



# SAN NEWS

Work environment and safety in shipping

YEAR 41 1/17

## THEME: FATIGUE

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## Long watches reduce motivation

**Sleep deprivation is not a major problem on ships with a three-watch system. However, motivation decreases during long watches and may affect the social environment on board. This is described in the final report from the extensive research project called Martha.**

Tiredness and fatigue among crews on board three-watch ships on European and deep sea voyages have been examined in the Martha project. There was no widespread problem with lack of sleep among the 973 officers and crew who participated in the survey.

"Those who got too little sleep one day could usually catch up rather quickly, often the following day," says Wessel van Leeuwen from the Stress Research Institute at Stockholm University, who took part in the project.

On the other hand, the researchers noted other effects on the seafarers in the form of fatigue. Fatigue describes the condition that occurs after a long period of tiredness, hard work and/or social problems. Those affected by fatigue have an increased risk of a number of health problems, including insomnia, sleep apnoea and infections.

### Social isolation

The symptoms of fatigue are noticeable in different ways, including low motivation. Researchers in the Martha Study saw clear signs of this among participants.

"People live in a socially isolated environment on board. It is rarely a problem for the first few weeks, but in time it may



LINDA SUNDGREN

Many seafarers on watch feel that tiredness is worst around dawn.

become increasingly difficult to work together. You perhaps have less patience with a colleague who has had a bad day, and conflicts arise more easily," says Wessel van Leeuwen. When social life is affected, things which were not previously a problem can become a breeding ground for conflicts.

"Disagreements can easily arise between different groups on board. A lack of motivation could also affect work on board, so people don't want to do more than what is absolutely necessary, but we haven't looked into that in the Martha study," says Wessel van Leeuwen. Vessels from four shipping companies,

two European and two Chinese, took part in the study. The crews were on board for between three and six months. Participants filled in a form every week with questions about tiredness, well-being and the quality of social life on board. At the

*"Stress and conflicts can affect how we sleep"*

start of the study period many people, particularly officers, said they thought they would be more tired

towards the end of the voyage than when they signed on, but in fact this was not the case.

"That is in line with results from other studies, which indicate that tiredness does not accumulate over time. If people

sleep less than usual or work harder, the body tends to compensate through more deep sleep. However, there is a lower limit. If people get less than five hours of sleep, the shortage of sleep accumulates already after one or two days," says Wessel van Leeuwen.

Those who are on board for very long periods experience problems with tiredness after a while. After 25 weeks there is a marked increase in the number of seafarers who feel tired and start to find it difficult to stay awake during working hours.

"The environment on board can be difficult in the long run, and stress and conflicts also affect how people sleep," says Wessel van Leeuwen.

The fact that many seafarers feel exhausted when they come home and need time to recover is more to do with social pressures than long-term sleep deprivation, Wessel van Leeuwen claims.

"A lot of it is about changing and adapting. When you come home and it's calm

and peaceful, you relax and feel tired. It's like the first few days of holiday for employees ashore. High levels of tiredness have been observed in earlier studies on ships with two-watch systems and coastal shipping with frequent port calls.

"Lack of sleep can be a major problem on ships with two-watch systems, while those who work three watches and for longer periods tend to have other symptoms, such as less motivation. Motivation is something we plan to look into more closely in future studies," says Wessel van Leeuwen.

A strange fact that surprised researchers in the Martha project was the large number of seamen who said they were morning people.

"Among Swedish people as a whole, there are far fewer who say they are morning people than the participants in our study. Whether this is linked to the watch system applied on board or something else, we just don't know," says Wessel van Leeuwen.

### About sleep

We spend about almost one third of our lives asleep. When we are asleep, normal thought processes shut down and a large proportion of brain cells undergo recovery and "reset" our physical and mental balance. Most people need about seven hours' sleep each night, although there are variations. Shortage of sleep leads to an increased risk of a number of illnesses, including infectious diseases, type two diabetes and cardiovascular problems. Sleep deprivation is also related to mental ill-health such as burn-out and depression.

The results from the Martha study were discussed at the end of January in the IMO (International Maritime Organization).

Linda Sundgren

## "It feels like you're drinking beer all the time."

**When Nicholas Schmittberg did six-on six-off shifts as a pilot's mate, he sometimes had to work hard not to fall asleep on watch. Today he is second mate on Silja Symphony, where they have a relief system that gives much better rest.**

Nicholas Schmittberg, 44, has worked at sea since he was 19. He has worked on many vessels, from archipelago boats to cargo ships and ferries, and has worked both six-on six-off (six hours work/six hours rest) and four-eight watches (work between 4 and 8, then 12 and 4). The system he is currently working, 10½ hours work followed by 13½ hours rest, suits him best.

"When I finish I have time to shower, wash and take a walk if we are in berth, and there is still enough time to sleep," he says. It was much worse working six-on six-off, which he did from 2002 to 2014 on Tallink Silja's Åbo Line and Seawind.

"I tried to eat and shower during working hours to get as much sleep as possible, but I hardly ever got more than two

periods of 4 hours sleep per day. You have to go to the toilet and brush your teeth before you sleep, and then get up before you start work again."

Nicholas Schmittberg compares the feeling of working six-on six-off with being constantly drunk. You become less alert and tiredness can come suddenly.

"It's as if you're drinking beer all the time. Sometimes I was almost falling asleep in the middle of a watch, but as a pilot's mate I had to prevent that somehow. I used to try to do something to stay

awake, like going out on the wing of the bridge and getting some fresh air or drinking extra strong coffee."

### Sought help

The lack of sleep was a problem even outside working hours and he found it difficult to rest, especially after the watch that ended at 15.00. In the end he asked for help and a doctor prescribed sleeping tablets.

"I took them for ten years, both when I



Nicholas Schmittberg was forced to take sleeping tablets in the end.

was at sea and for the first few days at home. When I started work on the Symphony I stopped taking them immediately – I didn't need them any more," he says.

Linda Sundgren

# New project for the best watch system

**Watch systems at sea have been the same for a very long time, but surveys suggest that there are better solutions. The effects of different relief systems will now be reviewed in a new research study.**

Ten years ago the Swedish Navy carried out a project to study how different relief systems affected levels of tiredness on board. The results showed that crews were significantly

more alert when they were relieved at 9.00 and 15.00 compared with the traditional four-eight watch. Those who had previously worked eight-twelve watches were slightly more tired after the change, while those who worked twelve to four were more alert. Overall alertness among crew members increased significantly.

A new watch relief project will soon be started with employees of the merchant navy. Wessel van Leeuwen at the Stress Research Institute, Stockholm University, is one of the participants.

"We are going to examine all the different watch systems to find out which works best," he says. "We will look at

how people are affected at the crew level and the individual level, but in the end there must be some form of compromise for the system to work."

The most widely criticised watch system is six-on six-off. Several studies have shown high levels of tiredness on board two-watch ships, and these ships are also over-represented in accident statistics. Last year an attempt was made to introduce extended relief times on two-watch ships, where the crew could choose to work eight hours on and 8 hours off.

"All the seamen who took part thought it was much better to work eight-on-eight than six-on-six," says Wessel van Leeuwen.

They were more alert and felt better in general. But according to international regulations it is not permitted to work eight-on-eight because it means 16 hours' work on some days. The 35 participants in the survey first worked three weeks of six-on six-off. They were then free for three weeks, and worked the same period with eight-on-eight watches. The survey was carried out on five dredging ships in British waters, with permission from the UK Maritime Cost Guard.

*Linda Sundgren*

*"They were alert and felt better"*



Wessel van Leeuwen at the Stress Research Institute.

## How you can improve your sleep

**Regular exercise:** Most people sleep better if they exercise. It produces natural tiredness, at the same time as it reduces the risk of stress, anxiety and depression.

**Relaxation:** Sleep problems are often associated with stress and anxiety, and a lack of sleep contributes to higher stress levels. If you find it difficult to calm down, relaxation exercises may help. You can find some examples of these at [www.1177.se](http://www.1177.se), Vårdguiden (care guide).

**Diet:** Avoid rich or spicy food before going to bed. The rate of digestion decreases when you sleep and it can be difficult to relax if you go to bed directly after a large meal.

**Avoid alcohol and nicotine:** Smokers often find it more difficult to sleep and wake up more frequently during the night than non-smokers. Alcohol contains large amounts of calories. It may help people to relax initially, but it often leads to disrupted sleep.

**Naps:** If you can, take a nap during your break. Try not to sleep for more than half an hour, though. Then there is a risk that you fall into deep sleep, and it can take some time before you wake up properly.

Sources: Vårdguiden and Doktorn.se

## Work environment campaign puts the pressure on shipping

**Just over 50 ships were detained and another 240 did not comply with the minimum standard required by the Work Environment Convention. These are the preliminary results from the MLC campaign carried out during the autumn.**

The 27 member states in the Paris MOU started a three-month long campaign on 1 September last year. The purpose was to check compliance with the Work Environment Convention, which entered into force in August 2013.

Preliminary results from the campaign, which included 3,671 inspections, were presented in the middle of January. According to these figures, 1.5% of ships had been detained. 6.6% were not up to the mi-

nimum level required by the regulations and 5% did not have any procedures for reporting deficiencies. The campaign also shows that compliance with some parts of the Convention is high.

### Satisfied with the result

For example, 99.1% of ships had established safety committees and 98.2% had their health certificates in order. The Secretary General of the Paris MOU, Richard Schiferli, gave his opinion on the results in a press release. He is pleased with the outcome and believes that the Convention helps to focus on issues related to the work environment and social conditions of seafarers around the world.

*Linda Sundgren*

## 2017 – Year of the Work Environment

There are several new issues to look forward to in 2017 concerning the work environment at sea. One of them is the large study on the work environment for service personnel carried out by researchers at the Kalmar Maritime Academy. Service personnel were somewhat forgotten by research for a long while, but in recent years there has been more focus on their work situation. It will be very interesting to see what the Kalmar researchers come up with. Another news item which is coming up is the final report of the MLC campaign, which took place in the autumn. You can read about the preliminary results on page 3 of this issue, but we hope to give a more detailed summary when the full report is published. There may also be good reason to return to the theme of this issue: fatigue. Research into tiredness and fatigue is in

progress and it is likely that some results will be published in 2017. However, the introduction of the new regulations on organizational and social work environment has been postponed. They were going to be implemented in the summer, but due to other work on regulations (the national regulations project) there will not be enough time. According to the Transport Agency, their introduction is planned for the first quarter of 2018. We will be back with more information as the time approaches. Happy reading!



Linda Sundgren

## This year's SAN conferences

The date has now been fixed for this year's autumn SAN conference. It will be held on 25 October in Gothenburg, so make a note of the date in your calendar now. The theme of the conference has not yet been decided, but we will get back with more information and a registration form a little later. Just like in previous years, we will award a prize for an outstanding seafarer during the conference. The prize is a certificate and SEK 10,000 for someone who promotes a better work environment at sea. If you know anybody who you think deserves the SAN prize, we would like you to get in touch. Proposals can be submitted to Eva Ohlsson at [eva.ohlsson@transportforetagen.se](mailto:eva.ohlsson@transportforetagen.se)

SAN-PRIS  
2017

”Shore personnel who complain that they are tired after getting up an hour earlier in the morning have no idea what it feels like to be really tired.”

*Second mate Nicholas Schmittberg talks about working a six-on six-off watch.*

## 2016 – a new record for kidnappings

The number of reports of kidnapped seafarers is increasing, and last year had the highest figure for ten years. The ICC International Maritime Bureau (IMB) reported this on its website. In total, 62 people were kidnapped in 15 different incidents, with demands for a ransom for their release. 151 seafarers were held hostage, including those kidnapped before 2016. Just over half of last year's kidnappings took place off the coast of West Africa, while the others happened in the wa-

ters around Malaysia and Indonesia. One of the most dangerous areas is the Sulu Sea between Malaysia and the Philippines, and IMB calls on cargo owners and shipping companies to consider alternative routes outside these areas. At the same time, the number of pirate attacks on commercial shipping has fallen and last year saw the lowest level since 1998. There were only two attacks off Somalia, which used to be badly hit by pirate attacks. The number of attacks on ships off the coasts

of Vietnam and Bangladesh has also fallen. In some areas, unfortunately, events have moved in the opposite direction. There were eleven pirate attacks off Peru in 2016, for example, although the year before there were no attacks at all. The number of attacks also continue to rise outside Nigeria. In total, 150 ships were illegally boarded last year around the world, twelve ships were fired at and seven were hijacked.

(LS)



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### WORK ENVIRONMENT COURSE

Interactive course – Better work environment at sea - in Swedish and English. Better work environment at sea is an interactive course developed by SAN. It is mainly aimed at people who work onboard Swedish flagged ships, but everyone involved in work environment management on ships will find the course useful. The contents are based on the work environment manual for shipping. Read more here or visit the work environment course.

### WORK ENVIRONMENT NOTEBOOK

Work environment notebook from SAN. SAN has developed a work environment notebook as an aid in systematic work environment management onboard. It is small and convenient and easily fits into a pocket in your work clothes. In the event of an accident, incident or shortcoming, simply take out the notebook and make a note. The work environment notebook can be ordered free of charge by e-mail: [info@san-nytt.se](mailto:info@san-nytt.se).

### WORK ENVIRONMENT MANUAL

With the help of the Work Environment Manual, it will be easier to keep track of what laws and regulations require regarding the work environment onboard, but it can also function as working material for a safety committee, for example. Latest update: February 2015. Download in pdf or order a copy from Prevent at [www.prevent.se](http://www.prevent.se)

The Transport Agency spreads information regularly on important events in the industry. This page has a summary of the latest information. The full text can be read at [www.transportstyrelsen.se](http://www.transportstyrelsen.se). The text below is also translated into English at [www.san-nytt.se](http://www.san-nytt.se).

## Fire

The investigation of a fire which led to the death of four crew members on board the tug boat Zeus in Sölvesborg port in September 2015 has now been completed and the report published by the Polish Accident Investigation Authority in cooperation with the Swedish Accident Investigation Authority. There are a number of aspects to learn from for shipowners and seafarers in general, but in particular for those sailing on similar tonnage. The fire probably started with a piece of cloth that came in contact with an old incandescent bulb, which create far more heat than the newer LED lamps. Since the ship was a relatively old model, the requirements for interior materials were not as high as on more modern ships (in Sweden, national vessels covered by the fire protection rules prior to Swedish Maritime Administration 1970 A:13 regulations), and requirements for fire detection and extinguishing equipment are also lower. This implies that there is a greater risk of a fire spreading and producing toxic gases on board older ships than their modern counterparts, and the chances of detecting a fire, saving the crew and fighting a fire are also lower. Three of the four crew members who died were awake and had probably tried to escape but were overcome by the toxic gases formed by the fire. This is an absolutely essential lesson to learn from the event, since it shows just how important it is to be alerted in time to react. The importance of modern fire and smoke detection systems on board ships cannot be stressed enough, even on older vessels that are not covered by the same technical requirements as more modern vessels. It is also vital to have fire drills in accordance with current procedures so that any weaknesses in the system are discovered and all of the crew know how to act if an accident should happen.

The report is available on the SHK website: <http://www.havkom.se/>

## Accidents that can be traced to tiredness and fatigue

Everyone who has worked at sea knows that situations can arise when crew members are so tired that there is a risk of them falling asleep or losing concentration. Their ability to make the right decision, depending on the watch system in use, the work environment, the type of ship and the weather, is also compromised. We have taken out statistics and some typical accidents from our database where the cause of the accident can be linked with tiredness, fatigue and the influence of al-

We looked at a ten-year period between 2005 and 2015 and found 49 accidents with direct links to the above issues.

- In 31 cases the officer on watch had fallen asleep on board.
- 14 accidents could be attributed to the effects of alcohol, although the person on watch remained awake.
- In the remaining 4 cases, the officer on watch made misjudgements that were directly linked to tiredness and stress.
- 29 of the 31 accidents where the officer had fallen asleep resulted in grounding and 2 ended in a collision.
- In 10 of the 31 cases the officer was also under the influence of alcohol or medicine.
- In our statistics, the majority of ships involved were small, dry cargo ships: 29 accidents. Next were fishing ships: 7; passenger ships: 5; tankers: 5; road-ferries: 2; bulk ships, tugs and container ships: 1 each.
- None of the ships had a pilot on board.
- In 13 of the cases the ships had two-watch systems; 9 cases had a different type of relief/watch system; 6 cases had no information about the watch system; in 3 cases a three-watch system was in use.
- 29 of the 31 events took place in narrow passages/coastal waters.
- In 26 of the 31 cases the officer was alone on the bridge; in 2 cases there was an outlook and in 3 cases there were 2 officers on watch.
- 26 of the events took place in the dark or twilight, and in 17 of these cases there was good visibility.
- The most common contributory causes of these accidents were human factors, too few in the crew, and the influence of alcohol or medicine.

cohol, drugs or medicines.

In one of the grounding accidents the master had been on the bridge for 18 hours. He was alone on the bridge, set a new course on the autopilot, sat down in a chair and fell asleep. The ship continued for just over an hour, having missed a turning point and went aground. In another case a pilot ship discovered a vessel sailing on the wrong side of the separation in Öresund. The pilot boat tried to attract attention on the ship by all possible means, without success. The pilot and the boatswain finally decided to board the ship. When they came up to the bridge they found the master asleep, without anybody else on watch. A number of accidents occurred in connection with

mooring procedures at berth or to another ship for bunkering or barging, when the master made a clear misjudgement after working long hours. These errors of judgement often result in collisions with the quayside or other ships, with damage to the hull and port facilities as a result. One conclusion that can be drawn from the statistics is that the greatest risk of fatigue is on small dry loaders. These ships are rarely obliged to have a pilot and officers on board often work two-watch systems, which quickly lead to fatigue. The negative impact of alcohol on judgements and decisions is hardly news, but according to the statistics it is not unusual.

Considering that a large majority of accidents take place in narrow waters with only one officer on the bridge, there are simple means to prevent and avoid many of these events. There were some accidents where both the outlook/chief mate and the officer on watch had fallen asleep and the ship grounded, but these incidents happened after the consumption of alcohol. With well-planned watches and a risk-based manning of the bridge, most of these accidents could be avoided. It is very risky to underestimate the impact of fatigue on a person's ability to assess their surroundings and make the right decisions. The vast majority of the accidents we looked at caused major damage to the ships, with dents and perforations of the hull or bent propeller blades, shafts and rudders. This type of damage requires work in the shipyard and the ship being out of service. Considering the costs and loss of income involved, it must be more profitable to invest in a sustainable organisation in the long term.

# Pia Berglund at the Swedish Shipowners' Association Does not want to use the work environment as a means of competition

The Work Environment Convention was a very important step toward better conditions within the global merchant fleet. That is the opinion of Pia Berglund, CEO of the Swedish Shipowners' Association, who hopes that the minimum requirements in the regulations will be raised.

"Our members do not want to compete with the work environment and social conditions. We have everything to gain from the regulations being further tightened.

It was almost exactly three years ago that Pia Berglund, a maritime lawyer, became the first woman at the helm of the Swedish Shipowners' Association. During her time as CEO Sweden has risen to the top of the Paris MOU white list, where the quality of flagging states is assessed on the number of detentions and shortcomings during port state inspections.

"I think it is because we have chosen to stay outside the race to the bottom and fo-



TOMMY HVIKFIELDT

Pia Berglund believes that investments in the work environment and good business are linked.

cus on quality and well-trained crews instead," she says.

But she is concerned that the effects of investing in the work environment are difficult to measure in monetary terms. She says it is impossible to know whether Swedish shipowners benefit in the fight for cargo as a result of their focus on quality. Yet she is still convinced that this is the right way to go.

"If you have ships and cargo worth millions, I don't think it's very smart in business terms to compromise on quality and skills. I think that investments in the work environment are linked with the way you do business, and that the flat organisation we have on our ships contributes to a good safety culture.

## At Emsa

Pia Berglund has long experience of the transport industry. She grew up in Västerås and already at the age of 18 she was a forwarding agent at ABB. After taking a degree in maritime law and logistics, by the end of the nineties she was working with the Swedish Maritime Administration. It was mainly the international aspect that attracted her to shipping, and in 2011 she became the Transport Agency's representative to the EU maritime authority, EMSA, in Lisbon.

"EMSA works from the bottom up, and I

like the approach of getting all the member countries on board in terms of safety and environmental work. Competition with the work environment and safety is not only with third countries, but also within Europe. But there is a social commitment within the EU and work is in progress to improve the quality of the ships sailing under European flags," she says. According to Pia Berglund, the most important step in curbing unfair competition was when the Work Environment Convention entered into force in August 2013.

"Getting the Convention in place was a large step forward. Even if it only prescribes minimum levels

and the base is incredibly low, it gives us a legal basis to stand on and work from."

*"Human factors save us from accidents"*

In other areas, it is the impact of the new tonnage tax that currently engages her more than anything else. Politicians have been clear in their goal of increasing the number of ships sailing under the Swedish flag, which is a challenge for the shipping industry.

"We have had the Tax Agency working with us, and there are between 20 and 25 shipping companies that have participated and shown interest in joining the tonnage tax system. But it is a major decision to make, and it is up to each shipowner to decide what is best for their business."

## Pia Berglund

**Age:** 47

**Family:** Husband and two children, 12 and 15.

**Lives:** In a house outside Norrköping.

**Currently:** CEO of the Swedish Shipowners' Association, which works for a tougher international regulation of conditions related to the work environment and social conditions of seafarers.

**Background:** Forwarding agent at ABB in Västerås. Swedish Maritime Administration/Swedish Transport Agency 1999. Lawyer in maritime law and logistics. Swedish Transport Agency's representative at the EU maritime authority, EMSA, from 2011 to 2013. CEO of the Swedish Shipowners' Association since 1 February 2014.

**Work environment tip:** Human factors is often mentioned as a cause of accidents in the maritime sector. We usually point out that human factors more often save us from accidents. Personnel are one of our greatest assets.

# Blue light and increased alertness

**Being exposed to the right light at the right time can improve the quality of sleep and increase alertness during night-time work. This information comes from a new report by SSPA.**

Sleep is a problem for many seamen. Watch hours and night work disrupt our body clocks (natural 24-hour rhythms), the ship is always moving and it can be difficult to fall asleep in the daytime. It is possible to improve the quality of sleep on board, however, even with relatively simple methods. Lars Markström at SSPA makes this claim after compiling the results of research studies on how light affects sleep and body clocks.



Lars Markström at SSPA.

During working hours, regardless of the time of day, wakefulness increases if people are exposed to light. Light reduces melatonin levels, a hormone that regulates tiredness and affects the basal ganglia cells that control body clocks. Natural outdoor light in the daytime makes us most wakeful, and that even applies to overcast days. People who have been outside during the day also find it easier to fall sleep in the evening. For those who are not able to be outdoors during working hours, or who work night watches, exposure to full-spectrum lamps that include blue light gives the best effect. However, it is not possible to see with the naked eye whether lighting is full spectrum, and blue light can be perceived as white light.

## Yellow glasses

Light sources containing blue light described in a full-spectrum index should be under 2.0 to be considered as a good full-spectrum light source, according to Lars Markström. But the index has not yet been fully recognized, so you have to search a little to find the right lighting and possibly contact the supplier to obtain more information on the spectrum content. However, blue light should be avoided just before going to bed as it can prevent you from falling asleep. Most artificial light sources contain a certain amount of blue light, including telephone and computer screens.

"If it is not possible to avoid exposure to

blue light, it can be blocked by using a pair of yellow or orange glasses," says Lars Markström.

One drawback with coloured glasses is that they can impair colour vision in general, which could be a problem for certain tasks on board. There are glasses that only block blue light, but they are much more expensive.

Exposure to light can also be used to adapt body clocks to suit watch times and night work better. The report describes a method that the US Coast Guard recommends involving a slow adaptation over six days. On days one and two, your eyes are exposed to artificial daylight (blue) after sunset until 2 a.m. On days three and

four, the exposure time is further increased until days five and six when the person is exposed to light until 7 a.m. Alertness at night-time is thus increased, and the time when tiredness comes is postponed until later in the morning.

*The report is called Fartyg, människa och ljusmiljö (Ships, people and the light environment) and is financed by contributions from the Swedish Mercantile Marine Foundation. It is available in full, in Swedish, at San-nytt.se under the tab for reports.*

## Lighting on board

- Blue light sources are preferable in workplaces where crew spend much time, such as the machine control room, the cargo control room and the galley, but also in the messes and lounges. If crew members wish to stay in these areas but avoid exposure to blue light, they are recommended to wear yellow or orange glasses.
- There should be access to both blue light and red light in cabins. Red light has a calming effect.
- Corridors, stores, washing rooms and other areas where crew only stay for short periods of time do not need special lighting.
- Cargo spaces on Ro-Ro ships may need blue light sources.

*Source: The report on Ships, people and the light environment.*

## ~ IN BRIEF ~

### More deaths, fewer injured

The number of fatalities among seafarers on ships in European waters or in other parts of the world under an EU flag has increased over the last five years. In 2015 there were 96 deaths among ship-board employees, of which just over 60 were on cargo ships. In contrast to this figure, the number of reports of injured seafarers has decreased from around 900 in 2014 to less than 800 one year later. The statistics come from the latest compilation of shipping accidents from EMSA, the EU maritime authority.

(LS)

### Night work increases the risk of prostate cancer

Men working night shifts run a greater risk of prostate cancer than those working office hours. This conclusion comes from a review of 147 scientific studies carried out by Anders Knutsson, professor of public health science at Mid Sweden University. Prostate cancer is the most common form of cancer among men and the risk increases with age.

(LS)

### Identified accident risks

Occupation, size of workplace and sector are the largest factors that affect the risk of an occupational accident. The Swedish Work Environment Authority reaches this conclusion in a very recently published report. Individual factors affect the risks of accidents to a lesser degree.

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*SAN is a joint body for Swedish Shipowners' Employer Association (SARF), Maritime Officers' Association and SEKO Seafarers.*

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