



Australian Government

DEFCA325 Prepare and operate a field water point

Release: 1

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Modification History

Release	TP Version	Comments
1	DEF12 V2	First release. Replaces and is equivalent to DEFCA313B. Prepare and operate a field water point. Pre-requisites removed. Unit Descriptor updated. Application added. Minor Range Statement change. Evidence Guide updated.

Unit Descriptor

This unit covers the competency required to locate suitable water sources, such as bores, canals, dams, existing piped supplies, lakes, oceans, rivers, or springs, select a suitable work site, operate and maintain a field water-point, and refurbish the site.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication. In a Defence context, this means that there is no civilian need to hold this unit in order to meet licensing, legislative, regulatory or certification requirements.

Application of the Unit

This competency was developed for combat engineer personnel required to locate suitable water sources, select suitable work sites, operate and maintain a field water point, and refurbish sites in a deployed operational environment but is applicable to any individual in this field of work.

The individual will usually be engaged in this activity by leading a team and working autonomously.

All activities are carried out in accordance with relevant organisational policies and procedures.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT

Elements describe the essential outcomes of a Unit of Competency.

PERFORMANCE CRITERIA

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

<p>1. Prepare and plan for water acquisition</p>	<p>1.1 Requirement is received, understood and confirmed with higher authority as necessary.</p> <p>1.2 Resource availability and serviceability is identified and constraints are determined.</p> <p>1.3 An analysis of the area is conducted from available data to identify potential water sources.</p> <p>1.4 Site surveys, risk and environmental assessments are conducted.</p> <p>1.5 Field water-point plan is developed in accordance with survey, water quality and quantity, resources, risks and environmental considerations.</p> <p>1.6 Problems that cannot be resolved locally are referred to higher authority for resolution.</p> <p>1.7 Competence of team members is confirmed and monitored.</p> <p>1.8 Team is briefed in accordance with standard procedures.</p> <p>1.9 Liaison with outside agencies is undertaken as required.</p> <p>1.10 Work health and safety (WHS) requirements and recognised safety precautions are applied throughout the operation in accordance with standard procedures.</p>
<p>2. Construct a field water-point</p>	<p>2.1 Team is directed and supervised in accordance with plan.</p> <p>2.2 Support from outside agencies is organised and directed.</p> <p>2.3 <i>Local utility assets</i> are located and marked to prevent damage.</p> <p>2.4 Routes in and out of water-points are established.</p> <p>2.5 <i>Structures</i> are designed and constructed/established.</p> <p>2.6 Technical advice is provided to the chain of command and/or support agencies.</p> <p>2.7 All unexpected situations that require a quick and decisive response are recognised and responded to in accordance with operational requirements and standard procedures.</p>
<p>3. Operate and maintain a field water-point</p>	<p>3.1 Potable water is produced, stored and distributed in accordance with standard procedures.</p> <p>3.2 Water-point team is supervised.</p>

	<p>3.3 All unexpected situations that require a response are recognised and responded to in accordance with operational requirements and standard procedures.</p> <p>3.4 Reports and data are provided to higher authority in accordance with standard procedures.</p>
4 Refurbish site and finalise activity	<p>4.1 Site is refurbished in accordance with environmental requirements.</p> <p>4.2 Chemicals and waste are disposed of in accordance with environmental requirements and standard procedures.</p> <p>4.3 Equipment, tools and materials are recovered, cleaned and maintained.</p> <p>4.4 Equipment, tools and materials are either stored or redeployed to another site in accordance with standard procedures.</p> <p>4.5 Documentation is completed in accordance with standard procedures.</p>

Required Skills and Knowledge

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

Required Skills

- analyse instructions
- command and control skills
- conduct and quality assure water analysis
- conduct risk assessment
- conduct tactical and technical reconnaissance – water-point
- design and prepare chemical storage
- liaison skills
- manage fuel/chemical spill containment
- manage the storage of water
- prepare and issue instructions and orders
- provide advice
- select and maintain routes
- supervise the construction of improvised water towers
- use MSDS

Required Knowledge

- design and construction requirements of improvised water towers
- environmental compliance certificate
- environmental considerations:
 - chemical storage/MSDS
 - fuel/chemical spill containment
- legal responsibilities
- pathology report of water samples
- relevant legislation and procedures in relation to environmental requirements
- relevant WHS regulations/requirements, equipment, material and personal safety requirements
- requirements of a technical reconnaissance of a water-point
- water analysis and storage requirements

Evidence Guide

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

Assessment must confirm the ability to construct at least three types of field structures included in the Range Statement using a variety of materials and expedient construction methods. At least one above and one below ground structure should be constructed.

Assessment must also confirm the ability to:

- interpret job instructions and plans, and layout a site
- prepare materials and equipment for construction
- apply appropriate expedient construction methods and procedures to the construction including accurate measuring and levelling
- use standard processes to handle and place materials
- complete the construction of field structures to the specified standard
- work in a team and interactively communicate with others

Consistency in performance

Competency should be demonstrated under field conditions over a time frame that allows for constructing and maintaining a number of field structures utilising expedient construction methods and a variety of materials.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed in the workplace or in a simulated workplace environment. Competency should be assessed in a field environment.

Specific resources for assessment

Access to:

- construction materials relevant to the task
- hand tools, power tools, plant and other equipment appropriate to the construction process
- suitable training areas for construction.

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>Site survey</i> may include:</p>	<ul style="list-style-type: none"> • access • access to local resources • availability of storage • collecting and testing water samples • ease of distribution • security of site • site diagram • site reference points • water flow rates • water quality • volume of water (yield)
<p><i>Field water-point</i> may include:</p>	<ul style="list-style-type: none"> • access roads • accommodation • chemicals • communications equipment • drainage • filling points • fuel • generator and lighting • hardstanding • pumps and pipes • signage • storage facilities • testing facilities – field and laboratory (pathology) • water desalination equipment • water purification equipment
<p><i>Standard procedures</i> may include:</p>	<ul style="list-style-type: none"> • Australian Standards • job guides, pamphlets and other publications • manufacturers' handbooks, industry specifications and technical instructions • material safety data sheets (MSDS) • WHS regulations • organisational policies and procedures • relevant local government by-laws • relevant state/territory or federal legislation or regulations • water quality requirements

	<ul style="list-style-type: none"> • written and verbal orders and job instructions
Local utility assets may include:	<ul style="list-style-type: none"> • electricity • gas pipelines • water
Structures may include:	<ul style="list-style-type: none"> • storage tanks • water towers
Potable water is clear of:	<ul style="list-style-type: none"> • bacterial levels that are within medical standards • colour • odour • poisons • plant algae • PH in accordance with WHS standards • salinity • turbidity
Supervising a water-point team may include:	<ul style="list-style-type: none"> • accurately recording relevant information • calibrating, servicing, operating and maintaining water treatment and testing equipment • collecting and testing water samples • completing maintenance activities in accordance with standard procedures • storing, handling and applying chemicals in accordance with WHS requirements and standard procedures
Documentation may include:	<ul style="list-style-type: none"> • construction documentation • distribution records • environmental compliance • equipment documentation • maintenance records • water testing records

Unit Sector(s)

Not applicable.