



Australian Government

DEFEO714C Conduct underwater explosive demolitions

Release: 2

DEFEO714C Conduct underwater explosive demolitions

Modification History

Release	TP version	Comments
2	DEF12 V2	Layout adjusted.
1	DEF12 V1	First release.

Unit Descriptor

This unit covers the competency required to conduct explosive demolitions in an underwater environment.

The unit also covers the conduct of maintenance on the established demolition circuits and includes the requirement to disarm and disassemble the demolition.

Application of the Unit

This competency normally applies to the individual who is required to assemble and disassemble firing circuits, and to fix detonators, primers, firing devices and explosive charges in accordance with the demolition supervising officer's plan in an underwater environment.

The individual is also required to handle, transport and protect explosives in an underwater environment.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

DEFDV001B Dive using self-contained underwater breathing apparatus in open water to 30 metres

DEFEO711C Conduct military demolition operations

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 underwater demolitions	1.1 Work task and worksite data are determined and analysed to determine the specific requirements for the explosive demolition 1.2 Work plan is developed consistent with the dive plan 1.3 Explosives, associated equipment and protective equipment are selected, inspected and prepared 1.4 Explosives and associated equipment are secured safely to/from the dive site 1.5 Access obstructions and other hazards are assessed and action is taken to remove/reduce the risk
2. Conduct underwater demolition	2.1 Explosives and associated equipment are secured on self 2.2 Work-safe area is established at the demolition site and the location of divers is confirmed prior to commencing demolition task/s 2.3 Hazards relevant to the application of explosives and associated equipment are identified and managed 2.4 Charges are fixed and placed, line is laid, timing devices are set, firing point is established and circuit is connected and tested 2.5 Location and safety of personnel is confirmed prior to firing the demolition 2.6 Demolition is fired
3. Conduct post-demolition procedures	3.1 Environmental impact arising from use of explosives is minimised and waste products are recovered 3.2 Demolition circuit is disassembled 3.3 Explosives and associated equipment are recovered, de-serviced and stored for re-use or disposed of 3.4 Usage of explosives and associated equipment is recorded

Required Skills and Knowledge

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

Required Skills

- ability to dive
- fire explosive ordnance
- handle and care for explosives
- set-up explosive circuits

Required Knowledge

- dangers to explosives
- dive equipment
- dive physics
- effect of water on explosives
- explosive charges
- general occupational/diving safety awareness
- land based explosive demolitions
- oceanography
- relevant references and Australian Standards
- work hazards

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:

- fix and place appropriate charges
- implement work health and safety policies and procedures
- implement diving safety awareness strategies

Consistency in performance

Competency should be demonstrated during a demolition task over a time frame that allows for the safe demonstration of competency.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed in the ocean for all practical assessments, supported by questioning on shore or aboard vessels.

When practicable, assessment should relate to the diver's vocational focus.

Specific resources for assessment

Access is required to:

- complete range of diving, safety and accessory equipment
- explosives
- associated equipment

Method of assessment

This unit may be assessed with the following unit:

- DEFEO101D Work safely with explosive ordnance.

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>Worksite data</i> may include:	• Current • Depth • Gradient • Hazards • Obstacles
<i>Explosives and associated equipment</i> include:	• Anfo • Bangalore torpedo • Beehive • Composition b • Detonation cord • Electrical detonators • Electrical cable • Fuse burning time • Gelignite • Hayrick • M60 ignitor • Non-electrical detonators • Plastic explosive 4 • Primers • Sheet explosive • Shrike lightweight exploder • Tester OHMETER No.1 Mk.3
<i>Protective equipment</i> may include:	• Boots • Ear protection • Eye protection • Gloves • Helmet • Vests
<i>Selecting, inspecting and preparing</i> may include:	• In respect of explosives, associated equipment and protective equipment: • circuit tests • date checks • preparatory assembly • proofing • test firing
<i>Action to remove/reduce the</i>	• Erecting signage

risk may include:	• Using patrol/sentry craft
Explosives and associated equipment are secured on the self for:	• Accessibility • Lack of interference with diver mobility and dive equipment
Hazards may include:	• Contribution of water to explosive effect • Lightning • Radiation (e.g. sonar/radio) • Sympathetic explosion
Charges may include:	• Borehole charges • Breaching charges • Concrete stripping charges • Concussion charges • Cratering charges • Cutting charges • Rope hole charges • Shaped charges
Lines may include:	• Line-main • Single ring-main • Dual ring-main
Firing includes:	• Conducting misfire drills
Environmental impact may include:	• Physical damage to reef and associated floor eco-systems (e.g. coral) • Contamination of surrounding water (e.g. leaking oil) • Visual pollution of waste material (e.g. concrete and metal parts)

Unit Sector(s)

Not applicable.