



Australian Government

Assessment Requirements for SISOSCB004 Navigate prescribed routes underwater

Release: 1

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Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- navigate during three SCUBA dives
- before each dive, complete surface observations to assist with underwater navigation using two aids chosen from the following list:
 - wind, current and tidal movement
 - angle of the sun and direction of travel across the sky in relation to planned underwater movement
 - position of natural offshore landmarks or constructed features
 - use of waterway charts or depth finders on boats to identify underwater topography
- across the three dives, collectively use these techniques to navigate:
 - use of compass, course plotters and heading calculators
 - use of two natural underwater features
 - use of two patterns for underwater navigation
 - use of distance travelled by:
 - measuring kick cycles
 - determining time elapsed using a timing device
 - surfacing on one occasion to verify location on map
- log two dive site locations for future dives:
 - one using compass bearings as a reference
 - one using permanent landmarks as a reference.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- trusted sources of waterway charts and tide tables for the region or locality
- different technologies used to access charts and tide tables
- information found on waterway charts relevant to dive navigation:
 - depth
 - underwater topography
 - topographic features of surrounding land

- buoyage
- constructed features – bridges, piers, wrecks
- pre-dive observations that can be made to assist with navigating when diving:
 - wind, current and tidal movement
 - angle of the sun and direction of travel across the sky in relation to planned underwater movement
 - position of natural offshore landmarks and constructed features – rocks, reefs, sand bars, kelp beds, piers, navigation buoyage, wrecks
 - use of waterway charts and depth finders on boats to identify underwater topography
- navigation roles that can be shared between buddy divers
- common patterns for underwater navigation, advantages and disadvantages of each:
 - out and back along a straight line
 - squares and rectangles
 - triangles
 - circles
- features functions and operation of underwater compasses
- correct position for holding an underwater compass to maintain an accurate heading
- how to set a compass for the following:
 - a heading
 - reciprocal course
 - square or rectangle pattern
 - triangle pattern
- techniques used to avoid errors when navigating with a compass underwater
- features and functions of course plotters and heading calculators used to navigate multi heading courses underwater and:
 - techniques used to track a multi heading course , return to start point and navigate from one point to another using a course plotter
 - techniques used to determine pattern headings using a heading calculator
- natural features and references commonly used by divers to fix position and navigate underwater:
 - light and shadows cast by the sun or moon
 - direction of currents and water surge
 - bottom composition and contours
 - position of plants and animals
- techniques used to estimate travelled distance underwater, advantages and disadvantages of each:
 - measuring kick cycles
 - determining lapsed time using a timing device
 - using cylinder pressure readings
 - measuring and counting arm spans
 - using underwater lines and reels

- techniques used to fix and relocate an underwater site for future dives:
 - using permanent landmarks, sketching and logging
 - using and logging compass bearings
 - using a global positioning system (GPS) on the surface.

Assessment Conditions

Skills must be demonstrated in an open water site. Dives can be completed from either a boat or from the shore.

During assessment:

- direct vertical access to the surface must be possible; aquatic plants are not considered an overhead obstruction
- the following resources must be available to replicate industry conditions of operation:
 - first aid equipment
 - oxygen equipment
 - communication equipment for emergency response
 - diver flags of a type and size that meet local maritime regulator requirements.

Assessment must ensure use of:

- a diving buddy with whom the candidate can dive
- fins
- masks
- snorkels
- cylinders and valves
- buoyancy control devices with low pressure inflators
- regulators with submersible pressure gauges
- alternative air source
- weight ballast systems
- exposure suits suitable for conditions
- timing devices
- depth gauges
- slates
- underwater navigation equipment:
 - compasses
 - course plotters
 - heading calculators
 - underwater reels with lines for distance measurement
- waterway, wind, tide and current charts relevant to the dive site.

Assessors must satisfy the Standards for Registered Training Organisations requirements for assessors, and:

- be an individual who is currently certified and sanctioned by an industry authorised organisation to teach and assess underwater navigation.

Links

Companion Volume Implementation Guides -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1ca50016-24d2-4161-a044-d3faa200268b>