UQ Vessel Safety Management System
Scarus 10745QC
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UQ Vessel Safety Management System
Vessel and Contact Details

Scarus
10745QC

St Lucia QLD 4072

Owner’s phone number:
07 3365 1095
0438 651 095
<table>
<thead>
<tr>
<th><strong>UQ Vessel Safety Management System</strong></th>
<th><strong>Scarus</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vessel and Contact Details</strong></td>
<td><strong>10745QC</strong></td>
</tr>
<tr>
<td><strong>Ship name</strong></td>
<td>Scarus</td>
</tr>
<tr>
<td><strong>Registration number</strong></td>
<td>10745QC</td>
</tr>
<tr>
<td><strong>Home port</strong></td>
<td>Brisbane</td>
</tr>
<tr>
<td><strong>Fishing symbols</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Area of Operations</strong></td>
<td>Queensland Waters to 15nm from land</td>
</tr>
<tr>
<td><strong>Builder</strong></td>
<td>NAIAD Boats</td>
</tr>
<tr>
<td><strong>Year constructed</strong></td>
<td>1996</td>
</tr>
<tr>
<td><strong>Length (LOA)</strong></td>
<td>5.37m</td>
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<tr>
<td><strong>USL class</strong></td>
<td>2C</td>
</tr>
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<td><strong>Beam</strong></td>
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</tr>
<tr>
<td><strong>Draft</strong></td>
<td>0.77m</td>
</tr>
<tr>
<td><strong>Hull identification number</strong></td>
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</tr>
<tr>
<td><strong>Hull material</strong></td>
<td>Aluminium</td>
</tr>
<tr>
<td><strong>Superstructure material</strong></td>
<td>Aluminium</td>
</tr>
<tr>
<td><strong>VIN number (if issued)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Hull colour</strong></td>
<td>White</td>
</tr>
<tr>
<td><strong>Deck colour</strong></td>
<td>Grey/Blue</td>
</tr>
<tr>
<td><strong>Ship type</strong></td>
<td>Work Boat</td>
</tr>
<tr>
<td><strong>Superstructure colour</strong></td>
<td>Grey/White</td>
</tr>
<tr>
<td><strong>Gross tonnes</strong></td>
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</tr>
<tr>
<td><strong>Net tonnes</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Maritime Mobile Service Identity (MMSI)</strong></td>
<td>503113300</td>
</tr>
<tr>
<td><strong>Max. speed</strong></td>
<td>28 knots</td>
</tr>
<tr>
<td><strong>Designated person</strong></td>
<td>Michael Phillips</td>
</tr>
<tr>
<td><strong>Any operational limitations</strong></td>
<td></td>
</tr>
</tbody>
</table>
2C – Fifteen (15) nautical miles of land, or in waters defined smooth or partially smooth waters:

To carry a maximum of 8 persons

2D – Defined Partially Smooth Waters;

To carry a maximum of 12 persons

Weather and sea condition limitations

(wave height and wind strength limitations for example)
Risk assessment

Risk assessment for operations from the vessel shall be completed as per UQ Policy 2.10.08 Work Health and Safety Risk Assessment and Management. A generic risk assessment for general operations is reprinted below.

For persons without access to the UQ Risk Assessment Database, a job hazard analysis form can be used in its stead (example given in Job Hazard Analysis, Page , or any other risk assessment process that is compliant with ISO 31000 and approved by the Boating and Diving Officer (Designated Person).
<table>
<thead>
<tr>
<th>Task/Process Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task/Process ID:</strong> 24591</td>
</tr>
<tr>
<td><strong>Name:</strong> Use of small boats</td>
</tr>
<tr>
<td><strong>Effective Risk Level:</strong> Moderate</td>
</tr>
<tr>
<td><strong>Action:</strong> Should be dealt with as soon as possible but situation is not an emergency</td>
</tr>
<tr>
<td><strong>Author:</strong> Michael Phillips</td>
</tr>
<tr>
<td><strong>Last Updated By:</strong> Clint Chapman On 18/02/2013 10:43:55AM</td>
</tr>
<tr>
<td><strong>Audit By:</strong></td>
</tr>
<tr>
<td><strong>Audit Date:</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Workplace Location of the Task/Process</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Campus:</strong> St Lucia</td>
</tr>
<tr>
<td><strong>Faculty/Division:</strong> Fac - Science</td>
</tr>
<tr>
<td><strong>School/Centre:</strong> Science (Boating &amp; Diving)</td>
</tr>
<tr>
<td><strong>Workplace:</strong> Off-Campus</td>
</tr>
<tr>
<td><strong>Supervisor:</strong> Clint Chapman</td>
</tr>
<tr>
<td><strong>Status:</strong> Approved</td>
</tr>
<tr>
<td><strong>Approval Date:</strong> 18/02/2013</td>
</tr>
</tbody>
</table>

| Risks Associated with this Task/Process or Situation |
### Task Risk Assessment - Word Document

**Risk Situation:** Towing

**Process/Job Desc:** Vessels are towed by motor vehicles from storage point to boat ramps and back.

**Energy Source:** Kinetic Energy

**Current Controls:**
- Driver rotation every 2 hours or 15 minute rest periods every two hours.
- Trailers inspected before departure, annual maintenance on trailer, brakes maintained annually or as required.
- UQ vehicles or vehicles approved by Head of Organisational Unit only.
- UQ authorised drivers only.

**Hazard Event:** Motor vehicle accident

**Incident Category:** Vehicle accident

**Prepared By:** [Name]

**Assessment Date:** 29/09/2010

#### Risk Analysis

**Consequence:** Very Serious

**Rationale:** Damage to vehicle and vessel likely to have significant interruption to operations. Multiple serious injuries conceivable.

**Exposure:** Occasional

**Probability:** Conceivable

**Risk Level:** Low

**Action:** Risk is normally acceptable

**No Additional Controls**

### Risk Situation: Launching at boat ramps

**Process/Job Desc:** Small trailered vessels are launched at purpose built boat ramps. A motor vehicle reverses the trailer into the water to a suitable depth. The designated master operates the vessel, starting the motors. A second person releases the vessel from the trailer. The master manoeuvres the vessel off the trailer into the water.

**Energy Source:** Mechanical Energy

**Current Controls:**
- Person not operating vehicle shall maintain verbal or visual communication with the vehicle driver, and maintain a watch for obstructions and non-associated persons in the vehicle operators blind spots.
- Inspection of ramp for obstruction, damage, adequate water depth prior to trailer reversal.
- The vessel is secured to the trailer by winch and safety chain until trailer motion has stopped and vessel is ready to launch.

**Hazard Event:** Collision with non-associated person or slip on boat ramp surface by person releasing boat from trailer.

**Incident Category:** Being hit by moving object

**Prepared By:** [Name]

**Rationale:** Based on vessels being used 50 days per year on public vehicle concerned is in contact with public at boat ramp area and ramp environment. Vehicle, person and vessel are in contact with non-associated persons. No additional controls in place.

**Probability:** Conceivable

**Risk Level:** Low

**Action:** Risk is normally acceptable

**No Additional Controls**
Risk Situation: Boarding/discharging

Process/Job Desc: The boat will be secured alongside a pontoon or wharf. Persons will move to and from the vessel. Three points of contact should be maintained by persons boarding or disembarking. Motors may be engaged to stabilise the vessel. If the vessel is fitted with twin motors, the motor further from the point of boarding/discharging should be used.

Where practicable, steps up or down from vessel should be avoided by tying up at suitable points on jetties, wharves or pontoons.

Energy Source: Kinetic Energy

Current Controls:
- Vessel secured to pontoon or wharf.
- Master to assess safety of persons transferring. Relocate to more stable conditions if deemed unsafe.
- Motor used to stabilise vessel

Hazard Event: Person slips and falls on to vessel, wharf or into water.

Incident Category: Fall on the same level (inc trips & slips)

Prepared By:   

Assessment Date: 29/09/2010

Risk Analysis

Consequence: Substantial  
Rationale: Injury requiring medical treatment is most likely serious outcome.

Exposure: Frequent  
Rationale: Boarding/discharging occurs daily when vessel is in use

Probability: Remotely possible  
Rationale: Has not yet occurred in past 5 years of operation

Risk Level: Low  
Action: Risk is normally acceptable

No Additional Controls

Risk Situation: Loss of stability

Process/Job Desc: Vessels may be overloaded or unsuitably loaded with persons or equipment resulting in listing. Freeboard may be lost and the vessel may be swamped or capsize.

Energy Source: Mechanical Energy

Current Controls:
- Vessel limits imposed by survey must be adhered to.
- Vessel master responsible for ensuring that vessel is suitably loaded and load evenly distributed.
- Master to ensure freeing ports remain unobstructed by equipment.
- Passengers and crew briefed regarding maintaining vessel stability

Hazard Event: Vessel swamps or capsizes

Incident Category: Vehicle accident

Prepared By:

Risk Analysis

Assessment Date: 29/09/2010

Consequence: Very Serious  
Rationale: Loss of vessel likely to endanger all persons on board

Exposure: Frequent  
Rationale: Based on 100 days operation per year

Probability: Practically impossible  
Rationale: Vessels have positive level floatation for maximum surveyed capacity

Risk Level: Low  
Action: Risk is normally acceptable

No Additional Controls
Risk Situation: Operation at speed exceeding 25 knots

Process/Job Desc: Operation at speeds exceeding 25 knots results in higher risk of collision with other vessels and submerged objects, and sudden movement of the vessel due to sea conditions

Energy Source: Kinetic Energy

Current Controls: Master to operate vessel at safe speed taking into account; current sea conditions, water depth, safe navigation path, other vessels, traffic, wildlife.

Hazard Event: Collision with submerged object of other vessel
Incident Category: Vehicle accident
Prepared By: 
Assessment Date: 29/09/2010

Risk Analysis

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Very Serious</th>
<th>Rationale: Higher likelihood of multiple serious injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure</td>
<td>Occasional</td>
<td>Rationale: Based on 50 days operation per year</td>
</tr>
<tr>
<td>Probability</td>
<td>Conceivable</td>
<td>Rationale: Collision has been known to occur</td>
</tr>
<tr>
<td>Risk Level</td>
<td>Low</td>
<td>Action: Risk is normally acceptable</td>
</tr>
</tbody>
</table>

No Additional Controls

Risk Situation: Refuelling

Process/Job Desc: Refuelling fuel tanks at petrol pumps. Vessel must be earthed. Fuel tanks should not be overfilled

Energy Source: Chemical

Current Controls: Ensure ignition sources are turned off and fuel tank is earthed to the pump before fuelling. If fuelling at sea a Code B (red field) flag should be flown if available. A fuel spill kit should be on hand in case of fuel spillage. Monitor fuel tank level and do not fill above recommended maximum fill point.

Portable fuel tanks must be removed from the boat before being filled whilst in contact with the ground. Portable tank vents should be closed except when tank is in use.

Lifting of portable fuel tanks (approximate weight 18kg when full) should be lifted as close to the body as possible with minimal bending of the lower back.

Contact with unleaded fuel should be avoided.

MSDS for fuel and oil in vessel operations manual

Unleaded fuel contacting the eye is a substantial injury likely to result in medical treatment

Chemical

<table>
<thead>
<tr>
<th>Hazard Event</th>
<th>Single contact with chemical or substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident Category</td>
<td></td>
</tr>
<tr>
<td>Prepared By:</td>
<td></td>
</tr>
<tr>
<td>Assessment Date:</td>
<td>29/09/2010</td>
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Risk Analysis

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Substantial</th>
<th>Rationale: Unleaded fuel contacting the eye is a substantial injury likely to result in medical treatment</th>
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</thead>
<tbody>
<tr>
<td>Exposure</td>
<td>Occasional</td>
<td>Based on 50 days operation per year</td>
</tr>
<tr>
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<td>Conceivable</td>
<td>Collision has been known to occur</td>
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<tr>
<td>Risk Level</td>
<td>Low</td>
<td>Risk is normally acceptable</td>
</tr>
<tr>
<td>Action</td>
<td>Risk is normally acceptable</td>
<td></td>
</tr>
</tbody>
</table>
Risk Situation: Pre existing Medical Conditions of Crew or Passengers

Process/Job Desc: An assessment of the health and well-being of any member of the crew or passengers and any additional risks associated with travelling away from areas of immediate medical care.

Energy Source: Muscular (strain)

Current Controls: All divers have a comprehensive medical that might highlight any medical issues that might be cause for concern. Ships master in their vessel briefing outline that if anyone has a medical conditions that they believe the crew should be made aware of please talk to a member of the crew prior to leaving the departure point and ensure that the appropriate medication (if required) is available. (allergic reactions, pre existing back injury, epilepsy etc)

Hazard Event: Person may aggravate or further strain their back injury while the vessel is underway, as most small vessels bounce around, even in calm water. The unusual twisting or lifting on a vessel where space or overhead obstructions may restrict the direction and way that a manual handling task might be undertake could exacerbate pre existing medical conditions. Being stung by an animal that invokes an anaphylactic reaction which would require treatment with an epi pen, but it was not bought with the passenger or crew and is not a standard item in a vessel first aid kit. If an epilepsy patients was not taking their medication, or was at sea for extended periods of time and failed to either bring their medication or take them at the required time intervals they may have a seizure, endangering themselves with all the very hard object on a boat, or in extreme cases might fall over board presenting and additional drowning risk.

Incident Category: Hitting objects with part of body

Prepared By: 
Assessment Date: 02/03/2011

Risk Analysis

Consequence: Very Serious
Rationale: If under the worst case scenario a person where to fall into the water while have a seizure they may drown.

Exposure: Occasional
Rationale: Based on 50 days a year operational

Probability: Remotely possible
Rationale: Most adults that have medical conditions carry their proscribed medications and any persons under 18 years of age are accompanied by a teacher or supervisor who should be aware of their medical condition.

Risk Level: Moderate
Action: Should be dealt with as soon as possible but situation is not an emergency

No Additional Controls
Risk Situation: Mechanical Breakdown

Process/Job Desc: Systems on vessels can breakdown without warning. Breakdowns may render the vessel unable to manoeuvre potentially endangering the vessel and persons on board.

Energy Source: Kinetic Energy

Current Controls:
- Scheduled maintenance as per vessel operations manual.
- Pre-departure checks by master of propulsion, steering, electrical and communications systems.
- Shore contact given sufficient detail to direct search in the event of vessel being overdue.
- Basic tools on board. Survey required emergency signalling devices can be used if vessel is endangered.
- Anchoring system as per NSCV requirements.

Hazard Event: Vessel unable to effectively make way and may run aground, collide or drift to sea.

Incident Category: Other and multiple incident type

Prepared By:  Assessed Date: 02/03/2011

Risk Analysis

Consequence: Substantial
Rationale: Likely worst case outcome with mechanical and communication breakdown vessel having to remain anchored until declared overdue, and found by SAR. More likely outcome is vessel requires and obtains tow to safe haven.

Exposure: Occasional
Probability: Unusual but possible
Risk Level: Moderate
Action: Should be dealt with as soon as possible but situation is not an emergency

No Additional Controls

Risk Situation: Unintentional grounding

Process/Job Desc: The unintentional collision of a vessel or parts there of on submerged objects or benthos

Energy Source: Kinetic Energy

Current Controls:
- Follow safe navigational paths, complying with navigational signage, and navigational charts (either paper or navigational plotters with maps).
- The ship's master will monitor the indicated depth of water from visual or mechanical aids (e.g., depth sounder) and apply judgement to modify vessel's motor trim, vessel trim and speed to match the conditions.

Hazard Event: Injury to passengers and crew due to sudden and abrupt change in velocity
Potential damage to vessel hull and propulsion system

Incident Category: Hitting objects with part of body

Prepared By:  Assessed Date: 02/03/2011

Risk Analysis

Consequence: Serious
Rationale: Multiple minor injuries to persons on board, and/or one or two major injuries. Moderate to serious vessel damage

Exposure: Occasional
Probability: Remotely possible
Risk Level: Moderate
Action: Should be dealt with as soon as possible but situation is not an emergency

No Additional Controls
Risk Situation: Bar crossing

Process\Job Desc: Crossing an area of shallow water where region is exposed to substantial waves resulting in breaking surf

Energy Source: Kinetic Energy

Current Controls:
- Only attempt bar crossing during conditions with suitable weather and tide.
- Observe waves and bar way conditions prior to crossing
- Only attempt to cross the bar with an experienced master with suitable local knowledge and skill to safely cross the bar, and return at the end of the day.
- All persons should exercise caution, regardless of experience.
- All persons on board need to be wearing PFD’s during the crossing.
- Master must make either radio or voice telephone contract with shore contact, VMR or research station notify of intent to cross the bar, and then once again after bar way crossing.
- Assure that the load is secured prior to crossing.
- Check fuel level in tanks, steerage, and motor power and function prior to crossing.
- Be prepared to cancel or delay crossing.
- Any proposed bar crossing require prior approval in writing from the BDO.

Hazard Event: Vessel capsize, broaching or pooping
- Drowning or serious injury

Incident Category: Other and multiple incident type

Prepared By: Michael Phillips

Assessment Date: 02/03/2011

Risk Analysis

Consequence: Very Serious

Rationale: Single fatality, multiple injuries

Exposure: Unusual

Rationale: At least 10 operational days a year

Probability: Remotely possible

Rationale: Combinations of risk factors even with controls

Risk Level: Moderate

Action: Should be dealt with as soon as possible but situation is not an emergency

Risk Situation: Slips, Trips and Falls on a Vessel

Process\Job Desc: The operation of personnel on a small vessel often involves working on a wet deck that is also unstable. The combination of these two factors commonly results in a loss of friction and stability which can result in either slipping over, tripping or falling over on the vessel.

Energy Source: Kinetic Energy

Current Controls:
- Use of closed toe footwear that provides protection of the toes from scraping or kicking hard objects (bare feet, thongs and open toes sandals do not count as closed toe footwear).
- Maintain at least 2 points of contact with the vessel at all times when moving and avoid areas of high risk of tripping while the vessel is under way.
- Bruises must commonly to the knees, elbows and skins, loss of skin and bleeding from small wounds.

Hazard Event: Hitting objects with part of body

Incident Category: Other and multiple incident type

Prepared By: Michael Phillips

Assessment Date: 02/03/2011

Risk Analysis

Consequence: Substantial

Rationale: Possible to fall over and knock head on the vessel requiring medical attention in worse case scenario.

Exposure: Occasional

Rationale: Based on 50 operational days a year

Probability: Unusual but possible

Rationale: If controls are followed there is still a small risk as wet surfaces always result in a loss of friction.

Risk Level: Moderate

Action: Should be dealt with as soon as possible but situation is not an emergency

No Additional Controls
Rope Handling

The securing of the vessel to another physical object (eg jetties, piers, moorings, towed objects) with the use of a line (wire, rope or chain).

Energy Source: Kinetic Energy

Current Controls:
- Use of appropriate vessel strong points and line (wire, rope or chain) suitable for the task and attachment to the strong point.
- Clear instruction during the briefings are to which members of the crew are authorised to change or modify any lines on the vessel, unless specifically requested by the skipper whilst underway.
- Use of approved knots for securing lines
- Where present secure anchor lines in bow sprit rollers to minimise vessel damage and injury to operators.
- Prudent judgement applied to the use of certain lines in heavy weather conditions.
- Use tie downs to secure the vessel and cargo during heavy weather

Hazard Event: Crush, pinch or amputation of limbs between hard surfaces and a loaded line.
- Overloaded lines may break and cause damage to vessel and crew
- Inappropriately secured cargo may break free during heavy weather endangering vessel stability and increasing the risk of injury to the passengers and crew.

Risk Analysis

Consequence: Substantial
Rationale: Loss of a finger or hand
Exposure: Unusual
Rationale: Based on 50 operations days a year
Probability: Unusual but possible
Rationale: Has been known to happen
Risk Level: Low
Action: Risk is normally acceptable

Vessel alongside physical structure

When vessels are brought alongside physical structures (eg jetty, pylons, piers, other vessels) there is a potential for a collision between the vessel and the structure with sufficient kinetic energy to crush or pinch body parts

Energy Source: Kinetic Energy

Current Controls:
- No protruding body parts on the outside of vessels (eg no hands or legs over the side).
- Use fenders where practicable
- Look around, including above before attempting to engage with the physical structure to ensure safe to do so.
- Brief special personnel prior to each alongside event and consider sea conditions prior to coming alongside
- Crush or pinching of body parts

Hazard Event: Possible amputation of limbs
Rationale: Potential for amputation or limb loss in collision

Risk Level: Moderate
Action: Should be dealt with as soon as possible but situation is not an emergency
Risk Situation: Person Overboard

Process/Job Desc: The unexpected movement of vessel results in an unintentional loss of balance by a member of the crew or a passenger resulting in that person entering the water and requiring immediate rescue.

Energy Source: Mechanical Energy

Current Controls: All passengers and crew endeavour to maintain 3 points of contact while underway
Minimum of 2 persons operating the vessel
Respond as per the vessel operations manual

Hazard Event: Falling into water, possible at speed

Incident Category: Fall from a height

Prepared By: Assessment Date: 02/03/2011

Risk Analysis

Consequence: Very Serious
Rationale: Drowning
Impact with the hull or engine

Exposure: Rare
Rationale: 50 operational days a year

Probability: Remotely possible
Rationale: Vessel stability and motion while at rest or underway can result in conditions leading to the loss of balance and subsequently falling out of the vessel

Risk Level: Low
Action: Risk is normally acceptable

No Additional Controls

Risk Situation: Dehydration

Process/Job Desc: Outdoor work may result in dehydration if fluid intake is insufficient.

Energy Source: Thermal

Current Controls: Master to ensure sufficient drinking water for all persons on board for intended duration of trip.

Hazard Event: Dehydration, heat exhaustion

Incident Category: Contact or exposure to heat and cold

Prepared By: Assessment Date: 21/10/2010

Risk Analysis

Consequence: Substantial
Rationale: Heat exhaustion would end a person's work for the day

Exposure: Occasional
Rationale: Based on 50 days per year of high temperature, humidity and work.

Probability: Remotely possible
Rationale: Heat exhaustion unlikely with adequate fluid intake

Risk Level: Low
Action: Risk is normally acceptable

No Additional Controls
Risk Situation: UV Exposure

Process\Job Desc: Outdoor work will result in UV exposure.

Energy Source: Radiation

Current Controls: Where practicable, limit exposure to the sun in the middle of the day, particularly on clear days when there are light high clouds, or during summer. This may necessitate rearranging of work practices. (Avoid sustained working in the sun when your shadow is shorter than your height.) Where practicable, provide mechanical shade on open vehicles or boats and provide sun shelters. Where employees are working outdoors, provide protective clothing, sunglasses, hats and blockout creams (SPF 15+) for protection against sunlight.

Hazard Event: Sunburn, skin cancer
Incident Category: Exposure to Radiation
Prepared By: Assumption Date: 21/10/2010

Risk Analysis
Consequence: Substantial
Rationale: Sunburn is usually not severe. Skin cancers, if treated early, do not result in permanent disability.

Exposure: Occasional
Rationale: Based on 25 days field work for individuals per annum where UV exposure is severe

Probability: Quite possible
Rationale: Excessive UV exposure more likely on water due to reflection from water surface.

Risk Level: Moderate
Action: Should be dealt with as soon as possible but situation is not an emergency

No Additional Controls

Risk Situation: Weather conditions

Process\Job Desc: Wind, wave and swell conditions affect the safe operation of vessels by slowing safe rate of travel, increasing risk of swamping or capsizing and damage to/from loose items.

Energy Source: Mechanical Energy

Current Controls: Check weather forecast prior to departure and ensure forecast conditions are suitable for area of operations
Monitor marine radio or Bureau of Meteorology website for forecast updates and severe weather warnings
Monitor conditions whilst at sea and move to sheltered waters if conditions deteriorate
Follow severe weather procedure for vessel if caught at sea.
Keep up to date with weather whilst underway by listening to the radio on channel 16, especially for thunderstorm warnings

Hazard Event: Injury to persons from vessel movement
Incident Category: Being hit by moving object
Prepared By: 

Risk Analysis
Consequence: Substantial
Rationale: Worst case injury of large contusion or fracture

Exposure: Unusual
Rationale: Based on 50 days operation per year, on which one day will result in being caught at sea in worsening weather

Probability: Unusual but possible
Rationale: Severe weather procedures reduce probability of injury or loss.

Risk Level: Low
Action: Risk is normally acceptable

No Additional Controls
Risk Situation: Fire

Process/Job Desc: Fires can start in electrical systems and/or in the petrol outboard motor, and fires can spread rapidly to other section of the boat, including to the fuel systems.

Energy Source: Thermal

Current Controls:
- Fire Bucket
- Fire Extinguisher
- Pre Departure fire briefings
- Fuel stored in appropriately designed containers
- Fuels lines and fittings inspected prior to departure
- No smoking on any university vessel

Hazard Event: Uncontrolled fire resulting in vessel abandonment. Burns

Incident Category: Contact or exposure to heat and cold

Prepared By: 

Assessment Date: 02/03/2011

Risk Analysis

Consequence: Very Serious
Rationale: Possible fatalities and multiple burns
Drowning
Loss of Vessel

Exposure: Unusual
Rationale: 50 operational days a year

Probability: Conceivable
Rationale: Culmination of events

Risk Level: Low
Action: Risk is normally acceptable

No Additional Controls
Task Readers:

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No Training Specified
UQ Vessel Safety Management System
Designated Persons

**Designated Persons**
UQ Boating and Diving Officer
Michael Phillips
Faculty of Science/Occupational Health and Safety Division
St Lucia QLD 4072
Phone: 07 3365 1095
Mobile: 0438 651 095

Outside of Office Hours or should the Boating and Diving Officer be unable to be contacted, please contact UQ Security 07 3365 1234, or 07 3365 4333 if the matter is an emergency.
**Master's Responsibility and Authority statement**

The Master has overriding authority and responsibility to make decisions with respect to the safety of the vessel and pollution prevention and to request the owner’s assistance as necessary.

The Master must ensure safety of passengers, crew and the cargo and safe operation of the ship.

The Master shall implement the Safety Management System aboard the vessel including crew, passenger and special personnel participation in emergency response procedures.

The Master must undertake effective OH&S measures to ensure compliance with the Work Health and Safety Act (QLD) 2011 and related legislative requirements.

The Master must ensure that operations are effectively supervised onsite, crew are adequately trained and experienced, risk assessments are completed, and plant and equipment including PPE is provided and adequately maintained.

The Master may suspend or prohibit any operation on the vessel at their discretion. The master may refuse passage of any person who does not comply with the University Code of Conduct.

The Master may assign organisational duties for ship’s operation, navigation and maintenance,

The Master shall operate the vessel within its capability considering sea-state conditions, weather and stability limitations,

In conjunction with a Boating and Diving Officer, the master shall identify crew (appropriate number, qualifications and role) required for emergency response procedures (minimum crew) and key operating procedures (adequate crew) for the ship and its safe operation.

The Master shall identify key operating procedures for the vessel, duties for each crew member and manage fatigue,

The Master shall maintain a complete record of the ship’s operations which must be held for a period of at least five years,

The master shall oversee the operation of all machinery onboard the ship,

The Master shall ensure adequate safety equipment is aboard, and the safety equipment is safe for use.

The Master shall manage fuel consumption

The Master shall report ship defects to the designated person and complete any relevant records

The Master shall ensure that any injury, illness or near miss is reported to the owner

The Master shall notify the designated person and owner of any marine incident and/or notifiable incident
Resources and Personnel

Training of crew

Initial Safety training
As required, this SMS identifies the requirement for initial safety training for all crew (as per NSCV Part E, Clause 2.8.1) and also keeps a record of all persons (crew &/or shore staff) that have completed this training. The safety training program is part of the vessel induction for new crew and is detailed in Vessel Procedures page 34, and recorded as per the documentation for Crew training record – training on joining ship, page 61.

Training in key onboard operations

Training in Emergency Procedures
Emergency Procedures are detailed in the Emergency Plans, page 45. Frequency of training in these procedures is given in Frequency of Crew Training page 44.

Appropriate crew

Core Complement
The core complement is two persons, unless the voyage is short (under 60 minutes), does not involve any task other than navigating and berthing or trailing the vessel, and is in sheltered waters in which case the core complement may be reduced to one if a risk assessment determines it is safe to do so.

Qualification Requirements to act as Master
Certificate of Competency as Coxswain or higher commercial maritime qualification

If operating under Exemption 15 for Scientific Research and Educational Activities;

    Valid Recreational Marine Driver’s Licence or recognized equivalent

Certificate of Competency as General Purpose Hand
Persons acting as master, crew or special personnel who accrue more than 120 days sea service whilst employed by The University of Queensland shall complete a Certificate 1 as a General Purpose Hand.

First aid
The master of the vessel and one member of the crew or special personnel must hold a current certificate for first aid to at least the equivalent of HLTFA311A Apply First aid. Risk assessment shall determine if persons with higher first aid qualifications are required aboard the vessel as per UQ Policy 2.30.10 First Aid

Marine VHF Radio
A valid certificate of proficiency for marine VHF radio must be held by the master of the vessel.
Operations under Exemption 15

If the ship is to be operated under Exemption 15, the following additional conditions apply:

- Operations should not commence if the sustained wind speed is greater than 20 knots.
- If while operating the sustained wind speeds increase to greater than 20 knots the operations may be cancelled at the discretion of the master.
- A risk assessment should be undertaken if boating operations are to commence when the wave height is greater than 2 metres (noting that wave height is a combination of swell and seas - see http://www.bom.gov.au/marine/about/combinedseaswell.shtml) and taking into account the following:
  - Area of operations,
  - Water depth,
  - Bar crossings (see Bar crossings page 36),
  - Wave direction and period,
  - Wind speed and direction,
  - Experience of the master and crew,
  - Support levels (e.g. are operations being conducted with a mother ship).

Operations under Exemption 23

Until June 30th 2014, the vessel may be operated by the university for genuine scientific purpose by a person holding a recreational marine driver’s licence in Queensland waters as a person holding this licence was permitted to operate the vessel under the Transport Operations (Marine Safety) regulation 2004 s85.
University of Queensland Policies and Procedures shall apply to all operations of this vessel not withstanding any additional requirements contained within this Vessel Safety Management System.

The UQ Policies and Procedures Library is the central UQ repository for approved policies, procedures, guidelines and forms. The PPL contains policy and related documents on topics relevant to students, staff and the UQ community. The PPL is a public site and content is accessible to anyone who can navigate to it. The library can be found at ppl.app.uq.edu.au

Relevant policies include but are not limited to:

1.50 Ethical Conduct in the Workplace
1.70 Equity and Diversity
2.10.03 Occupational Health and Safety
2.10.04 Staff Responsibilities for Occupational Health and Safety
2.10.07 Workplace Injury, Illness and Incident Reporting
2.10.08 Risk Assessment and Management
2.30.05 Minimum Standards of Dress and Personal Protective Equipment
2.30.07 Manual Tasks Risk Management
2.30.08 Diving Safety
2.30.09 Work Off-Campus Safety
2.30.10 First Aid
2.30.12 Threats to Personal Safety
2.30.17 Alcohol, Smoking and Other Drugs
2.30.20 Hearing Conservation
5.30.03 Staff Induction
UQ Code of conduct

The University recognises its staff as its greatest asset. The purpose of the Code of Conduct is to guide and enhance the conduct of staff in performing their duties in the collegial environment of the University. The Code of Conduct has the support of the University's governing body, Senate, and applies to all officers and employees of the University.

There are five fundamental ethical principles enshrined in the *Public Sector Ethics Act 1994*, from which the ethical obligations contained in the University's Code of Conduct are derived. The ethical obligations are summarised in this section. More detailed advice on these ethical obligations is contained in the description below and in University policies and procedures.

**Respect for the law and system of University Governance**

- Staff should observe the laws of the State and the Commonwealth, and the statutes and rules of the University
- This obligation is not intended to detract from the concept and practice of academic freedom, which is essential to the proper conduct of teaching, research and scholarship

**Respect for persons**

Staff should treat students, other staff and members of the community equitably and with respect. This involves:

- Courtesy and responsiveness in dealing with others
- A responsibility of fairness in supervising other staff
- Making decisions that are procedurally fair to people
- Avoiding unfair discrimination, for example, on grounds such as gender, race, religion
- Engaging in rational debate and allowing alternative points of view to be expressed
Integrity

Staff should be honest in carrying out their duties, and avoid conflicts between their private interests and their University responsibilities with respect to:

- Personal relationships
- Sexual relationships
- Financial relationships
- Receipt of gifts
- Outside work
- Use of confidential information obtained in the course of University duties
- External activities and public comment

Staff are supported in innovative and independent research, but in doing so, should adhere to principles for the ethical conduct of research.

Diligence

Staff should carry out their duties in a professional and conscientious manner. This involves:

- Carrying out official decisions and policies faithfully and impartially
- Seeking to attain the highest possible standards of performance
- Exercising care for others in employment-related activities
- Ensuring that personal use of alcohol and other drugs does not interfere with the proper performance of University activities
- Adhering to professional codes of conduct where applicable

Staff are encouraged to report fraud or corrupt conduct to appropriate University or external authorities.

Economy and Efficiency

- Staff should use University material and financial resources only for legitimate University purposes
- Staff should avoid waste
- Staff should maintain adequate security over University property, facilities and resources

Staff should familiarise themselves with the Code of Conduct and endeavour to ensure that its principles are observed at all times. Significant departures from the standards of conduct outlined in the Code of Conduct may amount to misconduct on the part of the individual staff member.

As a companion to this document the University has also produced Guidelines for Ethical Conduct which explain in greater detail standards of conduct expected of staff.
UQ alcohol and smoking policy

Persons working on this vessel should not be affected by alcohol or other drugs whilst conducting vessel operations.

The master of the vessel is responsible for ensuring that all persons on board comply with the University Alcohol Tobacco and Other Drugs Policy.

Alcohol is not to be consumed on this vessel.

Smoking is not permitted on this vessel.

Refer to UQ Policy and Procedures Library 2.60.01 for full details.

UQ drug policy

The possession and/or use of medications, including prescribed and over-the-counter drugs, is prohibited except when prescribed by a medical practitioner or permitted by law.

No member of the University community, or visitor, shall unlawfully possess, use, sell, or distribute drugs while engaged in University business or on University premises. Even when a drug offence results in a criminal charge, the University also may initiate sanctions to protect or preserve the safety and welfare of the University community or the reputation of the institution.

Individuals who are aware of persons on University premises who are engaged in unlawful drug related activities, or drug related activities that have the potential to cause harm to those involved or the University, should advise the Chief Operations Officer who will determine if police need to be advised.

Refer to UQ Policy and Procedures Library 2.60.01 for full details.
UQ Vessel Safety Management System  Scarus
Procedures for onboard operations  10745QC

UQ Critical Incident Management
Refer to UQ Policy and Procedures Library 7.60.01 for full details.

Critical incident – An adverse incident or series of events that have the potential to damage the University’s people, operations, environment and its long-term prospects and or reputation. A Critical Incident is further defined by the ESOS National Code as a traumatic event, or the threat of such (within or outside Australia), which causes extreme stress, fear or injury to international students.

Critical Incident Management (CIM) – The process by which the University builds resilience, responds to and recovers from a critical incident.

Critical Incident Management Team (CIMT) – A group of staff members responsible for carrying out the functions of planning for and responding to a critical incident.

Incident Classification: Critical incidents are classified into three levels of escalation.

Minor Event - a minor incident or minor injury has a localised impact on staff, students or members of the community and may entail minor property damage. The incident has been contained and is unlikely to escalate in severity. It can usually be handled by campus personnel at the organisational unit level using normal operating procedures.

Moderate Event – an incident or event, which has a localised impact on University operations and may threaten life or property, or could potentially escalate to a major incident. A moderate event might include also, the serious injury or death, of an individual student or staff member.

A moderate event may involve the activation of an emergency response, and or the CIM Team.

Major Event – an incident or event that has a high impact or imminent severe adverse effect on University operations stemming from events such as explosion, large fire, shooting, material release, pandemic or natural disaster. It may entail or threaten to cause multiple fatalities or serious injuries and/or significant property damage or severe adverse media coverage. It is likely to involve an emergency response from relevant Queensland Emergency Services and would usually necessitate activating the CIM Team.

Procedures Statement

In the event of a critical incident affecting one or more members of staff or students that is categorised as a minor, and where the CIMT has not been activated, a case manager will be appointed to undertake the actions as outlined in Section 5.

In the event of a critical incident affecting one or more members of staff or students that is categorised as either moderate or major, the CIM Team Leader will determine whether to activate and deploy the CIM Team.

On and off-campus incidents

For incidents either on or off campus and involving death, serious injury or a threat to life, the person receiving the information must immediately contact University Security (telephone + 61 (7) 3365 3333). University Security will contact any Government Emergency Services required (including Police, Fire, Ambulance).

University Security will assess the nature of the incident, taking advice from CIM Team Leader as appropriate.
Minor - to be handled by a local case manager as agreed with Security.

Moderate - CIM Team Leader will determine whether to activate and deploy the CIM Team, and will advise Security.

Major - CIM Team Leader will determine whether to activate and deploy the CIM Team, and will advise Security.

Key details to be reported

Key details to report include the time, location and nature of the incident (e.g. threat, accident, death or injury), names and roles of persons involved (e.g. staff, international or domestic student).

Further Actions

Further actions may be required of the vessel crew as per the direction of the case manager or the CIM Team.
Vessel Procedures

Access to Vessel
Where practicable, tie the vessel alongside a jetty or pontoon. Engage a motor, preferably the one opposite the jetty, in forward gear to maintain the vessel’s position against the jetty or pontoon. Persons embarking or disembarking should maintain three points of contact whenever possible.

Where practicable, steps up or down to the vessel should be avoided by tying up at the most level point of a fixed jetty or wharf.

Access to the vessel whilst on the trailer should be made via the stern ladder.

Access to the vessel from the water should be made via the stern ladder.

Adverse, inclement and severe weather/cyclone arrangements
Check weather forecast prior to departure and ensure forecast conditions are suitable for area of operations

Monitor marine radio (VHF 16) or Bureau of Meteorology website for forecast updates and severe weather warnings including thunderstorm warnings

Monitor conditions whilst at sea and move to sheltered waters or cease operations and moor or trailer the boat if conditions deteriorate

Follow Adverse weather or water conditions procedure (page 49) for vessel if caught at sea.

Anchoring
Conditions to be considered before anchoring include:

- Depth of water (LAT) at the place and its approaches
- The present state of the tide and its rise and fall
- The nature of the bottom (material and profile)
- The direction and strength of tide or current
- The direction and probable strength of the prevailing and forecast weather
- Any obstacles in the vicinity
- The swinging room
- Being out of channels and traffic
- Displaying an all round white light at night

Particulars to be noted on coming to anchor include

- Depth of water
- Which anchor to be dropped
- The length of cable
The bearing of position
- Time of anchoring

Anchoring techniques

The steps involved in anchoring may include the following:

- Sound the area around a proposed anchorage to determine the profile of the bottom
- The depth selected must accommodate rises and falls in the tide and allow for required under keel clearances at all states of the tide
- Prepare the anchor to ensure it will run free when required (chain may be ranged or flaked on deck, ensure rope is free of cleats and any knots)
- Ensure the bitter end is secured onboard
- Plan your approach, taking into account wind and tide effects
- Veer the cable when approaching a deep anchorage to act as a submarine sentry on approaching reef or steep-to ground
- Select the position and bring the vessel dead in the water
- Ensure personnel are clear of cable
- Lower the anchor under control as the vessel backs (never let the rode fall on top of the anchor). The anchor will start to hook, or catch on the bottom
- When the required scope has been let out, secure the rope on the cleat and set the anchor with moderate reverse propulsion
- While under reserve propulsion, check that the anchor has set by observing a transit abeam, observing the tautness of the rode and feeling the cable for vibration, and noting the GPS position (if in doubt, take your time and/or start over)
- Do not stop the motor until the anchor is holding well.

Scope ratios

Sufficient scope (the ratio of the length of the line to the depth of the water) helps keep the anchor from dragging. For optimum performance, the line should lead away from the anchor at an angle of not more than 80° to the bottom. More scope should be given for higher winds, poor holding ground, and longer stays. A minimum scope of 3:1 should be used for short periods in good conditions. Scopes of 5:1 should generally be used. Scopes of 7:1 may be required for longer periods or shallow water. Anchoring during heavy weather may require a scope of 10:1. Scopes can be reduced in deep water due to the catenary (sagging curve) of the rope.

Weighing anchor

- Start the motor and test all controls
- Motor gently along the cable as it is recovered aboard
- Wash the cable and chain if it has sediment stuck to it (Use deck hose)
- Ensure the cable does not pile up in the anchor locker
- If the anchor is difficult to break out, secure the cable and motor gently forward
- Ensure that the anchor and cable are secured when recovered
- A system of hand signals from the forward hand to the helm will be required for this operation to proceed smoothly.
Bar crossings
Bar crossings are inherently risky and only to be attempted by experienced masters. If in doubt don't go. Masters inexperienced in bar crossings must first do so under the supervision of an experienced master. Check local conditions, and for any local/state regulations.

General rules for bar crossings
- All persons/crew to be wearing lifejackets or PFD1
- Ensure all items secure,
- Remind persons including crew about secure hand holds,
- Ensure freeing ports are clear
- Log in with local VMR/Coastguard (mandatory).

Berthing
The vessel is equipped with a number of mooring lines. The number of lines required depends on the duration of berthing, and whether the vessel will be attended at all times. If the vessel is to be left unattended at a berth a forward and aft spring, a bowline and a stern line should be secured. Consideration should be given to the direction of wind, change in tide height, tidal current, and sea state whilst determining the number of lines required, the length of the lines, and the time between checks on the vessel.

Collision/Grounding procedures
See emergency procedure – collision/grounding and/or flooding, page 48.

Communications

Internal
It's a small boat. Speak. Noise and wind may make it difficult to hear. Raise voice if necessary. Try to keep UQ code of conduct in mind.

External
The master shall log the vessel on and off the water with a shore contact. Where practicable, the shore contact should be a volunteer marine rescue group. The shore contact should be notified of:

- Vessel name and registration, port of departure and return, number of persons on board, area of operation, expected time of return and a mobile phone number, preferable one on a network with reliable coverage in the area of operation.

The master shall ensure that while at sea marine VHF channel 16 is monitored, in addition to any working frequencies or local repeater stations.

Crew access around vessel
Crew should remain inside the gunwales of the vessel while the vessel is making way. Persons should keep movements around the vessel to a minimum while making way, bearing in mind the potential effect of their movement on the vessel's list.
Cyclone/severe weather plan
See Emergency Procedure - Adverse weather or water conditions, page 49

Diving and snorkeling
Diving and snorkeling shall be conducted as per the UQ Diving Procedures Manual unless otherwise authorized by the University Boating and Diving Officer.

Duties and responsibilities of crew
Crew shall work under the direction of the master, and may assist the master with navigation, steering, and watchkeeping duties.

Crew shall participate in and contribute to emergency response plans and training.

Firearms/weapons onboard policy
Firearms are not permitted to be carried aboard this vessel unless the firearm is to be used for research purposes and all the requirements of the Weapons Act 1990 are complied with.

First aid
First aid can be provided by any crew member aboard who holds a current certificate for first aid. All injuries or illnesses treated shall be reported to the vessel master and recorded in the vessel log.

Additionally, an incident report must be submitted online by the person who is injured or ill or by another person who is aware of an incident that has occurred. This also applies to any dangerous events that occur regardless of any injury or illness.

Completed reports are submitted electronically to the relevant Supervisor, Work Health and Safety Coordinator and Head of organisational unit for their information and for their action in implementing controls to minimise recurrence.

Garbage
All rubbish must be disposed of ashore. Where practicable, separate any recyclable material and dispose of appropriately.

Inspection of fire fighting equipment
Inspection of fire fighting equipment will be undertaken at 6 monthly intervals by the University appointed contractor. Masters should inspect fire fighting equipment during pre-departure checks for absence or any noticeable defect.

Inspection of lifesaving equipment
Lifesaving equipment will be inspected on an annual basis by the owner. Master’s should inspect lifesaving equipment during the pre-departure checks.

Keeping of records

Logbook
The master shall complete the vessel’s logbook as soon as is practicable and shall include:
(a) any illness or injury of persons onboard;
(b) any marine incident, other incident or accident involving the vessel or its equipment;
(c) any assistance rendered to another vessel;
(d) any unusual occurrence or incident;
(e) all communications messages sent or received for an emergency;
(f) each inspection of the vessel, its machinery and its equipment that is required under the Maintenance of vessel and equipment procedures, page 53.

The master should note in the logbook other details relevant to the vessel including:

(a) its key activities;
(b) its position;
(c) its navigation track;
(d) a general summary of the weather it has experienced.

Records shall be kept for a minimum of five years. Electronic copies can be made after 12 months and stored on a Faculty of Science server.

**Crew Records**
The master shall ensure that crew records are held as per the section
Crew Documents – page 58. Copies of relevant certificates (certificates of competency, licences, certificates of proficiency) shall be attached while said crew member is working on the vessel.

Crew records may be removed and stored at the

Maintenance
Maintenance shall be noted in the vessel logbook.

Electronic records of any maintenance undertaken by contractors shall be kept by the designated person on a Faculty of Science server.

Safety training
The master shall ensure that records pertaining to safety training (initial, emergency procedures) are be completed.

Maintenance involving ‘hot work’
Contributing factors

Vapours
Flammable liquid vapours (e.g. petrol, ethanol and solvents) can cause an explosion when confined, for instance in a container, vessel or void, and ignited. Combustible liquids (e.g. diesel fuel and oils) can behave like flammable liquids when they are heated, by generating vapours that, when confined, can also cause an explosion when ignited.

Ignition sources
Activities such as grinding, hot cutting and welding, or even hot surfaces caused by these activities, are potential ignition sources for a flammable atmosphere. These activities can provide enough energy to ignite a mixture of flammable vapour.

The blast wave and fireball produced by such an explosion can cause significant property destruction and personal injury or death.

Action required
The following control measures will need to be taken to reduce the likelihood of injury from grinding, cutting, and welding (including pre-heating) while working on the inside or outside of a confined or enclosed space, compartment or vessel where flammable vapours may exist:

- Analyse the hazards: identify the scope of work, potential hazards (e.g. flammable atmospheres or generation of toxic fumes) and risk control measures.
- Monitor the atmosphere: perform atmospheric testing for flammable or combustible gases, oxygen deficiency and for toxic gases before and during the activity, even in areas where a flammable atmosphere is not anticipated.
- Test the area: check for hidden voids or compartments that may share the same airspace. This may be a hidden source of flammable vapours. If tests demonstrate that flammable or combustible gases are present, these must be eliminated by cleaning, ventilating and/or inerting the space before hot work activities can begin.
- Check there is no unidentified source of flammable liquids or residues that, when heated, can create an explosive atmosphere.
- Use hot work permit PF 220 (http://www.pf.uq.edu.au/pdf/SafetyForms/frm_PF220.pdf): ensure that safe work practices are followed, including all hot work permitting procedures in
areas where flammable vapours may be present. This involves identifying the work to be conducted and the necessary precautions to be taken.

- Welding processes may generate toxic materials (e.g. ozone and metal fume) that may require additional risk control measures to ventilation, such as respiratory protection, particularly when conducted inside enclosed areas.

- If there is a possibility of fire, always have a fire watcher with appropriate fire fighting equipment on hand.

Getting the job done safely should always be your first consideration.

All hazards should be thoroughly assessed before anyone carries out the work. Evaluate the job requirements thoroughly and implement appropriate safety precautions. This process will reduce the risk of an incident and fatality.

**Marine Incidents**

In this section, a marine incident means

a. a death of, or injury to, a person associated with the operation or navigation of a domestic commercial vessel;
b. the loss or presumed loss of a domestic commercial vessel;
c. a collision of a domestic commercial vessel with another vessel;
d. a collision by a domestic commercial vessel with an object;
e. the grounding, sinking, flooding or capsizing of a domestic commercial vessel;
f. a fire on board a domestic commercial vessel;
g. a loss of stability of a domestic commercial vessel that affects the safety of the vessel;
h. the structural failure of a domestic commercial vessel;
i. a close quarters situation;
j. an event that results in, or could have resulted in:
   - i. the death of, or injury to, a person on board a domestic commercial vessel; or
   - ii. the loss of a person from a domestic commercial vessel; or
   - iii. a domestic commercial vessel becoming disabled and requiring assistance;

k. the fouling or damaging by a domestic commercial vessel of:
   - i. any pipeline or submarine cable; or
   - ii. any aid to navigation within the meaning of the Navigation Act 2012 of the Commonwealth;

l. a prescribed incident involving a domestic commercial vessel.

The master must report all incidents that involve

the death of a person; or
serious injury to a person; or
the loss of a vessel; or
the loss of a person from a vessel; or
significant damage to a vessel

to the local Marine Safety Agency as soon as practicable

An initial report of the marine incident may be made by phone, email or faxed letter. The initial minimum details include:

The incident details (date, time, location, type of incident and incident description explaining what happened);
Details for vessel 1 (domestic commercial vessel); and
Details of persons involved (owner/master and if available, the injured person details).

A final report must be made in writing using the prescribed form

**Notifiable Incidents**

In the event of a notifiable incident occurring, after please

In this section, *notifiable incident* means -
(a) the death of a person; or
(b) a serious injury or illness of a person; or
(c) a dangerous incident.

**What is a serious injury or illness**

In this part, *serious injury or illness* of a person means an injury or illness requiring the person to have -
(a) immediate treatment as in in-patient in a hospital; or
(b) immediate treatment for –

- the amputation of any part of his or her body; or
- a serious head injury; or
- a serious eye injury; or
- a serious burn; or
- the separation of his or her skin from an underlying tissue (for example, degloving or scalping); or
- a spinal injury; or
- the loss of a bodily function; or
- serious lacerations; or
(c) medical treatment within 48 hours of exposure to a substance;

**What is a dangerous incident**

In this part, a *dangerous incident* means an incident in relation to a workplace that exposes a worker or any other person to a serious risk to a person’s health or safety emanating from an immediate or imminent exposure to -

(a) an uncontrolled escape, spillage or leakage of a substance; or
(b) an uncontrolled implosion, explosion or fire; or
(c) an uncontrolled escape of gas or steam; or
(d) an uncontrolled escape of a pressurised substance; or
(e) electric shock; or
(f) the fall or release from a height of any plant, substance or thing; or
(g) the collapse of, overturning, failure or malfunction of, or damage to, any plant that is required to be authorised for use under a regulation; or
(h) the collapse or partial collapse of a structure; or
(i) the collapse or failure of an excavation or of any shoring supporting an excavation; or
(j) the inrush of water, mud or gas in workings, in an underground excavation or tunnel; or
(k) the interruption of the main system of ventilation in an underground excavation or tunnel; or
(l) any other event prescribed under a regulation;

but does not include an incident of a prescribed kind.
Organisation and chain of command

Pre-departure safety checks
The master shall before departure check the vessel has

- Paperwork; log book; predeparture checklist; certificate of operation, crew certificates, crew records, risk assessment for work being undertaken
- Safety equipment; flares, fire extinguisher, fire bucket, life jackets,
- Hull; no cracks or damage, bungs (3) fitted and tight
- Lines: mooring lines, anchor line
- Machinery; fuel, oil, steering, tilt/trim, propulsion check; bilge pumps
- Lights;
- Water

A record that pre-departure safety checks have been completed shall be made in the vessel’s logbook. Any deficiencies shall also be noted in the logbook.

Re-fuelling operations
Ensure ignition sources are turned off and batteries are isolated. Earth the fuel tank to the pump before fuelling.

If fuelling at sea a Code B (red field) flag should be flown if available. A fuel spill kit should be on hand in case of fuel spillage. Monitor fuel tank level and do not fill above recommended maximum fill point.

Passenger operations & management including checking numbers, crowd control, welcoming onboard and safety briefings

Trailer Launching
Inspect the ramp for obstruction, damage, adequate water depth prior to trailer reversal whilst keeping clear of other traffic. Beware of slippery ramp surfaces due to mud or algal growth.

Conduct a final check of bungs (1), scuppers should be raised, motors off their travelling support, and stable vessel loading. Persons and equipment onboard should be minimized when launching.

A person not operating vehicle shall maintain verbal or visual communication with the vehicle driver, and maintain a watch for obstructions and non-associated persons in the vehicle operator’s blind spots.

Reverse the trailer to sufficient depth to allow retrieval of the boat. This is typically so that the wheel guards are partially submerged. Do not allow the trailer’s braking unit or trailer plug to get wet.

The vessel is to remain secured to the trailer by winch and safety chain until trailer motion has stopped and vessel is ready to launch. The vessel may be shunted off the trailer by reversing the vehicle and braking hard if the master ensures the water depth under the boat is sufficient.

Trailer retrieval
Inspect the ramp for obstruction, damage, adequate water depth prior to trailer reversal whilst keeping clear of other traffic. Beware of slippery ramp surfaces due to mud or algal growth.
Where practicable, a person not operating vehicle shall maintain verbal or visual communication with the vehicle driver, and maintain a watch for obstructions and non-associated persons in the vehicle operator's blind spots.

Reverse the trailer to sufficient depth to allow retrieval of the boat. This is typically so that the wheel guards are partially submerged. Do not allow the trailer's braking unit or trailer plug to get wet.

The vessel may be winched or driven on to the trailer if there is sufficient water depth to prevent propeller and skeg damage. If winching, use a suitably low gear and inspect the winch rope as it is fed out for kink, high strands, melt points or other damage. Do not use the winch if the rope is damaged.

Secure the vessel by the winch rope and chain and drive the trailer up the ramp to a rigging bay. Complete securing of the vessel to the trailer and unloading of the vessel. Loads shall not be towed whilst unsecured in the boat.

**Trailer Towing**

The vessel and trailer shall be towed only by university vehicles or by a vehicle authorised by the designated person. All policies and procedures pertaining to the vehicle operation shall be followed. The vehicle used to tow this vessel must be fitted with a towbar with a SWL of at least 1.5t.

The driver shall be responsible to check the trailer is properly connected to the vehicle, safety chains are secured, the jockey wheel is swung up and secured, the jockey wheel handle is swung up, the trailer electrical systems are connected and functioning, the vessel is secured to the trailer by winch strap, chain and tie down strap, and the motors are raised for towing. As the motors extend more than 1.2m from the rear of the trailer, an orange flag must be flown from the propellers whilst under tow.

Loads shall not be carried unsecured in the vessel whilst it is being towed on gazetted roads.

Vessel Trailer Mass 1.45t

Vessel Trailer Height: 3.2m (all masts lowered)

**Watchkeeping requirements and procedures**

A watch shall be maintained by the master or delegated crew member with qualifications to act as the master at all times the vessel is underway. A person should not keep a continuous watch of more than 4 hours without a suitable break of a length appropriate to the next watch. The vessel does not typically operate outside of daylight hours. For night or 24 hour watchkeeping, the vessel shall be crewed to provide adequate relief for the master and crew.

**Working hours**

Emergency Preparedness

Frequency of Crew Training

<table>
<thead>
<tr>
<th>Initial Training (new crew)</th>
<th>Frequency</th>
<th>Trainer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Record crew member details on crew sign on sheet</td>
<td>On joining ship</td>
<td>Owner/master</td>
</tr>
<tr>
<td>2. a. New crew member safety induction training</td>
<td>On joining ship</td>
<td>Owner/master</td>
</tr>
<tr>
<td>b. Ship layout and location of safety equipment:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. emergency evacuation plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. ship board Occupational Health and Safety</td>
<td></td>
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</tr>
<tr>
<td>e. administrative procedures &amp; legal obligations</td>
<td></td>
<td></td>
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<tr>
<td>f. practical demonstrations in:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. how to use personal safety equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii. location of the crew assembly station</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii. role in rescuing a person overboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iv. abandoning ship procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v. fire emergency on board</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vi. what to do in a medical emergency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vii. action to take in a collision or flooding or grounding situation</td>
<td></td>
<td></td>
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<tr>
<td>viii. role in a severe weather event</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emergency training (all crew)</th>
<th>Frequency</th>
<th>Trainer</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Crew and passenger assembly station</td>
<td>1 month</td>
<td>Master</td>
</tr>
<tr>
<td>4. Person overboard</td>
<td>2 months</td>
<td>Master</td>
</tr>
<tr>
<td>5. Abandon ship</td>
<td>6 months</td>
<td>Master</td>
</tr>
<tr>
<td>6. Fire on board</td>
<td>2 months</td>
<td>Master</td>
</tr>
<tr>
<td>7. Personal injury/medical emergency</td>
<td>2 months</td>
<td>Master</td>
</tr>
<tr>
<td>8. Collision/grounding/flooding</td>
<td>2 months</td>
<td>Master</td>
</tr>
<tr>
<td>9. Deck layout and safety equipment location plan</td>
<td>1 month</td>
<td>Master</td>
</tr>
<tr>
<td>10. Severe weather</td>
<td>3 months</td>
<td>Master</td>
</tr>
</tbody>
</table>
Emergency Plans

Fire

<table>
<thead>
<tr>
<th>Equipment required and stowage positions</th>
<th>Crew</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire extinguisher</td>
<td>Dry Powder (console cabinet)</td>
</tr>
<tr>
<td>Fire Bucket</td>
<td>Under console (use with care around electrical equipment)</td>
</tr>
<tr>
<td>Life saving equipment and personal flotation devices</td>
<td>Life jackets (under canopy)</td>
</tr>
<tr>
<td></td>
<td>EPIRB (Port side of console)</td>
</tr>
</tbody>
</table>

**Action**

1. Raise alarm when fire evident flame, smoke, heat alarm sounds. All
2. Muster station(s). Master
3. Identify type of fire and specific location. Master
4. Assess severity. Master
5. Assess whether to fight fire. Master
6. Count persons on board Crew
7. Shut off fuel to engines if necessary Master
8. Position ship to reduce wind or oxygen to fire. Master
10. Radio call as soon as possible. Crew
11. Cool fire boundary with bucket. Crew
12. Dispose of dangerous goods (petrol and LP gas in the vicinity). Crew
13. Contact fire department ashore and seek advice. Crew
14. Monitor situation and put out a pan pan call or other alarm if necessary. Master
15. Assess further action. Master
16. Recover equipment. Master
Person overboard

Emergency plan — person overboard

Reference Material 3.10

Equipment required and stowage positions

Life Jacket Under canopy

Action Crew

If event witnessed:

1. Raise alarm. Witness
2. Keep person overboard in view, point — do not leave this duty. Witness
3. Master reduce power (disengage propeller if the master sees the person fall). Master
4. Master notes ship’s heading and current speed in log as soon as they become aware of person overboard. Master
5. Master initiates actions starting with assembling crew and passengers in emergency stations to account for numbers. Master
6. Manoeuvre vessel back to person overboard (guided by witness). Master
7. Prepare retrieval gear. Crew
8. Commence recovery procedure — come alongside to leeward side of person in water. Master
9. Lower ladder and instruct person in the water. Crew
10. First aid for person as necessary. Crew/witness
11. Recover equipment. Master/crew
12. Record in log. Master

If event not witnessed or night — when noticed:

1. Master notes ship’s heading and speed in log as soon as they become aware of person overboard. Watch
2. Reciprocal course (Williamson turn). Watch
3. Master initiates actions starting with assembling crew and passengers in emergency stations to account for numbers. Master
4. Man spotlights, post lookouts be vigilant, person overboard may be shouting. Master
5. Radio pan pan and SAR. Master
6. Maintain search pattern. Master
7. Steps 7-12 if person spotted.
Personal injury or other medical emergency

Emergency plan — personal injury/medical emergency

Equipment required and stowage positions
First aid kit  Centre Console cabinet — first aid kit Scale F
Radio  Centre Console

<table>
<thead>
<tr>
<th>Action</th>
<th>Crew</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. First person on the scene — DRABCD.</td>
<td>Crew</td>
</tr>
<tr>
<td>2. Emergency radio call on channel 16 — pan pan.</td>
<td>Master</td>
</tr>
<tr>
<td>3. Ascertain if there is a trained medical person on board, or in the vicinity and is able to help.</td>
<td>Crew</td>
</tr>
<tr>
<td>4. Crew report to master for instructions unless involved in DRABCD.</td>
<td>Crew</td>
</tr>
<tr>
<td>5. Make your way back to shore asap or arrange to evacuate injured person or persons by helicopter or another ship.</td>
<td>Master</td>
</tr>
<tr>
<td>6. Advise University Boating and Diving Officer of situation.</td>
<td>Master</td>
</tr>
<tr>
<td>7. Log all actions in the ship's log.</td>
<td>Master/watch</td>
</tr>
</tbody>
</table>
Vessel collision, grounding and/or flooding

Emergency plan—collision, grounding and/or flooding

Reference Material 3.18

Equipment required and stowage positions

<table>
<thead>
<tr>
<th>Life saving appliances</th>
<th>Centre Console, under canopy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flare drum</td>
<td>Centre Console cabinet</td>
</tr>
</tbody>
</table>

Precautionary actions

1. All personnel brace for impact. Master
2. Tend to injured. Crew
3. Assess damage to own ship. Master
4. Control ingress of water (if serious, follow flooding procedure). Crew
5. Assist other ship if needed and possible. Master
6. Make radio call. Master
7. Control and report any pollution. All
8. Lay out anchors as required. Crew
9. Owner ship/owner details. Master

Flooding

10. If breach is dangerous raise alarm and position of the flood, shout: “flood, flood!” All
11. Muster crew at emergency stations and head count. Crew
12. Muster passengers and head count. Crew
13. Start pumping or shoring. Crew
14. Begin repairs if possible. Crew
15. Position ship to reduce stress. Master
16. Make radio call as necessary. Master
17. Consider life saving appliance deployment. Master
18. Monitor stability action to correct may be required. Master
Adverse weather or water conditions

Emergency plan — severe weather  Reference Material 3.15

**Equipment required and stowage positions**

<table>
<thead>
<tr>
<th>Item</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charts</td>
<td>Centre Console cabinet</td>
</tr>
<tr>
<td>Radio</td>
<td>Centre Console</td>
</tr>
</tbody>
</table>

**Precautionary actions**

<table>
<thead>
<tr>
<th>No.</th>
<th>Action</th>
<th>Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.</td>
<td>Monitor meteorological forecasts and changes in weather observations.</td>
<td>Master and watch keepers</td>
</tr>
<tr>
<td>20.</td>
<td>Secure and stow all equipment on deck and throughout the ship.</td>
<td>Crew</td>
</tr>
<tr>
<td>21.</td>
<td>Plan route and navigate to avoid bad weather.</td>
<td>Master</td>
</tr>
<tr>
<td>22.</td>
<td>Check ship Safety Management System or owner’s policy to check vessel’s capabilities in adverse conditions.</td>
<td>Master</td>
</tr>
</tbody>
</table>

**In event of severe weather**

<table>
<thead>
<tr>
<th>No.</th>
<th>Action</th>
<th>Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>23.</td>
<td>Navigate to take shelter in or around islands.</td>
<td>Master</td>
</tr>
<tr>
<td>24.</td>
<td>Communicate with onshore and other vessels.</td>
<td>Master</td>
</tr>
<tr>
<td>25.</td>
<td>Seek assistance if required.</td>
<td>Master</td>
</tr>
<tr>
<td>26.</td>
<td>Record event in ships log.</td>
<td>Master</td>
</tr>
</tbody>
</table>

**Boat Length 5m**

[Wave height diagram]

- Limit of family comfort in the sized vessel
- Steering through seas, individually, using throttle at times
- Dead slow, waves break on deck, lots of spray
- Half speed, spray and green water come aboard
- Slow speed, reduction, desirable; moderate pounding, uncomfortable
- Slow cruising throttle, slight bumps, spray thrown clear
- No spray armchair ride
## Assembly stations

### Emergency plan — assembly stations

<table>
<thead>
<tr>
<th>Equipment required</th>
<th>Stowage positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ships horn</td>
<td>Centre console cabinet</td>
</tr>
<tr>
<td>Assembly station</td>
<td>On deck out of danger</td>
</tr>
</tbody>
</table>

### Action

1. Sound emergency by voice — muster, muster, muster  
   Master
2. Crew check assembly stations are clear for use by passengers.  
   Crew
3. Crew direct passengers and proceed to prearranged assembly stations.  
   Crew
4. Crew count heads and report to master.  
   Crew
5. Instruct passengers of action to take including donning survival equipment.  
   Crew
6. Crew carry out their emergency stations.  
   Crew
Emergency Stations

Emergency plan—emergency stations for crew

<table>
<thead>
<tr>
<th>Equipment required</th>
<th>Reference Material 3.17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship’s horn</td>
<td>Air horn in centre console cabinet</td>
</tr>
<tr>
<td>Emergency station</td>
<td>Deck, forward section, in voice contact with master</td>
</tr>
<tr>
<td>Life saving equipment</td>
<td>Life jackets, life buoys, distress signalling equipment, first aid case, food and clothing packs</td>
</tr>
<tr>
<td>Emergency plans</td>
<td>Centre console</td>
</tr>
</tbody>
</table>

**Action**

**When the emergency alarm signal sounds**

1. Immediately gather for instructions from the master.  
   **Crew**
2. Clear everyone from all areas of the ship to assembly areas.  
   **Crew**
3. Ready all life saving equipment, collect warm clothing and blankets.  
   **Crew**
4. Conduct a head count and advise master.  
   **Crew**
5. Distribute life jackets and ensure that they are worn correctly.  
   **Crew**
6. The order to abandon ship will be given.  
   **Master**

**Assigned duties**

7. Above deck, persons on board safety.  
   **Crew**
8. Life saving appliances, distress equipment, life rafts and safety packs.  
   **Crew**
9. Substitute person should the master be disabled.  
   **Crew**
10. Radio communications, mayday message, EPIRB and distress signals activation, record keeping.  
    **Master**
Abandon Ship

Emergency plan— abandon ship  

Equipment required and stowage positions

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Stowage Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Jackets</td>
<td>Under canopy</td>
</tr>
<tr>
<td>EPIRB</td>
<td>Port side, under centre console</td>
</tr>
<tr>
<td>Grab bag</td>
<td>Drum, centre console</td>
</tr>
</tbody>
</table>

**Action**

1. Stay with vessel unless it poses a risk to life  
2. Signal to abandon ship.  
4. Disengage propeller.  
5. Brief passengers on HELP and HUDDLE positions  
6. Grab bag and ship's EPIRB.  
7. Set off EPIRB.  
8. Manage use of equipment and stores.  

**Crew**

<table>
<thead>
<tr>
<th>Action</th>
<th>Crew</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stay with vessel unless it poses a risk to life</td>
<td>Master</td>
</tr>
<tr>
<td>2. Signal to abandon ship.</td>
<td>Master</td>
</tr>
<tr>
<td>3. Radio mayday.</td>
<td>Master</td>
</tr>
<tr>
<td>4. Disengage propeller.</td>
<td>Master</td>
</tr>
<tr>
<td>5. Brief passengers on HELP and HUDDLE positions</td>
<td>Crew</td>
</tr>
<tr>
<td>6. Grab bag and ship’s EPIRB.</td>
<td>Master</td>
</tr>
<tr>
<td>7. Set off EPIRB.</td>
<td>Master</td>
</tr>
<tr>
<td>8. Manage use of equipment and stores.</td>
<td>Master</td>
</tr>
</tbody>
</table>
Maintenance of vessel and equipment

Certificates of Compliance

Survey
Build
Design
Fire extinguishing
Positive Floatation Statement
Survey Report
Shipping Inspector Reports
List of Equipment

Safety Equipment

- 1 EPIRB
- fire extinguisher
- 1 fire buckets with lanyard
- Lifejackets with light and whistle
- 3 parachute rockets
- 2 red hand held flares
- 1 orange smoke flare
- 2 torches
- anchors, cables
- First Aid Kit (Scale F)
- signaling mirror

Centre Console (port)  
Cabinet  
Under console  
Overhead Under canopy  
Flare drum  
Flare drum  
Flare drum  
Centre Console  
Anchor well  
Cabinet  
Flare drum

General Equipment

- Boat hook
- Paddles (2)
- GPS
- VHF Radio
- Mooring lines
### Planned Maintenance Schedule

<table>
<thead>
<tr>
<th>Maintenance Frequency</th>
<th>Item</th>
<th>Service/Expiry Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before every voyage</td>
<td>Outboard operations (gauges, telltales, steering)</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Steering (hydraulic leaks)</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Hull for cracks</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Communications (radio operational, mobile phone)</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Nav lights &amp; other electrics (chartplotter, etc)</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Trailer brakes &amp; lights</td>
<td>n/a</td>
</tr>
<tr>
<td>Monthly</td>
<td>Safety gear (torch operation, safety bin contents, etc)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lifejackets</td>
<td>May 2015</td>
</tr>
<tr>
<td></td>
<td>Lifejacket lights</td>
<td>May 2015</td>
</tr>
<tr>
<td></td>
<td>Flares</td>
<td>March 2014</td>
</tr>
<tr>
<td></td>
<td>First aid kit</td>
<td>Replace as required</td>
</tr>
<tr>
<td></td>
<td>EPIRB test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Battery test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deck gear (lines, safety chains, anchors &amp; chain)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fittings (check bolts for tightness, etc)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trailer check (grease bearings, etc)</td>
<td></td>
</tr>
<tr>
<td>100hrs or annually</td>
<td>Outboard service</td>
<td></td>
</tr>
<tr>
<td>6 monthly</td>
<td>Fire extinguisher</td>
<td>Feb 2014</td>
</tr>
<tr>
<td>Annual (or greater)</td>
<td>Trailer bearings and brakes</td>
<td></td>
</tr>
</tbody>
</table>
Documentation

Logbook
<table>
<thead>
<tr>
<th>Time Locality</th>
<th>Position (via GPS)</th>
<th>Initials</th>
<th>Remarks (Bearings &amp; Distance, Weather, Beachings, Groundings, Distance Run &amp; Course Changes)</th>
<th>Maintenance Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Latitude</td>
<td>Longitude</td>
<td></td>
<td></td>
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**Crew & Passengers**

| Master:                      |
| Crew:                       |
| Special Personnel:          |
| Master's Signature:         |

**Tides**

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<tr>
<th>Time</th>
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**Engine Hours**

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<th>Oil Check:</th>
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**Items of Special Interest**

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**Vessel Fault Report No:** 10745QC
Crew Documents
**Crew/crew member details**

**Bold text — required information**
Normal text — optional information

<table>
<thead>
<tr>
<th><strong>Ship name</strong></th>
<th><strong>Registration number</strong></th>
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<table>
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<tr>
<th><strong>(Staff/Student number)</strong></th>
<th><strong>Phone number</strong></th>
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<th><strong>RoS/training book number</strong></th>
<th><strong>Qualifications/state of Issue</strong></th>
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<td></td>
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**Duties on board**

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<th><strong>Master/Crew/Special Personnel</strong></th>
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<tr>
<th><strong>Next of kin</strong></th>
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**Occupational Health and Safety course (ESS)**

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<th><strong>Certificate number</strong></th>
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1 Where crew member is UQ staff, student or volunteer, please list staff/student number and organisational unit. Ensure details are kept up to date in Aurion.
Induction declaration

To be completed and signed by all new crew. When completed and witnessed, the master shall forward this form to the Boating and Diving Officer at the first opportunity.

I, ……………………………………………………………………………………………………….., crew/crew member on the ship Scarus declare that I have received training in all the components listed above; have gained a sound working knowledge of them; agree to abide by the standard therein; understand my obligations to occupational health and safety; and exercise a duty of care to other crew members, passengers and others on board.

Signed ………………………………………….. Date ……………………… ……..

Witnessed by (name and signature) …………………………………………………………….

Ship operating documents declaration

To be completed and signed by all crew. When completed and witnessed, the master shall forward this form to the Boating and Diving Officer at the first opportunity.

I, …………………………………………………………………………………………………………., a crew member on the ship Scarus declare that I have read the operating documents and records contained in ship's manual; agree to abide by the standard therein; understand my obligations to occupational health and safety; and exercise a duty of care to other crew members, passengers and others on board.

Signed ………………………………………….. Date ……………………… ……..

Witnessed by (name and signature) …………………………………………………………….

Date of commencement
(if more space needed attach a separate sheet to this record)

………………………………………………………………………………………………………………….. Date of leaving ………………………………………………………………………………………………..
## Crew training record – training on joining ship

<table>
<thead>
<tr>
<th>Name</th>
<th>Ship layout/location of safety equipment</th>
<th>Administrative procedures and legal obligations</th>
<th>Demo — how to use personal safety equipment</th>
<th>Demo — roles and responsibilities for ship operations</th>
<th>Demo — role in person overboard</th>
<th>Demo — role in fire</th>
<th>Demo — role in collision/grounding/flooding</th>
<th>Demo — role in personal injury</th>
<th>Demo — role in severe weather</th>
<th>Demo — role in assembly stations</th>
<th>Demo — role in abandon ship</th>
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</thead>
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</table>
## Crew training record – emergency procedures

<table>
<thead>
<tr>
<th>Date</th>
<th>Mandatory</th>
<th>Roles and responsibilities for ship operations or other emergency situations</th>
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<tbody>
<tr>
<td></td>
<td>Person overboard&lt;br&gt;Every 3 months</td>
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<tr>
<td></td>
<td>Fire on board&lt;br&gt;Every 3 months</td>
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<td></td>
<td>Collision/grounding&lt;br&gt;Every 2 months</td>
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<tr>
<td></td>
<td>Personal injury&lt;br&gt;Every 2 months</td>
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<td></td>
<td>Severe weather&lt;br&gt;Every 3 months</td>
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<tr>
<td></td>
<td>Assembly stations&lt;br&gt;Every 1 month</td>
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<tr>
<td></td>
<td>Abandon ship&lt;br&gt;Every 6 months</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Trainee name</th>
<th>Trainee signature</th>
<th>Trainer</th>
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<tbody>
<tr>
<td>Trainee name</td>
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### Job Hazard Analysis

<table>
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<th>DATE</th>
<th>REGISTRY NUMBER</th>
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### Register of Attendance

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All the persons named in this ‘register of attendance’ have read the attached JHA (and associated documentation) and fully understood all the steps to perform the task safely.

### Emergency Response Factors Checklist

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<th>Yes</th>
<th>N/A</th>
<th>Comments</th>
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<th>Comments</th>
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<th>Comments</th>
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P:\ResearchFacilities\BOATING AND DIVING\BOATS\SMS\sms - Scarus\sms-Scaruss.docxPage 63 of 70
Version 1.0 DRAFT 27/05/2015
### PART A

<table>
<thead>
<tr>
<th>ENVIRONMENTAL FACTORS</th>
<th>TASK RELATED FACTORS</th>
<th>PHYSIOLOGICAL</th>
<th>MECHANISM OF INJURY</th>
<th>PHYSICAL FACTORS</th>
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<tbody>
<tr>
<td>Wind</td>
<td>Entry and exit methods</td>
<td>Hypothermia</td>
<td>Struck by</td>
<td>Hot/cold/heavy objects</td>
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<tr>
<td>Current/tide</td>
<td>Sufficient trained personnel</td>
<td>Hyperthermia</td>
<td>Caught in / on</td>
<td>Electricity</td>
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<tr>
<td>Visibility</td>
<td>Dredging</td>
<td>Drowning</td>
<td>Strain / overexertion</td>
<td>Depth Height</td>
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<tr>
<td>Maximum depth</td>
<td>Towing</td>
<td>Exhaustion</td>
<td>Dropped objects</td>
<td>Noise</td>
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<tr>
<td>Water temperature</td>
<td>Trawling</td>
<td>Cross infection</td>
<td>Strike against</td>
<td>Chemicals</td>
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<td>Atmospheric temperature</td>
<td>Sharps</td>
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<td>Slip/trip/fall</td>
<td>Vibration</td>
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<td>Time of day</td>
<td>Cranes/winches/cables/rigging</td>
<td>Inhalation</td>
<td>Fire /explosion</td>
<td>Rotating equipment</td>
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<tr>
<td>Underwater terrain</td>
<td>Hazardous chemicals</td>
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<td>Exposure to gas/heat/fumes/</td>
<td>Confined spaces</td>
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<tr>
<td>Contaminants</td>
<td>Unstable structures</td>
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<td>dust/chemicals</td>
<td>Tools/equipment</td>
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<td>Biological hazards</td>
<td>Boat handling</td>
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<td>Access</td>
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<td>Entrapment hazards</td>
<td>Unguarded propellers</td>
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<tr>
<td>Isolation – remote sites</td>
<td>Shipping movement</td>
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<td>Floating hazards</td>
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<td>Dangerous marine hazards</td>
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The checklist of diving related factors, mechanisms of injury and physical factors which can lead to harm are listed above to stimulate thought when preparing the JHA in Part B. The list is not definitive.
<table>
<thead>
<tr>
<th>STEP</th>
<th>DESCRIPTION OF JOB / STEP</th>
<th>POTENTIAL ACCIDENTS OR HAZARDS</th>
<th>PROBABILITY</th>
<th>SEVERITY</th>
<th>RISK RATING</th>
<th>SAFE CONDITION OR ACTIVITY REQUIRED</th>
<th>PROBABILITY</th>
<th>SEVERITY</th>
<th>REVISED RATING</th>
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<td>RISK RATING</td>
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### PART B

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### RISK ASSESSMENT TABLES

#### PROBABILITY SCALE

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<thead>
<tr>
<th>RATING</th>
<th>PROBABILITY</th>
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<tbody>
<tr>
<td>6</td>
<td>Almost certain – almost always occurs</td>
</tr>
<tr>
<td>5</td>
<td>Likely-Frequent – expected occurs repeatedly</td>
</tr>
<tr>
<td>4</td>
<td>Probable – not surprised, will occur several times</td>
</tr>
<tr>
<td>3</td>
<td>Possible – could occur sometimes</td>
</tr>
<tr>
<td>2</td>
<td>Remote – unlikely, though conceivable</td>
</tr>
<tr>
<td>1</td>
<td>Improbable – so unlikely the probability is close to zero</td>
</tr>
</tbody>
</table>

#### SEVERITY SCALE

<table>
<thead>
<tr>
<th>RATING</th>
<th>SEVERITY</th>
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<tbody>
<tr>
<td>6</td>
<td>Extreme – multiple deaths</td>
</tr>
<tr>
<td>5</td>
<td>High – death</td>
</tr>
<tr>
<td>4</td>
<td>Moderate – major injury</td>
</tr>
<tr>
<td>3</td>
<td>Low – over 3 days injury</td>
</tr>
<tr>
<td>2</td>
<td>Very Low – under 3 days injury</td>
</tr>
<tr>
<td>1</td>
<td>Not significant – no significant injury</td>
</tr>
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</table>

#### RISK RATING TABLE

<table>
<thead>
<tr>
<th>HAZARD — SEVERITY</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
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</thead>
<tbody>
<tr>
<td>RISK – PROBABILITY OF OCCURRENCE</td>
<td>6</td>
<td>36</td>
<td>30</td>
<td>24</td>
<td>18</td>
<td>12</td>
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<td>5</td>
<td>30</td>
<td>25</td>
<td>20</td>
<td>15</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>24</td>
<td>20</td>
<td>16</td>
<td>12</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>15</td>
<td>12</td>
<td>9</td>
<td>6</td>
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<tr>
<td>1</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**NOTE:** If the Risk Assessment produces a Risk Rating above 9 (Area in Grey); the operation is not to take place until control measures are introduced to reduce the risk.
**Verification, review and evaluation**
This SMS shall be reviewed on an annual basis. Revisions can be suggested by any authorized master or crew member. Revisions shall be implemented by the designated person.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
<th>Date of Revision</th>
<th>Detail of change</th>
<th>Person authorizing change</th>
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