GIMET Global Institute for Maritime Education and Training

GS-03

ADDENDUM to the course "Specialized Training for Personnel Onboard RO-RO and Passenger Ships"

Track of Changes:

NAME	DATE	CHANGES
Issue 1	20/04/2022	
Revision 1		

COURSE: GS-03. Specialized Training for Personnel Onboard RO-RO and Passenger Ships

NOTE: This addendum was adopted on the 20th of April 2022 to cover the provisions of MSC.417(97) and introduced the paragraph 1:

PASSENGER SHIP EMERGENCY FAMILIARIZATION

The structure of this Addendum is shaped on the requirement that before being assigned to shipboard duties, all personnel serving on board passenger ships engaged on international voyages shall be familiar with:

1. Contribute to the implementation of emergency plans, instructions and procedures

1.1. general safety features aboard ship;
1.2. location of essential safety and emergency equipment, including life-saving appliances;
1.3. importance of personal conduct during an emergency; and
1.4. restrictions on the use of elevators during emergencies.

2. Contribute to the effective communication with passengers during an emergency

2.1. communicate in the working language of the ship;
2.2 non-verbally communicate safety information; and
2.3. understand one of the languages in which emergency announcements may be broadcast on the ship during an emergency or drill.

1. Contribute to the implementation of emergency plans, instructions and procedures

1.1. General safety features aboard ship

The following features of the ship may pose hazards to crew and passengers:

The gangway is a narrow passage that joins the quarterdeck to the forecastle. The term is also extended to the narrow platform used to walk onto the ship. Technically, the gangway is like a ramp, which is smooth and sloping. Many serious injuries, even deaths, are caused by falling on, or from gangways. Often, accidents occur while the gangway is being rigged. Other common faults with gangways include incorrectly rigged safety nets, slack sidelines, slippery steps and loose or missing stanchions.

Stanchions are the lateral vertical sticks used to protect persons from falling aside.
Gangways and embarkation ladders should be inspected regularly and never be raised, or lowered, when personnel are on them.

Deck is one of the major accident prone areas onboard ship, as deck operations involve numerous risks and dangers that can easily make way to an accident. Most Common Types of Accidents on Ship's Decks are:

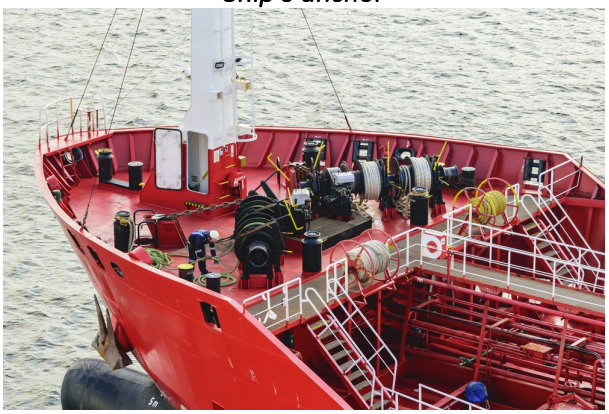
1. Slips and Falls
2. Improper Manual Lifting
3. Compressed Air Accidents
4. Exposure to Chemicals
5. Electrical Accidents
6. Crane and Lifting Gear Accidents
7. Deck Tools and Machinery Accidents

The junior crew and passengers lack of experience put them in a higher danger. In this context, continuous guidance from senior members is required. The most common deadly accident is falling in a cargo hold of fresh crew, or visitors; usually they were positioned alone.
Serious personal injury arising in a variety of circumstances either within cargo holds, or in conjunction with cargo operations, on ships' decks. Obviously, this type of accidents is avoidable.

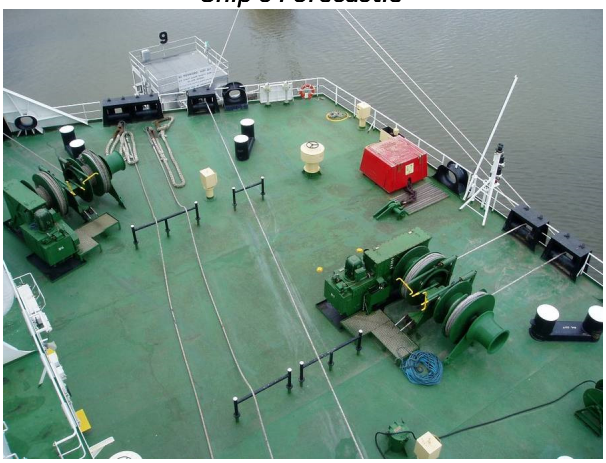
The anchoring system is designed for temporary mooring of the ship in a sheltered area. Due to great weight of anchors and their chains, anchoring is a dangerous operation.

The forecastle is the upper deck situated on forward part of a ship, which houses the windlass, as well as other vital components of the anchoring equipment. Poop deck is built in the ship's rear. The poop deck is populated with mooring equipment. The two decks' crowded and heavy equipment may be the scene of many accidents, for crewing acting outside strict procedures.

Ship's anchor

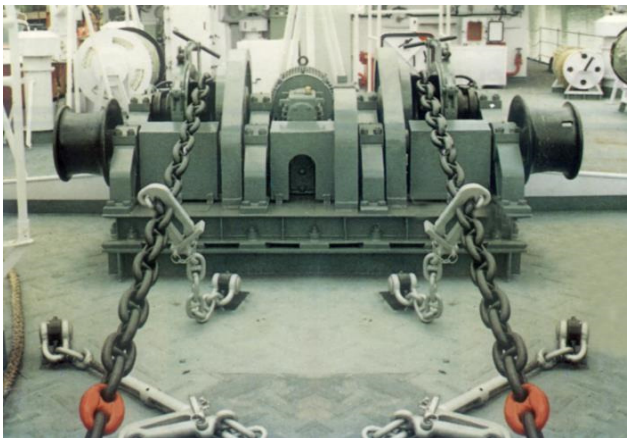


Ship's Forecastle



Ship's Poop Deck

The windlass is designed for handling and securing the anchor and its chain. Windlasses are provided with capstans or cat-heads, which are used for handling mooring lines, when docking and undocking the ship.



Windlass

The ship's **accommodation** is the area where the crew cabins are located, along with galley, recreational room, meeting room etc. The navigation bridge is the large room where the most important navigational equipment are places. Usually, bridge and accommodations are located in the same superstructure. It is proved that the majority of fire incidents originated in the accommodation area, due to negligence of the crew. The accommodation area of the ship is vulnerable to fire, as it comprises substance such as wood, cardboard, and other personal fire-sensitive materials. The best way to avoid fire is to take preventive measures. The following preventive rules must apply when operation in accommodation and navigation bridge areas:

1. Do not smoke. Do not use essence sticks or candles.
2. Never use hot plate, or heater, for cooking purpose inside the cabin.
3. Make sure electrical circuits look well. Avoid having too many connections in one socket.
4. Never put your clothes near, or on heaters, or lamps.
5. Never leave iron unattended when ironing clothes.
6. If any welding or gas cutting operation are carried in the accommodation or on the bridge, all the precaution must be taken.
7. New crew and visitors must be specially briefed on preventive rules

Galley is the cooking area, usually laid out in an efficient typical style, with longitudinal units and overhead cabinets. This makes the best use of the usually limited space aboard ships.
It also caters for the rolling and heaving nature of ships, making them more resistant to the effects of the movement of the ship.
For this reason, galley stoves are often gimballed, so that the liquid in pans does not spill out.
They are also commonly equipped with bars, preventing the cook from falling against the hot stove.
The most common hazards associated to galley are:

1. Fire.
2. High temperature.
3. Use of sharp tools.

Chief cook should make sure that galley is always attended when hot plates are on. Never leave oil pan unattended in galley. The engine-room is the space specially allocated to the propulsion machinery and its auxiliary equipment.

On board of most of the ships, the **engine-room** is generally the largest physical compartment. With such a high density of operating systems, the engine-room represents the greatest potential for accidents onboard. We shall simply enumerate the most common hazardous situations onboard:

1. Sinking. This is maybe the most dangerous situation. Crew and passengers' lives are in danger as they must leave completely the sinking ship.
2. Fire at cargo, engine room or accommodation. If the fire can be isolated, this becomes a minor hazard. If the fire escapes from crew's control, this hazard becomes major, often similar to number 1 – sinking, or losing the ship.
3. Explosion. Depending on the magnitude, associated hazard may be minor or major. The major blasts result in number 1 – sinking, or losing the ship.
4. Toxic gases emission from cargo, fuel or seabed. This is an important hazard, whether it does not result to a complete loss of the ship.
5) Collision. Depending on various factor, this hazard may be minor or major, sometimes resulting in number 1 – sinking and losing the ship.
6. Man over board is not a major hazard, as it does not affect the whole crew or the ship's safety. However, it can result in the lost of crew's life.
7. Grounding may be seen as a major hazard whether the ship cannot be recovered.
8. Dangerous contexts are dormant hazards, which can be rapidly changed into the worst possible accident.
9. Pollution is a major hazard, as the marine environment, as well as the status of the ship and company may be destroyed in only a few seconds.
10. Extreme weather is a major hazard, sometimes resulting in the complete los of ship and crew.

Both major and minor hazards can produce major accidents or minor incidents on board. The trigger can be the [1] **crew's lack of attention or competence**, as well as the [2] **ship's wrong design** or [3] **incomplete operating rules**.

Here you have a few examples of frequent onboard incidents:

1) slips, trips and falls, due to slippery surfaces covered by oil or grease.
2) head injuries, due to low entrances, overhead loads, falling equipment or materials.
3) falls through open manholes, unfenced tween-deck, loose or missing gratings.
4) clothes and fingers caught in moving machineries, such as grinding wheels, winch drums, gears, flywheels, etc.
5) burns from steam pipes, hot machinery, welding sparks and other similar causes.
6) eye injuries through chipping, welding, chemicals, etc.
7) body injuries caused by sliding or fall of unsecured equipment due to ship movements in rough weather;
8) lack of oxygen in confined spaces;
9) presence of hydrocarbon gas and many other toxic gases
10) hazards of chemicals used on board; garbage, water, ice or other obstructions, such as pipelines, welding cables, lashing eyes, wires and ropes.

You can also be hurt during extreme maneuvers of the ship, like collision, grounding, flooding or even sinking. Last but not least, contact with pirates and stowaways may pose a high degree of hazard.

It is crucial to bear in mind:

There is NO FIREMEN, NO DOCTORS, NO AMBULANCE, NO POLICEMEN, NO SOLDIERS, NO PROFESSIONAL RESCUERS on board of your ship! Your crew must REPLACE ALL OF THEM!

1.2. Location of essential safety and emergency equipment, including life-saving appliances;


life-jacket


Life-buoy


life-raft


life-boat


line-throwing appliance

Life-saving appliances

All ships must carry life-saving appliances, as per chapter 3 of the SOLAS Convention.

Life-saving appliances include:
-life-jackets
-life-buoys
-life-rafts
-life-boats
-line-throwing appliance (used to throw thin lines at long distances from the ship).


EPIRB


Thermal protective aid


SART


Immersion suit

Life-saving appliances

Passengers and crew must be informed about the location and availability of all life-saving appliances, which are to be used in case of emergency. The International Life-Saving Appliance (LSA) Code gives specific technical requirements for the manufacture, maintenance and record keeping of life-saving appliances. The list of life-saving equipment continues with (see fig.12:

- Emergency Position Indicator Beacon
- Search and Rescue Transponder
- Thermal Protective Aid
- immersion suit

Every mariner must be aware that fire is one of the biggest dangers onboard.
Fire outbreaks are among the most frequent causes of accidents at sea, in parallel with grounding and collisions.
Every seventh fire outbreak culminated in the loss of life, and it was established that the most frequent outcome from a fire was damage to the vessel and inability to continue the voyage.
Causes of the onboard ship fires are different than those occurred at land, especially because electricity and water don't mix, and when they meet Fire will outcome.
To fight the fire, you need to know first the types of fires, with its own prevention strategies and firefighting tactics.

Crew and passengers should ensure they will not make igniting mistakes. By taking preventative actions you can save lives and prevent losses to your ship. If, however, a fire starts, the ship's crew can use following Fire-fighting appliances:

Fire hoses, nozzles, hydrants, portable fire extinguishers, fire-detecting system

Fire-fighting suit

Life-saving appliances

Self-Contained Breathing Apparatus (SCBA)

1.3. Importance of personal conduct during an emergency

There is a wide range of possible emergencies onboard ship. However, the most important are:

a) fire;
b) collision;
c) grounding;
d) foundering;
e) man overboard;

f) ingress of water;
g) heavy weather;
h) oil spill.

Normally, an onboard emergency is declared by a sound emitted by the ship's alarm system.

a) Each ship has a programme of drills and an associated muster list, whose structure us as follows:
b) a. specific duties allocated to crew members;
c) b. division of crew in various squads and teams;
d) c. muster station;
e) d. emergency headquarters, etc.

The following actions have to be taken when you hear an alarm signal or when you discover a potential emergency:

a. Put on proper equipment;
b. go to muster station;
c. find out nature of the emergency;
d. take action as per muster list and the duty list

1.4. Restrictions on the use of elevators during emergencies

To be prepared for an emergency, procedures for gathering passengers and guiding them during evacuation must be established and fully understood by the entire crew.
Be aware of the following:
1. You must be accommodated with all your ship's procedures, which detail the response in case of emergency.
2. The most important one is *the procedure of guiding passengers during an evacuation*.
3. You will participate in periodic drills and exercises, which are compulsory on board passenger ships.

During an emergency, the capacity to fully utilize all crew members is needed. Be aware of the following:

1. During an emergency, your options will be limited.
2. You must involve immediately in the crew's activities.
3. When an emergency occurs, the <u>initial decision</u> and the <u>first response</u> are vital.
4. DO NOT USE ANY ELEVATOR, OR LIFTING DEVICE, DURING EMERGENCIES.

Using any electrical device during real emergencies is dangerous, as the power supply may interrupt at any time, without any prior notice. **Lifts are not designed for use in an emergency, so alternatives are required to move wheelchair users and other people with mobility impairments during an evacuation.**

2. Effective communication with passengers during an emergency

The following Internal communication systems are used during real emergencies and drills:

a. telephone;
b. emergency powered or sound-operated phone;
c. public address systems;
d. lifeboat VHF;
e. walkie-talkies;
f. emergency alarms, etc.

An operational internal communication system must provide to all crew the following information:

1) List of muster stations;
2) Description of the emergency location;
3) Indications of escape routes onboard ship

The following characteristics of human communication are important:

1. principles of modern communication.
2. the best methods of communication.
3. barriers in communication.
4. how to develop the skill of effective transmission of information.
5. how to create effective listening skills.
6. Which are the effects of a wrong communication.

The following principles are fundamental:

1. A good communication is the most essential element of safety and pollution prevention on board ships;
2. Crew members' co-operation can be achieved only by an effective communication;
3. In critical situation, an effective communication is the basic element for human survival;
4. English language is the means of transmitting ideas, views, instructions, etc. With other words, only a good level of English language may constitute the support of communication onboard.

The basic elements of communication are:

-The sender and the receiver;
-Way and method of transmission;
-Barriers to communication;
-Feedback.

It is for you to keep in mind that **Feedback** is essential in ship's communication. Always make sure that your message was understood correctly. Vice-versa, make sure that you understood well a message transmitted to you.

The following methods of communication are used nowadays when working in teams:

1. Verbal communication, which means using words. Team members read, speak and write words in order to communicate;
2. Non-verbal, which means using the body language, like sounds and gestures instead of words;
3. Iconic, which means using signs, figures, diagrams, pictures and photographs instead of words or gestures in order to communicate inside groups.

When talking about applying methods of communication, the following principles must be kept in mind:

- All three methods need to be effectively used on board, for proper understanding.
- Verbal communication, which includes all communication pertaining to words, including reading, writing and speaking, is still the basic way of communicating between people.
- However, body language and pictorial symbols become more and more powerful means in modern times.

Efficient communication may be reduced by the following barriers and limitations:

a) transmitter's capability.
b) mode of transmission.
c) receiver’s ability.

Attaining an effective communication onboard passenger ships is one of the main targets of any shipping company. Consequently, seafarers must strive to gain necessary skills to transmit messages in an effective way. The following are the necessary skills to be developed in order to transmit a coherent, understandable, effective message:

1. Sender’s effectiveness of communication is the base of a good communication.
2. Sender must define the purpose of communication and its content before sending a message.
3. Sender must establish the time, the place and the person addressed before sending a message.
4. Sender’s linguistic skills are essential.

From the point of view of the message receiver, the following factors must be taken into account:

1. Seafarers must be aware that there is a huge difference between hearing and listening to;
2. Understanding the message is the target. To achieve necessary skills, a great deal of effort must be done.
3. Various barriers of listening actually will improve listening capabilities.

The most important consequences of a wrong communication are as follows:

1. a wrong communication can affect safety of life, property and the environment;
2. Ineffective communication causes human problems and problems in relationships on board;
3. improper communication causes stress, loss of time, loss of resources and even ship's safety.

A good communication during an emergency is, most probable, the most important element of successful crowd management.

During an emergency, you must to be able to establish and maintain communications, as follows:

• Give instructions and reports clearly and concisely.
• Exchange and share information with passengers and other crew members and obtain feedback from them.
• Communicate in English language.
• Also, it is crucial to be able to communicate in the working language of the ship.
• Non-verbally communicate safety information; and
• Also, it is crucial to understand one of the languages in which emergency announcements may be broadcast on the ship during an emergency or drill.

• When verbal communication is not possible, use hands to transmit signals, to show directions to the assembly stations, to show lifesaving methods or to indicate evacuation routes.

GIVE DIRECTIONS USING BODY LANGUAGE AND HAND SIGNALS. The following signals using hands are usual:

- Come Here!
- Stop. Go Back!
- Stop and Wait!
- Go to your left or Go to your right!
- Continue Downstairs!

-The end-