Secure couplings/connections and operational condition
	2.3 Assemble equipment in accordance with manufacturer's specifications
	2.4 Identify and report any missing or damaged components.
3. Carry out minor servicing of equipment.	3.1 Maintain and clean equipment according to specifications/procedures
	3.2 Conduct servicing in accordance with specifications/procedures
	3.3 Ensure equipment is 'made-ready' and stored in designated location
	3.4 Ensure equipment functions in accordance with specifications.
4. Report and record equipment status.	4.1 Record and report equipment status
	4.2 Raise maintenance requests as required
	4.3 Undertake corrective actions as required.

RANGE STATEMENT

Context

This unit of competency includes all items of equipment that are required for emergency response.

Emergency response equipment may include:

- fire extinguishers
- fire hoses
- fire blankets
- pumps
- branches, fittings and nozzles
- foam equipment/units
- personal protective clothing
- breathing apparatus

- deluge/safety showers.

Required functions include:

- inspections
- visual
- mechanical
- servicing
- lubrication
- pressure checks
- refilling
- communication
- maintenance
- external authorities.

This competency covers process manufacturing plants which may involve:

Workplace hazards such as:

- chemicals and hazardous materials
- gases and liquids under pressure
- moving machinery
- materials handling
- working at heights, in restricted or confined spaces, or environments subjected to heat, noise, dusts or vapours.

Emerging incidents may include:

- accidents/fires/chemical or oil spills
- gas leak or vapour emission
- utilities failure
- bomb scares.

HSE

All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

EVIDENCE GUIDE

Assessment context and methods

Assessment for this unit of competency will be on an operating plant. The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.

Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual plant and will include walk throughs of the relevant competency components. Simulations may also include the use of case studies/scenarios and role plays.

This unit of competency requires a body of knowledge which will be assessed through questioning and the use of what if scenarios both on the plant (during demonstration of normal operations and walk throughs of abnormal operations) and off the plant.

Critical aspects

Competence must be demonstrated in the ability to recognise and analyse potential situations requiring action and then in implementing appropriate action. The emphasis should be on the ability to minimise the affect of an emergency situation.

Consistent performance should be demonstrated. In particular look to see that:

- early warning signs of equipment in need of servicing are recognised
- equipment is always 'made ready'
- equipment is always stored in the designated location at all times when not in use
- access to equipment is available at all times when not in use.

These aspects may be best assessed using a range of scenarios/case studies/what ifs as the stimulus with a walk through forming part of the response. These assessment activities should include a range of problems, including new, unusual and extreme situations that may have been generated from the past incident history of the plant, incidents on similar plants around the world, hazard analysis activities (eg, HAZOP) and similar sources.

Resource implications

Assessment will require access to an operating plant over an extended period of time, or a suitable method of gathering evidence of operating ability over a range of situations. A bank of scenarios/case studies/what ifs will be required as will a bank of questions which will be used to probe the reasoning behind the observable actions.

Other assessment advice

In all plants it may be appropriate to assess this unit concurrently with relevant teamwork and communication units.

In a major hazard facility, it may be appropriate to assess this unit concurrently with:

- PMAOHS200 Participate in workplace safety procedures.

Essential knowledge

Knowledge and understanding of the emergency response procedures and equipment, sufficient to recognise standard and non-standard situations, with regards to the equipment used and then determine the appropriate action which is consistent with operating guidelines.

Knowledge of the relevant OHS and environmental requirements, and enterprise standard operating procedures is required along with an ability to implement them in a manner that is relevant to emergency response practices.

Competence includes the ability to

- apply and explain procedures for:
- assembling and operating various pieces of emergency response equipment
- servicing various pieces of emergency response equipment
- storing various pieces of emergency response equipment.

Evidence of knowledge of all relevant workplace procedures will include:

- principles of operation of the emergency response equipment
- hazards policies and procedures
- emergency, fire and accident procedures
- procedures for the use of personal protective clothing and equipment
- enterprise standard operating procedures (SOPs).

Key competencies

1 Collect, analyse & organise information	2 Communicate ideas and information	3 Plan and organise activities	4 Work with others & in teams	5 Use mathematical ideas and techniques	6 Solve problems	7 Use technology
2	1	1	2	1	2	2

PMAOMIR444A Develop incident containment strategies

Unit descriptor

This unit covers the competency required in the development of incident containment strategies. It involves the:

- Analysis of needs
- Evaluation of alternative strategies
- Recommend the most appropriate strategy
- Negotiation of access to resource

Critical aspects of the competence include:

- the regulatory environment in which actions need to take place
- impact on environment, local community and economy of the organisation
- evaluation of strategies including advantages and disadvantages

The individual would:

- analyse needs and develop strategies
- negotiate access to resources
- resolve conflicts and obtain support

Generally, the individual would be part of a team. While independent action may sometime be required, the individual is expected to liaise, cooperate and consult with other members of the team as necessary.

Prerequisites

This unit **has no** pre-requisites.

ELEMENT	*PERFORMANCE CRITERIA*
1. Identify strategies	1.1. Risk characteristics of the possible incident scenarios are identified 1.2. Specific objectives of incident containment are clearly identified 1.3. Existing **strategies are identified** 1.4. A range of alternative strategies are developed

ELEMENT	*PERFORMANCE CRITERIA*
2. Evaluate strategies	2.1. Incident behaviour and growth under alternative strategy scenarios are predicted
	2.2. Issues relating to health, safety and environment are considered
	2.3. Resource requirements for alternative strategies are identified
	2.4. Impact of strategies on a range of factors are identified
	2.5. Appropriate tactics for the strategies are identified and clearly documented
	2.6. Feedback on strategies from **stakeholders** and incident managers are obtained, collated and recorded according to procedures
	2.7. Stakeholder needs are addressed and negotiated
3. Select strategies	3.1. Findings and feedback on the suitability of the different strategies are documented
	3.2. Preferred strategies are recommended according to procedures

RANGE STATEMENT

Context

Incidents may include:

- Fire
- Explosion
- Gas or oil leak
- Accident
- Bomb threat
- Missing personnel
- Combination of the above

Strategies are identified through:

- Consultation with experts
- Literature review

Stakeholders may include:

- Shareholders
- Board of directors
- Employees
- Unions
- Contractors
- Suppliers
- Insurance companies
- Local community
- Fire brigade
- Police
- Local emergency management organisations

- Medical services
- Relevant public authority

OHS

The identification and control of hazards and the application of OHS is to be in accordance with current, applicable legislation and regulations and company procedures. All work is carried out at all times in accordance with these requirements.

EVIDENCE GUIDE

Assessment context and methods

Competency should be assessed in the workplace or simulated work environment over a period of time which permits the effectiveness of application to be evaluated. The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessments should include 'walk throughs' of the relevant competency components and may include the use of case studies/scenarios and role plays.

This unit of competency requires a significant body of knowledge which will be assessed through questioning and the use of 'what if' scenarios both in the facility (during demonstration of normal operations and walk throughs of abnormal operations) and off the site.

Critical aspects

It is essential that competence in this unit reflects successful assessment in the critical aspects of:

- Hazard risk identification and control
- Demonstrated understanding of incident containment strategies and tactics
- Information gathering, analysis and communication
- Consultation with relevant personnel and experts/specialists

These aspects may be best assessed using a range of scenarios/case studies/what ifs as the stimulus with a walk through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations which may have been generated from the past incident history of the plant, incidents on similar plants around the world, hazard analysis activities and similar sources.

Resource implications

Assessment will require (1) access to an accurately simulated environment or (2) a suitable method of gathering evidence of responding ability over a range of situations. A bank of scenarios/case studies/what ifs and a bank of questions to probe the reasoning behind the observable actions will likewise be required.

Other assessment advice

It may be appropriate to assess this unit concurrently with other relevant units.

Essential knowledge

Competence includes an understanding of the following:

- Incident response and disaster planning processes and techniques
- Relevant legislation
- Equipment required for different types of equipment
- Incident resources and how to access them
- Different types of incidents and risks
- Hazard identification and control

- Risk management principles and techniques
- Structure, roles, capabilities and operational limitations of external resources and agencies
- Rescue techniques
- Intervention and control techniques for heating, fires and explosions
- Media policies and procedures
- Insurance policies and considerations
- Economic impact and considerations

Essential skills

Competence includes the ability to:

- Formulate and develop incident preparedness plans
- Read and interpret site plans
- Access and use site information and recording systems
- Hazard identification and control
- Evaluate systems
- Write reports
- Develop action plans
- Analyse information
- Make effective decisions
- Participate as a team member

Key competencies

1 Collect, analyse & organise information	2 Communicate ideas and information	3 Plan and organise activities	4 Work with others & in teams	5 Use mathematical ideas and techniques	6 Solve problems	7 Use technology
3	3	3	3	1	3	1

PUAAMS007A Coordinate search and rescue operations

UNIT DESCRIPTOR This unit covers the competency to coordinate a Search and Rescue incident.

ELEMENT	PERFORMANCE CRITERIA
1. Prepare search plan	1.1 Search and rescue assets and potential assets are identified and recorded in databases 1.2 Strategic and tactical objectives are identified in accordance with unit plans 1.3 Strategies to achieve objectives are identified in accordance with organisational policies and procedures 1.4 Risk management strategies are identified and incorporated/conducted in accordance with policy guidelines 1.5 Information management strategies are identified and applied in accordance with organisational policies and procedures 1.6 Search and Rescue procedures and policies are communicated to interested and affected persons, groups and organisations in accordance with the needs of those people
2. Apply datum search planning principles	2.1 A last known/most probable position is established from available data 2.2 Initial search procedures are implemented in accordance with the National Search and Rescue manual 2.3 Calculations are made to establish intended track/area/position in accordance with planned route 2.4 Time frame for survival of the missing person(s) is calculated in accordance with policies and procedures protocols 2.5 Physiological and environmental factors are determined as a basis for decision making 2.6 A search area is calculated consistent with organisational policies and procedures 2.7 Search pattern and track spacing is determined consistent with organisational policies and procedures 2.8 A probability of detection factor is calculated consistent with organisational policies and procedures 2.9 Acceptability of probability of detection factor is evaluated consistent with organisational policies and procedures 2.10 Search area is recalculated or redefined,

	determined by availability of assets, changing weather conditions and search time available
3. Apply rescue-planning principles	3.1 The nature of problem/distress is determined in accordance with the available information 3.2 Rescue resources are identified, mobilised and monitored consistent with organisational policies and procedures 3.3 Operational risks are assessed and minimised in accordance with policies, procedures and best practices 3.4 Survivor delivery points are identified in accordance with requirements and capability of the rescue platform 3.5 Physiological, geographic and medical factors are considered for rescue and delivery as per the situational requirements 3.6 Time factors are considered as per the situational requirements 3.7 The chosen solution is evaluated and reported against the determined criteria in accordance with organisational policies and procedures
4. Evaluate operational direction	4.1. The search and rescue plan is implemented and amended as dictated by the requirements of the situation 4.2. A process of continual evaluation is applied in accordance with policies and procedures protocol 4.3. Contingency planning is conducted in accordance with organisational policies and procedures 4.4. Regular briefings and debriefings are conducted in accordance with organisational policies and procedures

RANGE STATEMENT

Databases may include	contact names telephone numbers addresses (where appropriate) aircraft/vessel details aircraft/vessel requirements Databases are maintained by updating details on a regular basis as determined by local policies and procedures
Assets may include	aircraft including helicopters Australian Defence Force aircraft

	vessels and personnel police equipment and personnel civilian vessels volunteer groups clubs and associations
Strategic objectives may include	the systematic planning for the provision of Search and Rescue services and includes identification of emerging issues
Tactical objectives may include	the management of specific operations and includes resourcing coordinating reporting etc
Policies and procedures protocols may include	National Search and Rescue manual international search and rescue manuals and reference texts legislation relevant to the operation/incident/response legislation relevant to the organisation operational corporate and strategic plans operational Standing Operating Procedures operational performance standards organisational personnel practices and guidelines organisational quality standards
Last known/most probable position may include	gathering intelligence to establish: route taken last verbal/radio or other contact known patterns based on historical/routine data navigation plan
Physiological constraints may include	hypothermia hyperthermia physical condition age sex mental condition health
Environmental factors may include	terrain weather conditions

Technical manuals documentation or relevant publication may include	Search and Rescue manuals medical charts flight plans sail plans
Information management strategies may include	communication flow use of technology compatibility audit trails standardised information reporting procedures and formats
Calculations may include	using manual or computer systems utilising compasses protractors time/distance/speed calculators rulers and formulae Calculations include sweep width and track spacing calculations for persons vessels and aircraft calculations in area – time – velocity – spacing probability of detection factors time/distance/speed calculations time frame for survival and mobility calculations

Calculating a search area may include	the intended track/splash point/last known position and time vectorial factors wind current drift leeway and other weather factors positional error and safety factors
Determining a search pattern and track spacing may include	taking into account environmental factors including: weather conditions currents terrain target type including: person type of vessel/life raft; and physiological factors including body mass clothing

	medical conditions and state of mind
Determining the nature of the problem may include	consideration of such factors as: size of area time of day number of lives at risk location/accessibility condition of survivors capacity of available resources and speed of rescue platform(s)
Surviving delivery points may include	consideration of safe areas to alight survivor hospital facilities medical facilities
Time factors may include	time frame for survival speed of rescue platform time of mobilisation transit times rescue platform endurance
Continual evidence may include	reviewing available data monitoring changing weather conditions monitoring assets capabilities reassessing requirements assessing available daylight for search
EVIDENCE GUIDE	
Critical aspects of evidence	Knowledge of defining the search area preparing search and rescue plans and making recommendations to the Senior Search and Rescue Officer that are based on research
Interdependent assessment of units	Pre-requisite units: Nil Co-requisite units: Nil

Underpinning knowledge	Evidence of: a knowledge of potential rescue platforms' capabilities and limitations an understanding of coronial requirements in relation to SAR an understanding of hypothermia/hyperthermia factors an understanding of Risk Management principles an understanding of the Personal Development Plan

Underpinning skills	The ability to: a knowledge of coaching and team building concepts collect and analyse information develop a compromised search area to suit available assets effectively communicate and consult with a range of individuals by a range of means including fax identify potential search patterns and their use pertaining to terrain plan for results telephone and face-to-face use initiative to achieve goals
Resource implications	On job assessment will not entail additional resources however, rosters may need to be amended in order for simulation eg Search and Rescue exercise (SAREX) to be effected
Consistency in performance	Evidence should be gathered over a period of time in a range of actual or simulated workplace environments
Context of assessment	Competence must be demonstrable for the relevant work situation by day or night. The assessment for this unit is most effectively undertaken on the job but may be undertaken in a simulation eg Search and Rescue Exercise – (SAREX)

KEY COMPETENCIES

Collect, Analyse & Organise Information	Communicate Ideas & Information	Plan & Organise Activities	Work with Others & in Teams	Use Mathematical Ideas & Techniques	Solve Problems	Use Technology
3	3	3	3	3	3	3

PUADEFEO201A Respond to fire

UNIT DESCRIPTOR

This unit covers the competency required to respond and suppress a fire. It also includes the ability to identify the nature and classification of the fire, report the fire and carry out evacuation procedures.

The unit deals with the ability to respond to fire that may occur in an open field, building or in a storage area and may be located on land, on board a ship at sea or in harbour, in the air and in the day or night and under any weather conditions.

The unit does not cover the competencies needed to become a professional or volunteer firefighter; these competencies are covered in other units in the Fire sector of the Public Safety Training Package.

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for fire	1.1 Procedures related to a fire emergency are accessed, interpreted and rehearsed
	1.2 Location of *firefighting equipment* is identified and the equipment is checked in accordance with *organisation* procedures and referred for maintenance/replacement as required
Carry out initial notification and assessment	2.1 Nature and scope of the fire is identified, confirmed and reported to appropriate personnel
	2.2 Fire situation is assessed and appropriate course of action is determined in keeping with requirements for personal safety
	2.3 Notification of fire threat is undertaken in accordance with authorised procedures
	2.4 Emergency evacuation procedures are followed, where appropriate, and in accordance with organisation procedures
Extinguish fires	3.1 Fires are extinguished using the appropriate equipment, materials and procedures
	3.2 Extinguisher is applied to ensure fast knockdown of fire
	3.3 Extinguisher is used at the appropriate range and time
	3.4 Extinguisher is used to minimise damage to equipment and facilities and to minimise risk of injury to personnel

RANGE STATEMENT	
Firefighting equipment may include	Extinguishers
	Monitors
	Fire hydrants
	Fire-hose reels
	Firefighting vehicles

	Personal protection equipment (PPE) Fire blanket
Organisation may include	The Defence organisation Other government departments or instrumentalities that work with explosive ordnance Enterprises that work with explosive ordnance
EVIDENCE GUIDE	
Critical aspects of evidence	Assessment must confirm the ability to adhere to relevant occupational health and safety requirements and operational safety, and must be performed in a manner which maximises individual safety and the safety of others. The identification and location of firefighting equipment in a local area, the conduct of periodic checks of firefighting equipment, the assessment of the fire situation, the notification of the fire situation to relevant authorities, the application of evacuation procedures and the identification, selection and use of fire fighting equipment must be demonstrated
Interdependent assessment of units	Pre-requisite units: Nil Co-requisite units: Nil
Underpinning knowledge	Site emergency plan Local area emergency procedures Types, operations and application of firefighting equipment including extinguishers, hose-reels and, where appropriate, monitors Fire alarm systems Verbal and nonverbal communication techniques including language, language style, active listening Principles of teamwork and team aims and objectives Composition of teams and roles and responsibility of team members Techniques for supporting others/team members
Underpinning skills	Access, read and interpret local emergency procedures Identify emergency alarms and match with response requirement Assess fire situation and notify authorities Identify, select and use firefighting equipment Apply evacuation procedures Carry out periodic checks on firefighting equipment Use a variety of verbal and non-verbal communication techniques Participate in a team
Resource implications	Access to facilities and resources used in responding to fire in a facility where packaging, storage, distribution and maintenance of explosive ordnance is undertaken,

	including a licensed explosive site
Consistency in performance	Competency should be demonstrated in a range of actual or simulated explosive ordnance contexts
Context of assessment	Competency should be assessed in the workplace or under conditions that accurately simulate a realistic workplace in accordance with all relevant legislation and organisation requirements. The assessment environment should include open field/at sea conditions, during the day or night and under a representative set of weather conditions.

KEY COMPETENCIES						
Collect, Analyse & Organise Information	Communicate Ideas & Information	Plan & Organise Activities	Work with Others & in Teams	Use Mathematical Ideas & Techniques	Solve Problems	Use Technology
1	1	1	1	1	1	1

PUAEME001A Provide emergency care

UNIT DESCRIPTOR This unit covers the competency to provide emergency care pending the arrival of appropriately qualified personnel.

ELEMENT	PERFORMANCE CRITERIA
Identify need for emergency care	Initial assessment is made of extent and nature of emergency care required Initial assessment is communicated to appropriate personnel in accordance with organisations' policies and procedures
Ensure personal safety of carer and casualty	Hygiene is maintained for protection of self and casualty Hazards to the carer are identified and appropriate action taken to safeguard against injury
Reassure casualty	A calm, caring and reassuring manner is adopted in interaction with the casualty and others at the scene Casualty is made comfortable using available resources
Assess casualty and implement emergency care procedures	Casualty assessed for DRABC Vital signs are continually monitored, recorded and any changes considered in planning treatment and reported as appropriate Treatment appropriate to the casualty's injuries is provided in line with approved first aid techniques and standards First aid equipment is operated in accordance with manufacturer's procedures and instructions, and organisational standards, policies, procedures and protocols Casualty's condition is monitored and reported in accordance with organisation's policies and procedures and treatment modified as necessary Treatment is maintained until qualified medical help takes over
Work cooperatively with personnel from other organisations	Clear and comprehensive reports are provided to personnel involved in ongoing casualty care Members of other emergency services are assisted in their tasks in accordance with organisation's standards and personal level of responsibility and competence

Recover and restore first aid equipment	First aid equipment is recovered, cleaned, inspected/tested, stored, restocked and resupplied and medical waste disposed of safely according to organisation's polices and procedures First aid equipment faults are rectified and/or reported in accordance with organisation's policies and procedures
Complete documentation	Documentation is completed and processed in line with legislative, regulatory and organisation's requirements

RANGE STATEMENT	
Conditions under which this competency may be required include	operating during any rescue or response situation including specialist rescue hazardous environmental conditions—adverse weather after dark operations difficult terrain debris traffic time pressures varying time frames—short term sudden impacts protracted response operations limited access to equipment necessitating the use of improvised techniques
Equipment may include	first aid kit personal protective equipment stretchers including improvised
Details of incident obtained from	casualty visual assessment of scene others at scene
Maintaining personal safety may include	washing hands using gloves
Caring manner may include	personal introduction and identification consistent with other priorities showing empathy communication with casualty voice tone and volume reassurance and gentle treatment all in a culturally appropriate manner
Hazards may include	bodily fluids traffic environmental hazards

	downed wires
	bystanders
	drugs/sharps
First aid techniques and standards may include	Guidelines to Australian Resuscitation Council resuscitation standards
	State and Territory regulations
Others may include	family
	friends at scene
Appropriate action may include	protecting scene
	isolating scene
	relocating casualty
Reporting as appropriate may include	team leader
	supervisor
	medical personnel
	paramedical personnel
	emergency medical technician
Treatment includes	applying resuscitation techniques
	controlling bleeding
	managing fractures
	managing soft tissue injuries
	dressing burns and scalds
Qualified health care personnel may include	specialist personnel
	medical personnel
Organisation's standards, policies, procedures and protocols may include	legislation relevant to the provision of emergency care
	legislation relevant to the organisation
	operational Standard Operating Procedures
	operational performance standards
Reporting casualty's condition may include	need for confidentiality
	status on arrival
	treatment provided
	history
	observations made
	changes in conditions
	timeframes
Documentation may include	written reports
	casualty details
	approved forms
	verbal report
	personal notes

Moving casualty may include	individually or with assistance observing decency in regard to culture a range of manual handling techniques and lifts and carries
Processing documentation may include	providing reports to authorised personnel filing reports diary entries logs
EVIDENCE GUIDE	
Critical aspects of evidence	Competency in this unit must be established through the practical demonstration of first aid skills, maintaining universal precautions and safety awareness Accurate documentation and a caring approach to injured persons during first aid activities are critical
Interdependent assessment of units	Pre-requisite units: PUAFIR201A Prevent injury (Fire Specific) Co-requisite units: Nil
Underpinning knowledge	Occupational health and safety guidelines for lifting and carrying systems of the body: respiratory skeletal digestive circulatory nervous urinary skin causes and management of unconsciousness priorities for life support in emergencies including the DRABC (danger, response, airway, breathing ventilation and circulation assessments) model Health Department guidelines for personal hygiene Australian Resuscitation Council resuscitation guidelines applying resuscitation techniques controlling bleeding casualty assessment principles of initial casualty management management of fractures and soft tissue injuries management of burns personal level of responsibility limitations competency

Underpinning skills	communicating verbally with casualties and others completing forms following procedures providing verbal reports to paramedical personnel remaining calm under time pressures and in difficult situations working with others in a team situation writing reports
Resource implications	Access to first aid equipment used in general operations is essential
Consistency in performance	Evidence should be gathered over a period of time in a range of actual or simulated workplace environments
Context of assessment	Exercise or simulation, or a series of tasks are required to demonstrate competence in this unit. This may involve setting scenarios to be completed either individually or as a member of a team. Written or verbal questions may be used as supporting evidence

KEY COMPETENCIES

Collect, Analyse & Organise Information	Communicate Ideas & Information	Plan & Organise Activities	Work with Others & in Teams	Use Mathematical Ideas & Techniques	Solve Problems	Use Technology
1	1	1	1	1	1	1

PUAEME002B Manage injuries at emergency incident

UNIT DESCRIPTOR This unit covers competency in more advanced emergency care and may include the use of equipment.

ELEMENT	PERFORMANCE CRITERIA
1. Assess scene	1.1 Initial assessment is made of extent and nature of emergency care required 1.2 Hazards to self and others are identified and appropriate action taken to safeguard against injury 1.3 Identify and communicate additional or specific resource requirements
2. Assess casualty	2.1 Identified injuries are managed in line with approved emergency care 2.2 Treatment is monitored, assessed and management plan amended appropriately in response to changes in condition of the casualty and/or environment 2.3 Additional or specific resources are identified
3. Implement emergency management procedures	3.1 Immediate life saving treatment is administered as determined 3.2 Signs and symptoms of shock are recognised and managed 3.3 Vital signs are monitored and recorded at regular intervals 3.4 Equipment is used according to casualty's condition, availability and to organisation's procedures
4. Move the casualty	4.1. Moving casualty to a safer location is assessed 4.2. Casualty is moved in accordance with operational standards 4.3. Continual assessment of casualty is conducted in accordance with organisation's procedures 4.4. Treatment is maintained while moving patient
5. Complete documentation	5.1 Details of casualties' condition, treatment and response to treatment are accurately recorded in line with organisation's procedures 5.2 Hand over of the casualty and records to medical personnel is conducted

RANGE STATEMENT	
Treatment may include	monitor vital signs management of shock checking and maintaining an airway application of spinal immobilisation techniques

	applying resuscitation techniques utilisation of oxygen managing wounds managing fractures use of life saving devices giving fluids orally use of bandages
Equipment may include	oxygen resuscitation defibrillation first aid kit stretchers spinal immobilisation collards spinal immobilisation frames/devices fracture immobilisation devices stokes litter
Assessment may include	environmental considerations casualty triage primary survey vital signs survey secondary survey (head to toe examination) evacuation procedures helicopter access nearest land/wharf based access
Moving a casualty may include	individually as a member of a team
Management plan may include	written protocols verbal transmitted
Resources may include	equipment personnel
EVIDENCE GUIDE	
Critical aspects of evidence	It is essential for this unit that competence be demonstrated in the practical demonstration of emergency care skills including: maintaining universal hygiene precautions accurate documentation observation and assessment skills correct use of life saving equipment appropriate management techniques for emergency

	encountered
Interdependent assessment of units	Pre-requisite units: PUAEME001A Provide emergency care Co-requisite units: Nil
Underpinning knowledge	applying resuscitation techniques casualty assessment casualty management crush injury syndrome contraindications wound management basic toxicology environmental exposure spinal injuries head injuries shock: absolute hypovolaemic relative legal and ethical issues in pre-hospital care anatomy and physiology haemorrhage cardiovascular emergencies hypoxia triage documentation communicate with casualties remain calm under pressure knowledge of current practices and procedures in emergency care
Underpinning skills	communicate verbally with casualties and others provide reports to paramedical personnel work with others in a team situation remain calm under pressure assess casualty
Resource implications	Access to first aid equipment used in general operations is essential Access may also be required to shore based transport, an ambulance or helicopter, depending on the context
Consistency in	Evidence should be gathered over a period of time in a

performance	range of actual or simulated workplace environments
Context of assessment	A real life incident, exercise or simulation, or a series of tasks are required to demonstrate competence in this unit. This may involve setting scenarios to be completed either individually or as a member of a team or as part of an interagency exercise. Written or verbal questions may be used as supporting evidence

KEY COMPETENCIES

Collect, Analyse & Organise Information	Communicate Ideas & Information	Plan & Organise Activities	Work with Others & in Teams	Use Mathematical Ideas & Techniques	Solve Problems	Use Technology
1	1	1	1	1	2	1

PUAFIR207A Operate breathing apparatus open circuit

UNIT DESCRIPTOR This unit covers the competency associated with the operation and maintenance of breathing apparatus equipment in an irrespirable atmosphere.

ELEMENT	PERFORMANCE CRITERIA
1. Conduct pre-donning checks and tests on breathing apparatus	1.1 Breathing apparatus is inspected for immediate use in accordance with the organisation's procedures 1.2 Faulty or damaged equipment is reported and recorded in accordance with the organisation's procedures
2. Don and check breathing apparatus	2.1 Breathing apparatus is donned in accordance with the organisation's procedures 2.2 Breathing apparatus is started and checked in accordance with organisational procedures 2.3 Breathing apparatus control procedures are followed in accordance with the organisation's procedures 2.4 Ancillary equipment required for the task is selected for use
3. Operate breathing apparatus	3.1 Hazards are identified, monitored and controlled in accordance with the organisation's procedures 3.2 Communication is established and maintained with members and other appropriate personnel throughout the activity 3.3 Activities are undertaken as a member of a team, demonstrating effective application of breathing apparatus in accordance with the organisation's procedures 3.4 Entrapment procedures are implemented in accordance with the organisation's procedures 3.5 Personal safety is maintained at all times
4. Conclude operations	4.1. Breathing apparatus set is closed down in accordance with organisational procedures 4.2. Breathing apparatus set is removed in accordance with the organisation's procedures 4.3. After use cleaning and maintenance of breathing apparatus is undertaken in accordance with the organisation's procedures 4.4. Equipment is made ready for operational use in accordance with organisational procedures

RANGE STATEMENT	
Types of breathing apparatus must include	open circuit
and may also include	airline equipment /escape sets

Types of irrespirable atmospheres must include	heated atmospheres asphyxiating atmosphere (oxygen deficient) (non-skin absorption) toxic or poisonous atmosphere smoke or suspended particles/fibres in atmosphere
Pre-use tests and checks must include	serviceability of components integrity of components cylinder pressure integrity of air flow system ancillary equipmen
Breathing apparatus control equipment must include	control boards breathing apparatus set tallies entry control officer identification guideline and branch line tallies procedures personal lines
Breathing apparatus control must include	principles of BA Control organisation's procedures Stage 1 (one entry point) Stage 2 (multiple entry points) entry/exit control point entry/exit control officer timing device
Entrapment procedures may include	cease all strenuous activity activate the distress signal unit remain calm relocate to safest available place call for assistance
Communications must include and may also include	distress signal unit portable radio communications sets signal lines hand signals
Hazards must include	fire failure to maintain a face seal exhaustion of air supply malfunction of equipment disorientation in smoke/darkness or confinement structural hazards and/or hazardous materials entrapment

EVIDENCE GUIDE

Critical aspects of evidence	It is essential for this unit that competence be demonstrated in accordance with AS/NZ 1715–1716: appropriate conduct of pre-donning tests correct donning of breathing apparatus operation of breathing apparatus movement in conditions or reduced visibility breathing apparatus emergency procedures organisation's procedures are followed correct removal of breathing apparatus return of breathing apparatus to operational status
Interdependent assessment of units	Pre-requisite units: PUAFIR201A Prevent injury Co-requisite units: Nil
Underpinning knowledge	respiratory system, effects of irrespirable atmospheres on the body, protective equipment characteristics, component parts, operation of compressed air breathing apparatus operational testing, standard operating procedures and safe work practices when wearing breathing apparatus operating breathing apparatus use of the Distress Signal Unit use of the breathing apparatus control equipment use of procedures, personal lines and tallies
Underpinning skills	Inspecting, donning, operating in, removal, cleaning, maintaining and returning to operational status of breathing apparatus
Resource implications	access to a range of controlled or simulated scenarios Breathing Apparatus and associated equipment
Consistency of performance	Evidence should be gathered over a period of time in a range of actual or simulated workplace environments.
Context of assessment	A combination of oral or written presentations, observations, on the job and/or in a range of simulated environments.

KEY COMPETENCY

Collect, analyse and organise information	Communicate ideas and information	Plan and organise activities	Work with others and in teams	Use mathematical ideas and techniques	Solve problems	Use technology
1	1	1	1	1	1	1

PUAFIR306A Render hazardous materials incidents safe

UNIT DESCRIPTOR

This unit covers the competency required to safely combat incidents involving hazardous materials.

"Hazardous Materials" is a generic term used to refer to an incident involving dangerous goods and hazardous substances.

ELEMENT	PERFORMANCE CRITERIA
1. Identify and handle hazardous materials	1.1 Pre-incident plans, site control and containment plan and directives from supervisor are identified and implemented 1.2 Personal protective clothing and equipment appropriate to the types of hazards reported, are selected and worn 1.3 The incident is approached using care and caution and a safe distance is maintained in accordance with the organisation's procedures and/or advice from appropriate authorities 1.4 Dangerous goods and hazardous substances are identified from a safe distance and information conveyed to the supervisor in accordance with the organisation's procedures 1.5 Information on hazards and handling procedures for the identified substance is obtained in accordance with the organisation's procedures 1.6 Suitability of personal protective clothing and equipment is re-assessed in accordance with information received 1.7 Dangerous goods and hazardous substances are handled according to the organisation's procedures 1.8 Assistance is provided in obtaining samples according to procedures and/or advice from other authorities
2. Assist with establishing hazard control and decontamination zones	2.1 Individual's responsibilities within the organisation's control plan are identified and followed 2.2 The scene is secured and hazard control and decontamination zones are established according to the organisation's procedures 2.3 Evacuation procedures are implemented, if directed, to protect life in accordance with the organisation's procedures 2.4 Assistance is provided to control personnel and equipment entering and leaving hazard control and decontamination zones in accordance with the organisation's procedures 2.5 Records are kept of personnel and equipment as they enter and leave hazard control and decontamination zones

3. Contain and recover hazardous materials	3.1 Appropriate containment strategies and resources are identified and implemented 3.2 Hazardous materials are diluted and/or contained in accordance with procedures and/or advice from appropriate authorities 3.3 Hazardous materials are recovered from the incident site according to guidelines and procedures from the appropriate authorities
4. Assist with decontaminating personnel and equipment	4.1. Personnel and equipment are decontaminated immediately following contamination, or possible contamination in accordance with the organisation's procedures and Occupational Health and Safety guidelines 4.2. Operations are completed, equipment collected, decontaminated and cleaned where appropriate and serviced in accordance with the organisation's procedures 4.3. Contamination incidents are recorded and reported to the appropriate personnel in accordance with the organisation's procedures

RANGE STATEMENT	
Identification of hazardous materials must include	Hazmat information United Nations numbers proper shipping names product names or trade names chemical names and chemical abstract service numbers dangerous goods class labels packing groups emergency information panels placarding storage manifests transport documents visual signs and chemical indicators. colour coding (eg. gas cylinders)
Hazardous materials information sources must include	HAZCHEM Emergency Action Codes emergency procedures guides material safety data sheets technical specialist
and may also include	emergency response guide books National Fire Protection Association Codes European Marking ADR hazard identification numbers electronic databases HAZMAT Action Guides safe storage and information handling
Control zones must include	area of likely contamination (hot zone) area of operations (warm zone)

	support zone (cold zone)
Procedures must include	organisation procedures
and may also include	OH&S practices and procedures government organisational procedures company or organisational procedures emergency management evacuation environmental gas plume modelling
Equipment for containment and recovery may include	Hazbins – hazardous materials recovery bins sealable drums original containers shipping containers absorbent materials protective clothing and equipment plugs and patches booms pipes extraction equipment and machinery hand implements earth moving equipment spraying equipment pumps non-sparking tools intrinsically safe tools
Neutralising and diluting agents may include	water acids and bases bicarbonate of soda lime
Decontamination-must include	wet decontamination techniques combination of wet and dry dry decontamination techniques decontamination techniques emergency decontamination
Decontamination areas must include	holding area wash area disrobing and rest area
Sampling may include	gaseous samples liquid samples solid samples.
Analysis may involve	sampling equipment

	external organisation assistance.
Organisations that assist operations may include	police ambulance local government chemical companies emergency services government departments
EVIDENCE GUIDE	
Critical aspects of evidence	It is essential for this unit that competence be demonstrated in: hazardous materials identification implementing appropriate standard operating procedures compliance with relevant legislation demonstration of safe working practices assisting in the establishment of incident control containing and recovering hazardous materials undertaking decontamination procedures.
Interdependent assessment of units	Pre-requisite units: PUAFIR201A Prevent injury Co-requisite units: PUAFIR308A Employ personal protection at a hazardous material incident
Underpinning knowledge	organisation policies and procedures legislation relevant to the organisation roles and responsibilities of agencies involved types of hazards and safe handling techniques methods of identifying hazardous materials principles of incident control decontamination principles and procedures containment techniques breathing apparatus procedures the nature and properties of hazardous materials
Underpinning skills	follow instructions and procedures use relevant equipment record information work as member of a team hazard assessments appropriate control techniques breathing apparatus procedures
Resource implications	Assessment of this competency will require access to relevant transport, communication and Hazmat equipment
Consistency of performance	Evidence will need to be gathered over a period of time across a range of variables appropriate to organisation roles.
Context of assessment	Simulations or exercises and/or a series of tasks are

	required to demonstrate competence in this unit. This may involve setting scenarios to be completed either individually or as a member of a team. Written or verbal questions should be used to support gathering of evidence.

KEY COMPETENCY						
Collect, analyse and organise information	Communicate ideas and information	Plan and organise activities	Work with others and in teams	Use mathematical ideas and techniques	Solve problems	Use technology
2	1	2	2	1	2	1

PUAFIR307A Monitor hazardous atmospheres

UNIT DESCRIPTOR	This unit covers competence in monitoring atmospheric conditions to measure contaminants, interpret readings, recommend action to take based on the interpretation, and the effects on humans exposed to hazardous atmospheres.

ELEMENT	**PERFORMANCE CRITERIA**
1. Prepare and plan for monitoring	1.1 Equipment is selected, calibrated and used to take atmospheric readings in accordance with the manufacturer's specifications and the organisation's requirements
2. Take precautions to safeguard health	2.1 Safety information and procedures are accessed and applied throughout the work 2.2 Appropriate personal protective clothing and equipment is selected and used 2.3 Recommendations on actions to be taken are made based on atmospheric readings
3. Take atmospheric readings	3.1 Readings of contaminants are interpreted, recorded and analysed and/or compared with specifications and exposure limits 3.2 Results are communicated in accordance with organisation's procedures
4. Maintain equipment	4.1. Monitoring equipment inspections and fault finding are carried out in accordance with manufacturers instructions 4.2. Records of tests and results are maintained in accordance with the organisation's procedures

RANGE STATEMENT	
Working environment may be	hazardous, unpredictable, subject to time pressure, chaotic and expose responders to risk, on land or water, by day or night
Safety information and procedures must include	relevant legislation, Australian Standards, codes of practice, manufacturer's instructions and organisational procedures
Procedures may include	safe working permit entry plan entry testing procedures appropriate rescue and first aid plans risk management measurement computer plume modelling
Response situations must include	confined spaces enclosed and partially enclosed spaces
and may also include	storage tanks, silos, pits, pipes, shafts, ducts, transport

	vehicles and ships
	obstructed entry/exit points
	low visibility or lack of illumination
	unsound or insecure structures
	single and multi agency response
Equipment must include	breathing apparatus, chemical protective clothing and equipment, portable instruments, radiation detectors, sampling tubes and pumps, oxygen level meter, carbon monoxide detector and combustible gas detectors
Workplace atmospheres may	include visible and invisible hazards
	include hazardous surfaces
	range from safe to unsafe
Incidents may include	all fire, Hazmat or rescue incidents
EVIDENCE GUIDE	
Critical aspects of evidence	It is essential in this unit that competence be demonstrated in:
	applying personal safety principles
	interpreting atmospheric conditions using atmospheric monitoring equipment
	recommending appropriate action
	maintaining monitoring equipment
Interdependent assessment of units	Pre-requisite units: PUAFIR207A Operate breathing apparatus
	Co-requisite units: PUATEA001A Work in a team
Underpinning knowledge	use and limitations of protective clothing and equipment
	risk assessment
	applicable exemptions for emergency services
	purging agents
	common chemical asphyxiants including: hydrocarbons, carbon dioxide, carbon monoxide, hydrogen cyanide, and hydrogen sulphide
	common irritants and corrosives including: chlorine, ammonia and acid bases
	common flammable gases including: acetylene, petroleum, methane, ethane, propane and butane
	narcotics
	(explosive range, upper and lower explosive limits)
	exposure standards (time weighted average, short term exposure limits, peak limitation values, examination of toxic effect at the level of a range of flammable gases
	conditions under which atmospheres become hazardous
	organisational procedures for entering hazardous atmospheres
	toxic effects on humans exposed to commonly encountered combustion gases

	units of measurement used to express concentration of atmospheric contaminants (mg/cubic m. ppm, % v/v)
Underpinning skills	Don, operate in, decontaminate and remove personal protective clothing and equipment Analyse and communicate results of sampling
Resource implications	For the demonstration of competence in this unit it will be necessary to provide a real life environment and/or simulations based on possible incidents. This should be done with access to a range of personal protective clothing and equipment, range of detection equipment as well as suitable simulation and/or sites. Underpinning knowledge may be assessed through written assignments, and observation at simulated incidents
Consistency in performance	Evidence should be gathered over a range of variables, all using different types of monitoring equipment
Context of assessment	A demonstration activity using workplaces/atmospheres with detectable but safe levels of contaminants should be used

KEY COMPETENCIES

Collect, Analyse & Organise Information	Communicate Ideas & Information	Plan & Organise Activities	Work with Others & in Teams	Use Mathematical Ideas & Techniques	Solve Problems	Use Technology
2	2	2	2	2	2	2

PUAOPE002A Operate communications systems and equipment

UNIT DESCRIPTOR	This unit covers the competency to transmit and receive communications in routine and operational situations using the organisation's communication systems and equipment.

ELEMENT	**PERFORMANCE CRITERIA**
1. Use communication systems and equipment	1.1 Equipment is used and operated safely to support communications consistent with organisation's policies and procedures 1.2 Communication equipment and techniques are selected to best meet the task, context and needs of the situation 1.3 The communication system is correctly utilised to facilitate transmission and reception 1.4 Communication systems are operationally maintained according to organisation's policies and procedures
2. Transmit and receive communications	2.1 Information is transmitted concisely and clearly to facilitate accurate reception of the message in accordance with organisation's policy and procedures 2.2 Contact is acknowledged, communication is confirmed and action initiated 2.3 Communication faults and deficiencies are reported according to organisation's policy and procedures 2.4 Alternative communication strategies are employed according to organisational procedures to address identified faults and deficiencies in communication 2.5 Communication is processed and recorded in accordance with organisation's policies and procedures
3. Maintain communications equipment	3.1 Fault finding techniques are applied and basic maintenance conducted according to organisational policies and procedures 3.2 Faulty equipment is identified and noted for repair

RANGE STATEMENT	
Communication equipment may include	personal computers and modems radio facsimiles signalling devices mobile landline and satellite telephones pagers
Communication systems may include	organisation's networks communication protocols

	verbal communication procedures geographical information systems relevant legislation such as Telecommunications Act
Verbal communication procedures may include	pro-words phonetic alphabet call signs coded messages use of abbreviations emergency procedures
Voice procedures may include	rhythm speed volume pitch sentences correcting mistakes repetitions

EVIDENCE GUIDE

Critical aspects of evidence	It is essential for this unit that competency be demonstrated in accurately transmitting and receiving communications using the organisation's communication system and equipment
Interdependent assessment of units	Pre-requisite units: Nil Co-requisite units: Nil
Underpinning knowledge	organisational policy and procedures relevant to the operation of communication equipment range of communication equipment available to the organisation the organisation's communication system
Underpinning skills	clean and service communication equipment according to organisational procedures report communication faults and deficiencies according to organisational procedures use verbal communication procedures consistent with the organisation's communication system utilise the organisation's communication processes and systems
Resource implications	access to relevant communication equipment
Consistency in performance	evidence should be gathered over a period of time in a range of actual or simulated workplace environments
Context of assessment	observation of the use of a range of communication equipment under non-operational and operational conditions or in a simulated environment

KEY COMPETENCIES

Collect, Analyse & Organise Information	Communicate Ideas & Information	Plan & Organise Activities	Work with Others & in Teams	Use Mathematical Ideas & Techniques	Solve Problems	Use Technology
2	2	2	1	1	1	2

PUASAR004A Undertake vertical rescue

UNIT DESCRIPTOR: This unit covers the competency to undertake vertical rescue operations as a member of a rescue team

ELEMENT	PERFORMANCE CRITERIA	
1. Prepare for and respond to vertical rescue	1.1	Operation and task information is obtained and analysed
	1.2	Vertical rescue equipment is selected based on incident information and checked to ensure it is ready for use
	1.3	Personal protective equipment for vertical rescue is selected
	1.4	Scene reconnaissance is conducted and results are reported
	1.5	Appropriate actions are taken to preserve incident scene
2. Assess scene	2.1	Physical and environmental features of scene are assessed before deploying rescue resources
	2.2	Access is controlled and a safe and effective operational environment is maintained
	2.3	Communication with other personnel on site is established and maintained
	2.4	Location and condition of casualty is determined
3. Establish vertical rescue system	3.1	Rescue system is constructed according to the type of incident
	3.2	Anchors are established and monitored
	3.3	Equipment is prepared and techniques are used in accordance with manufacturer's guidelines and organisational procedures
4. Perform vertical rescue	4.1.	Access is gained to casualties or trapped persons using organisationally approved techniques and equipment
	4.2.	Casualties or trapped persons are secured and prepared for removal in consultation with medical personnel
	4.3.	Casualties are removed using vertical rescue techniques and equipment whilst preventing further injury
5. Terminate vertical rescue operations	5.1	Equipment is recovered, cleaned and serviced in accordance with manufacturer's guidelines and organisational standards
	5.2	Where identified, signs and symptoms of operational stress are recognised and reported
	5.3	Operational debrief is conducted and documentation is completed to organisational standards

RANGE STATEMENT	
Operation and task information may include	number and type of casualties location magnitude and type of incident access and egress routes weather conditions and forecasts potential hazards command, control and coordination arrangements other organisations
Systems may include	lowering hauling high line or tyrolean edge management
Vertical rescue equipment may include	Rescue rope to AS41423 tapes slings pulleys edge protection karabiners ascending and descending devices anchors stretchers lighting and generator specialist communications equipment binoculars edge management devices
Physical and environmental features may include	ground stability anchor points clearances tides/waves/surf movements exposed or hazardous electrical conductors moving machinery greasy or oily surfaces hot surfaces unstable structures exhaust or steam outlets air quality high winds cold rain swift water loud noises fuels and chemicals

	irrespirable atmospheres
	physical features such as slopes
	loose surfaces
	sheer face
	overhangs
Vertical rescue environments may include	cliffs
	towers
	structures
	trees
	mines and caves and shafts
Vertical rescue techniques will be determined by	the type of vertical rescue system adopted
	organisation's policy and procedures
Scene management may include	establishing barriers and perimeter access controls
	management of bystanders and media
	establishing and monitoring safety zones
	media liaison
	crime scene preservation
Operational documentation may include	organisational procedures and related legal requirements
	equipment running logs
	vehicle logs
	notes
	sketches

EVIDENCE GUIDE	
Critical aspects of evidence	It is essential for this unit that competence is demonstrated in
	establishment of safe systems to gain access to and recover casualties; extrication of casualty minimising further injury or discomfort while conducting rescue operation; and application of safe work practices
Interdependent assessment of units	Pre-requisite units: PUASAR001A Participate in rescue operations
	Co-requisite units: PUATEA002A Work autonomously
Underpinning knowledge	relevant legislation
	emergency management and interagency arrangements
	organisation's procedures for operating vertical rescue equipment
	vertical rescue concepts and practices
	relevant OH&S principles and practices
	voice, whistle and other communication systems
	casualty assessment and packaging
	equipment characteristics
	braking strains
	safety factors and safe working loads

	operational briefing and debriefing procedures signs and symptoms of operational stress personal hygiene protocols reconnaissance techniques
Underpinning skills	work in a team use personal protective and rescue equipment within its safe work limitations disaster victim identification procedures working in a multi-service environment scene assessment and reporting wearing appropriate personal protective and rescue equipment correctly safe and effective scene management procedures establish, monitor and maintain safe anchor systems establish, maintain, monitor and use: abseil belay ascent descent and raising and lowering systems manage edge protection treat and package casualties escort stretchers in raising and lowering operations check, service and maintain vertical rescue equipment operate span line or tyrolean infection control
Resource requirements	Assessment of this competency requires access to an appropriate training/venue for vertical rescue activities; organisation's vertical rescue equipment and personnel for team-based activities
Consistency in performance:	Evidence should be gathered over a period of time in a range of actual or simulated workplace environments
Context of assessment:	Evidence to be collected in a range of simulated or actual vertical rescue environment

KEY COMPETENCY

Collect analyse and organise information	Communicate ideas and information	Plan and organise activities	Work with others and in teams	Use mathematical ideas and techniques	Solve problems	Use technology
2	2	2	2	2	2	2

PUASAR005A Undertake confined space rescue

UNIT DESCRIPTOR:	This unit covers the competency to undertake rescue in confined spaces as defined in AS2865 as a member of a single agency or multi-disciplinary team

ELEMENT	PERFORMANCE CRITERIA	
1. Prepare for confined space rescue operation	1.1	Operation and task information is obtained and analysed
	1.2	Rescue equipment is selected based on incident information and cross-checked to ensure it is ready for use
	1.3	Personal protective equipment is selected relevant to the nature of the confined space rescue operation
2. Assess and manage confined space/trench rescue	2.1	Physical features of confined space rescue scene are assessed before deploying rescue resources
	2.2	Rescue is managed to control access and maintain a safe and effective operational environment
	2.3	Hazards are assessed, minimised and controlled
	2.4	Communication with other personnel on site is established and maintained
3. Determine location and condition of casualties	3.1	Assessment is undertaken of incident scene to determine possible location of casualties
	3.2	Appropriate equipment is used to assist in the location of casualties
	3.3	Evidence of location within confined space is collected and reported
	3.4	The condition of casualties and nature of entrapment is ascertained where possible
	3.5	Hygiene procedures are applied in accordance with the organisation's procedures
4. Gain entry to confined space	4.1.	Entry permit is located and relevant information obtained if available
	4.2.	Atmosphere is monitored in accordance with AS2865
	4.3.	Appropriate ventilation procedures are implemented, where required
	4.4.	Appropriate respiratory protection is used in irrespirable atmospheres, where required
	4.5.	Techniques and equipment are employed to access the casualty
	4.6.	Located casualties are treated in consultation with medical personnel and in accordance with organisational policies
5. Remove casualties	5.1	Casualties are removed in accordance with organisation's procedures
	5.2	Appropriate actions are taken to preserve the incident scene, where possible
6. Conclude rescue	6.1	Equipment is recovered, cleaned and serviced

operations	according to organisational standards and manufacturer's guidelines 6.2 Signs and symptoms of operational stress are recognised and promptly reported 6.3 Operational documentation is completed to organisational standards
RANGE STATEMENT	
Confined space is defined as	Per AS2865 definition: Confined space – an enclosed or partially enclosed space which is at atmospheric pressure during occupancy; is not intended or designed primarily as a place of work; may have restricted means for entry and exit; and may have an atmosphere which contains potentially harmful levels of contaminant; not have a safe oxygen level; or cause engulfment
Confined spaces may include but are not limited to	Storage tanks tank cars process vessels boilers silos and other tank-like compartments usually having only a man-hole for entry Open topped spaces such as pits or degreasers Pipes sewers tunnels shafts and ducts and similar structures Any shipboard spaces entered through a small hatchway or access point cargo tanks cellular double bottom tanks duct keels ballast and oil tanks and void spaces but not including dry cargo holds Natural features such as caves and pits
Rescue equipment may include	life rescue line ropes/tapes tripods/edge management harnesses litters/stretchers hauling systems communications self-contained breathing apparatus/airline airline equipment atmospheric monitoring equipment

	escape sets and harnesses isolation equipment ventilation equipment
Situational or environmental hazards may include	dangerous goods or hazardous substance moving machinery either electrical or mechanical heat exhaustion or hypothermia oxygen enrichment oxygen deficiency atmospheric contaminants (such as hydrogen sulfide methane and carbon dioxide) swift water sewers and stormwater canals falls from heights or into depths
Personal protective equipment may include	gloves helmets safety glasses hearing protection aids chemical splash suit/fully encapsulated gas-tight suits atmospheric monitoring equipment self-contained breathing apparatus airlines
Recognised removal techniques may include	lifting lowering hauling mechanical advantage systems
Operational documentation may include	entry permits tally boards entry control procedures air monitoring procedures equipment and rope logs plan exposure records
Personnel may include	agency support on-site staff emergency services workers local / state / territory government authorities
Scene preservation may include	preservation of evidence and related legal requirements
Evidence collected may include	entry permit permit to work information received from bystanders witnesses and emergency services personnel

EVIDENCE GUIDE	
Critical Aspects of Evidence	It is essential for this unit that competence be demonstrated in extrication of casualty, minimising further injury to self and others
Interdependent Assessment of Units	Pre-requisite units: PUASAR001A Participate in rescue operations Co-requisite units: PUAFIR307A Monitor hazardous atmospheres (Fire Specific Requirement)
Underpinning Knowledge	Working knowledge of content of AS2865 AS1715 lock, tagout and isolation procedures potential occupational hazards and control measures procedures for atmospheric monitoring disaster victim identification procedures
Underpinning Skills	operation of atmospheric monitoring equipment operation of isolation systems operation of self contained breathing apparatus and airline equipment operation of ventilation equipment operation of lifting lowering and hauling systems
Resource Requirements	Assessment of this competency requires access to an appropriate training location/venue; and organisation's resource equipment and personnel for team based activities Resource requirements must meet AS2865
Consistency in performance	Evidence should be gathered over a period of time in a range of actual or simulated workplace environments
Context of assessment	Evidence of competent performance should be obtained by observing an individual in an actual or simulated rescue context

KEY COMPETENCY

Collect analyse and organise information	Communicate ideas and information	Plan and organise activities	Work with others and in teams	Use mathematical ideas and techniques	Solve problems	Use technology
2	2	2	3	2	2	2

PUASAR008A Search as a member of a land search team

UNIT DESCRIPTOR	This unit covers the competency to search for and locate lost persons and/or items as a member of a land search team.

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for land search	1.1 Operation and task information is obtained 1.2 Incident information is used to determine personal equipment needed for search operation 1.3 Search equipment is checked and packed for use
2. Participate in search	2.1 Specified team roles and functions are carried out 2.2 Search formation and spacings are maintained 2.3 Search boundaries are marked in line with task requirements 2.4 Observation skills are applied, and any clues or objects located are reported immediately in accordance with the organisation's procedures 2.5 Communication is maintained within the team 2.6 Personal capabilities and limitations are recognised and referred to the supervisor
3. Maintain search safety	3.1 Survival techniques are applied were required 3.2 Search safety procedures are implemented 3.3 Lost searcher procedures are implemented if required
4. Preserve scene	4.1. Supervisor is immediately advised of located persons or findings in accordance with the organisation's procedures 4.2. Initial preservation procedures are implemented to maintain the integrity of evidence 4.3. Initial scene preservation is conducted in line with the organisation's requirements
5. Complete recall and stand down procedures	5.1 Search equipment is recovered, cleaned and maintained in accordance with manufacturer's guidelines and organisational procedures 5.2 Operational debriefing is participated in and documentation is completed to organisational standards 5.3 Where identified, symptoms of operational stress are recognised and reported

RANGE STATEMENT	
Search operations may include	Operations are normally conducted in support of the police Volunteers may be involved in searches for missing persons
	objects or evidence
	Land searches are most commonly on foot, although searches may be undertaken from two or four wheel vehicles or on horseback, skis and snowshoes
Search terrain may include	forests
	grassland
	steep rock areas sand
	snow
	urban areas
Land search may be conducted under conditions which include	hazardous environmental conditions including:
	adverse weather
	after dark operations
	difficult terrain
	time pressure
	dangerous flora and fauna
	urban or rural environments
	operating as part of a multi-agency response
Incident and task information may include	number, nature and description of persons or objects that are the focus of the search
	weather forecast
	operating area
	access and egress routes
	emergency rendezvous points
	terrain and environmental information
	potential hazards
	Command, control and co-ordination arrangements
	time constraints
Communication may include	feedback of information
	modes of communication as per PUACOM001B
	calming and reassuring a casualty
Equipment used may include	Personal protective equipment, especially
	wet weather gear
	cold weather clothing
	sun protection
	water
	food
	overnight sleeping equipment
	personal first-air equipment
	personal hygiene items
	notebook and pencil

	boundary marking tapes radio communications equipment map compass or other positioning equipment
Specific team roles	Determined based on the selected search technique
Search formations	Determined based on the selected search techniques
Observation skills	Day and night vision skills
Procedures to locate person or object	are determined locally depending on the nature of the incident and the requirements of the controlling authority. They are made clear in pre-search briefings
Survival techniques may include	Skills relevant to the local areas (such as cold, heat, terrain and forest) Obtain water constructing fires locating shelter constructing temporary shelters conserving water food and energy
Operational documentation may include	notes or sketches of findings or other relevant information required for potential coronial or other legal proceedings
Symptoms of operational stress	may include fatigue intolerance indecision lack of focus nausea headaches illness

EVIDENCE GUIDE	
Critical aspects of evidence	It is essential for this unit that competence is demonstrated in compliance with search orders Safety of self and others is observed at all times during the search
Interdependent assessment of unit	Pre-requisite units: PUAFIR201A Prevent injury (Fire Specific requirement) Co-requisite units: PUATEA001A Work in a team
Underpinning knowledge	local documentation requirements local hazards and environmental threats local operating procedures local operational briefing and debriefing procedures lost searcher procedures object recovery procedures recall procedures relevant occupational health and safety principles and practices relevant search management arrangements in their State or Territory requirements to preserve a crime scene and the preservation of evidence signs and symptoms of operational stress
Underpinning skills	appropriate personal protective equipment worn correctly deal appropriately with clues and location of objects or causalities implement lost searcher procedures maintain search information observation skills spacing and boundary marking survival techniques working in a team
Resource implications	An appropriate environment to conduct the search operation is essential Support may include other organisations
Consistency in performance	Evidence should be gathered over a period of time in a range of actual or simulated workplace environments
Context of assessment	Evidence of competence is to be gathered in an actual or simulated search environment

KEY COMPETENCIES						
Collect, Analyse &	Communicate Ideas & Informatio	Plan & Organise Activitie	Work with Others &	Use Mathematical Ideas &	Solve Problem	Use Technolo

Organise Information	n	s	in Teams	Techniques	s	gy
2	2	1	2	1	2	2