



Australian Government

Department of Education, Employment and Workplace Relations

PUADEFDV011B Perform non-technical structural inspections underwater

Revision Number: 1

PUADEFDV011B Perform non-technical structural inspections underwater

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit covers the competency required to conduct non-technical structural inspections such as examining bridges, piers or ships' hulls.

The unit includes general qualitative inspection (visual and manual) as well as quantitative analysis such as the taking of basic measurements including angles, dimensions and lengths.

Note: Elements of this assessment are aligned with 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

Application of the Unit

The application of this unit in the workplace - the environments, complexities and situations involved - will be written during Phase II of the Review of the PUA00 Public Safety Training Package.

This text will be useful for the purposes of job descriptions, recruitment advice or job analysis; where possible, it will not be too job specific to allow other industries to import it into other Training Packages, where feasible.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite Unit/s	PUADEFDV001B Dive using self-contained underwater breathing apparatus in open water to 30 metres
----------------------------	--

Employability Skills Information

Employability Skills	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 Required Skills and Knowledge and/or 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 inspection	1.1 Inspection task, target and available worksite data are determined and analysed 1.2 Inspection plan is developed consistent with the dive plan 1.3 Inspection equipment is selected, inspected and prepared 1.4 Inspection equipment is 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 inspection	2.1 Inspection equipment is secured on self for ease of accessibility and lack of interference to mobility and dive equipment 2.2 Target's surface is cleared of debris and/or marine growth 2.3 Visual analysis of target is conducted to identify significant features or defects 2.4 Lengths, gaps angles and holes are measured relative to a fixed datum and results are recorded 2.5 Visual imagery is taken of the target
3. Conduct post-inspection procedures	3.1 Inspection equipment is de-serviced and stored after use 3.2 Non-technical inspection report is drafted and submitted according to organisational procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required Skills

- ability to dive
- make oral presentations
- make underwater field notes and sketches
- measure instruments
- take photographs
- write reports

Required Knowledge

- basic architecture of piers and bridges
- basic mechanics
- dive physics
- dive equipment
- general occupational/diving safety awareness
- oceanography
- relevant references and Australian Standards
- work hazards

Evidence Guide

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

Assessment must confirm the ability to assist in providing information for an inspection report; to carry and secure the equipment throughout the dive; and to work safely throughout the operation.

Consistency in performance

Competency should be demonstrated conducting an inspection task requiring angular and linear measurements on one of the following:

- pier/bridge – assessment is to be constructed around the examination of an existing pier/bridge requiring some expedient reinforcement to make fit for operational use
- ship's hull – assessment is to be constructed around a sonar dome housing inspection and poker/feeler gauge surveys.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed in the ocean supported by questioning on shore or aboard vessels.

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

Assessment should be conducted over a time frame that allows for the safe demonstration of competency.

Specific resources for assessment

Access to a complete range of diving, safety and accessory equipment; and inspection equipment.

Guidance information for assessment

Information that will assist or guide assessment will be written during Phase II of the Review of the PUA00 Public Safety Training Package.

Range Statement

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.

Target may include

Buried treasure

Ships including:

- general hull integrity
- specific examination of critical components (e.g. rudder, sonar, intakes etc.)

Sub-structures including:

- cabling
- intakes (e.g. dams)
- jetties
- pipelines
- rigs/platforms

Sunken conveyances:

- vehicles
- vessels

Worksite data

Current

Depth

Gradient

Hazards

Obstacles

Temperature

Inspection equipment may include

Angle measurement devices:

- poker gauge
- feeler gauge

Tape measures

Action to remove/reduce the risk may include

Erecting signage

Using patrol/sentry craft

Visual imagery may include

Hard wired video

Still

Underwater camera

RANGE STATEMENT**Report may include**

Imagery
Oral presentation
Scaled drawings
Sketches
Supporting documents

Unit Sector(s)

Not applicable.

Corequisite Unit/s**Co-requisite Unit/s**

Nil