



Photo and Writing Contest 2019 Essay: Workplace Safety and Health

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Introduction:

Commercial shipping is the darkhorse of the global economy, without which the world as we know it would come to standstill. But the grass is not always green, the ever-increasing expansion in the shipping industry is not without loss of life and property. The ocean is one of the most dangerous work environments. Therefore, it becomes imperative to not only know about the potential sources of hazards, and the workplace safety standards, but also access their implementation on a regular basis. In this essay, we focus on the occupational workplace hazards and health issues along with their preventive measures.

The following is the breakdown of the topics covered in brief in the essay.

Fig 1. The breakdown of topics covered in the essay.

Workplace Hazards:

Physical Hazards: They are the most common source of physical injury and damage to the crew, which can manifest in the form of:

- **Fires and Explosions:** One can lead to the other. Fire can be caused due to mishandling of flammable or explosive cargo, the explosion of pipelines, and sometimes due to electric sparks.
- **Machinery:** Mishandling of heavy-duty machinery can prove fatal. Injury can occur due to moving part of the equipment, or entanglement in ropes, pipes etc.
- **Falls:** Examples include, falling off the ship into the sea, or falling from high rise machinery onto the deck.
- **Collision:** Navigational errors can be devastating. There are multiple sources of error for this one. Misreading of maps, radars, electronic charts, lack of training in dealing with this

equipment, communication gap due to linguistic barriers, decision-based on hasty incomplete information, use of wrong procedures, and miscommunication between on-port and at sea commands. Navigational hazard is one such area where misinformation and overload of information can both be dangerous.

Chemical/Biological Hazards:

What is more dangerous than the known visible physical hazards? The invisible and undetectable biological and chemical hazards.

- **Biotoxin Exposure:** Whether it is the toxic animals and insects that infest the ship, or exposure to bio-allergens in the cargo. One can also get food poisoning due to the consumption of seafood contaminated with marine biotoxin, or consuming stale stored food. So be careful of what you eat.

- **Chemical Exposure:** One is always at risk of inhaling fumes from chemicals used for the upkeep of onboard machinery. And if you are onboard a tanker, then there is exposure to chemicals being transported via the tankers. Did you know that petrochemical fumes are not only inhaled but can also be absorbed by the skin?

- **Radiation Exposure:** Exposure to electromagnetic waves from high range communication and navigation equipment. And the thermal radiations in absence of proper cooling mechanism. There is also a risk from prolonged exposure to UV rays while working long hours on deck.

Mental Health Hazards:

- **Fatigue:** Seafarers are constrained to work on a strict schedule. Time is money they say. You will get to experience it while sailing. Sometimes for months, they work 7 days a week, on double shifts, just to ensure running on schedule. They must be attentive to alarms and signals round the clock. Of course, the fatigue will set in!

- **Loneliness:** The ship can be imagined to be a small village island, self-sufficient, with minimal interaction from the external world. While this model is helpful in maintaining a strict work schedule, it gets lonely after a point, missing out on the social activities back home, you start missing your loved ones back home. This constant feeling of being left out of social life can be depressing.

- **Lack of bonding with the crew:** While the crew becomes a pseudo-family, the hectic work schedule leaves very little time for developing interpersonal bonding with the crew. The realization that once the term ends, the crew will dismantle, and the next contract will bring a new crew does not give room to any feeling of permanence for strong bonds to develop. Then there are linguistic barriers among international members, shyness due to the difference in the order of reporting(ranks).

Consequences of Workplace Hazards:

- **The loss to Humans:** Physical hazard as the name suggests causes visible physical injury, ranging from a minor bruise to loss of life of the crew members. On the other hand, the harmful effects of chemical and biological hazards are not so easy to glean on the surface. Prolonged exposure to these chemicals can cause pulmonary diseases, skin cancer, loss of vision and hearing ability in the long run, while they can also trigger allergic reactions or poisoning as an immediate

effect. While physical or biological injuries are still easy to detect and treat for, it is the mental and emotional injuries that play the devil. Not only do they lead to depression, and chronic fatigue but can become extreme to the point of suicidal. Due to the stigma associated with mental health neither the seafarers nor their family back home can seek the required therapy in time. Rendering healthy, intellectuals unfit for the sea.

- **The Loss to Ecology:** The physical and chemical hazards are not only harmful to humans, but for the environment as well. Who is not aware of the notorious Exxon Valdez of 1989. Oil spills- they are hard to clean up, remain as sediments for a long time and cause severe loss of marine life, and defects in the birth of marine animals and birds for years to come. Not to forget, that air, water, sound and thermal pollution caused by shipping has led to disruption and destruction of marine habitat and migration patterns. All of which is a direct/indirect result of inadequate vessel maintenance and management.

- **The loss to Economy:** These hazards and their consequences cause huge penalties (monetary and reputation) to the companies. Loss of time and money occurs due to navigational errors, delay while recovering from the damage, and compensations thereafter. Notwithstanding the fact that general cargo vessels account for nearly 50% of all vessel types and containers lost at sea.

Preventive/Safety measures for Workplace Hazards:

International Synergy: In order to prevent any hazard that can occur at sea where international boundaries are not well defined, international understanding and cooperation becomes unavoidable. Some International programs worth mentioning are:

IMO - International Maritime Organization

SOLAS - International Convention for Safety of Life at Sea

IUMS - International Union of Marine Insurance.

- **International Guidelines and Standards:** International guidelines will ensure that every shipping unit follows the same preventive norms. These guidelines should be the bible that people from different professional hierarchy and nationality can follow, reducing error in communication and judgement. International norms for mitigating damage in carbon emissions and marine life needs to strengthen and enforced upon the major players in the industry.

- **Safety Signs and Symbols:** Not only do we need safety symbols to be institutionalized but also used in the right places. All sections of physical, chemical hazards should be duly labelled. Lack of putting out danger signs should incur a penalty. This reduces misinterpretation and misinformation.

- **Single Point of Contact for Error Reporting:** Despite our best efforts, accidents are bound to happen, and the only way to learning from them is to keep systemic track of the accidents and publishing of public reports. However, investigation of ships that incur accident or go missing depends on the flag state. There are many good flags who do this promptly. Then there are others. A single of point contact will not only put pressure on the authorities to do proper investigations but will help preventing future incidents.

Organizational Support:

- **Streamline Safety Management System (SMS):** A 1000-page SMS manual is not a handy tool to either remember or implement. While it is important for a company-wide SMS system to be in place, the process can be more streamlined via digitalization, and regular updating. This will make sure that people who need the information in case of an emergency don't have to glean over 1000 pages for it.

- **Training of the Crew:** Not only does the crew need to be trained to handle the equipment onboard, but the company needs to invest in regular upskilling of their employees. This will help in easy and faster adoption of newer technologies, a better understanding of data generated by these technologies and more robust decision making. Access to self-paced online tutorials can be one way to achieving it, while onsite-in class training on simulators another. In addition to the technical training, the crew needs to be desensitised about mental health issues, and trained/examined on their first-aid, emergency response and evacuation skills as well.

- **Safety Team Onboard:** In addition to the technical and the non-technical staff onboard the ship, the organizations should strive to provide a safety team consisting of a safety officer, a physician and a medical attendant. The role of the safety officer should be to perform risk assessments, inspect the work areas, survey the working conditions and ensures that all requirements related to health and safety are met. Meanwhile, the onboard medical facility is there to help in case of a medical emergency, a disease breakout, accident, etc. They can also make recommendations if the overall health of the crew is at risk.

- **Provision of Shorter Contracts:** A few companies are now making 4 months contract a norm. This gives the organization enough time to allocate and utilise the human resources while making sure the crew has enough time to maintain a healthy and sustainable work-life balance. While it may not be easy to increase the number of crew members or reduce the working hour per person due to automation and finance, optimising for shorter contracts can be a way around.

- **Provision of Onboard WIFI:** The best gift that technology has given seafarers is affordable smartphones and access to wifi. Equipped with these two entities, it has become easier for seafarers to keep in touch with their loved ones and feel connected with the outside world. They can also utilise it for self-improvement purpose by undertaking short-term online courses.

Individual Efforts:

- **Maintain Proper Communication:** It is the responsibility of each member of the crew to treat others with respect and maintain cordial communication with everyone around them. It is also incumbent to raise and report an alarm as and when it occurs and carry out the orders without misinterpreting them.

- **Seek Permission:** For crew members who must work with onboard equipment to fix/use/maintain them, it is better to seek written permission from a senior member and perform operations post consent.

- **Wear Proper Gears:** It is the responsibility of each crew member to ensure they are in proper attire for the work, with access to headlights and boots. Get a new pair in case of wear and tear.

- Seek Help: The crew members need to be sensitised about the various health hazards, including mental safety issues. They need to be equipped with the information that can help them gauge their own pattern of behaviour, detect outliers and be able to seek help without shyness.

Conclusion:

From the time I joined Synergy, I can vouch that occupational safety and health along with environmental protection has a priority at work, without a compromise on the quality or quantity of operations performed. Their iCall initiative that is now available in regional languages is laudable. It will surely help in keeping up the wellness at sea.

Despite the advancements in transportation, containerization and technology, human error still accounts for 70-80% of marine losses. In conclusion, one can say that humans are the weakest link in the vast network of the shipping industry. While nature and faulty technology can always be blamed for an accident, it always boils to a crew that failed to read the signals. Overlooking a minor error can lead to a series of minor errors, which is a recipe for disaster. Maritime industry depends on humans for its smooth operations. Together the international body of organizations, the shipping company and the people employed in it need to work, analyse and reduce errors as much as they can, and thereby increase the well-being and the safety at sea.

Fig 2. The 3 pillars of success of shipping industry, leading to occupational safety and health.