



Australian Government

DEFCA322 Assist in the construction of dry gap crossings

Release: 1

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Modification History

Release	TP Version	Comments
1	DEF12 V2	First release. Replaces and is equivalent to DEFCA306B. Assist in the construction of dry gap crossings. Pre-requisites removed. Unit Descriptor updated. Application added. Minor Range Statement change. Evidence Guide updated.

Unit Descriptor

This unit covers the competency required to assist in the preparation, construction, maintenance and recovery of dry gap crossing bridging equipment, including:

- multiple or single span gap crossing equipment
- fixed clear-span equipment
- non equipment bridging
- improvised and/or expedient materials
- suspended cable equipment
- aerial ropeways,

to cross any form of gap including rivers and streams to facilitate the movement of personnel, vehicles, cargo and equipment.

A dry gap crossing is defined as a bridge over or spanning the gap rather than one that floats or contours the surface. Bridges will normally be constructed on a temporary basis to meet the operational need to provide a crossing point over a gap to carry personnel and equipment.

When the crossing is no longer required the bridge is either recovered to storage or redeployed to another crossing.

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 the preparation, construction, maintenance and recovery of dry gap crossing bridging equipment, including multiple and single span bridges, to cross any form of gap including rivers and streams to facilitate the movement of personnel, vehicles, cargo and equipment in a deployed operational environment but is applicable to any individual in this field of work.

The individual will usually be engaged in bridge construction as part of a team under supervision, but may undertake some autonomous tasks.

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

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

ELEMENTS	PERFORMANCE CRITERIA
1. Plan and prepare for dry gap crossing operations	1.1 Appropriate <i>personal protective equipment</i> is selected and worn in accordance with <i>WHS requirements</i>. 1.2 <i>Site layout and preparation</i> is conducted in accordance with <i>standard procedures</i>. 1.3 All bridging components are checked against inventory and materials list for completeness and are prepared for operation with faults and deficiencies reported to the supervisor. 1.4 Tools and equipment required for the task are selected, checked for serviceability and faults are reported to the supervisor.
2. Construct a dry gap crossing	2.1 Jigs, fixtures and tools to be used in construction are assembled and adjusted ready for use. 2.2 Bridge components are assembled and checked for compliance, accuracy and alignment in accordance with standard procedures. 2.3 Equipment is operated in accordance with standard procedures.
3. Maintain and clean up site and equipment	3.1 Gap crossing sites and crossing systems are maintained in accordance with standard procedures. 3.2 Gap crossing equipment, tools and unused materials are recovered, cleaned, maintained and documentation is completed, with any faults and deficiencies reported in accordance with standard procedures. 3.3 Gap crossing equipment, tools and materials are either stored or redeployed to another site in accordance with standard procedures.

Required Skills and Knowledge

Required Skills

- work safely to instructions
- select and use tools and equipment appropriate to the task
- 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 workplace and equipment safety requirements
- materials handling while operating tools
- site safety while working with plant
- checking components against inventory
- 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

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 of at least two dry gap crossings using two types of dry gap crossing bridging equipment listed in the Range Statement. Individuals should be assessed participating in the construction of: • at least one bridge of not less than 15 metres span • at least one bridge constructed at night Assessment must also confirm the ability to: • prepare the work site • check components, tools and equipment • participate in the assembly, construction and recovery of the crossing systems • identify faults/problems and take action to rectify them • work as part of a team and interactively communicate with others Consistency in performance Competency should be demonstrated under field conditions over a time frame that allows for individuals to be assessed in the various tasks related to the construction of at least two dry gap crossings using two types of equipment listed in the Range Statement.
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: • selected dry gap crossing equipment and components (multiple or single span gap crossing equipment, fixed clear-span equipment, non-equipment bridging, improvised and/or expedient materials, suspended cable equipment, aerial ropeways) • tools, equipment and materials required to support the construction and operation of dry gap crossing equipment • suitable dry gap training area

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>Personal protective equipment</i> may include:	• boots • dust masks/respirators • ear plugs/muffs • gloves • hard hat/cap • life vests • safety glasses/goggles
<i>WHS requirements</i> may include:	• safe working on platforms and scaffolding • use of protective clothing and equipment • workplace operations and safety procedures
<i>Site layout and preparation</i> may include:	• constructing approaches including access roads, tracks and bridge launching areas • determining datum line • marking out site • positioning components and materials for assembly • preparing site plan • removing vegetation
<i>Standard procedures</i> may include:	• anchorages • clamps • expedient road and tracking i.e. materials obtained locally to construct improvised roads and tracks • hand and power tools • jigs • measuring tape/rule • mechanical advantage devices, including blocks and tackle • plant equipment • spirit level • straight edge • string lines • weights

Unit Sector(s)

Not applicable.