



Australian Government

PUASAR023A Participate in an urban search and rescue Category 1

Release 3

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Modification History

Release	TP version	Comments
3	PUA12 V2.1	Editorial changes.
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 rescue support to an urban search and rescue (USAR) incident as a member of a first responder rescue team. It involves assisting with the rescue and removing surface (lightly trapped) casualties or deceased victims, applying basic search techniques such as carrying out limited debris removal and following safe work practices in accordance with occupational health and safety requirements.

The unit also includes knowledge of the specialist equipment and techniques used at a USAR incident and the ability to work as a part of a team.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Application of the Unit

This unit applies to the role of a USAR Category 1 first responder.

A person performing this role will operate under direct supervision as a member of a USAR first responder rescue team.

This role is based on a national capability requirement to deploy competent personnel to any USAR incident. There are three nationally-agreed levels of capability, commencing with USAR Category 1.

PUAOPE031A Undertake an urban search and rescue Category 2 covers USAR Category 2 incidents.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

PUAEME001B Provide emergency care

OR

HLTFA211A Provide basic emergency life support

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
1. Prepare for structural collapse rescue	<p>1.1 Operation and <i>task information</i> is obtained and communicated to supervisor.</p> <p>1.2 Based on incident information received, <i>rescue resources</i> are identified, selected and checked to ensure they are ready for use.</p> <p>1.3 <i>Personal protective clothing and equipment</i> is selected based on the nature of the structural collapse operation.</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>
2. Participate in assessing structural collapse rescue	<p>2.1 <i>Rescue scene reconnaissance and size up</i> is conducted and identified hazards and results are reported to supervisor.</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>Physical features</i> of structural collapse are <i>assessed</i> before rescue operations are deployed by supervisor.</p> <p>2.4 Need for additional personnel and/or specialist equipment is reported to supervisor.</p> <p>2.5 Liaison with primary response team and other relevant personnel is maintained.</p> <p>2.6 <i>Communication</i> with other team members on site is established and maintained using appropriate techniques and terminology.</p> <p>2.7 <i>Structural collapse sectors</i> and <i>boundaries</i> are confirmed with rescue team.</p> <p>2.8 <i>Structural collapse marking system</i> is implemented.</p> <p>2.9 Personal capabilities and limitations are recognised and referred to supervisor.</p> <p>2.10 Incident scene is <i>preserved</i> for investigating officer/s.</p>
3. Determine location and condition of surface casualties	<p>3.1 Intelligence of location of <i>surface casualties</i> within a collapsed structure is collected, analysed and reported in accordance with organisational policies and procedures.</p> <p>3.2 Collapse areas are explored for surface casualties in accordance with <i>safe work practices</i>.</p> <p>3.3 Resources are used for surface or lightly trapped</p>

ELEMENT**PERFORMANCE CRITERIA**

	casualties.
	3.4 Condition of surface or lightly trapped casualties and nature of entrapment is ascertained where possible.
4. Gain access to surface casualties	4.1 <i>Techniques</i> and <i>equipment</i> are employed <i>to stabilise</i> and <i>make safe</i> incident site.
	4.2 Techniques and equipment are employed to <i>locate trapped casualties</i> .
	4.3 <i>Primary survey</i> of casualty is undertaken to determine injury type and severity.
	4.4 Located casualties are <i>treated prior to being moved</i> in consultation with medical personnel in accordance with organisational policies.
5. Remove casualties	5.1 <i>Located casualties are released</i> , treated and stabilised.
	5.2 Casualties are removed using <i>recognised techniques and equipment</i> .
	5.3 Evidence of casualty identity is collected and processed in accordance with organisational procedures.
	5.4 Actions are taken to preserve the incident scene where possible for evidentiary purposes.
6. Conclude structural collapse rescue operations	6.1 Equipment is <i>recovered, cleaned and serviced</i> according to manufacturers' guidelines and organisational standards.
	6.2 <i>Signs and symptoms of operational stress</i> in self and others are reported to relevant personnel.
	6.3 Operational <i>debrief</i> is attended and <i>documentation</i> is completed to organisational standards.
	6.4 <i>Hygiene precautions</i> are implemented in accordance with the organisational procedures.
	6.5 <i>Exposure records</i> are completed.

Required Skills and Knowledge

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

Required Skills

- conduct a primary survey
- handle casualties safely
- handle stretchers safely
- conduct a risk assessment
- identify signs of structural collapse including those associated with secondary collapse
- implement surface search procedures and surface clearance of casualties
- operates equipment in accordance with organisational procedures
- problem solving
- use structural collapse rescue equipment
- wear personal protective equipment (PPE) in accordance with organisational requirements
- work within the responsible agency's command and control structure

Required Knowledge

- building and structure classifications
- calling and listening procedures
- capabilities and limitations of rescue equipment
- collapse patterns (curtain fall wall collapse, inward/outward collapse, lean over collapse, lean to floor collapse, angle wall collapse)
- command and control structure
- dangers associated with a damaged structure
- establishment of exclusion zones
- hazard identification and dynamic risk assessment recording
- hazardous materials procedures
- hygiene precautions
- marking systems such as structure assessment marking, victim location marking in accordance with INSARAG guidelines and methodology
- 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)
- primary survey procedures
- procedures for reporting injuries and accidents
- relevant legislation
- risks associated with confined spaces
- role of structural collapse rescue
- safe work practices

- scene assessment procedures
- search procedures
- situational and environmental hazards
- standard internationally accepted warning systems
- standard operating procedures
- structural collapse equipment typically used in the rescue of surface casualties
- structure of the USAR taskforce and the roles of USAR personnel
- symptoms of physical/emotional stress
- team stretcher handling procedures
- types of PPE and clothing
- types of building structures

Evidence Guide

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

Assessment must confirm the ability to:

- work effectively as part of a team
- apply safe work practices when providing assistance to a USAR rescue team
- conduct a dynamic risk assessment
- conduct a primary survey of casualty
- maintain situational awareness and be alert to environmental and situational hazards
- implement basic search techniques using approved marking systems
- operates equipment in accordance with organisational procedures
- traverse unstable environments
- safely and effectively gain access to surface casualties with no further injury to persons or damage to property
- respond and react to instructions in a safe, correct and timely manner

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.

Specific resources for assessment

Access is required to:

- USAR incident or simulation of a USAR incident
- equipment, personnel, facilities etc. appropriate to a USAR incident

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.

<p><i>Task information</i> may include:</p>	<ul style="list-style-type: none"> • cause of collapse • current situation • environmental and other hazards • incident location • other public safety organisations • type and magnitude of incident • type and number of casualties/vehicles
<p><i>Rescue resources</i> may include:</p>	<ul style="list-style-type: none"> • basic rescue equipment such as lighting, hydraulic tools, ropes and hand tools • canines • communications • heavy plant • logistics support services such as portable toilets, tents, food • medical equipment • more sophisticated rescue equipment such as search cameras, chainsaws, jack hammers and air monitors
<p><i>Personal protective equipment and clothing</i> must meet the desired Australian/New Zealand Standards and may include:</p>	<ul style="list-style-type: none"> • appropriate protective clothing • boots • dust mask • eye protection • gloves • hearing protection • helmets • knee/elbow protection • whistle
<p><i>Systematic approach</i> must include:</p>	<ul style="list-style-type: none"> • 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
<p><i>Rescue scene reconnaissance and size up</i> may include:</p>	<ul style="list-style-type: none"> • collecting relevant information about structural damage, e.g. casualties, victims, physical characteristics, hazards • isolating and eliminating utilities such as broken gas pipes, damaged electrical wiring, leaking water • relating knowledge of building and structure

Situational hazards may include:

- classifications to the incident scene
- surveying the incident scene
- adverse weather conditions
- below debris hazards, including:
 - flooding
 - oxygen deficient atmosphere
 - toxic environment
 - flammable environment
 - different levels of elevation
- biological hazards, including:
 - body fluids
 - decomposing bodies
 - untreated sewage
- dangerous goods and hazardous substances
- overhead hazards, including:
 - falling debris
 - loose or unstable sections of structure
 - power lines
- structural instability due to:
 - events of nature such as earthquake, flood, landslide, wind
 - explosions
 - fire
 - inadequate construction
- surface hazards, including:
 - climate
 - different types of surfaces
 - sharp and jagged objects
 - water pooling
 - dust and wind
 - noise and vibration
- utilities

Environmental hazards may include:

- dangerous goods and hazardous substances
- utilities
- weather

Treating hazards may include:

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

- Assessing physical features of structural collapse*** may include:
- collapse patterns, including:
 - curtain fall wall collapse
 - lean over collapse
 - lean to floor collapse
 - pancake floor collapse
 - secondary collapse/other building
 - inverted 'V' or tent collapse
 - 'V' collapse
 - cantilever collapse
 - methods of construction, including:
 - timber
 - light frame
 - besser block
 - reinforced masonry
 - concrete tilt-up
 - reinforced concrete and steel
- Communication*** may include:
- marking systems
 - posted signage
 - radio communications (radio, telephones and information technology)
 - whistle/horn warning signals
- Structural collapse sectors and boundaries*** may include:
- geographic area structure identification (sectorisation)
 - location identification within single structures
- Structural collapse marking system*** includes:
- INSARAG Guidelines and Marking System:
 - structural assessment marking
 - victim location marking
 - site sectorisation marking
- Preserving the incident scene*** may include:
- disturbing only to gain access or make scene safe
 - note taking and reporting to supervisor of observations made
 - preserving the integrity of evidence
- Surface casualties*** may include:
- casualties not trapped within the structure
 - casualties who would suffer most from injuries inflicted from debris
- Safe work practices*** must include:
- ability to traverse unstable surfaces in a safe manner
 - stretcher pass
 - three points of contact at all times
- Techniques and equipment to stabilise and make safe site*** may include:
- controlling entry and entry permits if appropriate
 - removing debris

- Techniques and equipment to locate trapped casualties*** may include:
- audible search method
 - rescue team - surface search procedures, line and hail
 - visual
- Primary survey:***
- is a methodical process used to quickly identify immediate life threatening injuries and conditions that require intervention
 - should be completed promptly upon initial patient contact if no immediate life threatening injuries and conditions requiring intervention are found during the survey
 - should be completed as soon as possible if it is interrupted
 - should only be interrupted when:
 - life threatening condition is identified and immediate life saving interventions are initiated
 - scene conditions require that the patient be moved immediately due to danger to first emergency care responders or the patient
- Treating casualties prior to being moved*** may include:
- cervical collar
 - first aid
 - primary/secondary survey
 - respiratory protection, if required
- Releasing located casualties*** may include:
- use of stretcher packaging
 - surface extrication
- Recognised techniques and equipment for removing casualties*** may include:
- exit route for rescuers and packaged casualty
 - 1:1/2:1 mechanical advantage hauling/lowering systems
 - rescue/spine boards
 - stretchers
 - team stretcher handling
- Recovering, cleaning and servicing of equipment*** may include:
- cleaning or disposing of contaminated clothing and equipment
 - inspecting equipment for damage and serviceability
 - checking inventories
- Signs and symptoms of operational stress*** may include:
- critical incident stress
 - dehydration
 - fatigue
 - hypothermia
- Debriefings*** may include:
- critical incident stress debriefing
 - operational analysis
 - post-incident analysis

Documentation may include:

- performance evaluations
- AIRS/coroner report
- near miss injury register
- notebooks completed
- operational debrief

Hygiene precautions may include:

- avoiding contact with body fluids
- decontaminating equipment and personnel
- washing hands
- wearing appropriate protective clothing

Exposure records may include:

- reporting form that documents any exposure that may result in a short- or long-term associated injury such as:
 - dangerous goods and 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.