



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **SFIDIVE303B Perform diving operations using self-contained underwater breathing apparatus**

Release: 1

## **SFIDIVE303B Perform diving operations using self-contained underwater breathing apparatus**

### **Modification History**

Not Applicable

## Unit Descriptor

<b>Unit descriptor</b>	<p>This unit of competency involves pre-dive preparations for occupational diving operations, undertaking occupational diving to a maximum depth of 30 metres using self-contained underwater breathing apparatus (SCUBA) and completing occupational post-dive activities in the seafood industry, including public aquaria and other live holding facilities.</p> <p>Licensing, legislative, regulatory or certification requirements may apply to this unit. Therefore it will be necessary to check with the relevant state or territory regulators for current licensing, legislative or regulatory requirements before undertaking this unit.</p>
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## Application of the Unit

<b>Application of the unit</b>	<p>Completion of this and other diving units may lead to further accreditation in occupational diving by industry and/or regulatory authorities. Check with the relevant industry or regulatory body for specific requirements. All enterprise or workplace procedures and activities are carried out according to <i>relevant government regulations, licensing and other compliance requirements</i>, including <i>occupational health and safety (OHS) guidelines</i>, maritime and occupational diver codes of practice and procedures and <i>ecologically sustainable development (ESD) principles</i>.</p> <p>Equipment operation, maintenance, repairs and calibrations are undertaken in a safe manner that conforms to manufacturer instructions. Appropriate <i>personal protective equipment (PPE)</i> is selected, checked, used and maintained.</p>
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## Licensing/Regulatory Information

Refer to Unit Descriptor

## Pre-Requisites

<b>Prerequisite units</b>		
	HLTFA301B	Apply first aid

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills
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## Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for diving operations using SCUBA	<p>1.1. <b>Equipment</b> is checked and prepared for a SCUBA diving <b>operation</b> and defective equipment is marked and removed from service by the person in charge of the <b>diving operation</b>.</p> <p>1.2. PPE and diving equipment appropriate to the type and duration of the dive are donned in the correct sequence.</p> <p>1.3. A dive plan is prepared, the necessary <b>tools</b> selected, a risk assessment conducted and the dive recorded by the person in charge of the diving operation.</p>
2. Perform open-water diving operations using SCUBA	<p>2.1. Open-water diving operations to a maximum depth of 30 metres are undertaken using SCUBA according to accepted industry occupational <b>diving guidelines</b>.</p> <p>2.2. <b>Decompression procedures</b> are followed.</p> <p>2.3. Diver's tender duties are undertaken in a SCUBA operation according to accepted industry occupational diving guidelines.</p> <p>2.4. Effective <b>communication</b> is established and maintained.</p>
3. Maintain an effective work relationship in a dive team	<p>3.1. Effective <b>work relationships</b> are established and maintained with the dive team.</p> <p>3.2. Effective teamwork is carried out and maintained.</p> <p>3.3. Routine instructions are followed.</p>
4. Complete activities after SCUBA dive	<p>4.1. On completion of the diving operation PPE and diving equipment are removed.</p> <p>4.2. Post-dive equipment checks are carried out.</p> <p>4.3. Equipment is decontaminated, cleaned and stored.</p>

## Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
<b>Required skills</b>
<ul style="list-style-type: none"> <li>• assisting another diver to undress whilst following the correct procedures</li> <li>• carrying out post-dive equipment checks</li> <li>• checking and preparing equipment for a SCUBA diving operation</li> <li>• decontaminating and cleaning all equipment and storing it correctly</li> </ul>

## **REQUIRED SKILLS AND KNOWLEDGE**

- diving in open water to a maximum depth of 30 metres using SCUBA and:
  - appropriate operational techniques for the prevailing conditions
  - correct breathing techniques for the duration of the dive
  - correct techniques and rates for descent and ascent
- dressing correctly for the type and duration of the diving operation prior to entering the water
- entering and exiting the water under various situations
- establishing and maintaining effective communication using:
  - hand and line signals
  - voice communication systems
  - correct voice procedures and the phonetic alphabet
- preparing a dive plan checklist and risk assessment
- providing tender duties to another diver by:
  - assisting diver safely into and out of the water
  - monitoring diver's equipment and condition
- undressing correctly on completion of a SCUBA diving operation
- using correct decompression procedures.

### **Literacy skills used for:**

- completing 'dive accident medical information' forms
- following an emergency action plan
- keeping records
- reading dive tables
- reading regulations and industry guidelines
- reading the diver's first aid literature.

### **Numeracy skills used for:**

- making calculations involving pressure, volume and temperature relationships
- using decompression information while underwater.

## **Required knowledge**

- common equipment faults and consequences of incorrect equipment use
- correct dressing and undressing sequence for equipment used in a SCUBA diving operation
- decompression principles, tables and procedures
- diving physiology principles and appropriate medicine for SCUBA diving operations
- function and operating method of each item used in a SCUBA diving operation
- function and regulation of main and reserve air supplies

## **REQUIRED SKILLS AND KNOWLEDGE**

- legal and regulatory procedures and requirements
- methods to enter and exit the water
- minimum equipment required for a SCUBA diving operation
- possible hazards associated with a SCUBA diving operation and precautions to reduce risk
- pressure values for different depths and awareness of pneumofathometer
- principles of underwater communication systems
- testing, connection and maintenance procedures for SCUBA
- various SCUBA configurations and key features.

## Evidence Guide

### EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

#### Overview of assessment

#### Critical aspects for assessment evidence required to demonstrate competence in this unit

Assessment must confirm the ability to:

- carry out post-dive equipment checks
- complete pre-dive preparations for occupational diving operations
- dress correctly for SCUBA diving operations and undress correctly at completion of a dive
- maintain and store equipment correctly
- operate SCUBA while in the water
- perform tender duties for a diver
- undertake a dive in open water to a maximum depth of 30 metres using SCUBA
- use decompression principles, tables and procedures
- use:
  - communication systems
  - depth-measuring instruments
  - diver's clothing
  - diving watch
  - gauges
  - main and reserve air supplies
  - umbilicals
  - weights, fins and masks.

Assessment must confirm knowledge of:

- anatomy, diving physics and physiology principles
- diving equipment operating procedures
- hazards associated with SCUBA diving operations
- diving-related medical conditions and their treatments
- pre-dive and post-dive procedures.

#### Context of and specific resources for assessment

Assessment is to be conducted at the workplace or in a simulated work environment.



<b>EVIDENCE GUIDE</b>	
	<p>Resources may include:</p> <ul style="list-style-type: none"><li>• diving equipment for SCUBA diving operations as listed in the range of variables</li><li>• suitable diving environment.</li></ul>

<b>EVIDENCE GUIDE</b>	
<b>Method of assessment</b>	The following assessment methods are suggested: <ul style="list-style-type: none"> <li>• observation of open-water practical demonstration</li> <li>• practical exercises</li> <li>• written or oral short-answer testing.</li> </ul>
<b>Guidance information for assessment</b>	This unit may be assessed holistically with other diving units.

## Range Statement

<b>RANGE STATEMENT</b>	
<p>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, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><b><i>Relevant government regulations, licensing and other compliance requirements</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• business or workplace operations, policies and practices</li> <li>• ESD principles, environmental hazard identification, risk assessment and control</li> <li>• fisheries or aquaculture regulations, permits and licences</li> <li>• health and welfare of aquatic animals</li> <li>• Indigenous land rights and cultural activities</li> <li>• maritime and occupational diving operations, safety at sea and pollution control</li> <li>• OHS hazard identification, risk assessment and control.</li> </ul>
<p><b><i>OHS guidelines</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• appropriate workplace provision of first aid kits</li> <li>• codes of practice, regulations and/or guidance notes which may apply in a jurisdiction or industry sector</li> <li>• enterprise-specific OHS procedures, policies or standards</li> <li>• hazard and risk assessment of workplace, maintenance activities and control measures</li> <li>• induction or training of staff and contractors in</li> </ul>

<b>RANGE STATEMENT</b>	
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	<p>relevant OHS procedures and/or requirements to allow them to carry out their duties in a safe manner</p> <ul style="list-style-type: none"><li>• OHS training register</li><li>• safe lifting, carrying and handling techniques</li><li>• safe systems and procedures for outdoor work, including protection from solar radiation, confined space entry and the protection of people in the workplace</li><li>• systems and procedures for the safe maintenance of property, machinery and equipment, including hydraulics and exposed moving parts</li><li>• the appropriate use, maintenance and storage of PPE.</li></ul>
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<b>RANGE STATEMENT</b>	
<b><i>ESD principles</i></b> may include:	<ul style="list-style-type: none"> <li>• improving energy efficiency</li> <li>• increasing use of renewable, recyclable and recoverable resource</li> <li>• managing environmental hazard identification, risk assessment and control</li> <li>• protecting native and protected flora and fauna, marine or land parks or areas, adhering to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), the Ramsar Convention, World Heritage and other international treaties for which Australia is a signatory</li> <li>• reducing emissions of greenhouse gases</li> <li>• reducing energy use</li> <li>• reducing use of non-renewable resources.</li> </ul>
<b><i>PPE</i></b> may include:	<ul style="list-style-type: none"> <li>• buoyancy vest or personal floatation device (PFD)</li> <li>• personal locator beacon or Emergency Position Indicating Radio Beacon (EPIRB)</li> <li>• sun protection (e.g. sun hat, sunscreen and sunglasses)</li> <li>• exposure suits:               <ul style="list-style-type: none"> <li>• dry</li> <li>• warmed</li> <li>• wet.</li> </ul> </li> </ul>
<b><i>Equipment</i></b> may include:	<ul style="list-style-type: none"> <li>• catch bags</li> <li>• communication systems:               <ul style="list-style-type: none"> <li>• power supply</li> <li>• tape recorders and tapes</li> <li>• tools</li> <li>• topside and diver</li> </ul> </li> <li>• breathing apparatus:               <ul style="list-style-type: none"> <li>• demand type (e.g. band mask and helmet)</li> <li>• free-flow type</li> </ul> </li> <li>• buoyancy compensator</li> <li>• depth-measuring instruments</li> <li>• dive computer</li> <li>• diver's suits or clothing, wet, dry or warmed</li> <li>• diving watch</li> <li>• gauges</li> </ul>

<b>RANGE STATEMENT</b>	
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|  | <ul style="list-style-type: none"><li>• main and reserve air supplies</li><li>• safety harness</li><li>• safety and emergency:<ul style="list-style-type: none"><li>• first aid</li><li>• oxygen</li><li>• bail out bottle</li><li>• spare air</li></ul></li><li>• SCUBA</li><li>• shot-line</li><li>• surface-supplied breathing apparatus (SSBA)</li><li>• surface-supply compressor unit</li><li>• surface-supply panel</li><li>• umbilicals</li><li>• weights, fins and masks.</li></ul> |
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<b>RANGE STATEMENT</b>	
<b><i>Operation</i></b> may include:	<ul style="list-style-type: none"> <li>• cleaning and maintaining display tanks</li> <li>• collecting aquatic animals:                             <ul style="list-style-type: none"> <li>• abalone</li> <li>• beche-de-mer</li> <li>• broodstock or seedstock</li> <li>• crayfish, lobsters and crabs</li> <li>• ornamental fish, live, rock, corals and other invertebrate</li> <li>• other molluscs</li> <li>• pearls</li> <li>• sea urchins and sponges</li> <li>• seaweed or aquatic plants</li> </ul> </li> <li>• collecting dead stock</li> <li>• collecting environmental water samples</li> <li>• eradicating or releasing predators                             <ul style="list-style-type: none"> <li>• from a beach</li> <li>• from a jetty</li> <li>• from a vessel</li> </ul> </li> <li>• installing, servicing and maintaining ponds, farm environment, cages and associated equipment</li> <li>• retrieving lost tools and equipment</li> <li>• tending aquaculture animals.</li> </ul>
<b><i>Diving operation</i></b> may include:	<ul style="list-style-type: none"> <li>• single person dive</li> <li>• team dive.</li> </ul>
<b><i>Tools</i></b> may include:	<ul style="list-style-type: none"> <li>• cold chisels</li> <li>• files</li> <li>• hacksaws</li> <li>• hammers</li> <li>• knives</li> <li>• netting needles or twine</li> <li>• open and ring spanners</li> <li>• screwdrivers</li> <li>• shackle spanners</li> <li>• shifting spanners.</li> </ul>
<b><i>Diving guidelines</i></b> may include:	<ul style="list-style-type: none"> <li>• ADAS</li> <li>• Australian occupational dive standards</li> <li>• codes of practice</li> <li>• OHS codes of practice and regulations</li> </ul>

<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>• other regulations relevant to the type of diving operation and area of activity.</li> </ul>
<i>Decompression procedures</i> may include:	<ul style="list-style-type: none"> <li>• ascent rate</li> <li>• flight time exclusion</li> <li>• repetitive group</li> <li>• safety stops</li> <li>• surface interval.</li> </ul>
<i>Communication</i> may include:	<ul style="list-style-type: none"> <li>• hand signals</li> <li>• lifeline signals</li> <li>• slate</li> <li>• voice.</li> </ul>
<i>Work relationships</i> may include:	<ul style="list-style-type: none"> <li>• other divers</li> <li>• surface support team</li> <li>• vessel crew.</li> </ul>

### Unit Sector(s)

<b>Unit sector</b>	Diving operations
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### Co-requisite units

<b>Co-requisite units</b>	

### Competency field

<b>Competency field</b>	
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