STCW Basic Safety Training Course Instructor Manual

1.21 Personal Safety & Social Responsibility

v.2020

P.O. Box 311 Riderwood, MD 21139 U.S.A. P: 1-800-484-0419 E: admin@lifeguardcertifications.com W: www.lifeguardcertifications.com

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World Academy of Safety & Health (WASH) International
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Riderwood, MD 21139
1-800-484-0419
Email: admin@lifeguardcertifications.com
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INTRODUCTION

The Personal Safety & Social Responsibilities portion of the basic safety training course satisfies STCW A-VI/1-4. More importantly, when you complete this course, you will find it necessary to apply as much of this course as possible in your maritime career.

The minimum standard of competence in Personal Safety & Social Responsibilities is listed in STCW Table A-VI/1-4 and includes the following:

1. *Comply with emergency procedures, including:*
   - types of emergency which may occur, such as collision, fire or foundering
   - knowledge of shipboard contingency plans for response to emergencies
   - emergency signals and specific duties allocated to crew members in the muster list; muster stations; correct use of personal safety equipment
   - action to take on discovering potential emergency, including fire, collision, foundering, and ingress of water into the vessel
   - action to take upon hearing emergency alarm signals
   - value of training and drills
   - knowledge of escape routes and internal communication and alarm systems

2. *Take precautions to prevent pollution of the marine environment, such as:*
   - effects of operational or accidental pollution of the marine environment
   - basic environmental protection procedures

3. *Observe safe working practices:*
   - importance of adhering to safe working practices at all times
   - safety and protective devices available to protect against potential hazards
   - precautions to be taken prior to entering enclosed spaces
   - familiarization with international measures concerning accident prevention and occupational health

4. *Understand orders and be understood in relation to shipboard duties:*
   - ability to understand orders and to communicate with others in relation to shipboard duties

5. *Contribute to effective human relationships on board the vessel:*
   - importance of maintaining good human and working relationships aboard ship
   - social responsibilities; employment conditions; individual rights and obligations; dangers of drug and alcohol abuse

In general, crew need to:

- Be physically fit
- Be well trained
- Be properly equipped
- Understand tasks
- Be aware of dangers
- Have a required depth of knowledge
- Know expected outcomes of actions

1.0 ACCIDENTS AND EMERGENCIES

Operating in the marine environment is inherently dangerous. However, with the right equipment, a knowledgeable and well-trained crew and strong leadership, many of these dangers can be avoided or successfully managed.

The common types of emergencies that may arise include:

- Personal injury
- Man overboard
- Mechanical breakdowns
- Collision
- Fire
- Flooding
- Foul weather
- Stranding
- Foundering
- Sinking

Accidents can be caused by a number of factors including:

- Human error through improper training or carelessness
- Not using or improper use of Personal Protective Equipment (PPE)
- No planning or bad planning
- Environmental factors

Human factors play the largest role in the cause of accidents onboard a vessel. In fact, **80% of all accidents at sea are caused by Human Factors, including:**

- Stress
- Fatigue
- Poor communication
- Poor health
- Social isolation
- Poor lifestyle choices

The most common locations for accidents to occur on a ship are:

- Galley
- Weather deck
- Engine room
- Laundry
- Aloft
- Over the side
- Machinery spaces
- Watersports equipment

Common causes of injuries and accidents:

- Movement about the yacht
- Galley stove, knives, hot oil
- Engine room equipment, hot moving parts
- Laundry lint
- Welding, soldering, grinding, “hot work”
- Lifting or carrying too much weight
- Handling lines, anchors
- Electrical work
- Painting
- Hazardous materials

2.0 TRAINING AND DRILLS

Disasters have a habit of striking suddenly and unexpectedly. In order to avoid loss of life and damage to the vessel, all mariners should have station bills giving alarm signals and emergency duties of each member of the crew. The alarm signals must become second nature.

Training and refresher courses in safety, survival, first aid, and firefighting should be taken every five years to ensure that crew members are prepared to react properly and be familiar with their duties in time of emergency. Drills are the best way of providing the crew with onboard preparation and familiarity with the type of and location of the vessel’s safety and survival equipment.

The ILO (International Labor Organization) Convention adopted a code of practice on the Prevention of Accidents for Seafarers in 1970 (Convention 1~134). The UK has the Code of Safe Working Practice for Merchant Seamen (COSWP).

To access specific information about this code, go to www.ILO.org. It is the entire crew’s responsibility to be prepared and to fulfill their responsibilities if an emergency situation should arise.

Duties and Responsibilities

Each crewmember is responsible for orienting and familiarizing themselves onboard a new vessel. This includes:

- Being familiar with contingency plans
- Knowing the location of muster lists, boat stations and fire stations
- Knowing signs, lights, alternative routes, escape routes
- Knowing type of alarms: lights, bells, audibles
- Knowing location of all safety equipment
- Locating and properly fitting your personal safety appliances
- Keeping equipment well maintained
- Informing department heads of any faults or problems

3.0 EMERGENCY PROCEDURES

Muster List / Station Bill

Muster Lists / Station Bills are designed to list each crewmember's role in reacting to an emergency. This will help to prevent panic in the crew or a general sense of being unprepared should an emergency arise.

Emergency Station Assignments

The duties that are listed on the muster list may include:

- closing watertight doors, fire doors, fire screens, covers and all valves of scuppers, sanitary, and other discharges through the hull
- the extinguishment of fire
- the equipment for life rafts, boats, and buoyant apparatus, and their preparation for launching
- the muster of passengers, which includes warning the passengers, seeing that they are dressed and have been properly fitted with life jackets, and getting them to the appropriate life raft/boat stations, as well as generally controlling/guiding their movement
- special duties to be assigned to each member of the crew, with the station bills showing all these special duties and indicating the station each crew member should go to and the duties they must perform. These duties should be appropriate for the department in which they normally work. Station bills must be framed and posted in the Crew Mess and the Bridge, to command the attention of the entire crew and serve as a guide and constant reminder of what is expected of them in an emergency situation

Alarm Signals

Alarms are sounded on board to indicate an emergency situation. All crew members must be familiar with all alarm signal used on board.

General Emergency Signal (GES)

The GES signal can be seven or more short blasts followed by one long blast on the ship's whistle or other signal (horn/klaxon/buzzer or bell) provided this has been described on the Muster List.

Fire Alarm (----------)

The fire alarm should be described on the Muster List and will normally be a continuous blast of the whistle/horn/klaxon/buzzer or bell.

Man Overboard Signal

The man overboard signal will probably be the letter 0 (three long blasts) on the ship's whistle/horn/klaxon/buzzer or bell and will be described on the ship's Muster List.

Abandon Ship

The signal given for abandon ship should be described on the Muster List. It should different from other emergency signals so that they cannot be confused.

If you discover an emergency situation on board, you would immediately
RAISE THE ALARM, and if appropriate**, TAKE INITIAL ACTION**

Vessel Layout & Escape Routes

You should know your vessel. Know where all the entries and exits are to every space. If there are two means of escape from a compartment and you know of only one, your chances of getting out alive if that exit is blocked by fire, flooding, or damage is very poor.

Preparation for an emergency may mean the difference between life and death. Familiarise yourself with the terms in the attached nautical glossary.

4.0 MARINE POLLUTION PREVENTION

Common Types of Pollution Generated from Vessels

- Oil / Petroleum
- Plastic
- Garbage
- Air
- Sewage
- Chemical

The dumping of garbage at sea is a worldwide problem. Plastic can kill fish and marine wildlife and foul vessel propellers and cooling water intakes. Other garbage can litter the beaches and make people and animals sick. A large percentage of pollution is caused by marine activities, in which the greatest pollutant is oil.

MARPOL

In 1973, the **International Convention for the Prevention of Pollution from Ships at Sea (MARPOL**) was drafted and signed by a community of seafaring nations.

It was updated in 1978 and more recently to include six annexes on pollution of the marine environment. By signing onto MARPOL, countries agree to enforce Annexes I (**oil**), II (**noxious liquid substances**), III (**hazardous substances**), IV (**sewage**), V (**plastics**) and VI (**air pollution**).

Specific Rules:

Annex I: Oil discharge absolutely forbidden at any time. Annex II: Noxious liquids discharge very restricted.
Annex III: Hazardous materials discharge very restricted.
Annex IV: Sewage discharge forbidden within three miles of shore. Annex V: Garbage disposal varies, but no plastic ever.
Annex VI: Engine emission standards.

Annex I: Oil Pollution

3.2 million tons spilled annually due to:

- 33% vessel operations
- 12% marine accidents
- 37% in ports
- 7% natural spillage/seepage
- 2% drilling and rigs
- 9% other

Effects of oil pollution:

- A little oil can do a great deal of damage
- Costly to clean up
- Short and long-term harm to ecosystems
- Harm to wildlife
- Nuisance to beaches and water transportation
- Hazards from fire
- Potential harm to human health and safety
- Economic harm to fisheries, coastal businesses and local economies

Annex II: Noxious Liquid Substances

- Toxic – can kill on contact
- Smothering – can reduce oxygen in the water
- Ingestion – kills wildlife
- Causes harm to ecosystems
- Can take years to recover

Annex IV: Sewage

- Within three miles of shore – no discharge of sewage
- 3 to 12 miles – discharge only with approved treatment system or disinfectant
- Beyond 12 miles – discharge of untreated sewage allowed when vessel is making 4 knots or more or speed and discharge occurring at a controlled rate.
- Baltic Sea – Special Area – no discharge area for passenger ships

Annex V: Garbage

- Plastics may not be discharged anywhere at sea
- 3 miles out – Ground food waste 25mm in size may be discharged
- 12 mile out – Non-ground food waste and cargo reside permitted
- Wider Caribbean and Mediterranean Sea Special Areas

Vessels over 100gt or which carry more than 15 people are required to have a **Garbage Management Plan**, take special measures to explain how garbage is controlled onboard and record how it is disposed of.

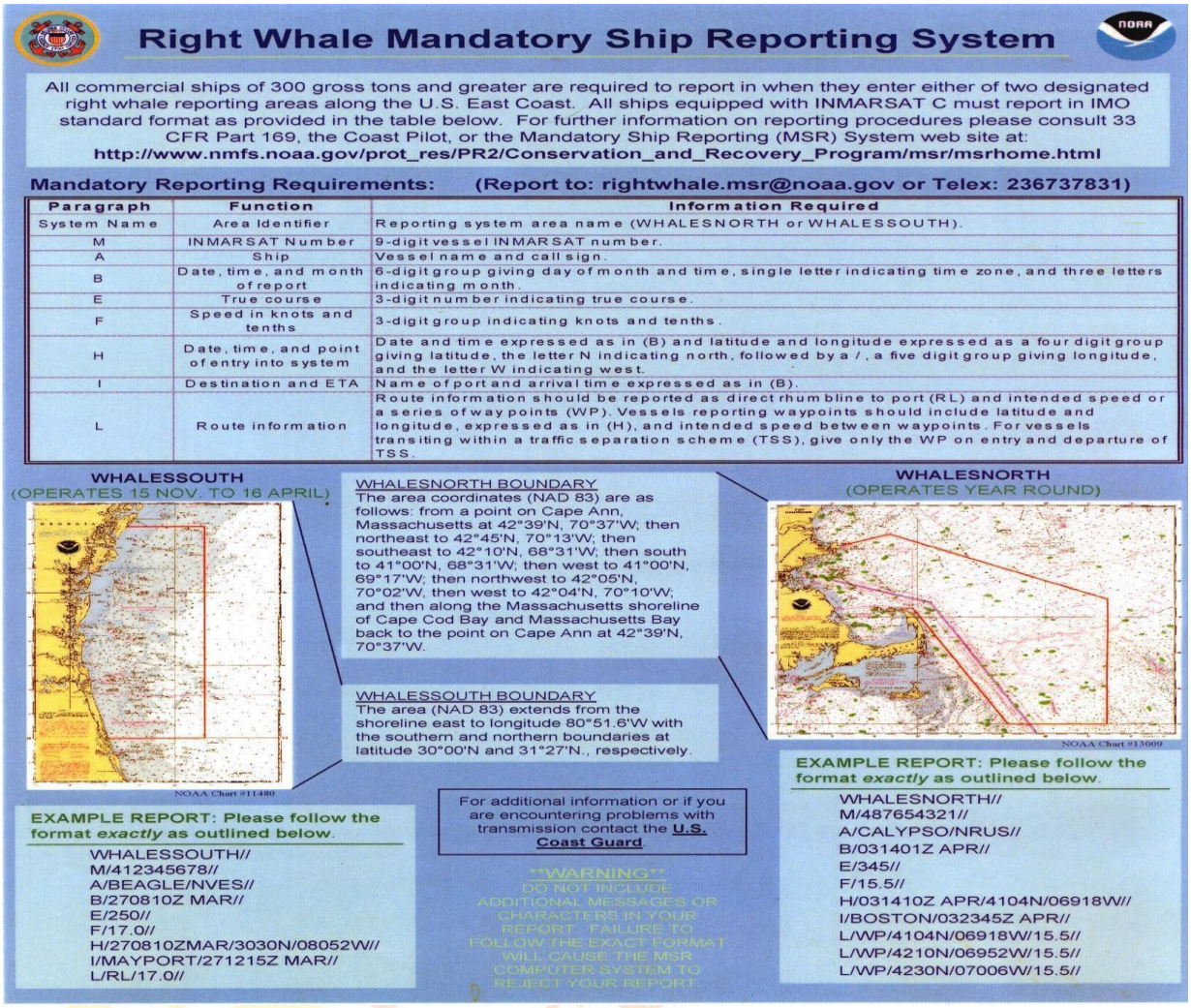
Docks and marinas are required to provide facilities to handle normal amounts of garbage from their paying customers.

All vessels are required to report pollution. Violations of MARPOL may result in fine of up to £25,000 for each incident.

Right Whale Sightings

The Right Whale Reporting System was developed to alert Merchant Vessels to the presence of the Northern Right Whale. Collisions with Right whales, especially along the east coast of the United States can lead to serious injuries, loss of property and possible fatalities.

Yachts cannot approach closer than 455 meters / 500 yards of a Right Whale. Those on watch on the bridge have a responsibility to keep a lookout for the whales.



Right Whale Mandatory Ship Reporting System

All commercial ships of 300 gross tons and greater are required to report in when they enter either of two designated right whale reporting areas along the U.S. East Coast. All ships equipped with INMARSAT C must report in IMO standard format as provided in the table below. For further information on reporting procedures please consult 33 CFR Part 169, the Coast Pilot, or the Mandatory Ship Reporting (MSR) System web site at:
http://www.nmfs.noaa.gov/prot_res/PR2/Conservation_and_Recovery_Program/msr/msrhome.html

Mandatory Reporting Requirements: (Report to: rightwhale.msr@noaa.gov or Telex: 236737831)

Paragraph	Function	Information Required
System Name	Area Identifier	Reporting system area name (WHALESNORTH or WHALESSOUTH).
M	INMARSAT Number	9-digit vessel INMARSAT number.
A	Ship	Vessel name and call sign.
B	Date, time, and month of report	6-digit group giving day of month and time, single letter indicating time zone, and three letters indicating month.
E	True course	3-digit number indicating true course.
F	Speed in knots and tenths	3-digit group indicating knots and tenths.
H	Date, time, and point of entry into system	Date and time expressed as in (B) and latitude and longitude expressed as a four digit group giving latitude, the letter N indicating north, followed by a /, a five digit group giving longitude, and the letter W indicating west.
I	Destination and ETA	Name of port and arrival time expressed as in (B).
L	Route information	Route information should be reported as direct rhumbline to port (RL) and intended speed or a series of waypoints (WP). Vessels reporting waypoints should include latitude and longitude, expressed as in (H), and intended speed between waypoints. For vessels transiting within a traffic separation scheme (TSS), give only the WP on entry and departure of TSS.

WHALESSOUTH
(OPERATES 15 NOV. TO 16 APRIL)

NOAA Chart #11480

WHALESNORTH BOUNDARY
The area coordinates (NAD 83) are as follows: from a point on Cape Ann, Massachusetts at 42°39'N, 70°37'W; then northeast to 42°45'N, 70°13'W; then southeast to 42°10'N, 68°31'W; then south to 41°00'N, 68°31'W; then west to 41°00'N, 69°17'W; then northwest to 42°05'N, 70°02'W, then west to 42°04'N, 70°10'W; and then along the Massachusetts shoreline of Cape Cod Bay and Massachusetts Bay back to the point on Cape Ann at 42°39'N, 70°37'W.

WHALESSOUTH BOUNDARY
The area (NAD 83) extends from the shoreline east to longitude 80°51.6'W with the southern and northern boundaries at latitude 30°00'N and 31°27'N., respectively.

WHALESNORTH
(OPERATES YEAR ROUND)

NOAA Chart #13009

EXAMPLE REPORT: Please follow the format *exactly* as outlined below.

WHALESSOUTH//
M/412345678//
A/BEAGLE/NVES//
B/270810Z MAR//
E/250//
F/17.0//
H/270810ZMAR/3030N/08052W//
I/MAYPORT/271215Z MAR//
L/RL/17.0//

For additional information or if you are encountering problems with transmission contact the **U.S. Coast Guard**.

****WARNING****
DO NOT INCLUDE ADDITIONAL MESSAGES OR CHARACTERS IN YOUR REPORT. FAILURE TO FOLLOW THE EXACT FORMAT WILL CAUSE THE MSR COMPUTER SYSTEM TO REJECT YOUR REPORT.

EXAMPLE REPORT: Please follow the format *exactly* as outlined below.

WHALESNORTH//
M/487654321//
A/CALYPSO/NRUS//
B/031401Z APR//
E/345//
F/15.5//
H/031410Z APR/4104N/06918W//
I/BOSTON/032345Z APR//
L/WP/4104N/06918W/15.5//
L/WP/4210N/06952W/15.5//
L/WP/4230N/07006W/15.5//

5.0 SAFE WORKING PRACTICES

Every crew member must always consider their safety, the safety of their co- workers and the safety of the vessel. Safe working practices include:

- Competent staff trained for the task
- Staff well rested and alert
- Complying with the vessel's safe working practices
- Always using Personal protective Equipment (PPE)
- Necessary tools and equipment properly maintained
- A safe platform to work, with adequate ventilation and light
- A safe system of work, adequately supervised.

The **Code of Safe Working Practices for Merchant Seafarers (COSWP)** is a UK Maritime and Coastguard Agency publication describing best practices and guidance on improving the health and safety of all on board ships. It is intended for all merchant seafarers onboard UK-registered vessels.

The **Safety Management System (SMS**) is an organized system planned and implemented by the shipping companies to ensure safety of the ship and marine environment.

SMS is an important aspect of the **International Safety Management (ISM)** code and it details all the important policies, practices, and procedures that are to be followed in order to ensure safe functioning of ships at the sea. All commercial vessels are required to establish safe ship management procedures.
SMS forms one of the important parts of the ISM code.

The safety management system (SMS) therefore ensures that each and every ship comply with the mandatory safety rules and regulations, and follow the codes, guidelines, and standards recommended by the IMO, classification societies, and concerned maritime organizations.

General Safety Rules

1. Good housekeeping is essential. All equipment and tools are to be cleaned and checked.
2. Known or suspected hazards or unsafe conditions or practices are to be reported.
3. Maintain concentration.
4. Use common sense.
5. If in doubt, stop what you are doing and report to your supervisor.
6. Don't take chances.
7. Flag State and Port State regulations and ship's standing orders must be followed.

8. Obey all safety signs and instructions, and heed all warning notices.
9. Follow safe working practices, policies and procedures.
10. Work areas must be maintained in a safe, clean and tidy condition.
11. All accidents and injuries must be reported to the captain.
12. Do not misuse any equipment and do not indulge in horseplay.
13. Never operate any machinery unless all safeguards and other safety devices are in place.
14. Never operate machinery or equipment while under the influence of alcohol or drugs.
15. Work areas must be properly lit and ventilated.
16. No work may be carried out on any machinery or equipment unless a Permit to Work has been issued and the equipment has been isolated, locked or secured as necessary.
17. No work may be carried out in any confined space unless the space has been thoroughly vented and proved safe, and a rescue harness is worn.
18. Ladders should be lashed top and bottom before use.
19. Do not try to lift or move any object if you think it is too heavy to do so.
20. Never attempt any task unless the correct equipment and sufficient people are available.
21. Never operate any equipment or machinery unless you are qualified to do so.

Personal Protective Equipment (PPE)

It is very important for all crew members to receive training in the use of protective gear and equipment available onboard the vessel, such as:

- Life jackets
- Immersion suits
- Face and eye protection
- Hearing protection
- Emergency escape breathing apparatus
- Lumbar support belts
- Respirators
- Clothing to protect from weather extremes
- Safety helmets
- Safety boots and shoes

Enclosed & Confined Space Entry

Common areas on the vessel that should be considered confined spaces: cargo, peak, ballast, water, or sewage tanks; bow thruster or machinery spaces; spaces where people don't normally operate.

The dangers and hazards involved in this type of situation include poor air quality or insufficient oxygen and hazardous vapours which may render a person unconscious or worse.

Training for enclosed or confined space entry is essential to be aware of the correct procedures, for example:

- follow established policies and procedures;
- no one should enter unless there is no alternative; there should be adequate ventilation (test air quality);
- never go in without having support or emergency crew available to help you; wear protective clothing, equipment.

Permit To Work

"There are many types of operations on board ship where the routine actions of one person may inadvertently endanger another, or when a series of action steps need to be taken to ensure the safety of those engaged on a specific operation. In all instances, it is necessary before the work is done, to identify the hazards and then to ensure that they are eliminated or effectively controlled."

That is a direct quote from the 'Code of Safe Working Practices for Merchant Seamen' (COSWP). The sea is a dangerous work environment with many dangerous jobs to do. A Permit to Work system describes the processes fo an organized and predefined safety procedure and that, while not in itself making the job safe, it contributes to measures for safe working. In other words, it is designed to cut out unnecessary risks.

With a Permit to Work:

- Authorized and properly trained personnel have considered all potential hazards
- All reasonable precautions have been taken to reduce risk to personnel involved in performing the task
- All personnel who sign the permit fully understand their responsibilities

Permits to work includes:

- Scope of work
- Checklist and isolation data
- Authorization
- Receipt of permit
- Clearance of permit

Risk Assessment

Something with the potential to cause harm (this can include substances or machines, methods of work and other aspects).

Risk: The likelihood and severity of that harm from a particular hazard being realised.

What is Risk Assessment?

A risk assessment is a careful examination of the work activities and premises which could cause harm to people. These risks should be evaluated to decide if adequate precautions have already been taken or whether more can be done. The aim is to prevent people becoming injured or suffering work-related ill health.

Who should Perform the Risk Assessment?

Assessments should be carried out by a competent person. Competency can be defined as a combination of training, knowledge, experience and personal qualities including the ability to make sound judgments. In practice the person who carries out the assessment will depend on the risks and the resources available.

Risk Assessment in Practice

There are different ways to undertake a risk assessment in the workplace:

- study each activity
- study hazards and risks in groups e.g. machines, chemicals
- study each section or area of the workplace e.g. store room, office, corridor

To be a suitable and sufficient risk assessment and comply with legal requirements, you must consider five main stages:

- identify hazards
- identify people at risk
- evaluate the risks and decide whether existing precautions are adequate or recommend further control measures
- record your findings
- review and revise when necessary

Step 1 - Identify the Hazards

Walk around the workplace and identify hazards which are significant and could cause serious harm or affect many people. Ask employees and safety representatives for their comments. Do not forget to include non-routine activities

e.g. open days, breakdowns, etc.

Step 2 - Identify People at Risk

We have a higher duty of care towards those who may be more vulnerable. New crew members, day-workers and those unfamiliar with your vessel all fall into this category.

Step 3 - Risk Evaluation

For each hazard identified it is necessary to evaluate the significant risks always considering the worst likely outcome.

Next you need to decide the level of risk by considering the chance of harm occurring and the seriousness of injury. This can be done by either simple qualitative assessment techniques (i.e. low, medium or high) or alternatively using quantitative techniques.

A simple equation is used to assess risk:

Risk = Hazard Severity x Likelihood of Occurrence

Severity should be assessed on a scale of one to five:

5 Very High:	Causing multiple death or wide-spread destruction
4 High:	Causing death or serious injury to an individual
3 Moderate:	Causing injury or disease capable of keeping an individual off work for three days or more
2 Slight	Causing minor injury allowing individual to continue work after first aid treatment
1 Nil	Trivial injury

Likelihood of occurrence should also be assessed on a scale of one to five: 5 Very likely
4 Likely
3 Quite possible
2 Possible
1 Not likely

100% certainty that an accident will happen or common occurrence

- Regular occurrence. The accident may happen with additional factor
- Accidents will only happen if several factors precipitate it
- Possible occurrence but risk is minimal. There is no real risk present

A risk factor can be found using the equation, ranging from 1 (no severity and unlikely to happen) to 25 (just waiting to happen with disastrous results).
However, it is important to judge both the severity and likelihood independently.

Having worked on the risk factors for each hazard, you can use the risk grid to determine the urgency of action.

To determine the action considered to be reasonably practicable, the assessment of risk should be balanced against the time, trouble, cost and difficulty of doing anything about it.

Wherever possible you should make changes which allow the risk to be avoided altogether. Where this is not possible or practical, one of the following should be used to minimise the risk:

- substitute with something less risky
- enclose the hazard to control the risk
- use guarding or segregation of people
- use a safe system of work to reduce risks to an acceptable level
- use written procedures for key workers
- provide adequate supervisors
- train employees
- provide information and instruction (e.g. signs)
- use personal protective equipment

Step 4 - Record your Findings

The significant hazards and conclusions of the assessment must be recorded.

Step 5 - Review your Assessment

Risk assessment is a continuous and on-going process. Any significant changes (e.g. introduction of new equipment) could introduce new or unfamiliar hazards and affect the risk assessment. Accidents and incidents may also identify hazards that are not adequately controlled (flashover awareness).

In any event, it is good practice to review the risk assessment at regular intervals (annually for many activities).

6.0 FUNDAMENTALS OF COMMUNICATIONS

Shipboard Organisation

The flow of communications depends on organisation. Unlike many shore side companies, a vessel operates on a twenty-four hour per day, often seven-day a week, schedule for weeks, or months at a time. To be effective, proper organisation is necessary.

The elements of shipboard organisation are listed and defined as:

- **flow of communications**: determining the chain of command
- **information**: communicating knowledge derived from observations or experience. In the shipboard environment, it is important to communicate information regarding the vessel's equipment, personnel, cargo, weather and any other pertinent information
- **decisions**: reaching a conclusion based on the information available
- **advice**: suggestions of what to do or what decision should be made. Advice is usually given based on an opinion, information or experience
- **authority**: the power or right to exert influence based on status
  responsibility: liable to give an account of one's actions

The different organisations/departments onboard may include: deck department, navigation and anchor watches; engineering department; steward department; cargo operations; safety, such as - fire patrol, firefighting, man overboard, abandon ship, miscellaneous others, based on vessel type.

Human relations rely on organisation and communication between management and crew: the organisation has responsibilities to the individuals; the individual has responsibilities to the organisation.

The functions of management are:

- work planning
- organisation
- flexibility
- decision-making
- delegation
- responsibility

The constraints of management include:

- law and ethics
- economics
- company policy
- responsibilities

Methods of Communication

Onboard, communication may take on many forms. Communication between two or more people may occur face-to-face, on the internal telephone system, via handheld VHF radios, via walkie-talkies, through the public-address system and through intercoms. Selecting the proper manner for communicating can be as important as the content of the communication. You must decide whether private

conversation or communication heard by many or all is the most appropriate vehicle.

It is also important to use common terminology. Vessels and marine operations have very specific terms used to identify or describe components or operations. Since many crew are made up of individuals from a variety of backgrounds and whose native languages vary, using the proper maritime terminology helps to bridge certain language barriers, particularly during emergency situations.

Principles of Communication

Communication is the art or form of passing a message from one person to another, as well as the transfer of information and understanding and requires a sender and a recipient.

Effective communication is an essential contribution to good organization, safety, productivity and morale.

Types of communication include:

- one-way communication: person to person (telling someone something)
- two-way communication: discussing something
- verbal communication: by speeches, lectures, conversation
- written communication: by papers, books, magazines etc.
- visual communication: by pictures, videos, slides etc.

A communication barrier is an interference that places a limit on the transfer of information, which in turn, limits understanding. These barriers include:

- personal: a different attitude or perspective
- semantic: a difference in the understanding of words or phrases
- physical: noise or distance may hinder communication

Common factors which produce barriers to communication are:

- lack of organisation
- communication channels
- differences in the status of communicators
- language and terminology
- personal conflicts
- misunderstanding
- feelings and emotional responses

Methods to improve communication include:

- avoidance of oversimplification
- checking who is responsible
- checking the language
- awareness of personal conflicts
- the use of informal channels to improve the formal approach
- using effective listening techniques
- providing constructive feedback, focusing on actions and not personalities

You may have heard the old adage “it is not what you said, it is how you said it”. There is a lot of truth in that statement. Studies show that the messages we send are communicated by more than just words. Tone of voice and body language are major components in communication. The results of those studies are displayed below.

Transfer of Information

7% of the interpretation of the message is our choice of words - what you say 38% of the interpretation of the message is our tone of voice - how you say it 55% of the interpretation of the message is our body language

Contracts

One form of communication that is important for crew are employment contracts. Crew should ensure that they have a written contract or agreement that specifies at a minimum:

- Compensation, including gratuities
- Pay schedules
- Payment methods
- Paid time off / Holidays
- Probationary periods – usually 3 months
- Dismissal conditions

Other topics that should be included:

- Repatriation to country of origin
- Venue of jurisdiction in the event of legal action
- Drug, alcohol and smoking policies
- Special issues – confidentiality
- Personal appearance, hygiene, behaviors

It is important that employment agreements are done in writing, as verbal agreements are binding but difficult to enforce. It is also to your benefit to have an individual agreement and not a group/crew agreement. There are statutory form agreements available through the MCA.

7.0 HUMAN RELATIONSHIPS

Human relationships have existed since early man began to congregate in groups. They related to each other for basic purposes and later developed social reasons for gathering such as:

- self-preservation from animal attacks
- food gathering
- companionship
- social reasons

The formation of groups progressed and developed into a more structured society whose members lived closely together because of a commonality of cultural attitudes and beliefs in social, religious, and political aspects as well as the desire to live and work within a framework of government and law.

There is a great potential for conflicts when people are integrated from varying cultures with differing rules or standards of living and/or work together in close proximity.

This is applicable in the maritime industry when multi-cultural crews are commonplace. Not only do the crewmembers have to work together in a confined environment, but they also eat together and sleep in somewhat confined areas for sometimes lengthy amounts of time. At sea, if a conflict arises, the workers cannot just go home for the night and sleep it off. For this reason, it is extremely important to establish and enforce a set of guidelines for crewmembers to follow.

The following items are established as general rules of conduct, and will be covered in greater detail later in this module:

- drug & alcohol use/abuse
- personal health and hygiene
- ship sanitation
- conflict resolution
- offensive behaviour
- sexual harassment

Conflict Resolution

Each human being is a unique individual. No two people are exactly alike physically and mentally (except for identical twins). The nature of a human being is often considered to be an inborn characteristic, dependent upon biological make-up and inheritance and influenced greatly by environmental and cultural backgrounds. Human nature reveals itself as a state of mind and as feelings which are often expressed in some or all actions, literature, pictures, music, etc.

This human nature will tend to govern the manner in which people react to one another in particular situations. Such reactions will usually be different between people from the same culture and that of people from different cultures.

To function cohesively and effectively, a group must operate within a properly constructed framework of direction and control which is acceptable and agreed by all members. The way in which people react to situations and behave under imposed constraints is not easy to predict or understand, particularly when the impact of technology and the rate at which it advances is imposed on cultural factors involving social, religious, and political feelings and beliefs.

Conflicts or disputes may arise whenever there is a group of people working and living in a confined space. This is true at sea; often multi-cultural crews are living and working together for extended periods of time in very confined and sometimes crowded areas. Often going to sea requires hard work and long working hours, this can be stressful and lead to conflict amongst crew members.

The best way to resolve a dispute or a conflict is to avoid them completely. This is easier said than done, but here are a few pointers:

- clear communication and an understanding of what is expected and who is expected to do it (their role)
- respectful and tolerant attitude of other crew members' privacy and beliefs

A role is a pattern of actions expected of a person in activities involving others. It reflects a person's position in the social system, with its associated rights, obligations, power and responsibilities. **A clear understanding of each individual's role and duties will minimise conflict.**

Status can be regarded as the social rank of a person within a group and represents the recognition, honour, and acceptance given to a person by the other members of the group.

Conflicts can be the result of the different perceptions and perspectives of the crew members involved. Clear communication assists the individuals in conflict to see the situation through the other person's eyes. Perception is a personal viewpoint gained from observing or hearing a situation or event. Perspective is an outlook or viewpoint of a situation based on previous experiences. It is important during a conflict to avoid the tendency to place blame. Try to see past that and be part of the solution and not part of the problem.

Offensive Behaviour

Every member of the crew has the responsibility to conduct themselves in a professional and appropriate manner. Even minor offensive behaviors can threaten the safety onboard a vessel. If you know of a crew member who is acting, or threatening to act, inappropriately, you must report to the captain or corporate representative. This behaviour cannot be tolerated. Reporting it is in the best interest of the entire crew. Offensive behaviour includes aggression and sexual harassment.

In many ways, the workplace is safer than it has ever been. We need to be aware when situations occur that are threatening to us or those around us. Often when people are aggressive or violent, or threaten violence at work, it occurs after a long history of aggressive behaviour. As with most problems, taking the time to listen and communicate effectively usually prevents many long-term problems from developing.

Examples of Offensive Behavior can include:

- Noise
- Poor personal hygiene and accumulated dirty laundry
- Use of others belongings or space without permission
- Invasions of privacy
- Gossiping, Cliques

Examples of **Aggressive Behaviour**:

- any act of violence where an individual expresses anger by hitting, pushing, or otherwise physically assaulting any crew member or guest
- any verbal threat of harm that is intended to intimidate or threaten the safety of an individual, whether the threat is made in person, through the mail, over the phone, via e-mail, or through another crew member or person
- unusual, bizarre or menacing behavior, focused on a grudge, grievance or romantic interest in another crew member
- acts, words, and gestures adversely affecting the safety and security of another individual
- bringing a gun, weapon, or other exploding device to the vessel without prior authorisation

Offensive sexual behavior/harassment can be in the form of verbal and non-verbal communication or behavior.

Examples of **Offensive Sexual Behaviour/Harassment**:

- displaying sexually suggestive material
- making suggestive gestures with hands, or mouth, etc.
- personal gifts
- writing unwanted love letters, poetry
- touching, massaging someone's or rubbing against a person
- exhibiting sexual parts of your body
- making comments about someone figure, looks, hair or body
- calling someone a babe, hunk, etc.
- making suggestive sounds such as whistling, groaning, etc.
- telling sexual jokes or stories
- describing pornography or sexual acts
- suggesting that someone goes on a date with you over and over

Sexual Harassment

Legal Definitions:

Sexual Harassment: is unwanted sexual or gender based behaviour that occurs when one person has formal or informal power over the other.

Quid Pro Quo: harasser requires sexual favours of victim in return for some action by harasser, or harasser retaliates against victim for refusing sexual favours.

Sexual Misconduct: occurs between consensual adults on company property or company time

Sexual Discrimination: unfair treatment due to gender i.e. not getting a job or promotion due to gender Sexism: attitudes, conditions or behaviours that promote stereotyping of social roles based on gender or of gender superiority

The victim is usually subjected to unwelcome repeated sexual comments, innuendoes or touching, which alter conditions or interfere with employment performance or access to opportunities provided by the institution.

Conduct is gender-based or orientation-based and creates an intimidating or offensive place for employees to work:

- usually requires a pattern of this sort of behaviour, but sometimes one incident is enough, if severe or outrageous
- can occur off premises
- can be caused by vendors, or temporary crew or others on the vessel

There are three elements to sexual harassment:

- the behaviour is unwanted or unwelcome
- the behaviour is sexual or related to the gender of the person
- the behaviour occurs in the context of a relationship where one person has more formal power than the others (such as a supervisor over an employee) or more informal power (such as one peer over another)

Sexual harassment exists when any of four conditions are met:

- submission to the conduct is made a term or condition, either explicitly implicitly, of obtaining employment or advancement OR
- submission or rejection of the conduct is used as a factor in decisions affecting that person's employment OR
- the conduct has either the purpose or effect of substantially interfering with a person's employment OR
- the conduct creates an intimidating, hostile or offensive work environment

Who gets harassed more often?

- females in non-traditional fields
- women in graduate school
- women and girls of color
- young, inexperienced, unassertive, socially isolated girls or boys, women or men
- lesbian and gay persons
- persons with disabilities, physical and emotional
- persons temporarily vulnerable due to a life crisis
- persons who are single or divorced
- persons who are economically disadvantaged
- persons who have been sexually abused or assaulted, including victims of incest

Why don't people report harassment?

- embarrassment
- belief that the behaviour will end if ignored
- fear of losing one's job
- fear of retaliation
- fear of being blamed for inviting the harassment
- concern about not being believed
- concern about being labelled a troublemaker
- fear of harmful rumours and loss of privacy
- conviction that nothing will be done about the problem
- fear that the complaint process could be worse than the harassment What can

you do to try to stop the harassment early on?

Targets of sexual harassment can do a number of things themselves to stop the conduct.

- tell the offender that the conduct is unwelcome and must stop
- adopt an icy approach (I beg your pardon!)
- refuse to answer personal questions
- place a copy of the company's sexual harassment policy in their office or message box
- send the harasser a letter
- provide a factual account of what happened
- describe how the incident(s) made you feel
- explain what you want to happen next
- deliver the letter in person or mail it
- keep a copy
- if this doesn't work, share a copy of the letter with your supervisor

Examples of Sexual Harassment:

- mooning or streaking
- exposing genitals
- biting someone
- shouting obscenities
- leaving obscene messages on e-mail or voice mail
- bra, pants, shorts or skirt snapping
- pulling down someone's pants, shorts or skirt
- flipping up skirts
- teasing females or males about their sexuality, breasts or genitals
- touching or grabbing
- telling someone what sexual behaviours the speaker would like to engage in with that person
- whistling or yelling at women who walk by or rating them
- threatening rape
- pressing one's body against someone

Summary: What is Sexual Harassment?

It is sometimes difficult to define and prosecute sexual harassment for three reasons:

1. what is inappropriate for one person may be acceptable to another
2. there is no single test for distinguishing sexual harassment from merely offensive or inappropriate conduct, although there are guidelines
3. context is important

Sexual harassment is different from the natural, normal tension that exists between co-workers when someone is attracted to another.

So when does-

- a look become a leer?
- a touch become a grope?
- a joke become a taunt?
- a tease become harassment?

When the behaviour is unwelcome by the person for which it was intended.

A mariner has the right and responsibility to report ALL problems. Even if you are not the target of aggressive or harassing behavior, you have a responsibility to report what you see or hear to the proper authorities onboard your vessel.

8.0 DRUGS & ALCOHOL IN THE WORKPLACE

The inappropriate use of alcohol and drugs, including legally prescribed drugs, can have a damaging effect not only on the individual concerned but also on those they contact at work as well as home.

Your employer has no desire to interfere with your personal life or to reduce any social activities carried out in a reasonable manner. However, you should understand that the psychological and physical effects of alcohol and other substances which affect behaviour can inadvertently be brought to the workplace.

Because of this, your employer could consider measures which will actively encourage crew to manage their lives in such a way that safety is not jeopardised. These measures can include:

a. a formal policy which includes clear rules regarding alcohol and drug abuse
b. procedures to test employees in certain circumstances including a random amount of unannounced testing for safety critical employees
c. giving employees information which will allow them to make responsible judgment regarding their use of alcohol and drugs

The policy and associated procedures should take into account the fact that we are all human. In the unlikely event a crew member has a problem and voluntarily seeks assistance employers should offer all reasonable help in a positive and sympathetic manner. Confidentiality should be maintained as far as possible.

Background

- Approximately 60% of fatal accidents at work in the UK are alcohol related
- Alcohol is associated with 43% of deaths from falls
- Alcohol is estimated to cause 3.5% of all absences from work

As a crew member, your terms and conditions of employment could include disciplinary action which may be taken in the event you are found to be unfit to carry out your duties due to the influence of alcohol and drugs.

It is obvious that active management of safety is essential to minimise the risk of major disaster. This also helps reduce the likelihood of accident and injury.

It should be remembered that the proliferation of illegal ‘‘designer’’ drugs, which are considered by some to be socially acceptable, as well as the ability to buy stronger legal drugs over the pharmacist’s counter, mean that the risk of drug impaired performance by an employee is getting higher.

The risk of alcohol-impaired performance is well documented and for many years we have accepted that driving under the influence of alcohol is not socially acceptable. Currently the UK legal drink drive limit is 80mg per 100ml (i.e.
8Omg%). There is an increasing weight of evidence to support reducing the statutory limit to 4Omg% or even less. In the U.S., the legal limit for Blood Alcohol Content or Breath content is 0.08 or above.

Alcohol in the Workplace

Few people realise that alcohol is a poison. If undiluted it will quickly kill you.
There is also a commonly held misconception that it is a stimulant. It is, in fact, a depressant. That is to not say it will always make people depressed. Alcohol can depress feelings of anxiety, but it can equally intensify feelings of unhappiness or aggression.

Like many toxic substances however, alcohol in small quantities can actually be beneficial. It is when those quantities become too large or too frequent that problems occur.

Alcohol is absorbed into your bloodstream within a few minutes of being drunk and is carried to all parts of your body including the brain. The concentration of alcohol in the body depends on many factors, but principally, how much you have been drinking, whether you have eaten and your size and weight.
It takes a healthy liver about one hour to break down and remove one unit of alcohol. A unit is equivalent to 8gm or 10ml (cl) of pure alcohol. Typically accepted as a unit are:

- half a pint of average strength beer, lager and cider (3.5% ABV)
- a small glass of wine (9% ABV)
- a standard pub measure of spirits/fortified wine 25ml (40% ABV)

Men should drink no more than 3-4 units per day and women should drink no more than 2-3 units per day to avoid significant risks to health. If you are drinking

this amount regularly there is an increased risk to health. U.S. Department of Transportation limits Blood Alcohol Content to 0.04% (about 2 drinks).

An alcohol problem does not necessarily mean a dependence problem. If we consider solely the traditional image of an alcoholic, then only severely dependent drinkers within the crew would be identified. It is better to promote a broader perspective on alcohol problems, remembering that early intervention and education can prevent a problem arising.

Drugs in the Workplace

This problem is not confined to illegal drugs such as cannabis, cocaine, heroin and so on.

Illegal Drugs

These can be categorised into three categories - Depressants, Stimulants or Hallucinogens. These drugs are covered by the Misuse of Drugs Act 1971 in which they are classified as either Class A, B or C (as defined in Schedule to the Act).

Depressants

Opoids such as Heroin, Morphine, Codeine and Opium are in this category and are either sniffed, swallowed, smoked or injected. These drugs are also classed as narcotics and are classified as Class A. Use of these drugs can lead to increased tolerance leading to both physical and psychological dependency. Sustained use of these drugs will cause the user to centre his lifestyle around the drug's procurement and use.

Stimulants

Amphetamines are sniffed, swallowed or injected. These increase pulse rate and blood pressure. Use can result in anxiety and panic and increasing risk of both emotional and physical dependence with increasing use. Chronic effects can also lead to a reduced resistance to infection and a loss of appetite leading to weight loss.

Cocaine, and its derivatives, are either sniffed, smoked or injected. Use can lead to psychosis and delusions. Repeated use can lead to high risk of dependence. Extreme effects can be encountered using cocaine when prepared as crack, such as heart failure or heart attack.

Hallucinogens

These can include Lyseric acid diethylamide (LSD) and hallucinogenic amphetamines (MDMA, ecstasy). These drugs are generally ingested and

effects can range from anxiety and panic to extreme perceptual disorders leading to reckless behaviour.

Phencyclidine (PCP, angel dust) can be sniffed or smoked and can lead to I regular breathing.

Legal Drugs Barbiturates

Barbiturates are swallowed as capsules or injected. These can produce a high risk of dependence especially when mixed with other drugs or alcohol.

Solvents

Solvents are volatile substances that can include lighter fluids (as associated hydrocarbons), cleaning fluids and adhesives and aerosol preparations.
Misuse of these items can lead to severe intoxication and disorientation with increasing risk of heart and brain damage with increasing use.

Medicines/Restricted Drugs

Prescribed drugs can be misused. These are drugs that have been prescribed by a doctor or have been obtained through a pharmacist which can have considerable health risks if misused, or if used in conjunction with other types of drugs.

Examples of medicines/prescribed drugs can be Tranquillisers (Valium, Librium, Activan, Serenid, Normisson) which can be swallowed or injected. These drugs have severe risks of both physical and psychological dependence. Other examples can be Anti-Depressants, Sleeping Pills and some medicines such as remedies for coughs and colds.

Signs of Drug Abuse

- Sudden changes in mood
- Unusual irritability
- Loss of appetite
- Loss of interest in work, hobbies or social life
- Bouts of drowsiness or sleepiness
- Strange behavior or evidence of telling lies
- Petty theft and unexplained loss of money and personal possessions
- Unusual smells, stains or marks on the body, on clothing or in the cabin

What to Do If You Have a Problem

Whether you have a drug or alcohol problem, or you believe a fellow crew member has, do not pretend that it does not exist.

You should be encouraged to communicate concerns responsibly and confidentially to a senior crew member. The overall purpose of this policy is to enable the employer to help employees deal with impairment of behaviour and job performance in the workplace arising from substance abuse.

General Provisions

To ensure the correct implementation of a Drugs Policy throughout the crew, there are a number of general provisions that have to be met.

- You may be required to have read and signed off a Drugs Policy having fully understood the contents and the implications.
- You may also have access to relevant information regarding drug abuse in the workplace.
- Records may be kept to demonstrate that crew members have read and understood this Drugs Policy Document. These records will be confidential.

Monitoring of Staff

You may be asked to take periodic drug tests and this will be outlined in your employment conditions.

Your employer should undertake periodic reviews of any Drugs Policy and the procedures contained therein. This review will incorporate any relevant results of post-testing investigations, feedback from employee consultations and any changes in legislation, best practice etc.

In the U.S., the U. S. Coast Guard requires **random drug testing** on a *random basis and after a marine casualty or serious marine incident. Summary of Policy*

The overall purpose of a drugs policy is to help ensure the safety and welfare of crew members, guests and third parties, by reducing the chance of an employee's behaviour and job performance being impaired due to subsequent abuse.

Substance means any controlled drug defined by the Misuse of Drugs Act 1971 (or any amendment thereto or re-enactment thereof), any prescribed or over the counter drugs or any other substance, including alcohol, which can impair behaviour, judgment or job performance.

In the context of the policy, abuse would mean the deliberate use of any substance otherwise than in accordance with prescription or manufacturer's recommendation of in such a way as to change behaviour or mood.

9.0 FATIGUE

One of the greatest threats to safety onboard a vessel is fatigue. There are a number of factors unique to working on boats that can lead to increases in fatigue among crew. The captain and officers must take steps to ensure that crew receive adequate rest periods and monitor behaviors to make sure crew are operating to the best of their ability.

Causes of Fatigue

- Weariness or exhaustion
- Overexertion
- Inadequate or poor quality of sleep
- Physical and emotional stress
- Poor lifestyle choices
- Poor health

For mariners, stress can come from factors both on and off the ship. Living and working in confined spaces, close quarters with other crew members, constant concern for safety, weather and other related emergencies, isolation from loved ones, and long-term routine can all lead to stress. One study even suggested that working onboard a ship could be likened to serving time in prison.

Fatigue can lead to

- Poor decision-making
- Poor visual perception
- Poor mental calculations
- Slow reaction time
- Decreased effectiveness with memory tasks
- Low productivity
- Poor morale and motivation
- Accidents
- Sleeping on watch

As you can imagine, any of those behaviors could put the boat, crew and passengers at great risk.

Causes of Sleepiness

- Rough seas or gently rocking seas
- Background vibration
- Background “white noise”
- Failure to manage off-watch time for sleep

Circadian Rythms

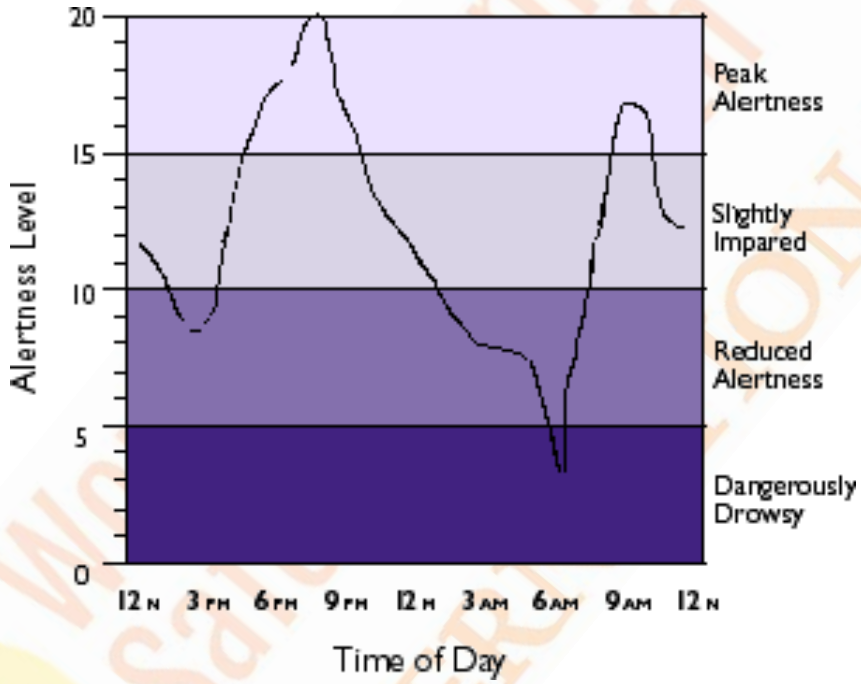
The following is taken from the National Institute of General Medical Science, www.nigms.nih.gov.

Circadian rhythms are physical, mental and behavioral changes that follow a roughly 24-hour cycle, responding primarily to light and darkness in an organism's environment. They are found in most living things, including animals, plants and many tiny microbes. The study of circadian rhythms is called chronobiology

Circadian rhythms are produced by natural factors within the body, but they are also affected by signals from the environment. Light is the main cue influencing circadian rhythms, turning on or turning off genes that control an organism's internal clocks

Circadian rhythms can influence sleep-wake cycles, hormone release, body temperature and other important bodily functions. They have been linked to various sleep disorders, such as insomnia. Abnormal circadian rhythms have also been associated with obesity, diabetes, depression, bipolar disorder and seasonal affective disorder

Circadian rhythms are important in determining human sleep patterns. The body's master clock, or SCN,



controls the production of melatonin, a hormone that makes you sleepy. Since it is located just above the optic nerves, which relay information from the eyes to the brain, the SCN receives information about

incoming light. When there is less light—like at night—the SCN tells the brain to make more melatonin so you get drowsy.

The Maritime Labour Convention (MLC 2006, amended 2016) provides for standard rest periods:

- 10 hours rest per 24 hour period
- 77 hours rest in a 7 day period
- Daily rest – no more than 2 periods, with one being at least 6 hours
- Drills must not disturb rest periods

Watchkeeping schedules must be posted in prominent location.

Person	Day 1		Day 2		Day 3		Day 4
A	0600 to 1000	D	2100 to 0100	C	1200 to 1600	B	0300 to 0700
B	0900 to 1300	A	0000 TO 0400	D	1500 TO 1900	C	0200 TO 0600
C	1200 to 1600	B	0300 TO 0700	A	1800 TO 2200	D	0500 TO 0900
D	1500 to 1900	C	0600 TO 1000	B	2100 TO 0100	A	0800 TO 1200
A	1800 to 2200	D	0900 TO 1300	C	0000 TO 0400	B	1100 TO 1500

It is important for seafarers to keep to their schedules as much as possible. Changing watches/shifts can interfere with adequate rest periods, leading to stress, fatigue and errors in judgement and action.

10.0 GLOSSARY OF NAUTICAL TERMS

Accommodation Spaces: Spaces designed for living purposes for people aboard a vessel.
Admiralty Law-Maritime Law: A court exercising jurisdiction over maritime cases.
Aft: Toward the stern of the vessel.
Anchorage: An area identified for safe anchoring.
Athwartship: Side to side, at right angles to fore and aft centerline of a ship.
Ballast: Weight, liquid or solid, added to a ship to ensure stability.
Ballast Tank: A watertight compartment to hold liquid ballast.
Barge: A long, large vessel, usually flat-bottomed, self-propelled, towed, or pushed by another vessel, used for transporting materials.
Beam: The breadth, width of a ship at the widest point.
Berth: 1. Mooring of a boat alongside a bulkhead, pier, or between piles.
2. A sleeping space.

Berthing Area: 1. Bed or bunk space on a ship. 2. A space at a wharf for a ship to dock.

Bilge: The lowest inner part of a ship's hull

Boom: 1.A long pole extending upward at an angle from the mast of a derrick to support or guide objects lifted or suspended. 2. A floating barrier used to contain materials upon the surface of the water. such as oil.

Bow: Front end of boat or vessel.

Break Bulk Terminal: Terminal where commodities packaged in bags, drums, cartons, crates, etc., are commonly but not always palletised and loaded and unloaded.

Bulk Terminal: Terminal where unpackaged commodities carried in holds and tanks of cargo vessels and tankers and generally transferred by such means as conveyors, clamshells, pipeline, etc. are handled.

Bulkhead: 1. One of the upright, vertical partitions dividing a ship into compartments and serving to retard the spread of leakage or fire. 2. A fixed pier or wall back-filled to be continuous with the land.

Buoyancy: 1. The tendency or capacity to remain afloat in a liquid. 2. The upward force of a fluid upon a floating object.

Car Terminal: Terminal where the commodity handled is automobiles. **Centerline:** Also known as the "lubbers line"; a line that runs from the bow to the stern of the vessel and is equidistant from the port and starboard sides of the vessel.

Chief Mate: Deck officer immediately responsible to the vessel's master; commonly referred to as "mate."

Coaming: Name given to any raise framework around deck or bulkhead openings to prevent entry of water.

Cofferdam: A void between compartments or tanks of a ship for purposes of isolation.

Companionway: Interior stair-ladder used to travel from deck to deck, usually enclosed.

COTP: United States Coast Guard Captain of the Port. The Captain of the Port has broad powers over all vessels in the area.

Damage Control Locker/Emergency Gear Locker: A locker used for the storage of emergency equipment.

Deck: A platform (floor) extending horizontally from one side of a ship to the other.

Dewatering: Process of removing water from a vessel.

Double Bottom: Void or tank space between the outer hull of the vessel and the floor of the vessel.

Draft: The depth of a vessel's keel below the waterline.

Drafting: The act of acquiring water for fire pumps from a static water supply by creating a negative pressure on the vacuum side of the fire pump.

Dry Bulk Terminal: Terminal equipped to handle dry goods that are stored in tanks and holds about the vessel.

Dunnage: Loose packing (usually wood) material protecting a ship's cargo from damage or movement during transport.
Escape Trunk: A vertical trunk fitted with a ladder to permit personnel to escape if trapped.
Fantail: The stern overhang of a ship.
Fire Control Plan: A set of general arrangement plans showing for each deck the fire control stations, fire-resisting and fire-retarding bulkheads, together with particulars of the fire detecting, manual alarm, and fire extinguishing systems, fire doors, means of access to different compartments, and ventilating systems including locations of dampers and fan controls. It is required to be stored in a prominently marked weather tight enclosure outside the deckhouse for the assistance of shore side firefighting personnel.
Fire Station: A location for the firefighting water supply outlet, hose, and equipment on board ship.
Fire Warp: Wire rope or other fireproof materials of sufficient strength to tow the vessel in event of fire. It should be hung from the forward and after end of the vessel at a position that would allow for easy retrieval by a vessel for towing; the other end of the fire warp is attached securely to the vessel.
Forecastle. (fo'c's'le): The section of the upper deck of a ship located at the bow, forward of the foremast. A superstructure at the bow of a ship where maintenance shops, rope lockers, and paint lockers may be located.
Forward: Toward the bow of the vessel.
Frame: Structural members of a vessel that attach perpendicularly to the keel to form the ribs of the vessel.
Freeboard: The vertical distance between water line and main deck.
Gangway: Opening through bulwarks (sides) of a ship or a ship's rail to which an accommodation ladder used for normal boarding of the ship is attached. **Gunwale:** The upper edge of a side of a vessel or boat designed to prevent items from being washed overboard.
Heeling: To tip to one side. To cause a ship to list.
Hogging: Straining of the ship that tends to make the bow and stern lower than the middle portion.
House: Superstructure that is above the main deck.
International Shore Connection: A universal connection to the vessel's fire main to which shore side firefighting water may be connected. This allows use of the vessel's fire stations and associated hoses. Required on all vessels over 500 gross tons, subject to SOLAS, and on U.S. inspected vessels over 1000 gross tons. **Jacob's Ladder:** A rope or chain ladder with rigid rungs.
Keel: The principal structural member of a ship, running fore and aft on the centerline. Extending from bow to stern, forming the backbone of the vessel to which the frames are attached.
Ladder: All staircases, often almost vertical, onboard vessels.
List: An inclination to one side, a tilt.

Main Deck: The upper most continuous deck of a ship, which runs from bow to stern.

Master: The captain of a merchant ship.

Mate: A deck officer on a merchant ship ranking below the master. **Mooring**: 1. Equipment, such as anchors, chains, or lines, for holding fast a vessel. 2. The act of securing a vessel. 3. A place at which a vessel can be moored. 4. Any place where a boat is wet stored or berthed. Locally, may be used to differentiate between permanent anchored moorings and slips.

Overhead: A vessel's equivalent to a ceiling.

Passageway: A corridor or hallway.

Platforms: 1. Any flat top vessel, such as a barge, capable of providing a working area for personnel or vehicles. 2. A partial deck in the machinery space.

Port Side: The left-hand side of a ship as one faces forward.

Riser: A pipe leading from the fire main to fire station (hydrants) on upper deck levels.

Roll-On-Roll-Off (ro/ro): A form of cargo handling utilising a vessel designed to load or unload cargo that "roll-on" or "roll-of" such as automobiles or tractor trailer units.

Sagging: Straining of the ship that tends to make the middle portion lower than the bow and stern.

Sail Area: The area of the ship that is above the water line and that is subject to the effects of wind, particularly a crosswind on the broad side of a ship.

Scupper: An opening in the side of a vessel through which rain, sea, or firefighting water is discharged.

Shaft Alley: A narrow, watertight compartment through which the propeller shaft passes from the aft engine room bulkhead to the propeller.

Shaft way: A tunnel or alleyway through which the drive shaft or rudder shaft passes.

SOLAS: The International Convention for the Safety of Life at Sea, 1974.

Starboard Side: The right-hand side of a ship as one faces forward.

Stern: After end of boat or vessel.

Superstructure: Enclosed structure above the main deck, which goes from one side of the vessel to the other side.

Tank Top: Lowest deck, top plate of the bottom tanks.

Tides: The periodic variation in the surface level of the oceans and of bays, gulfs inlets, and tidal regions of rivers, caused by the gravitational attraction of the sun and moon.

Towboat: A powerful small vessel designed for pushing larger vessels

Tug: A powerful small vessel designed for towing larger vessels.

Tween Decks: Cargo decks between main deck and lower hold.

Ullage Hole: An opening in a tank hatch to allow measure of liquid cargo.

Vertical Sone: The area of a vessel between adjacent bulkheads.

Watertight Bulkhead: A bulkhead (wall) strengthened and sealed to form a barrier against flooding in the event that the area on one side of it fills with liquid.

Watertight Door: A door that is designed to keep water out.
Watertight Transverse Bulkhead: A bulkhead that has no openings through it and extends from tank top up to the main deck, built to control flooding.
Winches: A stationary motor-driven hoisting machine having a drum around which a rope or chain winds as the load is lifted.