



Australian Government

Department of Education, Employment and Workplace Relations

PUASAR028A Undertake rescue from a partial structural collapse

Revision Number: 2

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Modification History

Release	TP version	Comments
2	PUA12 V1	Layout adjusted.
1	PUA00 V8.1	First release in TGA.

Unit Descriptor

This unit covers the competency required to provide safe and effective response to an incident involving compromised structural stability, partial or complete collapse to gain access to and extricate entrapped casualty/s.

This unit requires the responder to stabilise the structure. Where entrapped casualty/s or victims are present the responder is required to remove the casualty or victim using a range of techniques relevant to the type of structure and nature of entrapment.

This unit is designed for a response within the capability of a local response unit. This unit cannot be used to certify an operator as a member of an Urban Search and Rescue Task Force.

Application of the Unit

This unit applies to a member of a rescue team.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

PUASAR023A Participate in an urban search and rescue Category 1

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare for structural collapse operation</p>	<p>1.1 Operation and <i>task information</i> is obtained and assessed upon call out.</p> <p>1.2 Appropriate <i>rescue resources</i> are identified and selected based on incident information received and checked to ensure they are ready for use.</p> <p>1.3 <i>Personal protective equipment (PPE) and clothing</i> is selected based on the <i>nature of the incident</i> and rescue resources to be used.</p> <p>1.4 <i>Systematic approach</i> to identifying potential hazards and associated risks is discussed with team members en route and on approach to the incident.</p>
<p>2. Establish and maintain rescue scene safety</p>	<p>2.1 <i>Rescue scene reconnaissance</i> and size up is conducted.</p> <p>2.2 <i>Situational</i> and <i>environmental hazards</i> are identified, analysed, evaluated and <i>treated</i>, marked and monitored.</p> <p>2.3 <i>Scene is managed to control access</i> and maintain a safe and effective operational environment.</p> <p>2.4 Communication with other personnel on site is established and maintained.</p>
<p>3. Determine location and condition of casualties</p>	<p>3.1 <i>Evidence of the location of casualties</i> within the collapsed structure is collected, analysed and reported in accordance with organisational policies and procedures.</p> <p>3.2 Appropriate resources are used for surface or lightly trapped casualties.</p> <p>3.3 Condition of surface or lightly trapped casualties and nature of entrapment is ascertained where possible.</p> <p>3.4 Search marking systems are utilised where applicable.</p>
<p>4. Stabilise and make safe incident scene</p>	<p>4.1 Exclusion zone is established to provide a safe working environment.</p> <p>4.2 <i>Stabilisation techniques</i> are utilised to make the collapsed site safe.</p> <p>4.3 Rescue operations can be conducted in a range of environments.</p> <p>4.4 Incident scene is constantly monitored for situational and environmental hazards and structural stability to prevent injury to self or others.</p>
<p>5. Gain access to casualties</p>	<p>5.1 Techniques appropriate to the nature of the entrapment are utilised to access the casualty.</p> <p>5.2 Located casualties are treated in consultation with medical personnel in accordance with organisational policies.</p>

ELEMENT**PERFORMANCE CRITERIA****6. Remove casualties**

5.3 Hygiene precautions are implemented in accordance with organisational requirements.

6.1 Techniques and *equipment are used to remove the entrapped casualty or victim* from within the structure.

6.2 Entrapped casualties are released, treated and stabilised in accordance with organisational procedures.

6.3 Casualties are removed from scene using recognised techniques.

6.4 Evidence of casualty's identity is collected and processed according to agreed procedures.

6.5 Appropriate actions are taken to preserve the incident scene where possible for evidentiary purposes.

7. Conclude rescue operations

7.1 Equipment is recovered, cleaned and serviced according to organisational standards and manufacturer's guidelines.

7.2 Hygiene precautions are implemented in accordance with the organisational requirements.

7.3 Signs and symptoms of operational stress are recognised and reported to relevant personnel.

7.4 *Operational documentation* is completed to organisational standards.

7.5 *Exposure records* are completed.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required Skills

- establish exclusion zones
- operate equipment in accordance with organisational procedures
- take notes
- use appropriate rescue equipment
- use cutting and breaking equipment
- use debris removal techniques
- use generators and lighting equipment safely and effectively
- use lifting and hauling equipment
- use pneumatic equipment
- use props and basic shoring techniques
- use ropes, anchors and rigging systems
- wear PPE in accordance with organisational requirements
- work in teams
- work within the responsible agency's command and control structure

Required Knowledge

- agency incident command and control systems
- equipment capabilities and limitations
- medical considerations and patient packaging for structural collapse casualties
- operational briefing and debriefing procedures
- organisational policies and procedures (such as relevant legislation; operational, corporate and strategic plans; operational performance standards; operational policies and procedures; organisational personnel and occupational health and safety practices and guidelines; organisational quality standards; organisation's approach to environmental management and sustainability)
- principles of structural collapse operations
- relevant occupational health and safety (OH&S) principles and procedures
- signs and symptoms of operational stress

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessment must confirm the ability to:

- work autonomously and as part of a team
- conduct a dynamic risk assessment
- maintain situational awareness and be alert to environmental and situational hazards
- safely use debris removal, shoring and propping techniques
- safely use hauling and lifting techniques
- extricate casualty minimising further injury to self, others or the casualty
- apply safe work practices in a range of environments

Consistency in performance

Competency should be demonstrated over time in a range of actual and/or simulated workplace environments.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed in an industry-approved simulated and/or workplace environment involving structural instability and rescue.

Specific resources for assessment

Access is required to:

- structural collapse rescue or simulation of a structural collapse incident
- equipment, personnel, facilities etc. appropriate to the range of incidents covered by this unit of competency

Method of assessment

In a public safety environment assessment is usually conducted via direct observation in a training environment or in the workplace via subject matter supervision and/or mentoring, which is typically recorded in a competency workbook.

Assessment is completed using appropriately qualified assessors who select the most appropriate method of assessment.

Assessment may occur in an operational environment or in an industry-approved simulated work environment.

Forms of assessment that are typically used include:

- direct observation
- interviewing the candidate
- journals and workplace documentation

- third party reports from supervisors
- written or oral questions

Range Statement

The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the Performance Criteria is detailed below.

Task information may include:

- environmental and other hazards
- nature, cause and location of incident
- occupancy
- type and magnitude of incident
- type and number of casualties/vehicles
- type of structure

Rescue resources may include:

- atmosphere monitoring equipment
- buckets
- chain saws
- communications equipment
- drills
- electrical detectors
- generators
- hand tools
- lifting/hauling equipment
- lighting
- medical equipment
- ropes
- shoring and building stabilisation
- wheel barrows

Personal protective equipment and clothing must meet the desired Australian/New Zealand Standards and may include:

- boots
- ear protection (plugs, and muffs)
- eye protection (goggles, glasses)
- gloves
- hand held lighting
- helmet and light
- knee/elbow protection
- masks and respirators
- protective clothing
- safety harnesses
- surgical gloves
- wet weather gear
- whistle

Nature of the incident:

- structural instability due to:
 - events of nature such as earthquake, flood, landslide, wind, storm
 - explosions

- fire
- inadequate construction
- transport vehicle into residential or commercial building

Systematic approach must include:

Rescue scene reconnaissance must include:

Situational and environmental hazards may include:

- assessment i.e. call out and response, route, scene, liaison, casualties
- positioning of vehicle i.e. dangers, access and casualties
- procedures i.e. dangers, casualty protection, extrication, warning devices and lighting
- assessing physical features of structural collapse before rescue operations are deployed by supervisor
- conducting size up
- identifying hazards
- maintaining liaison with primary response team and other relevant personnel
- recognising personal capabilities and limitations and referring to supervisor
- reporting need for additional personnel and/or specialist equipment to supervisor
- reporting results to supervisor
- adverse weather conditions
- below debris hazards, including:
 - flooding
 - oxygen deficient atmosphere
 - toxic environment
 - flammable environment
 - different levels of elevation
- biological hazards, including:
 - body fluids
 - untreated sewage
 - dangerous goods and hazardous substances
- overhead hazards, including:
 - falling debris
 - loose or unstable sections of structure
 - power lines
 - irrespirable atmospheres
- surface hazards, including:
 - climate
 - different types of surfaces
 - sharp and jagged objects
 - water pooling
 - dust and wind
 - noise and vibration
 - utilities

Treating hazards may include:

- eliminating the hazard
- isolating the area/source
- stabilising overhead hazards
- using atmospheric monitoring equipment
- using PPE and clothing

Managing the scene to control access may include:

- implemented structural collapse marking system
- sectorising site of structural collapse and defining boundaries

Evidence of location of casualties may include use of these search techniques:

- primary surface search and rescue:
 - audible
 - line and hail search
 - physical search
 - visual

Stabilisation techniques to make safe the incident scene may include

- controlling entry and entry permits if appropriate
- cribbing
- removing debris
- tie backs
- using shoring and props

Equipment used to remove the entrapped casualty or victim may include

- HAZMAT detection and isolation
- cutting lifting and moving of:
 - general building material
 - other entrapment components
- shoring stabilise and support structural components with use of:
 - cribbing and wedges
 - vertical, horizontal and window and/or door shores

Operational documentation may include:

- AIRS/coroner report
- communication logs
- equipment running and repair logs
- incident reports
- injury register
- near miss/accident forms
- notes or sketches and other relevant information required for potential coronal or other legal proceedings
- operational debrief
- site sectorisation plan

Exposure records may include:

- reporting form that documents any exposure that may result in a short or long term associated injury such as:
 - hazardous substances, such as dust, vapours, fumes, radiation and chemical substances

- heavy repetitive work over long periods of time
- lifting heavy loads
- noise
- psycho-social hazards (e.g. critical incident stress)

Unit Sector(s)

Not applicable.