

MANNING OF SHIPS

It is well known and accepted that from times immemorial, maximum quantity of goods (cargoes) have been transported and are still transported by ships across the seas. In the past, sailing ships were the only means of sea transport, which were primarily meant for exchanging goods between countries, for profit. Gradually the need for this transport increased because the people living in one part of the world needed certain goods for their very existence like coal, oil, food, textile, construction material, etc. which were in abundant supply in another part of the world. Gradually the sailing ships gave way to self propelled mechanized ships. In fact today these ships have become the most important ingredient in the well-being of the human population. Some eminent persons have highlighted this aspect by saying that if ships stop operating, half the world will die of hunger and the other half will freeze to death.

Ships cannot run on fuel, fresh air and sophisticated equipment only. These have to be operated by sufficient number of adequately trained. Qualified and experienced seafarers so that the ships can cross the oceans safely, and the cargo placed in their care is delivered to its destination, in as good a condition as it was received.

Functions to be performed by ship's officers

In order to achieve this objective, International Maritime Organisation (IMO) has created the Convention on Standards of Training, Certification and Watch keeping for Seafarers (STCW) which prescribes that the ship shall be manned by qualified seafarers to carry out the following functions to the best of their ability;

1. Navigation means taking the ship from one place to the other well clear of all dangers.
2. Cargo handling and stowage means looking after the cargo from the time it is loaded in the ship till it is finally unloaded at the destination.
3. Controlling the operation of the ship and care for persons on board means ensuring that the ship is operated in a safe manner throughout the voyage. Without causing any damage to the environment and the seafarers on board remain safe and healthy at all times.
4. Marine engineering means maintaining and operating the ship's machinery, whether on deck or in engine room, in efficient manner.
5. Electrical, electronic and control engineering means operating the ship's electronic and electrical equipment, including control systems, in an efficient manner.
6. Maintenance and repair means looking after the ship's structure, fittings, equipment and machinery so that the ship as a whole will perform without any hitch.
7. Radio Communication means ensuring that continuous communication is available between the ships at sea and with the shore organizations for safety of ship, life and environment.

Navigating officers are trained, qualified and certificated to be competent to perform the functions 1, 2, 3 and 7, while the engineering officers shall be competent to perform the

functions 3.4, 5 and 6. Few ratings are trained and nominated to support the officers in performing the above functions.

Minimum Safe Manning Document

In order to ensure that every ship is manned by adequate number of seafarers who are competent and capable of carrying out the above functions, IMO has prescribed in Regulation 14 of Chapter V of the Safety of Life at Sea (SOLAS) Convention as follows:

- Each State shall adopt measures to ensure that, from the point of view of safety of life at sea, all its ships are sufficiently and efficiently manned.
- All ships engaged on international voyages shall carry a Sate Manning Document issued by the Flag State (The State where the ship is registered)

Principles of Safe Manning

In order to help the states to issue proper safe manning document to their ships, IMO has prescribed the principles for deciding the precise minimum safe manning of different ships, by its Resolution No. A.890 (21) which was subsequently amended by another resolution No. A.955 (23). These principles are follows:

Maintain safe navigational engineering and radio watches. This means that certain number of qualified seafarers should be on duty on the deck, on the bridge and in the engine-room, round the clock, whether the ship is at sea or in port. The qualifications of these seafarers have been prescribed in another convention of IMO, namely standards of Training, Certification and Watch keeping for Seafarers (STCW).

Maintain general surveillance of the ship. This means that some persons have to be nominated to take regular rounds of the ship throughout the voyage, and thus ensure that no untoward incident is likely to take place which may harm the ship, cargo or persons.

Safely moor and unmoor the ship. This means that some persons have to be nominated to take regular rounds of the ship throughout the voyage, and thus ensure that no untowards incident is likely to take place which may harm the ship, cargo or persons.

Manage safely functions of the ship when employed in stationary or near-stationary mode at sea. Safety of ship and life at sea is of paramount importance and this function applies to practically every seafarer on board.

Perform operations to prevent damage to the marine environment. Everyone nowadays is highly conscious of protecting the marine environment. Hence responsible seafarers on hoard should operate the ship in environment friendly manners.

Maintain safety arrangements and cleanliness of all spaces to minimize the risk of fire. Prevention is better than cure. Hence responsible seafarers on board have to take steps to minimize or eliminate the chances of occurrence of fire. Also they should maintain necessary equipment to extinguish the fire should it occur.

Provide medical care on board ship. Ships do not carry a qualified doctor because there are very few persons on board. Hence it becomes necessary that certain seafarers are adequately trained to tackle medical emergencies till appropriate medical help is available from shore.

Ensure safety of cargo during transit. Cargo has a high commercial value and importance for the ship owner because that is what brings in his revenue. Hence a ship should have adequately trained and qualified seafarers to take care of the cargo when it is finally unloaded.

Inspect and maintain structural integrity of the ship. If a ship has to perform voyages across the seas throughout its life time, in all kinds of weather conditions, then it is essential that seafarers on board should be able to periodically inspect and maintain its strength, and thus protect their own safety.

Operate in accordance with the ship's security plan. Ensuring security of the ship and thus protecting the lives of seafarers on board has become an essential duty and requirement in today's world. For this purpose some seafarers have to be trained and delegated this responsibility, particularly when the ship is in port.

Operate and maintain all watertight closing arrangements. Every ship has number of compartments for various purposes which are opened for carrying out various functions. However once the ship is at sea these are normally closed watertight so that sea water can never enter the ship. This has to be ensured by trained seafarers.

Deploy competent damage control party. Should a ship meet with an accident causing structural damage then appropriate steps will have to be taken by trained seafarers on board to control and mitigate the damage.

Operate and maintain all for fighting and life saving appliances. If a fire ever occurs at sea, the appropriate equipment will have to be operated to extinguish it. Similarly in the unlikely event of the ship sinking at sea the appropriate equipment will have to be operated to abandon the ship in life boats and life rafts. To ensure that these equipment function properly during emergency, these have to be maintained and periodically tested. For carrying out all these functions adequate number of trained seafarers have to be available on board the ship.

Muster and disembark all persons on board. In emergency for abandoning ship as stated in the previous paragraph, it has to be ensured that all the ship's crew are properly mustered or assembled and they disembark in a disciplined and controlled manner, so that every seafarer escapes safely. For this purpose adequate number of trained seafarers has to be available on board the ship.

Operate and Maintain main and auxiliary machinery. Every ship is provided with considerable amount of machinery for propulsion, power generation, refrigeration, air-conditioning, heating systems, cargo operation, anti-pollution equipment, etc. For operating and maintaining all these machinery adequate number of trained seafarers has to be available on board the ship.

In keeping with the above regulations and principles, all flag states have issued safe manning document to their ships. This document is one of the many certificates which every ship should carry before it can be permitted to go out to sea. Directorate General of Shipping

(DGS) of government of India has also done the same vide their orders dt. 26-11-2009 for deck department and order dt. 17-09-2002 for engine department.

Minimum safe manning of Indian ships by navigating officers and ratings

Safe manning has been prescribed on the basis of the following criteria:

- Types of ship – Passenger ship, Roll on-Roll of passenger ship, special trade passenger ship, Oil, chemical and gas tanker, other cargo ships, special purpose ship.
- Gross Tonnage (GT) of the ship.
- Area of operation – International voyage, Near coastal voyage (NCV), Coastal trade of India, Maximum distance from land, Smooth or partially smooth waters.

Few typical example of manning of certain ships are as follows:

Type of Ship	Gross Ton	Area of Operation	Category	Certificate	Number
Special trade Passenger ship	Any	Internation	Master	Master FG	1
			Chief Officer	First Mate FG	1
			Watchkeeping Officers	Second Mate F.G.	2
			GMDSS Operator	GMDSS COP	1*
			Watchkeeping Ratings	W/K COP	3
			Other Ratings	Nil	3**
			Cook	Certified	1
Special trade Passenger ship	Any	Other than International	Master	Master NCV	1
			Chief Officer	First Mate NCV	1
			Watchkeeping Officer	W/K Officer NCV	1
			GMDSS Operator	GMDSS COP	1*
			Watchkeeping Ratings	W/K COP	3
			Other Ratings	Nil	3**
			Cook	Certified	1
Cargo Ship, Including Tankers	> 3000	International	Master	Master FG	1
			Chief officer	First Mate FG	1
			Watchkeeping Officers	Second Mate F.G.	2
			GMDSS Operator	GMDSS COP	1*
			Watchkeeping Ratings	W/K COP	3
			Other Ratings	Nil	3**
			Cook	Certified	1
Cargo Ship	> 500	Indian Coast	Master	Master NCV	1
			Chief officer	First Mate NCV	1
			Watchkeeping Officer	W/K Officer NCV	1
			GMDSS Operator	GMDSS COP	1*
			Watchkeeping Ratings	W/K COP	2
			Other Ratings	Nil	1**
			Cook	Certified	1
Oil, Chemical or Gas Tanker	< 3000	Near Coastal Voyage	Master	Master NCV	1
			Chief officer	First Mate NCV	1
			Watchkeeping Officer	W/K Officer NCV	1
			GMDSS Operators	GMDSS COP	1*
			Watchkeeping Ratings	W/K COP	3
			Other Ratings	Nil	3**
			Cook	Certified	1

* - Anyone of the above officers may hold GMDSS COP and designated as GMDSS operator.

** - One or more may hold Able Seafarer COP as per 2010 amendment to STCW Convention.

- F.G. - Foreign Going
 NCV - Near Coastal Voyage
 GMDSS - Global Maritime Distress and Safety System
 COP - Certificate of proficiency

Minimum safe manning of Indian ships by engineering officers and ratings

Manning has been prescribed on the basis of the following criteria:

- Type of ship – Tanker, Other cargo ships, Special purpose ship
- Kilowatt power of propulsion machinery
- Status of engine room-whether manned or unmanned Machinery Space (UMS)
- Area of Operation – International voyage, Near coastal trade of India, Smooth or Partially smooth waters.

Few examples of manning of certain ships are as follows:

Kilowatt	Area of	Category	Certificate	Numbers	
				Manned	UMS
> 3000	International	Chief Engineer	Class I	1	1
		Second Engineer	Class II	1	1
		Watchkeeping Engineers	Class IV	2	1
		Watchkeeping Rating	W/K COP	3	2
		Other Rating	Nil	Nil	Nil
350 to 3000	International	Chief Engineer	Class I	1	1
		Second Engineer	Class II*	1	1
		Watchkeeping Engineers	Class IV	1	Nil
		Watchkeeping Rating	W/K COP	1	1
		Other Rating	Nil	2	Nil
> 6000	NCV	Chief Engineer	Class I**	1	1
		Second Engineer	Class II**	1	1
		Watchkeeping Engineers	Class IV	2	1
		Watchkeeping Rating	W/K COP	1	2
		Other Rating	Nil	2	Nil
> 6000	Indian Coast	Chief Engineer	Class I	1	1
		Second Engineer	Class II	1	1
		Watchkeeping Engineers	Class IV	1***	1***
		Watchkeeping Rating	W/K COP	1	1
		Other Rating	Nil	1	1

* - For ships other than tankers, the Second engineer may hold Class IV COC. with one year experience

** - For ships with machinery of power 3000 to 6000 KW, the Chief engineer may hold class II COC, with two years experience

*** - For ships with machinery of power 3000 to 6000 KW, Having voyage duration of ≤ 24 hours, Watchkeeping engineer is not required.

OBSERVATIONS

Prescribe the composition of safe manning document for every ship operating in international waters.

IMO has done a great service to mariners by prescribing that every ship shall carry a safe manning document. Furthermore they have laid down clear and detailed principles to be observed by all Flag States in implementing this requirement. In addition they have also prescribed in detail the qualifications and training of officers and ratings who shall constitute the minimum safe manning of a ship. Having done so much, IMO should go one step further by prescribing the exact composition of the safe manning document for all ships, instead of leaving it to the respective flag states to decide as to what actually constitutes safe manning of their ships. It is well known that many ships are registered and controlled by certain states who are commonly referred to as Flags of Convenience (FOC). Such States do not concern themselves with implementing high safety standards. Their regulations and decisions are governed by ship owners and other commercial enterprises who would obviously like to cut the minimum manning of ships to reduce the cost of operation of the ship. Over a period of time this is bound to lead to casualties which we can ill afford.

Hence IMO should be prevailed upon to prescribe the exact composition of the safe manning document for all ships operating in international waters, based on the following criteria:

- Type of Ship
- Gross tonnage of the ship
- Kilowatt power of the propulsion machinery
- Whether the ship is nominated to be UMS
- Area of operation
- Maximum distance from land and the maximum duration of the voyage

Preparation and serving of food as a principle of safe manning

IMO has made a big effort in laying down the principles to be considered for deciding the minimum safe manning of a ship. For some unknown reason they have not thought fit to include the function and work of cooking and serving food as one of the essential functions to be carried out for safe operation of ship. If proper arrangements are not made on the ship for supplying food of good quality and adequate quantity and cooking the same in hygienic conditions by qualified cook, then the health of the seafarers on board is bound to be adversely affected, thus reducing their functional capability, which would ultimately lead to disasters.

This fact has been recognized and accepted by the International Labour Organisation (ILO) who has published the latest Maritime Labour Convention (MLC) which should be coming into force shortly. Regulation 3.2 including the relevant paragraphs of Codes A and B of the convention, States as follows:

- All ships shall carry and serve in hygienic conditions free food and drinking water of appropriate quality, nutritional value, variety and quantity, taking into account the differing cultures and religious backgrounds.
- Cook shall be appointed who shall have the following qualifications:
 - Age \geq 18 years
 - He shall undergo an approved training course covering practical cookery, food and personal hygiene, food storage, stock control, environmental protection.
 - He should undergo prescribed minimum period of sea service.
 - He shall undergo an examination and acquire an appropriate certificate.
- Qualified cook may not be posted on a ship manned by $<$ 10 seafarers.
- Catering staff shall be properly trained.

Bearing in mind the above requirements of MLC convention, it is obvious that the principles for minimum safe manning as promulgated by IMO should also include the function of preparing and serving hygienic food of good quality and quantity according to the needs of the crew members of the ship.