THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

CREATE CHANGE

Supporting Document

Boating Safety

1.0 Purpose and Scope

This document provides further information for The University of Queensland's (UQ) operation and crewing of domestic commercial vessels. Mandatory requirements for the operation of domestic commercial vessels can be found in the Boating Safety Procedure. The purpose of this document is to provide further direction to those persons working on or from boats to ensure as far as practicable their health, safety and well-being.

This document applies to all UQ workers engaged as the master, crew or special personnel on domestic commercial vessels for fieldwork, research, teaching, learning, instruction or other work at off campus locations which may or may not be registered as UQ workplaces, and where UQ is responsible for the safety of its workers and those exposed to their activities.

This document does not apply to vessels that are recreational vessels, or to persons who are aboard a domestic commercial vessel as a passenger.

2.0 Risk Management

2.1 Selection of vessel

The intent of good vessel selection is to minimise risk, maximise productivity and ensure that persons can return safely. Vessel safety standards can vary substantially, especially internationally.

When utilising a vessel for research or educational purpose, supervisors should consider the suitability of the vessel for their requirements, the area of operation, the sea conditions that may be encountered, the likely state of the vessel repair and emergency equipment, and whether the communications systems are likely to be effective in the area of operations.

Consideration should also be given to whether the vessel is suitable for the work being undertaken. Additional consideration should include:

- deployment or retrieval of equipment may require the use of mechanical devices for lifting which can have an adverse effect on vessel stability
- the amount of deck space required to work safely
- the method for safe egress and ingress for operations in tenders (smaller auxiliary vessels), diving or snorkelling operations.

2.2 Prior to operation of a vessel

Supervisors must ensure the following processes are completed *before* a vessel is operated by UQ:

- the vessel has the appropriate certificates (operation, survey) as required in section 2.3.1and 2.3.2 of this document
- the vessel safety management system is documented and implemented
- UQ holds current competency certificates for the master and crew
- a work off-campus plan (in UQSafe – Field Trip) is completed

- risk assessments for the work being undertaken have been completed and approved in UQSafe
- duties are assigned to workers competent to undertake the role.

2.3 Requirements for engine powered domestic commercial vessels

2.3.1 Certificate of operation

A current certificate of operation is required. The vessel must be operated within the limits and conditions set by the vessel's certificate of operation.

Limits and conditions may include:

- area of operations
- maximum number of persons to be carried
- loading
- weather and sea conditions not to be exceeded
- any exemptions that have been granted by Australian Maritime Safety Authority (AMSA).

2.3.2 Certificate of survey or non-survey vessel exemption

A certificate of survey is required for any vessel built or commissioned after 30 June 2013, that is:

- greater than or equal to 7.5m in length, or
- carrying passengers, or
- operating beyond sheltered waters, or
- otherwise, high risk.

A certificate of survey will state the required schedule of inspections by a surveyor for five years from issue. The surveyor will make application to the AMSA for new or renewal of certificates.

New vessels not in survey are required to comply with the National Standard for Domestic Commercial Vessels Part G. An exemption from survey, issued by AMSA, is required for any vessel not required to have a certificate of survey.

This section does not apply to human-powered vessels.

2.3.3 National Standards for commercial vessels

The National Standards include requirements for design and construction, fire safety, electrical, machinery and LPG systems, stability, required equipment including safety, communications, navigation and anchoring equipment, crew competencies and operations. Certificates of compliance are required for new vessels and for existing vessels that undergo significant alteration or repair. Where required, certificates of compliance are issued by surveyors accredited by the AMSA.

There are provisions so that vessels operating prior to 30 June 2013 can continue to operate under the Standards to which they were built, providing no significant change has been made to their design, construction or operation (See Marine Order 504 s7 for detail).

2.4 Crewing

The appropriate crew, including minimum crew, for general operations must be stated in the vessel's safety management system. Minimum crewing is given in Marine Order 504 Schedule 1.

A specific operation, for example diving operations with the vessel underway, may require a crew larger than the minimum stated in the safety management system. The appropriate crewing that has been determined for each kind of operation of the vessel must be recorded in the vessel's safety management system, together with reasons that address the factors above.

The owner carries out a crewing evaluation to determine the number of crew required to safely carry out the vessels' operations including the management of fatigue. The AMSA website has a minimum crewing table which may be referred to along with the Appropriate crewing evaluation template.

2.4.1 Factors determining appropriate crew

Factors to be considered when determining the appropriate crew include:

- the tasks or activities of the vessel and any particular demands on the crew that each task or activity will impose in addition to the safe navigation of the vessel
- the number of persons to be carried on the vessel
- the design characteristics of the vessel, including its general arrangements, machinery and equipment
- the competency required for the use of technological aids for safety, fitted in addition to the mandatory requirements
- the area of operation of the vessel and expected conditions (e.g. weather, climate and water temperatures)
- the duration of the voyage
- the potential fatigue of the master and crew members
- the requirements for the vessel's emergency preparedness including the vessel's emergency plan
- the state of repair of the vessel and its machinery and equipment
- the need for safe and timely evacuation of all people from the vessel in an emergency
- the risks to the environment and all persons who will be on or near the vessel
- the qualifications and competencies of crew, including circumstances where the master is the only crew member holding mandated engineering qualifications (dual certification)
- the external support available to the vessel and its crew
- the degree to which the remote and isolated nature of a vessel is managed
- key onboard operations and identified potential risks.

2.5 Vessel safety management system

The safety management system is based on the risk assessment for the operations of the vessel. The Safety management system has three parts vessel, people and procedures.

1. Vessel and operation
    - contact details
    - risk assessment
    - maintenance of vessel and equipment.
2. People
    - responsibility and designated person

- resources and personnel
- appropriate crewing.

3. Procedures
    - onboard operations
    - emergency preparedness
    - hazardous occurrences and non-conformances
    - documentation
    - review and evaluate.

Each item should be tailored to reflect the size and complexity of the operations including risks unique to the vessel and its operations. Further information can be found in the AMSA Guidelines for a safety management system.

2.6 Safe access to moored vessels

Managing the safety for people boarding a moored vessel is the responsibility of the master of the vessel. These risks should be considered and be documented in the risk assessment.

Some risks to consider include:

- variations in wharf height
- tidal conditions, particularly in areas with large tidal ranges
- movement of the vessel due to waves, wind or currents
- platform or gangplank surfaces and the type of rigging needed.

The risk of falls and injury on the vessel may be managed by:

- ensuring the vessel's safety management system addresses safe access for workers and others boarding the vessel when moored
- conducting and reviewing safety inductions for all workers and visitors so they are aware of the restrictions for entering or exiting the vessel
- ensuring crew are clear about what they need to do—if there is no safe access, do not proceed (report any issues related to safe access)
- limiting movement of workers during adverse weather conditions
- providing well-lit areas for safe access at night
- placing platforms or gangplanks firmly and clear of the wharf edge or other potential hazards.

3.0 Operations

3.1.1 Bar crossings

Crossing coastal bars is inherently risky and should only be attempted by experienced masters. Local knowledge pertaining to the bar should be obtained wherever practicable. Sources of local knowledge include local marine authorities such as Maritime Safety Queensland, other commercial operators and volunteer marine rescue organisations.

Large swell conditions and ebb tides may contribute to more dangerous conditions on the bar.

In general, the master should:

- ensure in open boats all persons wear lifejacket or personal floatation device (PFD) with a buoyancy level equal to or exceeding level 150
- all items and lines are secure
- remind persons including crew regarding secure hand holds
- ensure freeing ports are clear
- log in with a shore contact immediately before and after crossing the bar.

Masters unfamiliar with a bar should gain experience with a master who is familiar with the bar prior to attempting crossings.

Some jurisdictions outside of Queensland have specific legislation requiring additional qualifications for carriage of passengers across recognised coastal bars (e.g. NSW) or specific port entrances (e.g. Port Phillip Heads in Victoria).

3.1.2 Night operations

Navigation of vessels at night requires knowledge of local waters and navigational aids. Routes should be planned ahead of the voyage taking into consideration the likely sea conditions, water depth, and other vessel traffic. Speed may need to be reduced during night operations.

Supervisors should ensure that the master is suitably experienced prior to any planned operation occurring between sunset and sunrise. Suitable experience includes local knowledge, experience during daylight conditions and satisfactory operation of a vessel at night while under supervision.

3.1.3 Loading of vessels

Masters should ensure that vessels are loaded in such a manner as to not affect the vessel's stability. The master can ensure this by:

- not overloading the vessel as per its stated maximum load
- ensuring loads are clear of freeing ports
- ensuring loads are stable or secured for the sea conditions likely to be encountered (consider the effects of other vessels as well)
- distributing the load fore and aft keeping in mind the desired trim of the vessel
- distributing the load across the vessel so as to not create a substantial list in the vessel
- not overloading any single point on the deck.

3.1.4 Footwear

Supervisors should consider the need for mandatory footwear when working on and around commercial vessels. Footwear will provide some level of protection to feet from protruding edges, rails, and bolts that often protrude around deck furnishings, and well as sharps such as broken glass and oyster shells often found in shallow water around boat ramps.

A risk assessment should be undertaken, documented and distributed to crew prior. This assessment will identify the appropriate footwear which will vary depending on the vessel and the work being undertaken. In most cases the footwear should provide stable support of the entire foot, enclose the toes and cover most of the foot, and provide grip on wet decks through an appropriate sole.

3.2 Frequency of emergency procedure practice

The interval between practicing emergency procedures for crew of UQ-owned vessels should be no longer than 12 months. A practice should consist of at least a 'dry-run' through the procedure. See Boating Safety Procedures for other requirements such as record keeping.

3.3 First aid supplies

Guidance for first aid supplies required for domestic commercial vessels is provided by the *National Standard for Commercial Vessels Part C7A*. The owner and operator may amend the first aid supplies carried by a domestic commercial vessel to be higher or lower than the standard requires if the change is supported by a risk assessment of the vessel's operation, area of operation, and access to medical care onshore. For further information refer to *General Equivalent Solution 2015/01 Carriage of First Aid Supplies on Domestic Commercial Vessels*.

4.0 Recording and reporting

4.1 Incident reporting

Maritime incidents must be reported under Australian Laws and the process is clearly outlined in the Boating Safety Procedure

4.2 Crew details

The master of the vessel has duties to have a crew list, and this is to include:

- the name of the vessel
- the identification number of the vessel
- the name, address, phone number and email address (if any) of the owner of the vessel
- the name, address, phone number and email address (if any) of the employer of the crew
- the name, home address, phone number and email address (if any) of each crew member
- the name, address and phone number of each crew member's next of kin
- the capacity in which each crew member is employed
- each certificate of competency or other certificate held by a crew member that is required by a standard prescribed under Marine Order 505 (Certificates of competency — national law) 2013.

If the voyage includes changes of crew, the following is required:

- the date each crew member joined the vessel
- the date each crew member left the vessel.

4.3 Training

A written record of the following must be kept about any safety training undertaken by crew members, including:

- the date of the training
- the name of each participant
- the nature of the training (e.g., initial safety training, training in emergency procedures)
- the location of the training.

4.4 Logbook

The format of the logbook must be specified in the vessels safety management system, and it must be kept on board or on land. The logbook entries must be maintained for five (5) years by the designated person.

The vessel's logbook must include details of:

- any illness or injury of persons on board
- any marine incident, other incident or accident involving the vessel or its equipment
- any assistance rendered to another vessel
- any unusual occurrence or incident
- all communications messages sent or received for an emergency
- each inspection of the vessel, its machinery and its equipment that is required for maintaining the vessel.

Entries in the logbook must be made as soon as is practicable after the event occurs.

The vessel's logbook may also contain:

- Any details the master considers relevant, for example:
    - key activities
    - position
    - navigation track
    - a general summary of the weather it has experienced.

5.0 Appendix

5.1 Definitions

Australian Maritime Safety Authority (AMSA) - Australia's national agency responsible for maritime safety, protection of the marine environment, and maritime aviation search and rescue.

Commercial vessel - a vessel not used solely for the purpose of recreation.

Crew - means individuals employed or engaged in any capacity on board the vessel on the business of the vessel, other than the master of the vessel or a pilot.

Designated person - the person designated by the owner to be responsible for monitoring the safety and pollution prevention of the vessel and ensuring appropriate resources are provided.

Domestic commercial vessel - a vessel that is for use in connection with a commercial, governmental or research activity operating in Australian territorial waters that is not owned by a primary or secondary school, a community group or not for profit sporting association. Vessels operating under the *Navigation Act 2012* (C'th) are not domestic commercial vessels.

Master - the person who has command or charge of the vessel, but does not include a pilot.

Owner – includes:

- A person who has a legal or beneficial interest in the vessel, other than a mortgagee, and
- a person with overall general control and management of the vessel.

Further information pertaining to the meaning of owner under the National Law can be found in AMSA Guidance Notice 644.

Personal Floatation Device (PFD) - life jacket compliant with the relevant National Standard for Commercial Vessels.

Safety Management System – the document that specifies the operational requirements for the domestic commercial vessel.

UQ workers – for the purposes of this document, includes:

- staff - continuing, fixed-term, research (contingent funded) and casual staff;
- contractors, subcontractors and consultants;
- visiting academics and researchers;
- academic title holders, visiting academics, emeritus professors, adjunct and honorary title-holders, industry fellows and conjoint appointments;
- higher degree by research students; and
- volunteers and students undertaking work experience.

Vessel - a craft for use, or that is capable of being used, in navigation by water, however propelled or moved, and includes an air-cushion vehicle, a barge, a lighter, a submersible, a ferry in chains and a wing-in-ground effect craft but does not include aircraft. This includes boats, canoes, dinghies, dragon boats, kayaks, pontoons (except when connected to the mainland) and tinnies.

Unpowered inflatable rafts, paddleboards, floating structures connected permanently to shore, sailboards, and surf skis are **not** vessels.

6.0 Meta Data for Document Management

Web Links	AMSA Guidance Notice 644 *General Equivalent Solution 2015/01 Carriage of First Aid Supplies on Domestic Commercial Vessels* *National Standard for Commercial Vessels Part C7A* Work Health and Safety Queensland Boating Safety Procedure
Approval Authority	Director Health, Safety and Wellness
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