



Australian Government

DEFCA319 Assist in the preparation, construction, operation and maintenance of a field water point

Release 1

DEFCA319 Assist in the preparation, construction, operation and maintenance of a field water point

Modification History

Release	TP Version	Comments
1	DEF12 V2	First release. Replaces and is equivalent to DEFCA303B. Assist in the preparation, construction, operation and maintenance of a field water point.

Unit Descriptor

This unit covers the competency required to assist in testing for water quality, selecting a suitable work site and preparing, constructing and operating a field water-point.

The unit also includes the assembly and operation of water purification equipment, and the production and storage of potable water to meet the requirements of personnel and equipment deployed into an area without adequate water supply.

The individual will work under supervision in a team, but may be responsible for completing individual tasks relating to the production of potable water.

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 assist in testing for water quality, selecting a suitable work site and preparing, constructing and operating a field water point in a deployed operational environment but is applicable to any individual in this field of work.

Typically, operators work as part of a team under direct supervision, use discretion and judgement, and take responsibility for the quality of their outputs.

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

ELEMENT	PERFORMANCE CRITERIA
1. Locate a supply of water	1.1 A water supply within a designated area is located. 1.2 Water is collected and tested for compliance with quality standards in accordance with standard procedures. 1.3 Water sources are assessed for suitability to be used for collection, treatment and storage. 1.4 The suitability of the water as a source of supply is determined and if approved, the site is prepared.
2. Prepare a field water-point	2.1 Personal protective equipment is selected and worn in accordance with standard procedures. 2.2 Equipment, tools and materials are selected and checked for serviceability and any faults are reported to the supervisor. 2.3 Local utility assets such as water, electricity and gas pipelines are located and marked to prevent damage, and liaison is undertaken with local authorities as required. 2.4 Water-point chemicals are correctly handled, prepared, tested and stored in accordance with standard procedures and any faults are reported to the supervisor. 2.5 When mechanical excavation equipment is required, contact with appropriate agencies is established and maintained to facilitate construction activities. 2.6 Manual or mechanical equipment is used, where required, to construct the water-point and to compact/backfill the site in accordance with standard procedures. 2.7 Structures such as water towers and storage tanks are constructed/established, as required, in accordance with standard procedures. 2.8 Field water supply equipment and accessories are assembled, operated and maintained in accordance with standard procedures.
3. Operate a water-point to produce potable water	3.1 Potable water is produced, stored and distributed in accordance with standard procedures. 3.2 Water treatment and testing equipment is calibrated, serviced, operated and maintained in accordance with standard procedures. 3.3 Water samples are collected and tested in accordance with standard procedures.

	3.4 Chemicals are used in accordance with standard procedures.
	3.5 Information related to chemical supply, usage and disposal is recorded in accordance with standard procedures.
	3.6 Process and performance data is collected, recorded, maintained and reported in accordance with standard procedures.
	3.7 Equipment is inspected and maintained in accordance with manufacturer's instructions and standard procedures.
4. Refurbish water-point site	4.1 Work site is restored to normal, when required, in accordance with standard procedures.
	4.2 Chemicals are disposed of in accordance with standard procedures.

Required Skills and Knowledge

Required Skills

- assemble, operate and disassemble water supply and purification equipment
- calculate and record water flows
- follow instructions/directives and report information
- participate in team
- encourage other team members
- use a variety of verbal and non-verbal communication techniques including language style, active listening

Required Knowledge

- WHS requirements
- effects of weather on water quality and the operation of the site and plant
- risk factors and potential hazards of surface water systems
- safe handling and disposal of chemicals
- team work principles and strategies
- techniques for supporting others
- composition of teams and roles and responsibilities of team members
- verbal and non-verbal communication techniques including language style, active listening
- written communication to a level required to complete workplace forms and reports
- basic numeracy, such as addition, subtraction and multiplication
- formula and method for calculating water flow and volume

Evidence Guide

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

Assessment must confirm the ability to assist in the construction, operation and maintenance of a field water-point over a period of time sufficient for the individual to be assessed as competent in all aspects of the production, storage and distribution of water

Assessment must also confirm the ability to:

- operate a field water-point
- analyse water quality data
- handle water purification chemicals
- communicate effectively and work in a team

Consistency in performance

Competency should be demonstrated over a time frame that allows the individual to be observed in all aspects of the construction, operation and maintenance of a field water-point

Context of and specific resources for assessment

Context of assessment

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

Specific resources for assessment

Access to:

- field water supply equipment and accessories relevant to the task
- hand tools, power tools, plant and other equipment appropriate to the supply of water
- suitable training area for water supply

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>Standard procedures</i> may include:	• local government by-laws governing water supply • manufacturer's handbooks, industry specifications and technical instructions • procedures manuals, job guides, field engineering pamphlets and other publications • water quality requirements • WHS regulations • written and verbal orders and job instructions
<i>Suitability of water supply</i> may include:	• access • availability of storage • ease of distribution • security of site • water quality, flow and volume
<i>Work site preparation</i> may include:	• clearance of debris and access • establishment of boundaries and fences • excavation for storage • protecting equipment such as generators and pumps • provision of hard standing
<i>Personal protective equipment</i> may include:	• boots • cap • dust masks/respirators • ear plugs/muffs • gloves • hard hat • safety glasses/goggles
<i>Equipment, tools and materials</i> may include:	• chemical testing and analysis equipment • communication equipment • electronic monitoring and metering systems • hand and power tools • improvised storage equipment • manual chart recording systems • manual/hydraulic and pneumatic flow control and adjustment equipment • pumping systems, e.g. submersible, centrifugal, multiple stage deep well • valuing systems, e.g. sluice, blade, gate, non-return, pressure reducing

	• water supply and purification equipment • watercraft
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Unit Sector(s)

Not applicable.