



Australian Government

DEFCA326 Operate an inland modular raft or ferry

Release: 1

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Modification History

Release	TP Version	Comments
1	DEF12 V2	First release. Replaces and is equivalent to DEFCA314B. Operate an inland modular raft/ferry. Pre-requisites removed. Unit Descriptor updated. Application added. Minor Range Statement change. Evidence Guide updated.

Unit Descriptor

This unit covers the competency required to operate an inland modular raft or ferry. The raft or ferry will consist of at least three connected, unpowered pontoons that are propelled by at least two tugs. This unit of competency covers the assembly, navigation, and manoeuvring, of the raft or ferry.

The raft or ferry will normally be driven in an environment of protected or inland waterways, while conducting a range of tasks including the transport of personnel and/or equipment.

The individual must demonstrate sound judgement in the use of authority. The individual will control the operation of the raft or ferry and crew.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication. In a Defence context, this means that there is no civilian need to hold this unit in order to meet licensing, legislative, regulatory or certification requirements.

Application of the Unit

This competency was developed for combat engineer personnel required to operate an inland modular raft or ferry in a deployed operational environment but is applicable to any individual in this field of work.

Typically, the individual will lead a team with or without direct supervision, use discretion and judgement, and take responsibility for the quality of their outputs.

All activities are carried out in accordance with relevant organisational policies and procedures.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT

Elements describe the essential outcomes of a Unit of Competency.

PERFORMANCE CRITERIA

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

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| 1. Prepare for raft or ferry operation | <p>1.1 Operating instructions are interpreted to determine the task, the cargo, the destination and route.</p> <p>1.2 Navigation data is compiled in accordance with standard procedures.</p> <p>1.3 Cargo weight is calculated to ensure weight is within the safe operating limit of the craft and manifests are completed to ensure passengers and cargo are safe to move in accordance with standard procedures.</p> <p>1.4 Launch site survey, risk and environmental assessment are conducted.</p> <p>1.5 Suitable raft or ferry design is determined based on the operation.</p> <p>1.6 Assembly and disassembly plan is developed in accordance with design, resources, surveys, risks and environmental considerations.</p> <p>1.7 Equipment is selected, checked for serviceability and unserviceable items are replaced or rejected, and reported in accordance with standard procedures.</p> <p>1.8 Operator and crew are checked to ensure they conform with relevant state/territory and federal licensing requirements.</p> <p>1.9 Problems that cannot be resolved locally are referred to higher authority for resolution.</p> <p>1.10 Crew is briefed in accordance with standard procedures.</p> <p>1.11 Liaison is undertaken with outside agencies as required.</p> <p>1.12 Shore preparation is conducted in accordance with standard procedures and the pontoons and tugs are prepared and readied for launch.</p> <p>1.13 Work health and safety (WHS) requirements and recognised safety precautions are applied throughout the operation in accordance with standard procedures.</p> |
| 2. Assemble and manoeuvre the raft or ferry | <p>2.1 Crew is directed and supervised in accordance with standard procedures.</p> <p>2.2 Tugs and pontoons are safely launched in accordance with standard procedures.</p> <p>2.3 Raft or ferry is assembled in accordance with assembly plan.</p> <p>2.4 Passengers are briefed on safety issues prior to</p> |

3. Recover and restore raft or ferry

- embarking in accordance with standard procedures.
- 2.5 Raft or ferry is loaded in accordance with manifest and checks are completed for security, alignment and load stability.
- 2.6 Raft or ferry is navigated and manoeuvred consistent with ***hazards and environmental conditions***, and in accordance with standard procedures.
- 2.7 ***Contingency and emergency drills*** are carried out, as necessary, to minimise threat to personnel and equipment in accordance with standard procedures.
- 2.8 Personnel and/or equipment are disembarked and/or unloaded safely in accordance with standard procedures.
- 2.9 All unexpected situations that require a quick and decisive response are recognised and responded to in accordance with operational requirements and standard procedures.
- 3.1 Raft or ferry is disassembled in accordance with disassembly plan.
- 3.2 Pontoons and tugs are recovered safely in accordance with standard procedures.
- 3.3 Equipment is checked for serviceability, cleaned and serviced, and any defects are reported.
- 3.4 ***Documentation*** is completed in accordance with standard procedures.
- 3.5 Debriefing requirements are completed in accordance with standard procedures.

Required Skills and Knowledge

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

Required Skills

- command and control the crew, passengers and loads
- command and navigate the raft or ferry by day and night
- constantly monitor hazards and apply safety principles to operations
- read and interpret navigation charts
- safely operate the LRV to launch and recover tugs and pontoons
- supervise raft and ferry construction
- use clear interpersonal communication as operator of the vessel
- use knots and lashings to secure watercraft

Required Knowledge

- applicable statutory waterways rules for watercraft operation
- boat specific safety requirements and fire suppressant system
- employment of divers
- gap reconnaissance
- hasty buoyancy/floatation calculations
- launch and recovery procedure for the launch and recovery vehicle (LRV)
- legal responsibilities
- loading procedures and centre of gravity
- effects of water moving over objects and obstacles
- effects of wind on floating objects
- manifest data
- potential water hazards and environmental conditions
- raft and ferry design and construction sequence
- relevant legislation and procedures in relation to environmental requirements
- relevant WHS regulations/requirements, equipment, material and personal safety requirements

Evidence Guide

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

Assessment must confirm the ability to safely operate a raft or ferry on various waterways and to manage the full range of contingency and emergency actions.

Assessment must also confirm the ability to manoeuvre a raft or ferry, with a minimum weight of twenty tonnes.

Operation of the raft or ferry must be completed in a safe manner by day and night over a range of environmental conditions which must include:

- wind gusts of approximately 10 knots
- small swell
- varying currents.

Consistency in performance

Competency should be demonstrated over a time frame that allows for the preparation, launch, recovery, navigation and manoeuvring of a raft or ferry under a range of water operating conditions carrying personnel or cargo.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed in the workplace or in a simulated work environment.

Specific resources for assessment

Access to tugs and pontoons; associated equipment and accessories, including cargo crew; and suitable waterways with access to flowing/tidal water.

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.

<i>Standard procedures</i> may include:	• Australian Standards • job guides, pamphlets and other publications • manufacturers' handbooks, industry specifications and technical instructions • WHS regulations • organisational policies and procedures • relevant local government by-laws • relevant state/territory or federal legislation or regulations • statutory waterways rules • written and verbal orders and job instructions
<i>Manifests</i> may include:	• deployment planning data sheet (DPDS) • ship's log • written orders
<i>Launch site survey</i> may include:	• alternate sites • camouflage and concealment • construction site • crossing sites • gap assessment (measurements, profiling, soil tests, California bearing ratio, angle of repose of banks, bank height and differences) • improvements required (plant assistance) • launch sites • location and map reference • reconnaissance • routes in/out • sketch and photos • tidal variation • underwater inspection for obstacles • water current measurement • water depth • waiting and cushion areas
<i>Raft or ferry design</i> must be in accordance with operational procedures:	• MLC 20 (30) – 1 x internal and 2 x ramp modules • MLC 40 (50) – 2 x internal and 2 x ramp modules • MLC 60 (70) – 3 x internal and 2 x ramp modules • Note: Figures in brackets indicate exceptional loads
<i>Hazards and environment</i>	• adverse weather

<i>conditions</i> may include:	• eddies • fast flowing streams and near still waters • fire • floating and submerged debris and snags • fog or drizzle • heat and cold • other vessels • reduced visibility due to after dark operations • sea states • spillage • time pressure • undertows • underwater hazards • wildlife
<i>Contingency and emergency drills</i> may include:	• abandon raft or ferry drills • action on capsized • diagnosing and rectifying minor engine faults • fire drills • man overboard drills • propeller replacement • towing vessels • use of improvised rudder
<i>Documentation</i> may include:	• activity log • assembly documentation • commander's notebook • environmental compliance • equipment documentation • maintenance records • manifest • maps and charts • post activity report • ship's log

Unit Sector(s)

Not applicable.