



Australian Government

DEFWDV001 Dive using self-contained underwater breathing apparatus in open water to 30 metres

Release: 1

DEFWDV001 Dive using self-contained underwater breathing apparatus in open water to 30 metres

Modification History

Release 1. This is the first release of this unit of competency in the DEF Defence Training Package.

Application

This unit specifies the skills and knowledge required to dive using self-contained underwater breathing apparatus (SCUBA) in an open water environment to a depth of 30 metres.

It includes planning the dive (including using decompression tables); selecting, inspecting and fitting equipment; entering the water from a range of platforms; conducting descent to, and servicing time at, the required depth. It also includes ascending (including using decompression techniques), exit from the water to the original platform, and removing and refurbishing equipment.

This unit has been aligned with existing standards in the Australian Diver Accreditation Scheme (ADAS). It relates, in part, to the minimum standard for a diver using SCUBA to a depth of 30 metres. ADAS refers to this as 'restricted'. Further experience is required to gain an ADAS 'unrestricted' rating.

This unit was developed for Defence divers but may be applicable to anyone in this field.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to.

Persons undertaking this unit work independently and perform specific tasks in a range of contexts that could be unpredictable.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable

Competency Field

Work Diving

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | |
|--|--|
| 1 Prepare for a decompression dive | 1.1 Develop a dive plan using decompression tables and obtain supervisor's clearance in accordance with organisational procedures |
| | 1.2 Select, fit and test equipment in accordance with manufacturer specifications |
| | 1.3 Inspect equipment for serviceability, quarantine any unserviceable equipment and report defects to maximise diver safety |
| | 1.4 Ensure independent safety check of fit and function of equipment is carried out by a diver's attendant or dive supervisor |
| 2 Enter and exit the water | 2.1 Position markers in the water to identify presence of divers |
| | 2.2 Conduct in-water leak test at the surface to ensure the integrity and functionality of equipment |
| | 2.3 Adjust buoyancy to commence dive and as required throughout dive |
| 3 Descend to, and ascend from, a 30 metres bottom | 3.1 Maintain measured and controlled breathing and finning |
| | 3.2 Implement diving descent and ascent techniques, and decompression techniques in accordance with dive plan and safety procedures |
| | 3.3 Monitor relevant risk factors throughout dive to manage threats and personal safety, in accordance with organisational procedures |
| | 3.4 Recover spatial awareness when balance is lost under conditions of zero visibility |
| | 3.5 Recover any lost and/or separated diver |
| | 3.6 Maintain awareness of, and distance from, surface and sub surface hazards |

- | | | |
|---|------------|---|
| | 3.7 | Ensure minimal disturbance to bottom to enable maximum visibility and a safe work environment, in accordance with dive plan |
| | 3.8 | Undertake checks to ensure safety to surface |
| 4 Identify and manage dive-specific medical problems | 4.1 | Recognise signs and symptoms of compression and/or decompression related problems in self and others, and take immediate corrective action in accordance with dive plan and safety procedures |
| | 4.2 | Recognise and manage heat and cold related problems in self or others and hazards, in accordance with dive plan and safety procedures |
| 5 Communicate underwater | 5.1 | Inspect electronic communications device and accessories for serviceability and fit |
| | 5.2 | Transmit and receive messages using electronic communications devices in accordance with dive plan |
| | 5.3 | De-service and stow electronic communications device and accessories in accordance with manufacturer specifications |
| | 5.4 | Communicate non-verbally with other divers using hand signals, writing boards and standard single line signals, in accordance with dive plan |
| 6 Perform a simple navigation leg underwater | 6.1 | Maintain compass bearing underwater |
| | 6.2 | Estimate and maintain distance for a constant swim rate underwater |
| | 6.3 | Estimate distance travelled in dive |
| 7 React to individual and group contingencies and/or emergencies | 7.1 | Resolve flooded face mask and/or blocked mouthpiece by clearing and refitting |
| | 7.2 | Resolve failed primary breathing system and manage irrecoverable malfunctions in accordance with dive plan |
| | 7.3 | Manage lost and/or severed safety line/s, as required |
| | 7.4 | Manage significant systemic failures through ditching drill and emergency surfacing drill, in accordance with |

dive plan and safety procedures

8 Maintain equipment

8.1 Maintain equipment in accordance with manufacturer specifications

8.2 De-service, test and stow post dive equipment

8.3 Quarantine unserviceable equipment and report defects in accordance with organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces but is not equivalent to DEFVDV001B Dive using self-contained underwater breathing apparatus in open water to 30 metres.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6bdbab1e-11ed-4bc9-9cba-9e1a55d4e4a9>

Assessment Requirements for DEFWDV001 Dive using self-contained underwater breathing apparatus in open water to 30 metres

Modification History

Release 1. This is the first release of this unit of competency in the DEF Defence Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- acting as a relay between two callsigns
- applying relevant legislation, and organisational policies and procedures
- communicating verbally by radio and non-verbally through signalling methods
- compiling briefs and clear messages
- complying with assigned callsigns
- conducting decompression stops and requirements
- conducting unplanned decompression procedures arising from the onset of (simulated) compression related problems
- demonstrating situational awareness of position and orientation, equipment (including depth, time and air gauges), and other divers
- implementing emergency surfacing
- managing hazards during dives
- managing medical complications during dives and perceiving these in self and others
- navigating underwater, using a compass only, a complete triangle of side length not less than 30 m (way-points only to be distinguishable within 8 m)
- performing buddy breathing
- switching from primary to reserve air system
- taking necessary corrective action/s and managing a range of individual and group contingencies and/or emergencies.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- decompression calculations
- decompression tables to determine decompression time/s and depth/s for a range of dive profiles
- decompression techniques

- dive equipment
- dive physics
- dive physiology and medicine including:
 - heat and cold illnesses
 - compression illnesses
 - decompression illnesses
- diving descent and ascent techniques
- general diving safety awareness including:
 - diving in harbours
 - diving in tidal waters, currents and tides
 - diving on and/or near a ship's bottom
 - lost/separated
 - entrapment/foul lines
 - marine animal threats
 - pollution/weeds
 - working in confined spaces
- general precautions to be taken against a range of hazards
- handling procedures for nonfunctional items
- line signals
- marine hazards including marine animal threats
- navigation theory
- oceanography
- principles of underwater communication systems and diver intercom systems, and their limitations
- radio frequency hazards
- radio telephone procedures (RTP)
- relevant hand signals
- relevant legislation, industry standards, and organisational policies and procedures
- safe operating ranges for airsupplies
- surfacing procedures including awareness of surface and sub-surface hazards.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational

situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- ocean with a range of oceanic, diurnal and nocturnal environments
- applicable documentation including organisational procedures, decompression tables, regulations, codes of practice and operation manuals.

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

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6bdbab1e-11ed-4bc9-9cba-9e1a55d4e4a9>