



SAN NEWS

Work environment and safety in shipping

YEAR 33 2/09

THEME: FAMILY LIFE

Land and sea come closer at Broström's office	1	Outlook	4
Job exchange creates solidarity	2	Swedish Transport Agency, Maritime Department	5
New shipping company network discusses work environment	3	Profile: Ulf Milberg	6
"SAM must be kept alive"	3	"Better control rooms must be pushed through with new rules"	7
Editor has the floor	4	In brief	7

Land and sea come closer at Broström's office

A two-day introduction to the shipping company for all new crewmembers will bring land and sea closer to each other at Broströms.

– I know that it will be appreciated and it is something we should have done a long time ago, says personnel manager Kenneth Thorén.

At most workplaces on land it would be unthinkable to employ somebody without first meeting the person in question. But in the world of shipping, a telephone call to the shipping office is enough to get a job onboard a ship. This has perhaps contributed to creating the distance which often exists between employees on land and crews on ships. The feeling of "them and us" is certainly a legacy from the time when communications between ships and land were almost completely severed as soon as the ship cast off. But awkward relationships are seldom desirable, and many shipping companies today are aware of the problem and are making efforts to improve contacts between their various employees.

– It is essential to have good cooperation between land and sea, particularly when it comes to tankers. With the great changes and increased demands puts on us over the last 10 or 15 years, we are forced to work together, says Kenneth Thorén, personnel manager at Broström.

He believes that relations within the company are already good, but could be even better. To this end, he has decided

to invite all new employees to the shipping office to show them land-based operations. For two days they will follow the work there, including everything from booking tickets to contacts with cargo owners.

– We think this is a good idea so that new employees don't get taken in by all the talk on the ships about how we sit here and make trouble for them just for the hell of it, says Kenneth Thorén with a laugh.

Idea came from open-house evenings

The idea to invite new employees to the office came from the open-house evenings that the shipping company usually arranges for sea officer students at Chalmers. The future officers came to the office for information and a bite to eat.

– This has been very much appreciated and we have had around 60 students here each time. It suddenly struck us, why don't we do this with our own employees? It is such a simple thing, which I am convinced can make a great difference.

Four of these occasions per year have been planned. They are primarily aimed at new personnel, but also other employees onboard (approximately 350 Swedes and about 150 Filipinos) may participate if there are enough places.

– I know that we have many employees who would like to come here and have a look. But we do not want the groups to be too big – a maximum of 15 people each time. We do not want it to become



Bro Developer on the way into Göteborg and the shipping office. Photo: Broström's photo archives.

a large anonymous group, and we want to have the time to talk to each person individually.

Another method for improving relations between land-based employees and seamen is to recruit office personnel from the ships. The majority of land personnel at Broström have a background of work at sea.

– Having worked at sea is not necessary, but it makes things easier. Having a feeling for the sea environment is important in contact with ships since otherwise it is very easy for them to sit out there and

feel that we don't understand them. For example, when we are going to recruit new technicians, we first look among our chiefs to see if there is anybody suitable who may be interested before we look outside the company.

Mission: to create good relations

Kenneth Thorén describes the shipping company's personnel department as a service unit with its main mission to create good relations, not least with onboard employees.

– When they are out there working, they will have 100% backup from us. They must know exactly when and where they are going, and that our agent will meet up with them. We should almost be there, holding their hands.

In order to create a good climate of cooperation all departments need to have good relations with those working on the ships, explains Kenneth Thorén. And some people have to make more effort than others to achieve this.

– Mechanics try a nut and if it doesn't fit they throw it overboard and take a new one. Their view of personnel is quite

similar, when it comes to the crunch. We have had to work a lot to make them see people on board – and in fact they have become a lot better at just that.

Everybody must be treated well

A good relationship starts to be made long before employment is on the cards, says Kenneth Thorén. The open-house evenings are a way of creating a good relationship at an early stage, as is participating in the trade days arranged by schools. We are also keen to take good care of the students who do their training onboard the company's ships and the goal is that every contact with potential future employees will be in a positive spirit.

– A good first meeting helps us to build up our already good reputation. People who make contact with us should be given a relaxed but proper welcome, even if it is only by telephone or e-mail.

Good relations between those working on land and at sea make things easier in many different contexts. As well as the daily contact between ships and offices, it can also be an advantage when employ-

ees' personal problems must be handled.

– In a quarter of an hour an employee with alcohol problems is coming here. Had we not already known each other, he would probably be thinking that we would fire him. Now he knows that we are prepared to do our duty and support him, says Kenneth Thorén.

But he does not think that it is only the onshore organisation that has responsibility for cooperation. Those working on the ships must also make an effort to create a good climate.

– We have the responsibility to invite them, and they have the responsibility to take up the invitation. You cannot walk around and be angry and refuse to listen – everybody must do their part.

To completely remove the gap between land and sea is not possible, believes Kenneth Thorén. And maybe not even desirable.

– We must allow the seamen to complain a bit about us in the canteen. We can give them that pleasure, as long as they don't come here and throw it in our faces without us deserving it.

Linda Sundgren

Job exchange creates solidarity

After six months in the office, he feels more a part of the shipping company and he has a greater understanding of how people work on land. Chief mate Martin Carlweitz thinks that more employees should try exchanging jobs.

Now he is back on the RoRo ship Transpulp. One thing he realized during his work as a load planner in the office was



how much he enjoyed being at sea.

– It is fantastic being at sea. The work is varied and we have a good gang onboard. I didn't feel bad working onshore, but I would rather work here, he says.

He is still happy that he took the job at the office that was advertised in the autumn and which lasted until March this year. It gave him a better insight into load planning for the ship, as well as valuable personal contacts onshore.

– These days I don't feel bad about calling the office and asking stupid questions. I used to feel reluctant to do that.

Martin Carlweitz has worked with Transatlantic since 2000; first as a seaman and

then as a mate. But despite many years' service in the company he never really felt part of its overall operations until now.

– There is a them-and-us mentality which I think to some extent is connected with the information that comes to us on the ships. When you e-mail the office and it takes ages before you get a reply, you wonder what they are doing and it is easy to feel a little forgotten.

More understanding

Even though he still thinks that the response time of the office could be shorter, he now understands better why answers sometimes take a while. He also knows that it is not necessarily due to nonchalance or lack of interest.

– I know how much they have to do at the office, where things are happening the whole time. And sometimes there is a person working flat-out on one task without telling other people what's going on.

Christmas party together

Martin Carlweitz thinks that job exchange is a good way of creating a team feeling between the ships and the land offices. But he also feels that the shipping company is trying other ways of decreasing the mental distance between land and sea.

– These days they invite everybody to one big Christmas party, and things like that mean a lot. They are also trying to get better at communicating to the ships. When you are onboard you want to know what is happening at the shipping office and not just plan for your own ship, and if you do not yet clear information it is easy that rumours start spreading and people get worried.

During his time as a load planner, both for his own ship and two sister ships, Martin was able to contribute with a lot of knowledge thanks to the fact he had worked onboard. In the same way he now has an advantage after working for six months ashore.

– All of us who worked with load planning had worked at sea, but since I had been on those ships that I was responsible for planning it was a little easier. I knew the layout onboard exactly and what special solutions were possible.

– I know what all the preparatory work for load planning is like and I can do it myself without making it difficult. Even a load planner can have a bad day and miss things, and these days I can make changes without feeling that I risk offending anybody.

Linda Sundgren

New shipping company network discusses work environment

Closer cooperation with the Swedish Transport Agency and exchange of experience. This is what the person taking the initiative to start a new network for shipping companies is hoping for.

In the middle of May, 17 representatives from 10 different shipping companies in SEA's (Swedish Shipowner's Employer Association) premises in Göteborg met to discuss work environment issues. Anette Wugk from TT-line, who is one of those who took the initiative for the network, is satisfied with the meeting.

– It was the first tentative attempt, but I think that it could work really well. The idea is that we help each other instead of sitting alone and each of us reinventing the wheel, she says.

There were many speakers invited to the first meeting: Representatives of the Transport Group and the Swedish Shipowners' Employers Association, a

Do you want to know more about the network or enrol for the next meeting? Contact Eva Ohlsson at SEA: eva.ohlsson@transportgruppen.se or 031-62 95 25.

postgraduate student from Chalmers who talked about profitability in the context of work environment measures, the Chief Executive of the Swedish Mercantile Marine Foundation who encouraged proposals for how seamen's inventions in the work environment area could be distributed, and a representative from the Swedish Transport Agency. The latter will always send a representative to the network meetings.

– We would like to have closer cooperation with the agency. We want them to inform us about what is going on so that we can arrange for wider margins instead of being failed after inspections. Working in a more preventive way is one of our goals, says Anette Wugk.

The next meeting, which is planned for the end of November or the beginning of December, will also include workshops for the exchange of experience. The network plans to meet once or twice a year in Göteborg.

– Some years have more activities in the work environment area and other years have less. We will adapt the frequency of our meetings to this variation, says Anette Wugk.

Linda Sundgren

“SAM must be kept alive”

On Stena Jutlandica, systematic work environment management (sam) is part of the overall quality system.

– It makes work easier and decreases the risk of issues falling between two authorities, says Captain Jörgen Lorén.

Starting up a new system is perhaps not so difficult. But keeping it going and introducing it as a natural part of the recurring routines is worse. On Stena Jutlandica the process is now quite well developed after SAM was joined with the overall ISM system.

– For us it was natural to do that. On the safety committee, the connections between ISM and sam are clear since we take up issues that are directly related to SAM. On the safety rounds there are also problems that arise which can be put into SAM, he says.

The two systems do not overlap; it is

more a question of supplementing each other. While ISM regulates more what is already done and requires deviation reports if something goes wrong, systematic work environment management is more preventive. Jörgen Lorén only sees advantages in treating safety and work environment systems on board as one unit.

– Not least in everyday work. If you do not have the systematic approach it is easy to just continue with what you have always done without reflecting on the risks.

On Jutlandica SAM has made a lot of progress and a recently completed internal audit shows that it is moving forwards well in most departments. All that remains now is to keep it going.

– As captain you must have focus on the system and really accept it fully. Otherwise it will not be the living system that it is intended to be.

Linda Sundgren

SAN-CONFERENCE

People and technology

“People and technology interacting” is the theme for this year's work environment conference organised by SAN. The conference will take place over the whole day and will be held on 22 October in Läppstiftet in Göteborg.

You will find more information in the next issue of SAN NEWS which will be published after the summer, when you will also be able to enrol for the conference.

New website with more functions

The updating of SAN's website is now completed and the new website will be ready for use in the beginning of June. We are very glad to be able to offer free text searches and category searches to help you, as users, to find the right information.

We have included information about activities within the agency as well as many articles, brochures, links and tips about what is going on in the work environment area. You can also read about SAN's popular work environment conferences which take place every autumn.

Back issues of SAN news can now be read directly from the website or can be downloaded as pdf. You can find the relevant page at the usual address, www.san-nytt.se/english.

The website is constantly updated.



In the menu on the left there is information about SAN, SAMS and the work environment. On the right is the archive with San news.

Financial crisis threatens the work environment

We are worried about how the financial decline we are now seeing will affect shipping. Shipping companies must make savings and there is a great risk that this will take place at the expense of safety and the work environment. We have already seen examples of this. One company, to our knowledge, now bunkers fuel oil with a higher sulphur content (admittedly within the limits set, but even so it is worse for the environment) and many others will probably follow suit.

Onboard, too, it can be seen that the operations budget is getting tighter and cutbacks demanded. This means that improvements in the work environment onboard may be postponed to the future, the personnel situation may be negatively

affected by more stress etc. There are many issues we are working with at SAN which we are very worried about, but we must hope that our worries are unfounded.

Of course the situation is tough for shipping companies and they have difficult decisions to make. But in bad times they are a little too quick to close the door on investments for personnel, while that door should really be closed last of all. The employees at sea are their most important resource who must be cared for in all situations.

According to a report from Lloyd's List about 1500 ships will be taken out of commission worldwide in 2009 – which is almost equivalent to the entire Norwegian fleet. Even though the decommissioning of ships is a large problem for our

seamen, the quantity of goods that must be transported by sea will probably not decrease in a global perspective.

I should think that it is better to decommission one or two ships and maintain standards on those that continue in service instead of using a strimmer and trying to cut down everywhere. Otherwise the pressure and stress on those working at sea will increase, and together with that the risk of accidents.



Tomas Sjöstedt
ombudsman, SFBF

“In the drawings, control rooms are often just a white square. In the best cases the electricity and control panels have been drawn in. The equipment is then installed in the order in which it is delivered.”

Chalmers researcher Monica Lundh about the poor planning of control rooms when building ships.

~ TIPS FROM SAN ~

Revised work environment manual

In 2008 a completely new work environment manual was produced for shipping and it has now undergone the annual revision. The manual is a great help to systematic work environment management, but can also be used as working material at safety committee meetings, for example. SARF recommends that two files are purchased for every ship, of which one should be kept on the bridge. One of the files should be kept at the land office of the shipping company.

The file costs 490 SEK plus VAT and postage, and can be ordered by telepho-

ne: 08-402 02 00 or from www.prevent.se. Go to Bookshop (“Bokhandel”) and search by text or article number. The article number for the Swedish version is 596 and the ISBN number is 978-91-7365-031-1. The equivalent numbers for the English version are 572 and 978-91-7365-036-6 respectively.

Any questions about these can be answered by Eva Ohlsson/SARF: 031-62 95 40 or by Kerstin Nordgaard/Prevent: 08-402 02 00.

Read an excerpt from the file at www.san.nytt-se.

~ OUTLOOK ~

Seamen who are victims of pirates need help

Pirates in the Aden Bay continue to attack sea traffic off the coast of Somalia and reports of new attacks are streaming in. But there is too much focus on transportation, ships and military units in the area and too little attention paid to the victims – seamen. That is the opinion of Christer Lindvall, chairman of the International Officers Organisation, IPSMA, and managing director of SFBF, who was in Brussels earlier this year to inform others in the EU about piracy.

Pirate activities off the coast of Somalia have increased dramatically. Last year no fewer than 130 ships in the region were

attacked, which is 200% more than in 2007. About 50 seamen were kidnapped in conjunction with the attacks. Attacks continued during the spring in this virtually lawless area and the number of seamen affected has become larger and larger.

– People forget about how the crew feels when they talk about pirate attacks. A shop assistant at Seven Eleven who is robbed is given help by an entire crisis team afterwards, but seamen who have been involved in an attack by pirates are just expected to sail on when they are released, says Christer Lindvall.

When the ISPS code (International ship

and port facility security code) came into effect in 2004 its purpose was to protect the world against terrorists, and it strictly limited employees on ships from leaving their ship while in harbours. But now, when seamen themselves are in the firing line, there is much less protection, states Christer Lindvall.

– It takes about 20 minutes to hijack a ship, so you can ask what sort of protection we are talking about. It is time that seamen were given back something after all they have had to pay through the introduction of the ISPS code.

Linda Sundgren

The Maritime Department of the Swedish Transport Safety Agency (previously the Swedish Maritime Safety Inspectorate) will spread information about relevant events and convey important messages to the shipping industry. The aim is to increase knowledge and safety awareness among parties in the shipping industry.

Devastating mix-up of controls

During the inspection of a fishing boat, the operation of the rapid fuel shut-off to the main engine was being checked. The officer who went up to the bridge to switch off the diesel supply happened to confuse the fuel shut off with the CO₂ release. The inspector realised that something was wrong when the CO₂ alarm sounded and was able to leave the machine room in time. The situation could have become fatal since CO₂ will exclude oxygen and suffocation may result.

The inspection was made just after a fishing trip and it may be assumed that the captain was tired. Research shows that one of the risks of tiredness is that it affects people unawares. Reduced performance capacity can in turn lead to operative risks. On larger ships there is a requirement that the CO₂ release must have two handles to operate it. This reduces the risk of mistakes, but does not prevent people from thinking wrongly.

SFu

Interesting observations after fire

A number of interesting observations were made in conjunction with a machine room fire on a ferry recently. The fire broke out after a fuel pipe leading to a manometer burst and fuel oil sprayed onto a nearby turbine. The ship had a number of main engines in the same machine room.

To extinguish the fire the ship's engineer was going to activate the local fire extinguishing system, which covered all engines. However, he was not able to do this before the control room was so filled with smoke that it had to be evacuated. The fire was eventually extinguished using CO₂ despite the fact that there were several problems, primarily related to the power supply of pumps and other equipment.

The following information is now available:

- There is reason to question the layout of local fire protection. Had this been divided into smaller sections, for example to each individual main engine, it would probably have been easier to handle the situation. Local protection that operates well can effectively prevent major damage. If the release is manual, it must be part of a well-practiced routine.
- Obviously there were unsealed lead-throughs in bulkheads and doors between the machine room and the control room since the smoke from the fire leaked in. It appears to be common that lead-throughs are not sealed sufficiently. This involves considerable risks, irrespective of whether of the area is separated into different fire sections or not.
- The pipe leading to the manometer was not original. It had been affected by fatigue, probably as a result of tensions built in when it was installed. This may have arisen or been made worse by somebody standing or climbing on pipe.
- Heat protection for the engines was not sufficiently effective. There is reason to underline the importance of off replacing such protection after maintenance work and that any deficiencies, such as oily or damaged insulation, must be rectified.
- A full-scale test is recommended to examine the electrical power supply. Only then is there a reasonable chance of finding any faults in the system.

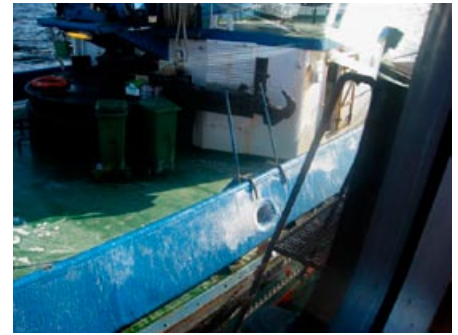
SFu dnr 06.05.02 2009-832

Poor lookout resulted in fines

A Swedish ferry ran aground some time ago while entering an area of skerries and the case has now been tried in court. A mate, who was occupied with duties other than navigation, was given a fine of about 20,000 SEK, while the lookout was fined about 10,000 SEK.

The court found it remarkable that the lookout saw the ship was heading towards land without warning anybody. The lookout motivated his lack of action by saying he believed that the heading would be restored. The investigation unit states that a very large proportion of groundings and collisions at sea are a result of poor lookout.

SFu/Iu dnr 080201-07-17335



The inward sloping hand rail being rebuilt.



The new shape of the handrail is, as can be seen, much better than the previous shape.

Building out risks

In the last issue a serious accident was described in which a pilot crushed his leg between the pilot boat and the ship which was to be boarded. After the event, the shipping company has tried to build out the risk. As far as can be judged from the shipping company's photographs, the solution is excellent – which shows that many serious risks can be built out using relatively simple means. The problem is that the accident or damage is often done before the fault is built out.

One way of preventing accidents is to systematically list and identify the risks that may arise during operations. That work needs constant updating and must be included in ordinary activities.

SFu/Iu dnr 080201-08-20686

From Insjö

An analysis tool is being developed within the Insjö system, which will work as a tool when making searches. By using simple clicks it will be possible to see factors that affected a particular event and what consequences they had. There will also be an option of making a simple risk analysis with the aid of template.

Read more about the progress of development work for the analysis tool on Insjö's website, www.insjo.org.

Insjö/SFu

Ulf Milberg's prize-winning trolley makes descaling easier

Thanks to the needle guns being fastened to a specially constructed trolley, able seamen on the Ortviken can now walk upright when they are at descaling surfaces. The simple but ingenious idea was hatched by able seaman Ulf Milberg and one of his colleagues last year.

Ulf Milberg was only 16 when he signed on in 1972 at the Sahlén shipping company in Karlshamn. Standing for hours on end and removing rust was no problem then, he says, but over the years work using the needle guns felt increasingly heavy and has started to affect his body.

– We have a large weather deck and when you are kneeling or sitting on a stool to chip off rust week in and week out, you start to notice it. You feel stiff in your knees and your back in the evenings.

Last summer he and the boatswain, Bo Sundman, gave some thought to how to avoid the uncomfortable, crouching position of work. The solution was a trolley to which the needle gun was fastened and a long handle.

– We made the trolley out of pipes and pieces of steel we found on the ship and the only thing we had to buy were the wheels. The bosun could weld and it did not take him long to put it all together, says Ulf Milberg.

During almost 40 years at sea he has worked on a large number of ships, including coolers and tankers, bulk carriers and working ships. He has been with Transatlantic's combined RoRo/container ship Ortviken for the last 12 years. They sail along the Norrland coast, which suits Ulf Milberg very well, being born in Umeå.

"You don't question so much"

– Every time we stop in Umeå my wife comes onboard. She usually takes the local newspaper from home and we have time to talk to each other for a while, he says.

He likes the fact that the ship sometimes moors for long enough for him to go ashore. Even though he seldom has the time to make any long excursions, occasionally it feels nice to walk on land during the six-week long tours of service.



Ulf Milberg

Age: 53

Home: Tenant/owner flat just outside the centre of Umeå

Family: Wife, 18-year-old son and a 33-year-old daughter from an earlier marriage.

Work: able-bodied seaman on Transatlantic's Ortviken

Background: two terms at the Marine School of Härnösand. Since the age of 16 he has worked on a large number of ships in different sectors such as tankers, cooling ships, bulk ships, working ships and RoRo. Korshamn, Arawak, Coralla and Okturus are just a few of the ships he has worked on.

A good work environment is important because: you feel better and avoid injuries.

– I usually cycle down to the newspaper stand and buy a newspaper. That is enough for me, he says.

He explains that the work environment has got a lot better since he started work at sea. Automation in harbours makes loading and unloading less heavy work, and safety equipment has become a lot better and is used much more nowadays than in the past. But descaling is done in the same way as when he started 37 years ago, despite the serious occupational injuries that it causes. Ulf Milberg describes how his brother had to go ashore after he got white fingers due to vibration injuries caused by the tools onboard.

– And yet it is still done in the same way, and nobody asks many questions, he states.

But by mounting the needle gun and the angle grinder on a trolley they have managed to significantly reduce the problems involved in descaling. As well as



The trolleys reduce loads and vibrations from both needle guns and angle grinders.

"We made the trolley out of pipes and pieces of steel we found on the ship"

providing a more comfortable working position the vibrations are not felt at all, says Ulf Milberg. Exposure to dust and noise is also much less since your head is much further away from the work surface.

– Other crewmembers that have tried the trolley were satisfied. But we need to adjust the handle so that it will suit people of different heights.

Prize from the Swedish Mercantile Marine Foundation

He says that they did not take their invention very seriously and points out that it was only built to make their work easier. But the Swedish Mercantile Marine Foundation considered that the design was so interesting that the inventors were awarded 20 000 SEK at the annual awards ceremony in Göteborg in May.

– It really means a lot to be given this appreciation and to know that there are other people who think we did something good, says Ulf Milberg.

Linda Sundgren

“Better control rooms must be pushed through with new rules”

Too much focus on technology and too little on the people who work with it. That is a general problem in control rooms, as shown by new research.

For two years a Swedish research team has studied ergonomics and work environment in control rooms. The results were published in the report, “Engine Control Room – Human factors” at the end of last year and showed that technical equipment is not sufficiently user-friendly. The seven ships that were studied were between six months and 30 years old, but many of the problems onboard were the same irrespective of their age. Illogically placed buttons and controls, alarm signals that are difficult to distinguish from each other and poor working stations for office jobs were common on both younger and older ships.

– What have improved are things such as noise, vibrations and heat. Ergonomics



has been missed completely though, even though there is a lot of knowledge about how things should be designed, says Chalmers researcher Monica Lundh (photo), who carried out the study together with representatives from SSPA and the World Maritime University.

Partly a result of computerisation

Problems in the control room arose partly as a result of computerisation. The previous analogue systems were adapted to standing positions and people walked backwards and forwards along the panels to execute different tasks. When the old instruments were replaced by digital screens people worked in a sitting position, but in the midst of all the changes designers forgot to adapt other instruments to the new working procedures. This resulted in poor working positions, instruments that were difficult to reach and a deficient overall view.

– If there are problems when making changes to a 30-year-old boat, I can understand the situation. But when you



Not much has happened in planning of control rooms since this picture was taken, despite new instruments requiring different procedures and working positions.

see exactly the same thing on a new ship there are no excuses, says Monica Lundh.

On the ship in the study there were a limited number of screens, often television monitors, which showed a large number of menus and submenus and you had to browse a lot to find the page you wanted to see. The researchers stated that there was a lack of consistency and uniformity in the presentation of information. Symbols, shapes and colours were used in different ways in different devices, which can create confusion and lead to faulty interpretations. But the poor working environment in control rooms is not primarily due to a lack of knowledge, according to Monica Lundh. She believes that there is good information on how control rooms should be structured.

– We probably need more forceful regulations if we are going to see a real change. I believe that we should strive to obtain goal-based standards for control rooms which indicate what functions and work environment requirements must be fulfilled. And that is an issue which needs to be addressed internationally.

Linda Sundgren

~ IN BRIEF ~

Government seeks link between work environment and profitability

The government is investing 9 million SEK on research to study whether there is any correlation between investments in the work environment and profitability.

It is the Institute for the Evaluation of Labour Market Policies, IFAU, that will run the project. At the same time a doctorate thesis is being written at Chalmers University of Technology in Göteborg where work environment investments in shipping are being studied from a financial perspective.

Safety equipment

In the brochure “Your personal safety equipment – the path to safer work” there is all the help you need to choose the right personal safety equipment. It describes different sorts of equipment, what they protect against and what type of work they can be used for.

The brochure is issued by the Swedish Work Environment Authority and has the order number H349. It costs 220 SEK.



SAN NEWS

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