

Chapter 8 Emergency Preparedness for Vessels

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1.0 Introduction

This chapter describes various potential emergencies that may occur on board our vessels and establishes procedures to respond to them at the vessel level.

Emergencies are to be reported to the DPA as soon as possible:

DPA **Roy Robbins 817-253-3930 DPA@tdi-bi.com**

In all emergencies the first priority is the protection and preservation of human life, followed by minimizing the damage and protecting the environment.

2.0 Emergency Drills and Exercises

Below is a schedule for drill/exercise aboard TDI-Brooks vessels. These drills and exercises reflect both regulatory/statutory requirements and good practices. **ALL persons on the vessel are required to participate in the drills** unless specifically excused by the Captain.

46 CFR 131.535 (b) “Any crew member excused from a fire drill must participate in the next one, so that each member participates at least once each month.”

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Ship Security Alert System (SSAS) tests and Ship Security Drills (ISPS) contain security sensitive information. While their occurrence is recorded in vessel compliance program and possibly the ship's log, no details or attachments should be included anywhere except where specified by the Vessel Security Plan.

Abandon Ship and Fire/ Explosion drills have different requirements by Flag States.

Vanuatu Flag State requires weekly fire and lifeboat drills. These may be done together, but the order should be rotated so crew are familiar with separate alarm signals for fire and abandon ship.

Vanuatu Maritime Law [CAP 131 Subsidiary] Regulation 64 (4a)

“the Captain of every vessel shall cause the crew to be exercised at fire and boat drill at least once every week...”

US Flag State requires fire and abandon ship drills on alternate weeks and does NOT allow them to be done together.

46 CFR 199.180 2(C)

Drills - general.

- (1) Drills must, as far as practicable, be conducted as if there were an actual emergency.
- (2) Every crewmember must participate in at least one abandon-ship drill and one fire drill every month. The drills of the crew must take place within 24 hours of the vessel leaving a port if more than 25 percent of the crew have not participated in abandon-ship and fire drills on board that particular vessel in the previous month.
- (3) Drills must be held before sailing when a vessel enters service for the first time, after modification of a major character, or when a new crew is engaged.
- (4) The OCMI may accept other equivalent drill arrangements for those classes of vessels for which compliance with this paragraph is impracticable.

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Drill/ Exercise	Frequency	Recorded in			
		HELM	Ship Log	VSP	CM
Abandon Ship	Vanuatu-weekly US-alternate weeks	✓	✓		
Collision/ Hull Damage/ Listing	Quarterly	✓	✓		
Confined Space Entry & Rescue	Monthly	✓	✓		
Fire/ Explosion	Vanuatu- weekly US- Within 24 hours of sailing, but not immediately after or before an abandon ship drill	✓	✓		
Flooding	Quarterly	✓	✓		
Foundering/ Grounding	Yearly	✓	✓		
(ISPS) Ship Security Drill	Quarterly and/ or after 25% crew change	✓+	✓+	✓	
Loss of Steering	Quarterly	✓	✓		
Man Overboard	Monthly	✓	✓		
Rescue Boat / FRC	Quarterly	✓	✓		
MEDEVAC	Quarterly	✓	✓		
SOPEP/ NTVRP	Quarterly and/ or per voyage	✓	✓		
(SSAS) Ship Security Alert System	Quarterly	✓+	✓+	✓	
TDI Brooks Emergency Response Plan	Yearly				✓

VSP= Vessel Security Plan CM= TDI Brooks Crewing Module

✓+ No details or attachments except in Vessel Security Plan

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Additional drills or exercises may include simulated situations to which the vessel must respond with or without advance warning and may include dead ship, communications failures or other unanticipated scenarios.

Unless weather or other issues present an overriding safety concern, all drills should be run as if real: firefighters to dress out, fire pumps run, rescue boat lowered and run, emergency contact numbers called and verified, anchor dropped, etc.

All drills / exercises whether conducted or simulated or postponed due to operations will be logged in official logbook in **RED** Ink.

3.0 Training and Familiarization

All persons sailing the vessel are given an orientation in which they are shown the location of the muster area and the station bills describing their roles in an emergency.

4.0 Abandon Ship

ONLY the Captain or most senior officer if the Captain is incapacitated may give the order to abandon ship. Procedures for Abandon Ship are:

- At the sounding of abandon ship alarm, all personnel go to muster area, bringing any supplies assigned to them by the station bill, including emergency radios, EPIRB and SART.
- Do not return to your room for a life jacket- sufficient lifejackets are available at the muster station.
- Once at muster station, don lifejacket and await further instructions.
- Crew will swing out lifeboats or prepare life rafts according to procedures – BUT WILL NOT DEPLOY – until instructed by the Captain.
- Enter rafts using ladders and avoid entering the water if possible.
- Stream a sea anchor and keep all crafts together in the vicinity of the ship’s last position.
- Maintain visual and radio communication between crafts while awaiting rescue.

5.0 Collision/ Hull Damage

All allisions, collisions or hull damage are to be reported to the DPA immediately.

6.0 Fire/ Explosion

Each vessel is equipped with a variety of firefighting equipment from hand-held extinguishers to the general vessel fire pump. All personnel should be familiar, through drills and training, with

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their expected duties during a fire/explosion. The basic procedure in the event of a fire or explosion includes.

Firefighting priorities are:

- Safety of life must always be the first consideration in the event of a fire.
- Prevent the fire from spreading.
- Try to keep the fire away from flammable agents such as gas tanks, open stairways, explosives, or any other substance which would accelerate or aid the spread of the fire.
- To limit the fire to its area of origin, all closures and generally all ventilation (unless personnel are trapped in the area) should be secured.

Upon discovering a fire, procedures are:

- Immediately **sound fire alarm, notify the bridge** and request help
- If small enough, try to extinguish the fire with the use of hand-held extinguishers, blankets, clothing or similar items.
- Search the surrounding area for people trapped or overcome by smoke
- If rescue is impossible due to fire or smoke, report immediately to the bridge for help.
- If attempts to extinguish the fire are unsuccessful, seal off all openings feeding air to the area to prevent spreading of the fire.
- Do not open doors or hatches that may supply air to the fires until adequate equipment is ready.
- Be aware that smoldering fires develop poisonous gases that are odorless and invisible.
- When an alarm is sounded, all personnel must immediately report to their muster station in order to stand by for firefighting/ searching efforts and to establish if anyone is missing.
- Never pass a fire to get an extinguisher, a dead-end passageway can trap you.
- If entering a room or compartment, don't let the fire get between you and the escape route.
- If attempting to extinguish a fire with a portable extinguisher and it fails, leave the area immediately, close the door to confine the fire, and wait for help.

After the fire has been extinguished:

- A fire watch shall be posted to guard against possible re-ignition until the danger is passed or at least 12 hours.
- Assess the situation for property conservation and atmospheric conditions.
- Investigate the fire's point of origin and source of ignition and examine structural and stability issues as a result of the fire.
- Clean up the mess associated with the fire and fire-fighting activities.

7.0 Flooding

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All vessels should have a damage control kit aboard with supplies including various plugs, patches, fasteners and tools. Upon discovering a flooding situation, follow the procedures below.

- Notify the bridge.
- Determine if it is leaking or flooding.
- Determine if it is safe to enter the flooded compartment to attempt damage control.
- If possible, isolate flooding by closing watertight doors and hatches.
- Shut down or disengage any machinery that may make working in the area hazardous.
- Jam materials into the breach to slow the flow of water.
- Determine if available pumps can keep up with the flooding.
- Captain to determine if necessary, to alert crew of situation and be prepared to abandon ship if flooding gets worse.
- Consider keeping a watch at the source of the flooding.
- Keep office updated as situation progresses.

8.0 Foundering/ Grounding

The Captain and Chief Engineer must work together to assess the damage and come up with a plan to refloat the vessel, taking into consideration any survey gear attached to the hull or potentially affected by the grounding.

9.0 ISPS Ship Security

ISPS security drills are to be held and reported according the Vessel Security Plan (VSP).

All ISPS security drills, exercises, concerns or incidents are to be reported to the CSO immediately at CSO@tdi-bi.com

10.0 Loss of Steering

Loss of Steering recovery varies by vessel and is addressed in vessel specific SOPs.

11.0 Man Overboard

There are two procedures in place. The procedures are to either launch the MOB boat or maneuver the vessel to recover the MOB. The following describes both plans.

The approach to the person in the water may vary depending upon weather. Regardless if the MOB recovery is made using the MOB boat or vessel, use the weather to your advantage, stop upwind and then drift down to the MOB. If there is concern about drifting onto the person in the water, bring the stern into the wind or keep distant from them and throw them a heavy line and pull them alongside.

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Ensure that the propeller(s) is (are) NOT turning when the MOB boat or vessel is alongside the person in the water.

Upon Discovering a Man Overboard

- The person who witnesses the person falling overboard keeps their eyes on the person in the water and points at them with an extended arm. This person remains the designated spotter and never removes his sight from the MOB.
- This person also raises the alarm by shouting “man overboard port/starboard side until the bridge has been notified or the vessel begins recovery maneuvers.
- Notify the bridge of the situation immediately. Keep a man on the scene with a radio to inform the bridge of the events as they unfold.
- As others arrive at the scene, have them throw life rings, life buoys, life jackets or any other nearby buoyant items toward the MOB. This will help mark the position of the MOB as well as potentially provide flotation.
- The bridge will sound the MOB alarm.

Maneuver the vessel

- The bridge will begin recovery maneuvers with caution to avoid injury to the MOB.
 - If the MOB is within visual contact, turn the vessel 180 degrees to begin moving nearer the MOB.
 - If the MOB is not within visual contact due to poor visibility, heavy weather or poor sea state do a “Williamson turn” to get back on a reciprocal course.
 - If the MOB boat cannot be used or is not available, the captain will maneuver vessel into position, with wind and current in mind, to bring MOB to "Rescue Zone", then engines are put in neutral and MOB is brought on board.

Use the Rescue Boat (if fitted)

- The MOB rescue crew will assemble at the MOB boat and begin preparations for recovery. This includes a plan for which side the MOB boat will approach the MOB, have a heaving line ready and ensure all individuals in the MOB boat have on life jackets with lifelines. A MOB recovery plan should minimize the chances of injury to the rescue crew.
- Should conditions at sea permit, the MOB boat will be launched under the directions of the bridge.

Once the individual has been recovered, verify the extent of any injuries and begin procedures to warm up the individual and provide first aid as needed.

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12.0 MEDEVAC

Drills are populated for the vessel crew within the Quality and Compliance Program on a quarterly basis.

It is strongly recommended that at the beginning of each major project or when starting work in a new geographic area that a medevac drill be held by the HSE Officer on board. The MEDEVAC drill form is included in the Quality and Compliance Program..

Many projects have a project specific MEDEVAC plan. All medical issues will be reported to the company HSE Manager. HSE@tdi-bi.com

13.0 SOPEP/ NTVRP

TDI-Brooks operates both US flagged and foreign flagged vessels. Each vessel has a vessel specific plan appropriate to its flag and designation.

14.0 SSAS Ship Security Alert System

All tests of the SSAS are to be conducted and reported according to the Vessel Security Plan (VSP).

All ISPS security drills, exercises, concerns or incidents are to be reported to the CSO immediately at CSO@tdi-bi.com

15.0 Confined Space Entry and Rescue

In accordance with SOLAS III Regulation 19 Paragraph 3.3

"Crew members with enclosed space entry or rescue responsibilities shall participate in an enclosed space entry and rescue drill to be held on board the ship at least once every two months."

According to Fleet/ Safety Letter 092413.GEN, "It is the requirement of this (Vanuatu) Administration to conduct such training on a monthly basis."

Therefore, it is TDI's policy that all Confined Space drills will be conducted monthly in accordance with Vanuatu Administration.

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