

SEAFARER FATIGUE : THE IMPORTANCE OF A GOOD NIGHT'S SLEEP



We all like to have a good night's sleep, we feel better when we do and we certainly feel much worse when we do not.

Proper sleep, however, is not merely a matter of personal comfort: it is vital to a person's physical and mental well-being and the most effective weapon against the onset of fatigue. Research and experience has shown us time and time again that persons suffering from the effects of fatigue are more likely to make mistakes, mistakes which can lead to accidents, injuries and loss of life.

This is particularly true on ships, where crew are engaged in both physically and mentally demanding work, at times in dangerous situations and having to fulfil work rosters that are tight and demanding for all on board.

To illustrate this easily: for any one reading who is a parent, remember the first few months after the birth, and the effect that the constant sleep interruptions had on you. Now imagine you have to carry out dangerous work while suffering the effects of repeated poor sleep. You are both physically weaker and mentally less alert.

Over time, fatigue has a severe wearing effect on the human body which can lead to long term physical and mental issues. It is also a question of whether a ship's working environment is sufficiently good to entice the crewman to come back after his shore time. The Industry continues to face a significant challenge in retaining experienced crew and making the job an attractive long term career option. Experienced seafarers are invaluable to the safe operation of vessels and to the profitability of the enterprise they are engaged in.

ACCIDENTS WILL HAPPEN IF CREW DO NOT HAVE SUFFICIENT REST AND SLEEP

Skuld has had to deal with many cases over the years which were either directly related to fatigue or where it at least played a significant role. These ranged from minor personal injuries to major fires, collisions and groundings.

Three particular cases include :-

1. grounding of a cargo vessel south of Greece where the Master believed he was sufficiently well rested but nevertheless fell asleep on a chair next to the chart table in such a position that the Bosun could not see the Master was asleep. The vessel, on autopilot and with DEADMAN alarm turned off, subsequently grounded at speed causing severe damage;
2. fire in an engine room off China while the Chief Engineer, who had been working extensively on main engine repairs without good rest for almost two days, began to undertake maintenance on the vessel's thermal oil system. He hurried the dangerous task of cleaning out the system of waste material, leading to a significant engine room fire, which ultimately led to his own death as well as further casualties on board.
3. a crewman on board a ship passing the Iberian peninsula suffers a psychological breakdown and has a misadventure which leads him to perish in the sea. Investigations revealed that the Seafarer had served seven months without a break on the ship, and had joined her without leave immediately after his previous ship service ended.

All of these matters were entirely preventable and need not have happened.

Further information on the issues of fatigue as experienced and reported by Seafarers can be gleaned from the International Transport Workers' Federation's (ITF) data which includes information that one in four Seafarers have reported falling asleep while on watch, and many report that over time their working hours on board have increased rather than eased off.

Fatigue on board ships is, therefore, a major cause for concern.

THE REGULATIONS FOR HOURS OF WORK AND REST

Pursuant to the Maritime Labour Convention (MLC) 2006, which came into force on 20th August 2013, the standards for (A) maximum hours of work and (B) minimum hours of rest, under Title 2, are:

- A. no more than 14 hours in any 24 hours period and no more than 72 hours in any seven day period; or
- B. at least ten hours in any 24 hour period; and at least 77 hours in any seven-day period.

There are only limited exceptions, and generally it would be a matter of the vessel's immediate safety with respect to a justified overrun of working hours. A Seafarer cannot be asked to exceed his mandated rest / work hours, nor can he be enticed to do so against payment of overtime.

The MLC standards are very similar to the requirements under STCW following the 2010 Manila amendments.

It should be noted that the regulations refer only to 'rest' and not to 'sleep'. Shore-side and shipboard management should bear in mind that a seafarer cannot sleep for the entire duration of their rest period. Research has shown that seafarers spend, on average, between 1½ and 2 hours of their daily rest periods engaged in functions such as eating, bathing, communicating with family and friends, laundry, etc. In addition to this, it is important to allow seafarers time for recreational activities such as reading and exercising.

WHAT IS REALLY NEEDED?

Studies have shown that it is not merely rest that the human body requires, but the key is sleep. And again, it is not just any form of sleep over a period of time that counts: the Seafarer, like everyone else, needs proper, continuous and uninterrupted sleep for 7 to 8 hours in order to be properly rested. When, due to watch-routines, a seafarer must sleep twice in a 24 hour period, the total amount of sleep required increases to 8-9 hours.

Fatigue may come about after an extended period without sleep, or as a result of a person experiencing poor, interrupted or too little sleep over a number of days.

It is not uncommon, particularly in short-sea trades, for seafarers to follow a 6 hours on, 6 hours off watch routine, often for several days or weeks in succession. With respect to the regulations, this system leaves very little margin for error and research has shown that seafarers following this routine are more likely to be in breach of the regulations than those following the traditional 4 hours on, 8 hours off system, in particular the requirement for at a rest period of at least 6 hours rest in any 24 hour period.

From a more practical point of view, allowing a seafarer just 6 consecutive hours of rest prevents them from achieving the recommended 7 to 8 hours of continuous sleep. Indeed, when following the traditional 4 hours on/off watch routine, seafarers should endeavor to achieve as much sleep as possible during one rest period, leaving a requirement for a short 'nap' during the other, rather than splitting sleep evenly between the two.

It is, therefore, important to ensure that during training before service, when inducted into service and continuously thereafter, both Officers and Crew are well educated as to how to prevent fatigue. This should be done in conjunction with good shore based support that ensures vessels maintain the necessary standards and operate safely. Effective guidance on the prevention of fatigue should be included within the company's SMS.

PRACTICAL REALITY

Of course, it is the practical reality on board a vessel and its trading pattern that really determines when seafarers get rest time. Vessels with frequent Port calls will have a much more intensive work pattern than a vessel that undertakes long haul passages and makes only periodic Port calls. Work routines on a Cape-sized bulk carrier trading between Brazil and China will differ greatly to those on a small Container Feeder or Chemical Tanker making frequent short voyages with repeat and fast cargo operations.

It is, therefore, not the case that “one size fits all” when it comes to putting the MLC requirements into practice. Careful bespoke planning has to be undertaken for every vessel, both when considering a vessel’s manning levels and watch and work routines. Remember, the safe manning document sets out the minimum number of crew required and takes no account of the vessel’s geographical deployment or schedule.

Shipboard and shore-based managers should also bear in mind that compliance with the regulations will not always ensure a seafarer is well rested. Aside from the difference between rest and sleep, referred to earlier, a seafarer working 6 hours on, 6 hours off for extended periods, while complying with the regulations, is likely to become fatigued over time. In a recent study of deck officers employed on UK based ferries, 41% of respondents who remained compliant with the regulations over a 28-day period, also reported experiencing elevated levels of fatigue.

With proper care and attention, Seafarers can enjoy a safe and rewarding working environment which means accidents are avoided, crew remain healthy and employee retention is higher, which will ultimately benefit all stakeholders in the Industry.

GUIDELINES FOR ACHIEVING QUALITY SLEEP

- **Bedding:** An uncomfortable bunk does not lend itself to good quality sleep. It is important to provide good quality mattresses and pillows.
- **Temperature:** The best sleep will be achieved if the temperature is maintained between 18°and 22°C (65°-72°F)
- **Light:** Ensure cabins can be darkened effectively (Black-out blinds are inexpensive and will improve sleep quality, particularly for crew required to sleep during daylight hours)
- **Noise:** Excessive noise will obviously affect sleep quality and continuity. Try to minimise noise in the vicinity of sleeping crew by segregating watch-keepers cabins and considering crew who may be sleeping when planning work in the vicinity of crew cabins.
- **Preparation:** The contact with bright screens such as computers and televisions should be avoided for at least 60 minutes prior to sleeping. Whenever possible, a period of relaxation should be allowed between completion of a duty period and sleeping.

→ **Nourishment:** Going to sleep hungry should be avoided, but sleeping immediately after eating can also have a negative impact on the quality of sleep.

TOP 5 DOS AND DON'TS FOR PREVENTING FATIGUE

1. Do ensure all concerned are aware of the dangers of fatigue and best practices for preventing it
2. Do promote flexible watch routines and working practices to accommodate over-burdened seafarers
3. Do encourage seafarers to take ownership of their own hours of rest and raise potential incidences of non-compliance with onboard management BEFORE they occur
4. Don't tolerate inaccurate records for rest hours or Officers who flagrantly disregard the regulations
5. Do endeavor to provide comfortable sleeping quarters to assist seafarers in achieving the best possible rest

CREDITS

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