



Australian Government

Department of Education, Employment and Workplace Relations

PUAECO006A Read and interpret maps

Revision Number: 2

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Modification History

PUAECO006A Release 2: Layout adjusted. No changes to content.
PUAECO006A Release 1: Primary release.

Unit Descriptor

This unit covers the competency required to read, interpret and plot locations using paper based maps, and mapping software and systems to relay incident locations to emergency responders.

Application of the Unit

The unit applies to emergency communications personnel who locate emergency incidents but will also have application in a variety of other situations such as utilities or other service contractors where the ability to read and interpret maps in rural and urban areas is required.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance Criteria describe the 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. Identify incident location from caller	1.1 <i>Effective communication techniques</i> are used to ascertain incident location as quickly and as precisely as possible, in accordance with organisational policies and procedures. 1.2 Information and reports are received from a variety of identified sources.
2. Provide grid references from paper maps to incident operations team	2.1 <i>Map features</i> are identified and located using marginal information on paper maps. 2.2 Six figure grid references are received and used. 2.3 Grid references are calculated using magnetic bearings, and/or latitude and longitude and/or incident location details provided by callers. 2.4 Relevant references using the current standards are provided to field personnel for use by portable navigational aids. 2.5 Directional information is provided to operations team on request.
3. Use mapping software and systems to locate incidents and dispatch resources	3.1 Mapping system is access and logged into, in accordance with organisational policies and procedures. 3.2 Information provided by caller is used to enter grid references into computer aided dispatch (CAD) system. 3.3 Visual representation markers analysed to locate incident. 3.4 Location is verified with caller using system information. 3.5 Location is save to the CAD system and resources are dispatched in accordance with organisational policies and procedures.
4. Plot an incident location from magnetic bearings from fixed and mobile fire towers	4.1 Software or pen and paper are used to draw a line from a given landmark or fire tower to calculate distance and general location. 4.2 Information is obtained from other fixed or mobile fire towers or infrastructure to fix a position. 4.3 Data is analysed to accurately plot incident location and is relayed to land or air operations using six figure grid references and/or latitude and longitude.

Required Skills and Knowledge

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

Required Skills

- accurately record and relay information
- calculate grid references from a variety of data and information
- convert centimetres to metres and kilometres
- identify features on a map
- interpret and apply contour and other topographic information
- use grid references using agency protocols
- use mapping software in accordance with organisational and supplier procedures
- use protractors and compass to measure and calculate distance using map scales including the distance on a curved road

Required Knowledge

- meaning of marginal map information
- northing and easting references
- organisational policies, procedures and practices (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)
- situational and appropriate application of open and closed questioning to elicit information on incident location
- types of maps

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:

- determine and accurately relay location of an incident using a variety of paper and electronic methods including:
 - computer aided dispatch system
 - metropolitan street directories
 - topographical maps of various scales
 - map reading software and systems
 - portable hand held and vehicle mounted navigational aids
 - other reference material
- determine and accurately relay location of an incident given information which may include one or more of the following pieces of information:
 - magnetic bearings
 - six figure grid references
 - latitude and longitude
 - street directory or map grid and/or page reference numbers
 - one or more of the following - street, suburb, town landmark.

Consistency in performance

Competency should be demonstrated over time during emergency communications centre operations or simulated operations that include critical and non-critical situations across a range of different callers, types of emergencies and level of activity.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed in the workplace or in a simulated workplace environment under conditions expected in the workplace.

Specific resources for assessment

Access is required to:

- resources required under normal operational conditions
- resources required in disaster back-up conditions
- resources required in field or incident management system conditions.

Method of assessment

This unit may be assessed with the following unit:

- PUAECO002A Process emergency incident calls and enquiries.

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.

<i>Effective communication techniques</i> may include	• clarifying • giving full attention to the caller • maintaining contact with the caller and prompts • summarising • using appropriate questioning
Sources of information may include:	• aircraft • map symbols • other agencies • other emergency services • watercraft
<i>Map features</i> may include:	• building structures and services • infrastructure including bridges, towers, railways, roads, dams • locked gates and cattle grids • road types and classifications • topographical features (such as hills, streams, trees, termite mounds)
<i>Map types</i> must include:	• cadastral maps • topographical maps
<i>Marginal information</i> must include:	• key information • map scale • symbols, markings, notations
<i>Directional information</i> may include:	• cardinal points • degree systems including bearings, back bearings, north points, magnetic variation and conversion of bearings • navigation and map reading aids
<i>Fixing a position</i> must include:	• triangulation • using local objects
<i>Standards</i> must include:	• geocentric Datum of Australia (referred to as GDA94 or GDA) • converting Australian Map Grid (AMG66) to GDA94 and vice versa • global positioning systems (GPS) international standard
<i>Portable navigational aids</i> may include:	• GPS • geographic information systems (GIS)

**Visual representation
markers** may include:

**Determining location of
incident and response** may
include using:

- proprietary handheld and vehicular devices (such as nav man, tom tom)
- symbols for hospitals, schools etc.
- computer aided dispatch system
- directories
- manuals
- other reference material
- relevant mapping information

Unit Sector(s)

Not applicable.