

Marine Accidents

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Introduction

- Since time immemorial mankind have had beneficial interactions with sea for food, transport and pleasure.
- This interaction with sea have not always been without cost
- Thus risk of death is most probably present due to capsizing, foundering, grounding

What is Marine Accident

- “ damage to a ship or facilities other than a ship related to the operations of a ship death or injury of the people concerned with the construction, equipment or operation of a ship.”

Causes of Marine Accidents

- 1. Natural Calamities
- 2. Failure of Machinery and Equipment
- 3. Navigation Failure
- 4. Poor maintenance of ship/vessel
- 5. Human Error

Natural Calamities

- Bad weather conditions
- Low pressure atmospheric circulation
- Thunder storms
- Typhoon

Equipment Failure

- Maritime Equipment in general designed to tolerate the tresses that all the ship/vessels undergo while navigating on the salt and water on the sea.
- **Causes of equipment failure:**
 - a) Lack of proper and constant maintenance
 - b) Failure to maintain ship electronic system periodically
 - C) Not following operating procedure before ship starts sailing.

Navigation Failure

- Due to navigation and communication failure, the ships would collide each other
- Navigation failure occurs, may be, due to failure of Radar or due to the failure GPS ..
- M.V. Don Paz collided with M.J. Vector – where 4,000 passengers were killed at Phillipine Islands. In the year 1987

Improper/Poor Maintenance

- Every part of a ship is essential “ no matter if it is engine or a watertight hatch”
- Most solid equipment of a ship is also be affected by wear and tear
- Thus when the replacing the wear and tear parts are not done would lead to accident

Human Error

- Human error means--- some thing has been done that was “ not intended by the actor, not desired by set of rules that led the task or system outside its acceptable limits”
 - In short, it is a deviation from intention, expectation or desirability.
 - There are two types of human errors :
 - a) Slips and Lapses (skill-based error) and
 - b) Common mistakes

Common Marine Accidents

- **1. Offshore Oil Rig Mishaps:-**
 - The use of heavy equipment that is necessary to drill for oil and gas poses the risk of accident , injury and even death.
 - Even minor error or overlooking in the working of a machinery part can lead to immense damage.

Cont.

- **2. Cruise Vessel Mishaps:**
 - The extensive kitchen and recreational facilities that present on cruise ship also make cruise ship susceptible to accidents-
 - As per data nearly 75% of fires caused because of mistake by workers at kitchen of vessel

Cont.

- Accidents on Tug Boats:
 - Tug boats are those which help move huge ships to enter docks.
 - Though they are small in nature but are powerful to ensure that the large vessel are handled safely.
 - But some times because of blockage of the visibility of tugboats by the larger vessels, maritime accidents occur.

Cont.

4. Accident on Crude Oil Tankers and Cargo Ships:

- The material these tankers transport is dangerous and highly flammable
- Even minor explosion can cause enormous losses.

Cont.

5. Grounding of Ships:

- Grounding of ship occurs when the bottom of the ship's hull scraps through the ocean bed
- This has a lot of impact on the ship's hull and more on the overall oceanic area.

6. Crane Mishaps

7. Cargo hauling accidents

8. Accidents due to Drugs & Alcohol

Impact of Marine Accidents

- Discharge of ballast water
- Debris and waste material would cause marine pollution
- Oil spillage and spilling of hazardous material including chemicals and radioactivity material
- Physical damage to marine habitats
- Noise and air pollution

Measures have taken to Minimize the Impact of M.A

- In 19th century, life boats were introduced to save passengers
- Shore based apparatus, such as the “breach buy” (A **breeches buoy** is a crude rope-based rescue device used to extract people from wrecked vessels) were developed and stationed with rescue crew.
- In nearby island on high sea emergency huts were started to provide shelter to shipwreck survivors

Cont.

- After Titanic disaster, the International Convention for the Safety of Life at Sea (SOLAS) was promulgated –to improve ship safety and rescue operations
- After second world war Search and Rescue (SOR) Technics have been fine tuned,
- Such as :
 - 1. Air craft drop
 - 2. providing on scene medical Aid
 - 3. use of helicopters to shift the passengers

Cont.

- In 1985 Convention on Maritime Search and Rescue was adopted by International Marine Organisation (IMO)
- Concurrently at the same time International Marine Organisation (IMO) and International Civil Aviation Organisation jointly developed and published the “ International Aeronautical and Maritime Search and Rescue (IAMSAR)

Some Famous Marine Disasters

1. Mont Blanc (1917): A Massive Explosion
 - Mont Blanc colluded with the IMO which was travelling to New York
 - After the collusion, fire broke out on the Mont Blanc, which soon ran aground on the Halifax Harbor front where a crowd had gathered.
 - In this episode more than 200 people were dead.

Cont.

2. Dona Paz(1987): Peace time Ship Wreck

-Philippine passengers ferry, en-route to Manila colluded with an oil tanker, caught fire and sank, killing as many as 4,000 – people.

- It is referred as a “Asia Titanic”

Cont.

- S.S Marro Castle: regularly shuttled with 500+ passengers between Havana and New York
- On September 8 fire started in one of the storage lockers
- Crew attempted to fight the fire were hazard and inadequate
- Fire could not stop- in total 549 people on board died

Cont.

- Royal Caribbean's Explore of the Sea
- - Due to out break of "Norovirus" (is the most common cause of gastroenteritis. Infection is characterized by diarrhea, vomiting, and stomach pain), more than 700 passengers died

Perils of the sea

Marine Insurance

Perils of sea

- Every thing that happens to ship on voyage, by act of God,
- Fortuitous accidents or
- Casualties not attributable to free will or desire of human agency
- Not include natural and ordinary action of winds and waves

Underwriter's clause of undertaking

- *“touching the adventures and perils which we, the assurers, are consented to bear, and to take upon us in this voyage, they are of the seas, men-of-war, fire, enemies, pirates, rovers, thieves, jettisons, letters of mart and countermart, surprisals, taking at sea, arrests, restraints, and detainerments of all kings, princes, people, of what nation, condition or quality so ever, barratry of the masters and mariners, and of all other perils, losses, and misfortunes that have or shall come to hurt, detriment, or damage of the said goods and merchandize, and ship, etc., or any part thereof.”*

All risk contract

- Other exceptions and exclusions,
- Can be applied to 'all other perils, losses and misfortunes' the rule of reason.
- 1963 Act Perils of Seas refer to fortuitous accidents or casualties of the sea. Does not include ordinary action of winds and waves.

Perils

- Accidental fire on sea, by negligence or by lightening etc
- Pirates and thieves, hijacking airplane from over ship is piracy, assailing thieves, theft by violence or with threat of violence is also covered.
- Jettisons: voluntary sacrifice of property to preserve remainder

Perils

- Enemies: hostile acts, subjects of enemy country
- Barratry: fraudulent acts of master or crew members against owner. Running away with ship, setting fire, sinking, abandoning
- Rule 11 of 1963Act: “Every wrongful act willfully committed by the master or crew to the prejudice of the owner or as the case may be, the charterer’.

Arrests

- Arrests and Restraints: fall under ambit of war risks, political or executive acts, may be specifically covered by clauses.
- Does not include loss caused by riot or by ordinary judicial process.
- Foundering at sea: Ship missing for a reasonable time, fury of storms, tempests

Risks: Ship wreck

- Ship wreck: Ship striking against rock
- Stranding: out of voyage, stuck up in shallow regions or sands, or injured.
- Collision: If collision by negligence, liable under court decree, is not peril of sea. To avoid it collision clause or running down clause is introduced where underwriter pays $3/4^{\text{th}}$ of loss.

Additional perils

- Contract may contain coverage against other perils also.
- Inchmaree clause: losses due to negligence or accident outside scope of perils of sea are generally not covered, if agreed to cover it is called inchmaree clause.
- Sue and labour clause: Assureds contribute according to rate and quantity of sum insured.

Marine Hull Insurance

- It Provides cover for loss, damage to hull and machinery of ocean going vessels and other vessels against the perils of the sea.
- such as loss / damage caused by Fire Explosion Theft by person outside the vessel Jettison Piracy Earthquake, volcanic eruption or lightning Bursting of boilers , breakage of shafts or any latent defect in the hull & machinery.
- Even accidents occurs on loading , discharging or shifting cargo or fuel Negligence of master officers , crew and pilot etc..

Liability Insurance

Liability Insurance Covers available are;

- Ship repairers liability Ship builders risks
- Freight forwarders liability
- Protection and Indemnity liability
- Total loss cover for Fishing Boats.