Australian Government

DEFDV013B Employ air-lift devices underwater

Release: 2

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

DEFDV013B Employ air-lift devices underwater

Modification History

Release	TP Version	Comments
2	DEF12 V2	Layout adjusted. No changes to content.
1	DEF12 V1	Primary release.

Unit Descriptor

This unit covers the competency required to move submerged objects using air-lift devices (i.e. bags).
The unit includes selecting and inspecting the bags appropriate to the lift, securing the bags to the object and inflating the bags to the required buoyancy in order to manoeuvre the object under control. Attention must be given to safety of other divers and nearby vessels and/or structures during work, as well as consideration for the environment.
Note: This Unit of Competency relates, in part, to the existing standards of the Australian Diver Accreditation Scheme (ADAS). All information was correct at the time of development of this Unit of Competency; however, any diver seeking ADAS accreditation should consult ADAS and not rely on the information contained in this unit.

Application of the Unit

As agreed in the creation of this Training Package, applications for units transferred from the PUA00 Public Safety Training Package will be developed as part of continuous improvement plans, and taking into account the change in Unit of Competency format as detailed in templates for Streamlined Training Packages.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

DEFDV001B Dive using self contained underwater breathing apparatus in open water to 30 metres.
DEFDV016B Perform underwater rigging work.

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 air-lift operation	1.1 ***Load metrics*** and ***worksite data*** are determined and analysed to determine the specific requirements for the air-lift bags. 1.2 Work plan is developed consistent with the dive plan. 1.3 Air-lift bags are ***selected***, ***inspected and prepared.*** 1.4 Air-lift bags 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. Operate air-lift devices	2.1 Air-lift bags are secured to the object's lift point/s. 2.2 A work-safe area is established and the location and safety of divers is confirmed prior to commencing the lift. 2.3 Air-lift bags are inflated and adjusted to control buoyancy. 2.4 Movement of the object is ***effectively controlled.***
3. Conclude air-lift operations	3.1 ***Environmental impact*** arising from the work task is minimised and waste products are recovered . 3.2 Air-lift bags are de-rigged from the object. 3.3 Air-lift bags are ***de-serviced*** and stored for re-use.

Required Skills and Knowledge

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

Required Skills

- check equipment
- control neutrally buoyant objects
- inflate air-lift bags
- inspect equipment for serviceability and functionality
- planning
- rig equipment

Required Knowledge

- characteristics and employment of air-lift bags
- determination of mass of submerged objects
- dive equipment
- dive physics
- general occupational/diving safety awareness
- marine hazards
- oceanography
- relevant references and Australian Standards

Evidence Guide

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

Assessment must confirm the ability to attend to personal and collective safety; and to consider the environmental impact as part of the dive plan.

Consistency in performance

Competency should be demonstrated during the following air-lift operations with manually inflated air-bags:

- 1 x vertical lift to surface
- lift distance – at least 5 metres (object must breach surface)
- depth – between 5 to 20 metres
- weight – at least 250 kg
- 1 x lateral lift
- lateral distance – at least 10 metres
- depth – between 5 to 20 metres
- weight – at least 250 kg.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed in the ocean.

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

Specific resources for assessment

Access to a complete range of diving, safety and accessory equipment; air-lift equipment; and submerged objects.

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.	
Load metrics may include:	• centre of gravity • composition • dimensions • lift points • weight
Worksite data may include:	• current • depth • gradient • hazards • obstacles
Selecting, inspecting and preparing air-lift bags may include:	• checking attachment lines and points • inspecting the neck • inspecting the outer skin • test fill
Action to remove/reduce the risk may include:	• erecting signage • using patrol/sentry craft
Effectively controlling the object's movement may include:	• both lateral and vertical adjustments
Environmental impact may include:	• contamination of surrounding water (e.g. leaking oil) • physical damage to reef and associated floor eco-systems (e.g. coral) • visual pollution of waste material (e.g. concrete and metal parts)
De-servicing may include:	• drying • logging work details into equipment logs • oiling/greasing • washing in fresh water

Unit Sector(s)

Not applicable.