

2/2012



RISK CONSULTING

IF'S RISK MANAGEMENT JOURNAL



Page 4

Safety at the heart of elevator business

Page 10

The impossible fire at Mönsterås

Page 15

Preventing property damage in the mining industry

Page 24

How will our health fare?



4 Safety lies at the heart of the elevator business

8 Increased risks worry companies

10 The impossible fire at Mönsterås

12 Focus on safety: project risk management - cooperation in several arenas

15 Preventing property damage in the mining industry

18 How to manage risks related to large transformers?



20 Disability costs down through determined work

24 How will our health fare?

26 Can flood losses be avoided?

29 Investing in safety improvement reduces insurance premiums: Case Cargotec Finland

30 Stable partner

31 Hot work – ensure that your company complies with control procedures



31 Appointments

What do you buy?

What kinds of products do customers buy from insurance companies? Insurance products of course, you may answer. But in the large corporate P&C insurance market, the answer is not always so straightforward.

BECAUSE OF the complexity involved in managing risks in large corporations, a variety of products and services may play a role. Cooperation between the customer and insurer can take many shapes and forms.

Sometimes an insurance company is simply a risk carrier – the Lloyd's market often works like this. More often, the insurance company is both a risk carrier and a provider of claims handling services. Many companies also benefit from risk management and loss prevention advice from their insurer, a distinct service in itself.

Companies with captives may obtain support from their insurer in the form of global insurance fronting and other services such as financial reporting.

TRADITIONALLY, insurers have not always made themselves clear when describing what services they pro-

vide to their customers and what standards these services should meet. This is why we at If have worked on defining the services we provide more clearly, while setting the standards that we would like to meet and be measured against.

IN ADDITION to our key role as a risk carrier, we offer our clients the following key services;

- Global claims handling
- Global insurance services, including fronting
- Risk management services
- Captive services
- Online services

WE BELIEVE that by being more precise in defining our services and service standards, we will see mutual benefits through better coordination and clearer expectations between us, our customers and other partners.

We are now eager to discuss this further with you.

MORTEN THORSRUD
Head of Business Area Industrial



Publisher
If
Niittyportti 4, Espoo
FI-00025 IF, Finland
+358 10 19 15 15
www.if-insurance.com

Editor-in-chief
Juha Ettala
Editorial board
Olav Breen
Ken Henningson
Jukka Honka
Carita Hämäläinen
Lars von Hertzen
Harry Nordqvist
Anna Maria Vähäkuopus

Production
Markkinointiviestintä
Dialogi Oy
Printing
Forssa Print
Changes of address
industrial.client-
service@if.fi
ISSN 1459-3920
Frontpage Kone

Disclaimer
This publication is and is intended to be a presentation of the subject matter addressed. Although the authors have undertaken all measures to ensure the correctness of the material, If P&C Insurance does not give any guarantee thereof. It shall not be applied to any specific circumstance, nor is it intended to be relied on as providing professional advice to any specific issue or situation.

Contact information

Sweden
If P & C Insurance
firstname.lastname@if.se

Denmark
If P & C Insurance
firstname.lastname@if.dk

Finland
If P & C Insurance
firstname.lastname@if.fi

Norway
If P & C Insurance
firstname.lastname@if.no
If Safety Centre
sikkerhetssenteret@if.fno

France and Luxembourg
If Assurances France
firstname.lastname@if.se

Germany
If Schadenversicherung AG
firstname.lastname@if.se

The Netherlands and Belgium
If P & C Insurance
firstname.lastname@if.se

Great Britain
If P & C Insurance
firstname.lastname@if.se

Estonia
If P & C Insurance AS
firstname.lastname@if.ee

Latvia
If P & C Insurance AS Latvijas Filiale
firstname.lastname@if.lv

Lithuania
If P & C Insurance AS filialas
firstname.lastname@if.lt

Russia
If Insurance
andrei.bogdanov@if.fi

Safety lies at the heart of the elevator business

As part of urbanization, we must seize living space both above and below ground. This means increased demand for manufacturers of elevators and escalators, such as the Finnish company KONE. The keywords for the risk management of this global company are risk awareness and intelligent risk-taking as part of everyday activities.

CHINA, the United States, Italy, Spain, Germany and Japan are among the largest countries in the world in terms of the number of elevators and escalators. The need for elevators, escalators and automatic building doors is increasing at a brisk pace, particularly in the growing Asian metropolises, as people must be able to move smoothly, efficiently and safely in the urbanizing environment. In China, the demand for new elevators already exceeds the combined demand in Europe, the United States and Japan.

In Europe and in Japan, for example, the ageing of the population increases the need for elevators and escalators. In addition, many countries, particularly in Europe, have introduced strict standards in recent years for the safety and modernisation of elevators. Of the elevators in use in Europe, somewhat over two thirds are more than 20 years old and in need of modernisation.

These trends mean more work for companies in the elevator and escalator industry, such as Finnish-based KONE. Operating in approximately 50 countries, KONE's operations extend almost all over the world. The company provides elevators, escalators and automatic building doors, as well as maintenance, and has 37,500 employees.

Safety plays a key role in the operation of elevators. The equipment must be reliable, and people must be able to use the equipment without any special skills or guidance. This is why safety is integrated into all KONE activities.

GLOBALLY COORDINATED RISK MANAGEMENT

KONE's risk management organisation comprises two risk management experts with global responsibility and 30 managers responsible for risk management in their respective units. In addition to the local managers responsible for risk management, the most important partners in risk management include the heads of business units and the legal affairs, communications, financial, HR and quality functions.

At KONE, the main responsibilities of Risk Management can be divided into three parts. Firstly, risk management as part of KONE's business processes, with a focus on planning and control processes;



Kristian Snäll
Head of Global Risk Management,
KONE

Essential in risk management:

1. Systematic dialogue on risks at all levels of the organisation.
2. Focus on the development of operations instead of endless analysis.
3. No mystifying of risk management: risk management is part of normal management and operations.

secondly, further improvement of elevator and escalator passenger safety; and thirdly, the management of global insurance programs. The coordination of safety issues relating to employees and subcontractors falls within the responsibilities of the HR function.

"The most important task of the Risk Management function is to help business management understand various risks. By these



KONE is one of the global leaders in the elevator and escalator industry. It has been calculated that at any given moment more people are travelling on KONE's elevators, escalators and autowalks than are in all the world's airborne aircraft. KONE's products move approximately 300-500 million people every day.

I mean risks such as those relating to the business environment, operational risks, and their effects on the company's business objectives. It is clear that we must take risks in order to generate profit but we must understand the risks so as to be able to evaluate the kind of risks we can and want to take. Another essential task of the Risk Management function is to specify to the organisation the kind of risks that can be taken and where the limits of risk-taking lie," says Kristian Snäll, Head of Global Risk Management at KONE.

Kristian Snäll, who is based at KONE's head office in Espoo, has been heading the company's risk management for the past four years. The other expert coordinating risk management globally is Jyri Kärkkäinen, who is based in Shanghai, at the focal point of growing elevator and escalator markets.

IDENTIFY SIGNIFICANT STAKEHOLDERS AND ACT

IN A GLOBAL company, the field of risk management is extensive, not only geographically but also in terms of the number of stakeholders and areas of responsibility. Getting management to understand the risks inherent in the business is still not enough – there is also a need for active traditional risk management.

For example, the safety of elevator and escalator passengers is one of KONE's high priority areas. As the provider of equipment and maintenance, KONE plays an important role in everyday safety work. Safety is however a joint effort where it is the responsibility of the owner of an old elevator or escalator to ensure that the equipment is serviced and modernised to meet today's standards.

The elevator and escalator passengers themselves also play an essential role in preventing accidents. Therefore, KONE provides information at grass roots level, for example in schools and shopping centres, to teach the public how to use elevators and escalators safely. The company is also involved in the development of regulations and standards on elevators, escalators and automatic building doors. The spectrum of their areas of responsibility and stakeholders is endless.

At the beginning of the 20th century there were professional elevator operators to ensure the safety of elevator passengers. Today, elevators are among the safest means of transport in the world.



RISK MANAGEMENT IS AN INTEGRAL PART OF THE EVERYDAY LIFE OF THE COMPANY

DID YOU KNOW?

- The word 'kone' is Finnish for 'machine'. In Norwegian and Danish the word 'kone' means 'wife' and in Albanian 'puppy'.

- The highest elevator in Europe is at Aiguille du Midi in the French Alps. The elevator is located at a height of **3,842 metres** and transports skiers to a café at the top of the mountain.

"It is essential to identify the correct stakeholders for the most important risks and to cooperate actively with them", says Kristian Snäll. "This requires continuous dialogue and development of operations."

RISK MANAGEMENT INTEGRATED INTO THE COMPANY'S DNA

DESPITE HIS extensive area of responsibility, Kristian Snäll does not feel dizzy at the head of risk management of a major company – KONE has a clear view on the role of risk management.

"Risk management is an integral part of the everyday life of the company and its employees, and there is nothing new to it," he says. "All companies seek to

manage risks; only practices vary. Actually, the word 'risk' ought to be removed from the term 'risk management', as risk management is ultimately part of normal management. Risk management ought to be integrated into a company's everyday life at all operational levels. If simple but consistent and systematic risk assessment is part of the corporate culture and daily routines, you are on the right track." At KONE, the aim of risk management is to assess and manage risks systematically and consistently as part of normal business processes.

For example, the safety of KONE products and services is enhanced through rigorous attention to design, manufacturing, installation, and maintenance processes.

Safe practices are promoted for employees and subcontractors, as well as for customers and people who use elevators and escalators. "Whether the process is a product development or an installation process, any deviations from the process always increase the risk of accidents," says Snäll.

Compliance with common principles and practices is monitored through audits, for example. If any deviations are detected during an audit, the deficiencies are rectified immediately. Also a systematic process for reporting and investigating accidents is in place: the reasons behind accidents are identified and the operations are corrected so as to avoid any similar situations in the future. The results are reflected, for example, in the number of

occupational accidents, which has been falling steadily since 2005.

EXPERIENCE LOSS OR DAMAGE

INSURANCE ISSUES, as with other areas of risk management, are managed globally at KONE. The company has nine global insurance programmes, the content of which is adapted to meet local needs. For example, legislation and practices in each country must be taken into account when insurance cover is adapted at the local level. If P&C Insurance has been KONE's global partner in liability insurance for several years.

With respect to insurance companies, KONE appreciates expertise and pragmatic solutions.

It is important that the insurance partner knows the industry and the company's risks, and states clearly what the insurance covers and what is excluded.

"For us the insurance company is not just an insurance provider but also a partner. It is important for us that we can analyse risks and consider how they can best be tackled together with the insurance company. Particularly valuable are the insurance company's experiences of loss or damage, loss prevention and practices applied in other companies. You do not have to experience all kinds of loss or damage yourself in order to be able to develop your operations."

Kristian Snäll would like insurance companies to be concrete with respect to both the scope

of insurance and the promotion of safety. For a company with operations all over the world, good advice given by experts is worth its weight in gold. When the insurance company communicates clearly and helps to put theory into practice, to improve safety further, for example, cooperation is at its best. Such cooperation benefits both parties, as it results in good risk management and a lower num-

MARI HÄTINEN

Increased risks worry companies

Companies believe that the risks concerning their own activities are increasing, according to a survey carried out by If. But relatively few are making preparations for crisis management.

A TOTAL OF 400 companies from the Nordic region took part in If's survey, one hundred from each of Denmark, Finland, Norway and Sweden.

There is a relatively high consensus between the answers from the different countries, despite inevitable national differences.

One central finding of the survey is that the companies perceive the risks concerning their own activities to be increasing. Almost four out of ten companies believe this; almost none said that the risks were decreasing.

The survey also reveals that the companies expect the risks to further intensify in the future.

"This is a trend we have been witnessing for several years", says Morten Thorsrud, Head of Business Area Industrial.

"One of the areas affected is, for example, IT, where as many as 35 per cent of the companies who took part in the survey have experienced an attempted intrusion into their systems. The actual figure is probably even higher, as 17 per cent revealed that they do not know if there has been an attempted intrusion or not."

"One aspect of the companies' crisis awareness is characterised by current events in our society and by what is reported in the media. For example, in Norway concern about social crises such as terrorism is significantly high following events in Oslo and on Utøya last year. In other Nordic countries this issue hardly appears on companies' agendas."

"If's survey suggests that the focus is not particularly high on traditional dam-

age risks such as fire. This could seem somewhat irresponsible. What really has a significant impact on a company is a break in production, and here fire is one of the most common causes. For example three out of If's four largest losses this year were caused by hot work", says Morten Thorsrud.

What is surprising is that a relatively small number of companies are implementing crisis training, despite their perception of increased risk.

In the last year almost 40 per cent of those who replied to If's survey have not tested the ability of their own organisation to deal with a major crisis.

"Risks such as fire or IT failure must be taken very seriously", says Morten Thorsrud.

"IT is the backbone of virtually every



What type of risk or threat is your business most fearful of today?

company. Almost four out of ten companies have experienced attempted intrusions into their IT systems and If's survey shows that IT failure is the main nightmare scenario for company management in the Nordic region. And yet we see a worrying number of companies skimping on their vulnerability analyses. This is not good."

"It is important for all of us to really think through what happens in the event of a business interruption and to take on board the fact that it could also happen in our own operations. The impact can be dramatic, both for the company and the individual employee. Here crisis training and good crisis planning are very helpful in identifying and reducing actual risk."

"There are a number of measures that can be taken to prevent and limit the

consequences of a crisis. Do we have a back-up if something happens to our electricity supply? Do we have an alternative location for our production? How do we ensure delivery of goods and materials we use if we lose one of our suppliers?"

"Unfortunately we actually see damage occurring where the company could have reduced the extent of the damage by having better and more specific loss prevention and business continuation plans and measures in place – before the unthinkable happens", says Morten Thorsrud.

If's survey reveals that approximately fifty per cent of companies have themselves experienced the spreading of negative rumours via the social media.

"The main challenge to a company's brand is dissatisfied customers, and the social media gives them whole new pos-

sibilities to communicate their experiences", says Morten Thorsrud. "This is a phenomenon that has strengthened greatly over recent years, and it will doubtless continue to do so."

"Only just over half of the companies have a plan for how they will deal with a crisis in the social media. This is a low figure when you take into account how incredibly quickly such a crisis develops. When it does happen there is no time for planning. We need to be able to act quickly, correctly and more or less directly. The plan needs to be in place before the crisis occurs, says Morten Thorsrud.

ULF BÄCKMAN

The impossible fire at Mönsterås

The fire alarm sounded at 11.15 am

It was Friday 12 August 2011, and someone in the harbour area at the Södra Cell pulp mill in Mönsterås, southern Sweden, had noticed that smoke was rising from one of the chip stacks at the site.

SÖDRA CELL'S own fire brigade arrived quickly, only to find that the fire could not be extinguished. The chip pile was huge, almost 30 metres high. Hoses and ladders just weren't sufficient.

The fire was completely unexpected. Since the wood chips were fresh, they were damp and very unlikely to ignite. There had never been a serious fire in such a large stack of chips before.

The fire was probably started by a burning object falling from the conveyor belt, located around 30 metres above ground and delivering chips to the pile day and night.

Normally a spark would have been suffocated by the damp wood chips. Not this time. A ten metre-per-second wind was blowing straight into the centre of the fire, which allowed it to take hold. Soon, four enormous stacks had gone up in flames.

RISK OF SPREADING

AROUND 50 firemen fought the fire using four powerful water cannons. Later

water bombs of brackish water from the Baltic Sea were dropped from five helicopters onto the affected area.

There was an imminent risk of the fire spreading further through the plant. The wind was still strong. Parts of the plant under threat included the screening house, where chips from the stacks are sorted, as well as the crucial 40 metre-high and 350 metre-long conveyor belt from the screening house to the digester, where fibre is separated from the rest of the pulp.

The night after the fire broke out, the team handling the emergency situation at Södra Cell took some dramatic, but very wise decisions.

- Attempts to save the chip stacks were abandoned. The fire there could not be extinguished. The conveyor belts above the chip stacks were also lost.
- A decision was made to focus all efforts on preventing the screening house from catching fire. This involved stationing firefighters there to extinguish any small fires.

• And perhaps most importantly, the two enormous, flammable rubber conveyor belts to the digester were cut off. The sprinklers were reactivated and a temporary fire wall was built in the conveyor bridge. A fire patrol was also deployed.

"Losing the conveyor belt would have

led to very long production stoppages," says Lars Becher, risk manager at Södra.

It took a week to extinguish the fire. 50,000 cubic metres of wood, equivalent to one thousand full 24 metre-long trucks, were completely destroyed. Conveyor belts to the fire site were totally or seriously damaged, both above and below ground. Many buildings suffered water damage.

But the screening house was unharmed and the conveyor belt to the digester could be quickly restored.

WAR ON MANY FRONTS

EVEN WHILE the blaze was still at its worst, two teams at Södra Cell were already planning for life after the fire. One was tasked with recommencing production as quickly as possible. The other was developing plans for the long-term reconstruction of the plant.

The challenges for the production team were very practical. How could the chips be transported to the screening house without a conveyor belt, for example?

One of the solutions was for Södra Cell to rent a high conveyor belt, which was in Karlshamn, nearly 200 kilometres south of the fire site.

A company specialising in the transportation of wind turbines was hired



to handle the move of this enormous installation. A good solution but not enough. Extra loaders and people were also required.

BACK IN ACTION AFTER 25 DAYS

THE MÖNSTERÅS plant was completely inactive for 25 days. Then production began, and quite soon reached close to full capacity. But the production balance was not optimal. The saw mill chips were not being dealt with, for example. And the extra labour was costly.

The main question for the team working on the reconstruction was how quickly the permanent construction could be completed. One option was to go full throttle and take a chance on completion by November, only three months after the fire.

The other was to conduct the work with a more long-term perspective, and restart operation in March-April. Starting during the winter is impossible because the risk of chips freezing is too high.

Södra Cell chose to play it safe. This reduced the disruption that would have been caused if the option to start before November had failed.

The reconstructed plant was recommissioned in March this year.

LESSONS LEARNED FROM THE FIRE

JUST BEFORE the end of the year, If and Södra Cell held a conference, with participants from almost all pulp manufacturers in the sector.

"The aim was to discuss and learn from the unique fire damage at Mönsterås," says If's risk engineer Anders Tjärnberg. If insures all of Södra's plants, including Mönsterås.

Perhaps the most important realisation was that fires like this are possible at all. It was the first ever fire of its kind, and something that neither Södra Cell nor any other company has rehearsed for or even considered.

The fire had a big impact on Södra Cell, but the company has three further pulp mills, so critical customer deliveries could be safeguarded.

Södra Cell has introduced a number of improved preventative measures since the fire. These include planning to acquire extinguishing systems with spark sensors, improving sprinkler protection for the conveyor belts, enhancing fire alarms, reviewing water supplies for firefighting and upgrading cleaning procedures for the conveyor belts. Additional ideas for protecting chip piles and conveyor belts are being tested at other pulp mills and power plants.

FACTS ABOUT SÖDRA

Södra Cell is part of Södra, an economic association with 51,000 members. The members are forest owners in southern Sweden and the association covers almost half of all privately owned forest in the area.

Its four business areas include sawn and planed timber, interior products, pulp and biofuel.

The Group has 3,800 employees. Mönsterås is Södra Cell's largest pulp mill, with almost 500 employees.

Despite everything, the damage caused by the huge fire at Mönsterås was not as devastating as it could have been.

"The single most important reason that it didn't become a complete disaster was that we had people on the scene during the night of the fire, managing operations and taking very difficult, brave decisions in order to protect critical elements of the plant," says Lars Becher. "Credit is due to them!"

ULF BÄCKMAN

Focus on safety

Project risk management – cooperation in several arenas

Risk management plays an essential role in large construction and installation projects, as its purpose is to reduce the risk of loss or damage and ensure the project progresses according to plan and the safety of the completed product. Risk management begins well in advance, even before the first excavator arrives at the site, and continues after the work has been completed as an integral part of everyday life. The work requires professionals who know the project risks typical of each type of industry and project.

IN THE PLANNING phase of a project, a team consisting of If's risk experts examines, in detail, the project plans, potential risks, and operating methods in possible cases of loss. A total of eight project insurance experts work at If's Nordic Competence Center, and utilise experiences from other projects when they plan insurance cover and risk management.

If is often asked to comment on whether risks relating to the operations of a completed project have been taken into account appropriately during the planning and design of the project. For example, in the case of a mill under planning, risk experts may pay attention to fire safety,

placement of buildings, impacts of exceptional natural phenomena, and selection of reliable contractors. Cooperation between the risk experts and the project organisation during the planning of the project is important, as it is often possible to reduce risks at the initial stage of the project.

"For example, if the fuel loading station at a power plant is designed in a place that is unfavourable from a fire safety point of view, the loading station can be relocated and the risk of fire reduced. If is constantly asked to comment on issues relating to fire safety and logistics," says Pekka Miettinen, Head of If's Competence Centre.

As the project plan progresses, the project's insurance programmes and risk management form an entity that includes the insurance cover necessary for the project and a risk management proposal aiming at loss prevention and control. When safety is already considered before the project plans are put into practice, loss and damage, as well as delays in the implementation of the project, can be avoided. This saves time and money both during the project and after its completion.

RISK ENGINEER HELPS TO AVOID LOSS AND DAMAGE

WHEN PROJECT plans give way to construction work, risk management plans are also put into practice.

If's risk engineer meets the project management and visits the site at regular intervals in order to ensure that the project's risks have been understood and taken care of. The results of the visit

are compiled into a risk survey report, the core of which contains loss prevention recommendations.

The primary aim of the risk engineering process is the prevention of losses by examining the performance and progress of the construction works, identifying key areas of risk, providing recommendations, analysing losses and sharing lessons learnt with the operational teams.

Risk engineering covers not only project management and the overall implementation of plans, but also those daily routines that are relevant in terms of important risks. In addition to the representatives of the project organisation and the risk engineer, representatives of

//WITHOUT GOOD RISK MANAGEMENT THE PROGRESS OF THE PROJECT DEPENDS TOO MUCH ON GOOD LUCK.//

Montes del Plata pulp mill construction site in Uruguay. The mill is expected to start-up mid-year 2013 and will produce 1.3 million tonnes annually.



the insurance broker and the insurance company also usually participate in the preparation of the risk survey.

"Special attention can be paid to working methods, safety of the site, or the flow of information within the project organisation, for example. In addition to project management, the target groups include, among others, all those who are involved in practical construction work, quality management or organisation of work," says Jukka Forssén, Head of Risk Management Services in Finland.

Risk engineering produces important information, above all for the project organisation, which can develop its operations on the basis of the observations made, and thus avoid loss or damage. Regular monitoring and reporting are also beneficial to the insurance company.

"The insurance company already assesses the project's risks before the construction work is started, but in projects that last for several years, partners, working methods and plans can change during the project. The surveys provide the insurance company with an opportunity to take changed circumstances into account in the insurance cover, and obtain information on the progress of the project, for example to support insurer's decisions," says Pekka Miettinen.

Thanks to systematic risk evaluation, the project's risk management level and development needs can be turned into concrete recommendations, and thus actions. Identifying potential problems makes it possible to tackle them early, before the risks start to live a life of their own and affect the progress of the project.

TIME AND COST SAVINGS MOTIVATE

AS LATE as a decade ago, companies' attitudes towards risk engineering were sometimes reserved, viewing visits to the site intrusive and causing extra work. Today, an increasing number of companies wish to utilise the services provided by risk engineers in project risk management. In addition to project organisations, providers of funding and insurers favour thorough risk evaluations.

"An external expert helps the project organisation to see the kind of risks that those working in the project may not take into account. Sometimes threats can remain undetected for the very reason that they are simply too close. The risk engineer also has access to knowhow gathered from other projects, which enables benchmarking among similar

projects. Experiences gained from other projects are often considered particularly valuable," says Jukka Forssén.

Although companies' attitudes towards risk engineering have changed, there is still a long way to go before risk engineering is regarded as a central part of project management.

"In large projects, most attention is paid to costs and schedules. However, loss or damage affects both the costs and the schedules of the project directly, which is why companies should pay more attention to the role of risk management in project planning and management. Without good risk management, the progress of the project depends too much on good luck," says Richard Radevsky, an English risk management consultant from Charles Taylor Adjusting. He offers his over long experience in risk management for the benefit of If's Industrial customers in construction and installation projects all over the world. As If's partner, he helps companies to manage risks relating to their large projects. Most recently Radevsky has participated with If in risk management for Stora Enso's pulp mill project in Uruguay.

The contribution, to various projects, of risk management experts such as Richard Radevsky is an important part of



Preventing property damage in the mining industry

If's services to Industrial customers. With nearly 50 in-house plus carefully selected external experts, If is the largest insurance company offering international risk management services to companies in the Nordic countries.

BEFORE RICHARD Radevsky can tread the sand of the construction site to familiarise himself with the progress of the mill project in South America, identifying of risks relating to the project and planning of insurance cover are already started elsewhere. After the organisation responsible for the project has identified the most important risks, If's experts begin to plan the project's insurance cover and risk management as part of the overall insurance solution. This work requires extensive expertise, as insuring large projects and avoiding loss or damage systematically is no simple task.

Although an external expert is useful in risk management, the work cannot be completely outsourced outside the project. In large projects, risk management requires cooperation among many parties. These include clients, project management, contractors, employees, technical design-

ers and consultants, providers of funding, insurers and reinsurers.

All operators involved in the project are responsible for their own part of risk management. If one of the links of this chain breaks and the risks materialise, the consequences may affect all members.

THE PROJECT ORGANISATION IS RESPONSIBLE FOR INSURANCE COVER

THE MOST common losses in large construction and installation projects are those affecting the progress of the project directly, such as fire loss or damage, water damage, loss or damage during transport, and – especially at the test run phase – breakdowns. Loss or damage may also

//PREPARING FOR LIABILITY RISKS IS AN IMPORTANT PART OF RISK MANAGEMENT.//

affect rented property, employees or third parties, such as partners. The largest risks in projects are usually associated with delays. If a project is completed behind schedule, the financial loss may be considerable. This is why projects should always be insured against delay and loss or damage during transport.

“Parts damaged during transport may delay the entire construction project. It is also essential to prepare for the situation

where parts ordered fail to arrive on time, potentially resulting in schedules being put back,” says Pekka Miettinen.

Preparing for liability risks is another important part of risk management in projects. The liabilities of the various parties in the project must be defined clearly in agreements, and liability risks must be eliminated as far as possible, or prepared for by taking out insurance.

If has developed an insurance package for projects that covers the most common risks of loss or damage relating to construction and installation projects. The package includes property, liability and cargo insurance, and the project organisation can choose from the package the insurance cover that best meets their needs.

In projects, the responsibility for taking out insurance is often given to the contractor. Pekka Miettinen emphasises, however, that the project organisation should have responsibility for the overall insurance solution, to ensure that the most important risks are covered and that there are no grey areas in insurance cover and risk management for which nobody is responsible. An overall grasp of issues is essential in order to manage project risks systematically.

MARI HÄTINEN

THE CONTINUING INCREASE in the demand and prices for metals has made it possible to open numerous new mines in the Nordic region and in other countries. Mining of ore and its processing into metallic concentrates are not completely risk-free operations. Risks in the mining industry differ in several ways from those in other sectors of industry, with respect to, for example, the risks of personal injury, harm to the environment, and damage to property. This article discusses primarily the property and interruption risks.

SAFETY FIRST

IN THE media, we can often see reports on serious mining accidents in which many miners have lost their lives. Such accidents are typical in countries where companies seeking a quick profit operate without appropriate regulatory control. The situation is quite different in developed countries where the importance of safety is recognised and control is appropriately arranged.

The level of safety-awareness is very high in underground mining, in particular. The risks are so evident that the miners want to ensure their safety, and that of their colleagues, as well as possible. The only obstacle to the improvement of safety is often the difficulty in identifying risks. External experts can provide valuable assistance in this work.

The same risks that threaten the safety of employees also constitute the most significant property and interruption risks in underground mining operations. Collapse of the mine, explosion, underground fire, and flooding all can cause a risk to both people and the machinery and structures



Special attention should be paid to the fire-safety of machinery placed in underground spaces, because the opportunities to extinguish fire in the tunnels are poor.

in the mine. This is why a mine that is safe for people is also productive and reliable in its operations.

Authorities monitor all aspects of the operations of mines very closely, especially because of their environmental impact. If a serious personal injury, fire, or harm to the environment occurs at a mine, corrective measures may be required in certain cases before the mine can continue its operations. This is a factor that motivates mines to invest particularly strongly in safety.

DIFFERENCES BETWEEN MINES

MINES DIFFER from each other in the shape and location of the ore body as well as the processes of mineral-processing. There is great variation in ore bodies' shape. In the best case, the ore can be found at nearly the surface of the ground, with the worst scenario involving an incoherent deposit in narrow strips extending to the depths. In many cases, mining operations begin with the open-cut method, with underground mining introduced

In most cases, all material goes through grinding mills, so the reliable operation of these is a very critical factor. In project plans, the delivery times of large grinding mills may determine the schedule of the entire project.



later. Although open-pit mining is much safer than underground mining, it is not completely risk-free.

In underground mines, efforts are made to measure the tensions and movements in the bedrock so as to allow timely measures to prevent any threatening collapses. Measurement techniques have developed considerably in recent years, but the movements of the bedrock are always to some extent unpredictable. Threatening collapses may result in the closure of the entire mine or require that some tunnels be replaced with new ones.

FLOOD RISK

ACCORDING TO the worldwide statistics on major losses at mines, flooding has been one of the most significant causes of major losses. The origin of a flood damaging a mine might be a water body that floods into the mine along the ground. Sometimes the floodwaters have an underground source. Flooding almost

always involves the movement of large masses of soil carried along with the water, which increases the amount of loss or damage caused by floods. In 2011, mines in eastern Australia had to discontinue their operations for a long while, as extended heavy rains severed transportation connections to the area and damaged other infrastructure.

HARMFUL SUBSTANCES

IN ADDITION to ore, large amounts of waste rock must be excavated at mines. This material is later used as back-fill at the mine, or it is just deposited in areas designated for this purpose. Even this material can release harmful substances into the soil, so waters coming from these areas are monitored. In certain cases, waste rock can be utilised in road construction, for example.

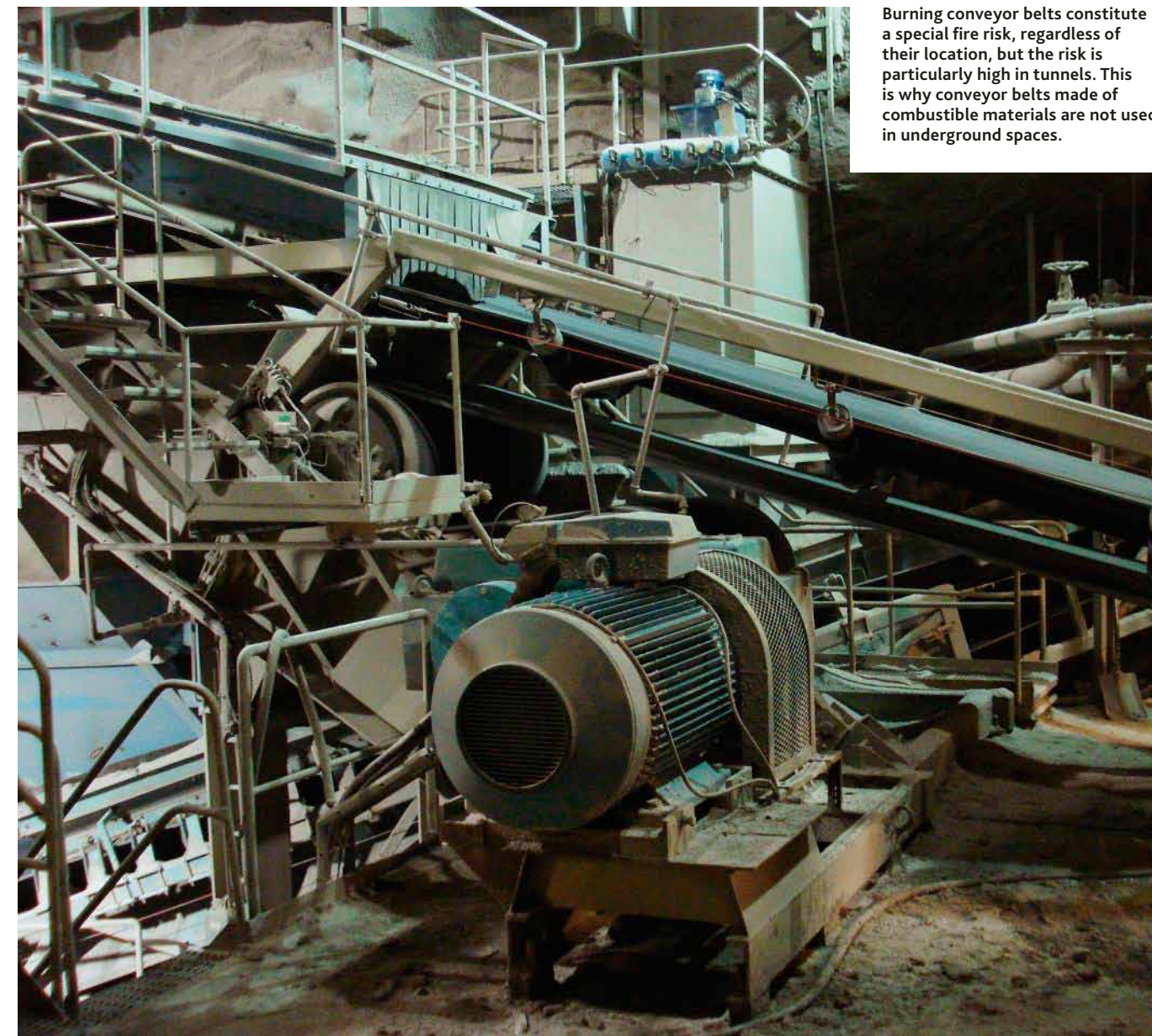
Large amounts of chemicals are used in minerals' processing. Some of these are harmless, and others are dangerous or

harmful to the environment. The most typical harmful chemicals include cyanide, sulphur dioxide, hydrogen sulphide, and acids (such as hydrofluoric, sulphuric, and nitric acid). In addition, mines may use self-igniting chemicals and flammable liquids and gases.

The chemicals used are neutralised and dissolved in the water treatment phase. As much of the water as possible is recirculated so as to avoid the intake of large volumes of new water. However, small amounts of harmful substances may remain in the tailings after processing; therefore, these minerals ground into fine particles are stacked in pond areas where the characteristics of runoff can be monitored and the runoff can be treated. This activity must be continued after the mine has been closed.

A SINGLE-STREAM PROCESS

MANY ORE- and mineral-processing lines are single-stream processes. In practice,



Burning conveyor belts constitute a special fire risk, regardless of their location, but the risk is particularly high in tunnels. This is why conveyor belts made of combustible materials are not used in underground spaces.

this means that the breakdown of even one piece of key machinery brings the entire process to a halt. This is why mines invest heavily in condition-monitoring and maintenance for their equipment. The most common type of damage to equipment at mines is breakdowns of large gearboxes. Sometimes cracks are found in heavy castings, or they may even break into pieces because of latent casting defects. These risks can be reduced by means of regular visual and NDT inspections. Supply of heavy castings by new foundries entails increased risks of breakdown, as new foundries seldom have sufficient experience in the production of large castings.

FIRE AT A MINE – ALWAYS A SERIOUS RISK

FIRE INVOLVING a piece of heavy machinery or a work platform at a mine always poses a threat to people in the mine. Since the machines are too large for extinguishing with portable fire-extin-

guishers, they must be equipped with a fixed extinguishing system. It is practically impossible to direct an extinguishing agent from a portable fire-extinguisher efficiently to the fire, since the fire usually occurs behind protective covers. The tanks of mining machines contain hundreds of litres of fuel and hydraulic fluids. In addition, the rubber of the large tyres and hydraulic hoses constitutes a large fire load.

Although some machines are remote-controlled, human workers are still needed in mines. For employee safety, it is important that there be telephone connections to the most critical locations in the mine. Information received on fires by phone makes it possible to redirect ventilation in such a way that the safety of all people in the mine can be ensured.

In addition to mobile equipment, underground spaces inevitably have some other fire load, although the aim is to minimise it. When long rubber conveyor belts burn, the ceiling and wall structures

of the tunnel also suffer damage. This is why underground conveyors always use belts made from fire-retardant material. Because of their fire hazards, oil-immersed transformers cannot be used at mines.

Mines at which the material excavated contains combustible substances, such as coal, methane, or sulphur, form a group of their own. At such mines, special safety measures are required for preventing fires and gas explosions.



EERO KANKARE
eero.kankare@if.fi

How to manage risks related to large transformers?

Oil-filled large transformers involve a number of risks that would, in most cases, prove devastating if realised.

INTERNATIONAL RESEARCH indicates that the probability of damage increases in transformers more than 20 years old. According to the manufacturers, the average lifetime of some transformers can be estimated as follows: distribution transformers 40 to 50 years, furnace transformers and generator transformers 25 to 30 years, furnace transformers for scrap smelting 15 to 20 years. These transformers typically operate at a voltage from about 10 kV to 400 kV. The reason for the varying lifetimes is the operating conditions. A grid transformer normally runs with a stable load and at a constant temperature. On the other hand, a scrap furnace transformer runs in extreme conditions, tapping from zero to max load several times a day. The short circuit reaction generated in the furnace creates tough conditions for the transformer. Another important reason for the lifetime study is the operating temperature of the transformer. Raising the temperature by ten degrees will shorten the lifetime to half that of the expected average lifetime.

The average lifetime of large transformers in the Nordic countries and Europe will clearly rise over the next few years and decades. Expert monitoring, high-standard automatic protection and basic maintenance undertaken sufficiently early can safely extend the useful life of equipment. Based on monitoring, over-aged equipment can also be taken out of use.

LOSS PREVENTION

1. A NEW transformer should be installed, operated and maintained naturally in

accordance with the manufacturers' guidelines. Before commissioning, transformers should be inspected and tested in accordance with manufacturers' instructions. The dielectric characteristics of the insulation media (winding insulation, insulating liquid, bushings, tap changer oil) should be measured and recorded to establish benchmarks for future reference.

2. FOR SEVERAL days immediately after commissioning, the transformer should be inspected thoroughly for indications of overheating, oil leaks, vibration or malfunction. The proper operation and calibration of each monitoring and protective device should be verified.

3. OIL-FILLED transformers should preferably be located outdoors, well detached from any building and any equipment or storage areas. If the transformers are located indoors, they should be located adjacent to external walls, in their own fire cells with at least EI120 constructions, and on the ground floor. If the switchgear equipment is expensive and critical, it should be fire separated from the transformer.

4. A MAINTENANCE program should be established. The importance, criticalness, physical environment and operating conditions of the transformer should be considered to establish an effective schedule. The operation of each transformer should be monitored on a fixed schedule.

5. TO ENSURE business continuity, the best solution is to always keep a spare transformer available. In the smelting industry today it is normal to have what is known as an n-1 or n+1 situation, meaning there is always one spare transformer.

An option is to have common spare transformers for several plants or companies.

6. MONITOR GAS formation. An oil-filled transformer comprises a steel casing that includes windings and a core. During the transformer's manufacture, the windings are coated with insulation made of paper and electrical insulating board. The steel casing is filled with transformer oil, which saturates the insulating paper. This allows the combination of paper and oil, and electrical insulating board, to form the necessary electric insulation. In order for the transformer to work impeccably for at least 30 years, and to enable assessment of the transformer's lifetime, the properties of transformer oil and insulating paper must meet certain standards.

During normal use of the transformer, the oil and insulating paper are ageing. At some stage, they are no longer able to function properly in terms of their electrical and mechanical strength. Damage databases clearly indicate that transformer damage is often caused by faulty insulation inside the transformer. It is therefore essential to monitor the ageing phenomenon, in order to gain reliable information at the earliest possible stage on incipient faults. Certain gases are created in transformer oil, due to both the ageing of the transformer and various overload incidents, discharges and electric arc phenomena. The most reliable way to monitor a transformer is therefore to take a sample of its oil. A so-called dissolved gas analysis (DGA) on such samples should be performed sufficiently often, normally once a year, by a competent laboratory.

7. AUTOMATED ELECTRICAL protection relays are triggered by e.g. over-voltage, over-current, differential current, oil



temperature or presence of gas in oil. If there is gas in oil, the applicable relay is called a gas or a Buchholz relay. It is a fast relay and reacts to all faults where gas is generated inside the oil-cooled transformer. It is especially important in places where oil fires may cause a major loss. All relays should be tested at least every three years to ensure their operation during a disturbance.

Electric arcs can be generated in transformers as a result of short circuits. The temperatures created in such arcs are extremely high, up to 3000°C, are able to cause fire and other property damage, and present a serious threat to human life. To avoid damage, a special arc pro-

tection device should be installed. Such a device "sees" the arc and disconnects the power in milliseconds.

8. THE EXTINGUISHING of an oil-filled transformer without automatic extinguishing system equipment has often proved very difficult. As a minimum, the transformers located indoors should be provided with automatic extinguishing systems. Large, critical outside transformers should also be protected similarly. The best method is normally an automatic water spray system. The transformer, regardless of its type, should automatically be de-energized, when the extinguishing system is released.

9. INDOOR TRANSFORMERS and installations may also be protected with automatic CO₂ extinguishing equipment. This kind of equipment always requires a very airtight room so that a sufficient amount of CO₂ gas remains in the room until the fire is extinguished and no re-ignition possible. Due to personal safety reasons, this kind of protection is mainly applicable in unmanned rooms only.



GISLE MELHUS
gisle.melhus@if.no

CASE 1

A single phase transformer in a ferroalloy plant failed recently. The failure could have resulted in a halt in production for up to one year. Fortunately, the plant had a spare transformer and the disturbance to production was only one week.

The reason for this failure is not yet clear, but it seems that there had been some disturbance in the grid for some time. Due to this, a weak point may have developed inside the transformer windings, which then led to a short circuit. The same problem was reported at

similar transformers in the plant, and rewinding of all these will have to be carried out.

CASE 2

The extinguishing system, including the cables, must be installed properly. It is important that the system will operate in the event of a fire. At a plant, the cables of the release unit of the extinguishing system were led through the transformer vault. When a fire occurred, it damaged these cables and, as a result, the extinguishing system could not operate and the transformer burned down completely.

CASE 3

A devastating fire occurred in the high-voltage switching station of a steel mill. Despite good emergency preparedness and competent fire fighting forces, the fire could not be extinguished until the power was cut off, which took more than an hour following the start of the fire. After that, the fire was extinguished by competent fire fighting forces. Thanks to the solid, fire-resistant building construction and good fire compartmentation, the fire could be contained in the switchgear station only. The impact on production

was substantial. The replacing of the switchgear took several months. During this time there were many blackouts cutting the power to the mill and disturbing production. The problems could probably have been avoided if the original underground cabling had been left intact instead of removing it when installing the temporary bypass cabling. The movements from removal damaged the insulation material of the large transformers, causing problems due to blackouts, and large sections of insulation had to be replaced.

Disability costs

down through determined work

ISS Palvelut Oy is a textbook example of how issues relating to well-being at work should be managed. “We have been able to extend working careers and reduce sickness-related absences by developing our well-being at work activities, which is also reflected in productivity improvements,” says Sirpa Huuskonen, HR Director at ISS Palvelut Oy.

ISS PALVELUT OY’S well-being at work programme has produced excellent results.

Here is a startling figure for you: 57 per cent. More than half! That is how much the company’s disability costs have fallen since 2008, when the programme was launched.

But is this actually startling?

“If the company has a strong will to succeed and the management and supervisors act in accordance with uniform principles, quite a lot can be done through soft means alone,” Sirpa Huuskonen says.

She thinks that diminishing the use of soft means to extend working careers is out of date in 2012.

“If results as good as this can be

achieved in our industry, what could be achieved in companies where the physical strain and risks are not as high as in our relatively tough industry?”

After all, the facility management industry (cleaning services, property services, catering services and security services) tops the list for accidents and sick days.

The amount of sickness absence is increased, above all, by demanding working conditions and difficult working positions. For example, nightly cleaning of food production plants, loading suitcases onto aeroplanes and dropping snow from roofs pose challenges due to tight schedules and the high risk of accidents.

“Unlike many other industries, we have only a few machines that can be turned on in the morning and turned off at the end of the working day. In our industry, people cannot be replaced with anything. In our company, skilled professionals play the leading role, and we must take good care of them on a comprehensive basis,” emphasises Sirpa Huuskonen.

THE PROGRAMME consists of three parts: work capacity, occupational health and occupational safety.

The well-being at work programme, which has already produced excellent results, was initiated after high labour costs attracted the company management’s attention, and they sought to bring disability and pension costs under control. Another reason for developing the programme was increased competition for labour in the service sector.

ISS Palvelut Oy is the third largest private employer in Finland, employing approximately 12,000 people.

The company is part of the international ISS Group, which has operations in over 50 countries all over the world. The Group, which employs a total of more than 530,000 people, is based in Copenhagen and owned by the private equity groups EQT and Goldman Sachs Capital Partners.

The aim of the well-being at work programme, launched in 2008, is to anticipate occupational health and safety risks, improve employees’ well-being and extend working careers. Supervisors play a key role in the early identification of problems relating to well-being at work and in addressing them.

The basic idea of the programme has been clear from the very start: if rehabilitation measures are begun in time, the chances of success are also good.

The company’s well-being at work

If’s occupational health reporting – examples

Management’s Safety Hour

Report for the management, review of the present state of occupational safety, management’s liability, costs and development needs.

Health and Safety Navigator

Analysis of the present state of occupational safety, led by If’s expert and resulting in a report and proposed improvements.

Assessment of Safety Culture

If’s expert assesses the safety culture alongside the client’s assessment team; report and recommended measures.

Health Navigator

Assessment of occupational health and well-being at work, led by If’s expert; report on current situation and proposed further actions.

Claims Statistics

Comprehensive and updated lists of claims and compensation, statistics on causes and key figure graphs in the IfLogin online service.

Occupational Safety Visit

Visit by If’s occupational safety expert, including negotiations and an inspection and assessment walk; visit report.



Sirpa Huuskonen, HR Director at ISS Palvelut Oy

programme for the period 2008–2012 consists of three parts: work capacity, occupational health and occupational safety. “Above all, I would like to emphasise the importance of bold networking. The first step was to create cooperation models with the occupational health care provider, the pension insurance company and the workers’ compensation insurance company, If, as well as within the company between the occupational health and safety organisation and supervisors.”

By the time internal and network co-operation processes had become operational, each party knew their role and responsibilities. The next step was to agree on forums and meetings for the activities and on the objectives of the well-being at work programme.

THE OBJECTIVES set covered large groups of issues; the first addressed was the management of risks relating to work capacity. “We realised that too many people were about to retire, and something had to be done.”

The management took charge of the matter and acted rapidly. The starting point in each employee’s case was to establish which elements of their work capacity they had retained, and what could be done with these elements.

Contact is maintained with employees

who are sick, and illness does not always entail absence from work.

“A key element of the approach is that the need for absence can be discussed. If normal tasks are too physically demanding, we can consider options such as adapted tasks, shorter working hours or a wholly alternative job description. The risk is that a period of absence does not improve the employee’s condition, but the disability becomes chronic.”

“We established an internal work capacity fund which grants financial support for the reconciliation of reduced working capacity with one’s tasks. This is one way of ensuring that disability costs do not overburden the budget of a single organisational unit.”

“We offer alternative tasks for those whose work capacity has declined. For example, when a cleaner is offered an alternative job as a cashier in a staff restaurant, returning to work may play a key role in the recovery process, and the working career may continue for many years.”

Working careers are extended and well-being at work increases, when clear indicators are used to describe well-being at work. Their development must also be monitored.

“We trained the entire ISS organisation and all supervisors by providing information on the situation at the time, and on

how risks relating to work capacity would be addressed. We developed an early support model and prepared a well-being at work guide for supervisors.”

The main point is that the need for absence and other issues can be discussed. It is important to agree on common rules in the workplace: how issues are raised and by whom?

AS THE IMMEDIATE superior, the supervisor is often blamed for problems in the workplace.

“A position as a manager should not be a reward, but something you want to achieve yourself. Management and leadership are an area of competence for which you can educate and train yourself in the same way as for any other task as an expert,” Sirpa Huuskonen says. ISS Palvelut Oy started out on the basis of fundamental work, to ensure that all supervisors knew how to act when they notice that an employee is no longer able to carry out his or her tasks due to a physical or other limitation.

A SYSTEM of physicians in charge was introduced, within the occupational healthcare system.

A steering group and regional cooperation groups were set up with the occupational health care partner and the pension

insurance company. These familiarised themselves in more detail with the needs of employees who required rehabilitation. Many issues are handled systematically, through tripartite cooperation between occupational health care, the pension insurance company and representatives of the employer.

REDUCING THE NUMBER of occupational accidents is a focus area.

“After that we systematically shifted the focus to occupational safety management, knowledge of occupational safety has been improved through monthly reporting and information sessions on occupational safety performance, where all near miss cases and the monthly number of accidents are discussed. These involved extensive training rounds.”

Sirpa Huuskonen comments that cooperation with If has run smoothly. “Occupational safety reports prepared by If’s experts are informative, and help us to manage occupational safety issues much better than before.”

Occupational safety means preventive measures aimed

at ensuring that work and the working environment are safe. Minimising occupational accidents and the resulting absence requires careful planning and anticipation. Reducing the number of occupational accidents is one of ISS Palvelut Oy’s focus areas.

“Each regional unit prepares an annual occupational health, occupational safety and work capacity plan, which covers various basic occupational safety themes and presents new operating models whose implementation is monitored at organisational-level and regional meetings. In addition, each unit has assessed its occupational safety level with

//WE PREPARE A CO-OPERATION PLAN ON OCCUPATIONAL SAFETY.//

a self-evaluation tool developed by the Centre for Occupational Safety,” Sirpa Huuskonen says.

With respect to occupational safety management, ISS Palvelut Oy’s sector is exceptional in that services are always produced in shared workplaces, at the client’s place of business. Risks relating to working conditions and the client’s activities are therefore shared challenges. “We prepare a cooperation plan on occupational safety, in order to agree on the measures, to be taken together with the client.”

Successful cooperation between the management, supervisors, experts and the occupational health and safety organisation, as well as the workers’ compensation insurer and other stakeholders and customer companies, has been essential to the positive development of the company’s occupational safety and accident

figures. Safety walks conducted by the management at workplaces and clients’ sites as well as ‘Have a safe working day’ events, which have now been organised for several years, are typical examples of this.

THANKS TO the electronic occupational health, occupational safety and work capacity system, activities have become more systematic. For example, the situation with respect to both preventive measures and accidents that have occurred is displayed in real time. The system also ‘forces’ the investigation of accidents, which ensures that corrective measures are always taken.

In addition, the occupational safety and accident situation is discussed by several other bodies, including the managing director’s information sessions on results, business units’ steering groups, unit

meetings, product groups and meetings of the occupational health and safety committee.

“We have also rewarded supervisor areas that have reached the ‘zero accidents’ goal. Thanks to multiform communications, understanding of the importance and effectiveness of occupational safety activities has increased. Achieving zero accidents is possible, even in the facility management industry,” Huuskonen says.

Information system harnessed to assist in the management of well-being at work.

“At the third phase, we have now achieved well-being at work management for which we have developed an occupational health, occupational safety and work capacity system. The HR unit has an occupational health, occupational safety and work capacity team of seven experts, there to assist if any problems arise. We also have an occupational

trainer who offers hands-on advice in the preparation of rehabilitation plans and supports employees returning to work.”

The information system for the monitoring of well-being at work is one of our most interesting tools. “It helps us to see whether we still have supervisor areas in which the model for early support does not yet work. It sends an ‘alarm’ to the supervisor’s e-mail. The message reminds us that issues relating to absence must be brought up and that it must be established whether they are work-related or due to other reasons.”

“We cannot allow an employee to continue performing tasks that make him or her ill. For example, if an employee takes a lot of sick leave due to an orthopaedic condition, we have to make the work lighter and adapt it in such a manner that the worker’s career can continue,” Sirpa Huuskonen says.

//THE RETIREMENT AGE HAS INCREASED FROM 59 YEARS TO AS MANY AS 62.6 YEARS.//

“In such cases, we change the employee’s duties to make them more suitable for his or her condition. By relocating or retraining an employee, we can also prevent or postpone his or her retirement due to disability or an accident.”

Let’s return to the figures on absence caused by sickness and accidents. ISS Palvelut Oy’s well-being at work programme has proven to be a successful project. In 2008, six five-year targets were set, and almost all of them have been met. For example, the company was able to reduce sickness absence by 11 per cent by the end of 2011. The amount of absence caused by accidents has decreased by 25 per cent since 2008 and the accident frequency rate by 32 per cent.

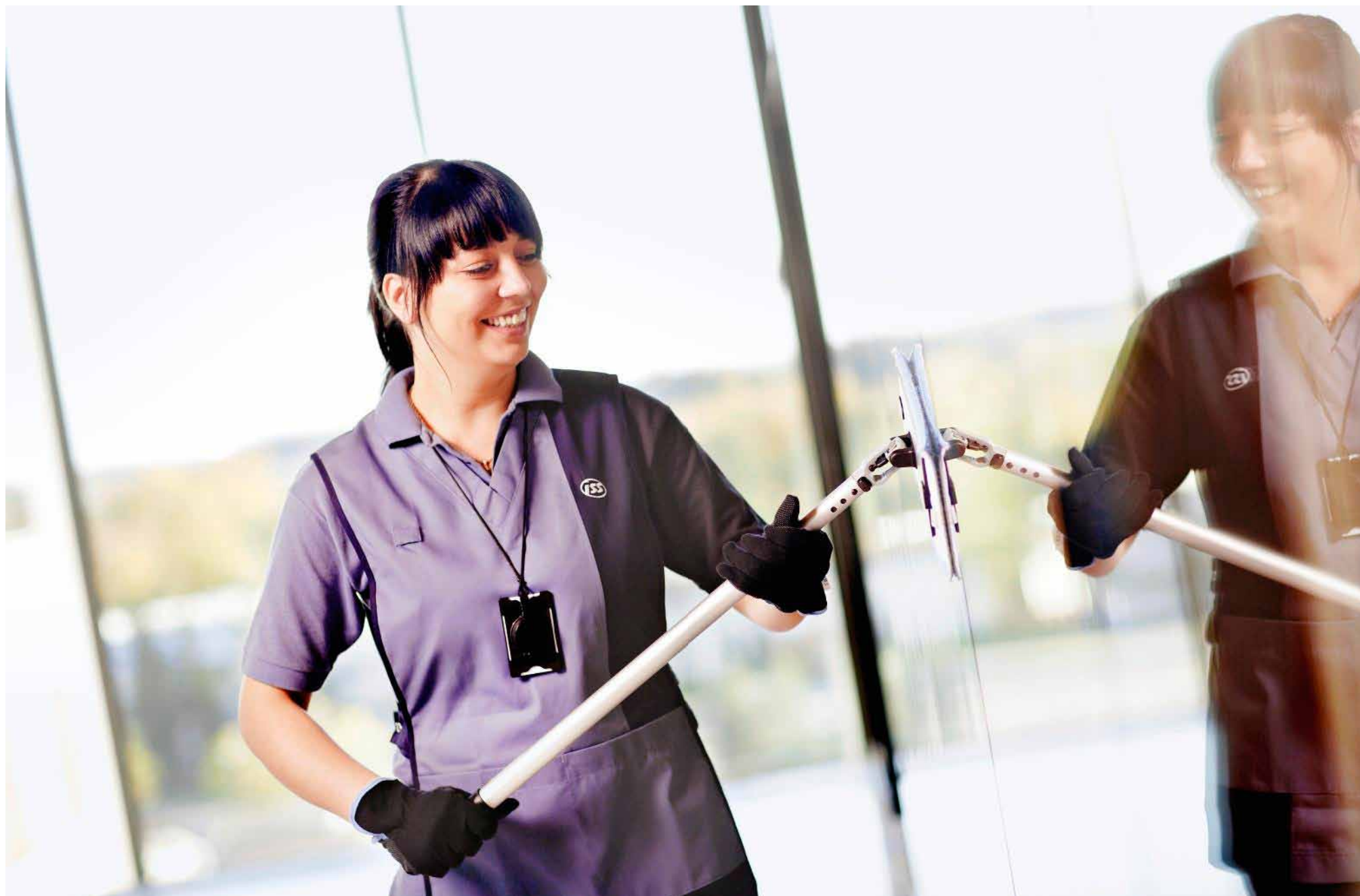
The fourth target was to increase employees’ well-being at work and the attractiveness of ISS Palvelut Oy as an employer. On a scale of 1 to 5, employees’ satisfaction with and commitment to their employer has increased from 3.3 in 2008, to a figure as high as 4.4 in 2011.

“The retirement age has increased from 59 years to as many as 62.6 years, which means that we are very close to our target, 63 years by the end of 2012.”

Sirpa Huuskonen thinks that disability costs can be brought down quite rapidly if so desired. However, this is only an intermediate objective.

“The actual goal is to improve productivity, i.e. to ensure that employees’ time at work is more productive and of higher quality. This means undisturbed production, improved customer contacts and better quality in general, which is good for all parties,” Sirpa Huuskonen emphasises.

HARRY NORDQVIST
KARI HÄKKINEN



How will our health fare?



Will we grow old, get sick and die in the same way as our forefathers? Hardly – while new diseases are on the increase, others are in decline. You will very likely live longer, remain healthier and work longer than your parents. Who will take care of us or pay the bill?

NEW DISEASE landscapes and increased life expectancy will create different healthcare needs, while research provides new methods and medicines. An overstretched health sector is finding it increasingly difficult to make ends meet. Over the last century, better medicines, vaccines and living standards have helped Nordic citizens increase their longevity, by around two years every decade. Older people will probably work longer, as manpower shortages lead to a rise in the pensionable age in many countries. Over the next 30 years, the number of people needing care will triple in the Nordic region, at the same time as financing opportunities via taxes become limited.

PUBLIC OR PRIVATE HEALTH CARE?

EVEN TODAY, we can see that private healthcare has become more important in the Nordic countries.

However, although private healthcare has grown, public healthcare is still predominant.

The Swedish, Norwegian and Danish

public sectors currently cover 82 to 85 per cent of all costs pertaining to healthcare. In Finland the rate is a little lower – there, the state pays 76 per cent of costs and the personal contribution is the highest among the Nordic countries.

IMPROVED TECHNOLOGY AND GREATER KNOWLEDGE

IN 20 or 30 years' time, hospital scans will be routine thanks to ever cheaper magnetic resonance imaging (MRI). This will be advantageous by providing a detailed picture of each patient's condition. On the other hand, the discovery of a huge number of trifling ailments, with practically everyone being diagnosed as suffering from something, may prove less beneficial.

Thanks to the internet, people are now better informed about their conditions. In some cases, they actually know more than their doctors, leading them to expect more care. Doctors will have to become better at saying no.

WHAT WILL THIS COST?

OF COURSE, the major question concerns money. The fundamental rule is that we are happy to pay for someone else's healthcare when an average level of health, but no more, is the outcome. The state will presumably take care of the 'basics' – at least in the Nordic countries

– while individuals will have to contribute privately towards anything they want over and above the average state of health. But it is clear that healthcare will increasingly become more expensive.

WHO WILL PAY?

CONSIDERING THE traditionally modest wages and strenuous working environment in healthcare, it is easy to understand the economists' dilemma: will people and money suffice to handle future healthcare needs?

The fundamental concept of publicly financed and delivered healthcare under the welfare state simply cannot cope with future developments. This can already be seen in Denmark, where more than three million citizens have some form of private health insurance. Their number is steadily growing. Other Nordic countries are traditionally more sceptical towards private healthcare, even though private health insurance is making significant inroads in Sweden and Finland. Only Norway, with its exceptionally strong public finances, seems to be bucking the trend.

EMPLOYER'S ROLE?

IN THE future, the number of people in work will fall and they will be older, on average, than before. This is a consequence of general population trends in the Nordic countries. It will lead to

greater competition between firms for labour force, and various ways of rewarding and obtaining the commitment of employees will become more important. Similarly, care for the health and well-being of personnel will become a key competitive factor.

COULD HEALTHCARE INSURANCE BE THE SOLUTION?

FIRMS ARE more and more interested in various insurance solutions, through which employees' health can be promoted and their commitment to the company secured. Healthcare insurance is one such alternative. For 200–400 euros per employee per year, each employee can be provided with a healthcare benefit worth several thousands of euros. A pay rise on the same scale would have nowhere near the same benefit.

Another major advantage lies in the fact that, since healthcare costs are no obstacle, employees seek medical attention in the early stages of an illness. Overall

costs are reduced by beginning the necessary medical treatment at an early stage. Our customers have positive experiences of the effects of healthcare insurance.

WHAT DOES THE FUTURE HOLD?

MOST INDICATIONS show that we are moving towards a future where healthcare needs will exceed public resources. Many illnesses are lifestyle-related and demands on individual responsibility will increase. The question is what we do with the actual content of healthcare. Will we need to change healthcare priorities?



SIRPA PEURA
sirpa.peura@if.fi

PARADIGM CHANGE UNDERWAY

Medicine » Health sciences » Behavioural science

- Wellbeing: Ability or skill in living a happy, contented, good life
- Change in wellbeing results from change in thinking, behaviour and attitude
- Respectful approach: people are experts in their own everyday affairs
- Harnessing strength of a peer group

CAN THE TREND IN GROWING COSTS BE COUNTERED?

Led by Aalto University in Finland, the VirtualCoach – Paths to Wellbeing – research project has revealed that a paradigm shift is underway. This indicates that lifestyle diseases now pose the greatest risk to health and wellbeing. An example of this trend lies in the fact that stress is a common background factor behind the five key illnesses listed by the WHO.

Developing medical treatments for problems caused by lifestyle has proven particularly difficult and expensive. Neither does health advice seem sufficient even to curb the growth in lifestyle diseases, let alone turn the trend positive. It could be claimed that solutions, on which maintaining health will be built, will be less often based on medical science, and more strongly on learning wellbeing skills. Another factor will be the creation of an environment, or so-called health architecture, supportive of healthy choices.

An example of previous, more promising research that goes to the heart of the stress management issue lies in mindfulness-based consciousness creation exercises. These provide a new capability suitable for everyday life. Corresponding methods have achieved good results in areas such as anxiety disorders, weight control and level of experienced happiness.

A choice architecture supportive of wellbeing could also affect issues, such as the foregrounding of products in shops, in a way that promotes human health rather than purely maximising profit. The depicted paradigm shift is leading to a huge number of novel wellbeing innovations. Due to its agility, the SME sector is playing a key role in their productisation and testing. For this emerging sector, new financial instruments are probably also required that would enable the birth of so-called social enterprises. Such instruments could be used to support companies whose main objective is the widest possible dissemination of solutions proven successful in supporting a good lifestyle.

KRISTA LAGUS
Academy research fellow, PhD,
Principal Investigator of the
VirtualCoach research project

Can flood losses be avoided?

The statistical evidence for climate change resulting in more extreme rainfall events leading to flooding, is becoming increasingly difficult to ignore, at least for the insurance industry.

BETWEEN 1998 and 2009, Europe suffered over 213 major damaging floods causing some 1126 deaths, the displacement of about half a million people and at least EUR 52 billion in insured economic losses. While in their annual Sigma analysis Swiss Re declared 2011 as the worst year ever for flood related losses. Current estimates for insured losses relating to flooding in Thailand are USD 12 billion with other catastrophic events in Pakistan and China.

But we don't need to look so far from home to find major damage in 2011 resulting from flooding and the experience from Copenhagen shows that you don't need to live next to a river to suffer flooding; urban areas with elderly or inadequate drainage systems, can be just as vulnerable as riverside and coastal properties.

THE CLOUDBURST IN COPENHAGEN

COPENHAGEN WAS hit by a cloudburst on 2nd July 2011; more than 120 millime-

tres of rain fell over the city in the course of 2 hours. Main roads were rapidly transformed into rivers of water and many ground floor and basement areas were flooded. Additionally, traffic in the capital was dramatically affected when flood water blocked several major roads into and around the city. It took several days to normalize traffic in the affected areas.

According to the records of the insurance industry the event caused close to 91,000 losses at a total expense of approximately DKK 4.9 billion. Almost 21,000 of these losses were reported by businesses, totalling losses worth approximately DKK 3.2 billion.

THE AUTHORITIES' RESPONSE TO FLOODING

ONE RESPONSE to flood losses in Europe, Directive 2007/60/EC, establishes a responsibility among member states to assess flood risk, applying to all kinds of floods (river, lakes, flash floods, urban floods, coastal floods, including storm surges and tsunamis) and the effect on assets and humans at risk in these areas. Member states shall take adequate and co-ordinated measures to reduce these flood risks, based on a three-stage process:

- Identify areas where potential significant flood risk exists by 2011.

- Develop flood hazard maps where real risks of flood damage exist by 2013. These should be for at least a 1 in 100 year event and extreme events or low likelihood events, in which expected water depths should be indicated.
- Finally, by 2015 flood risk management plans must be drawn up, to include measures reducing the probability of flooding and the potential consequences.

An integrated approach to flood management in Europe has also involved establishing a warning system. The European Floods Awareness System (EFAS) is an early flood warning system, which can provide national institutes and the European Commission with information on possible river flooding, likely to occur within three or more days. The system was shown to provide reliable flood forecasting for the Vistula and Odra in Poland in May 2010 and is operational in 2012.

However, mapping of existing flood risks and short-term forecasting may not take into account potential effects of global warming.

CLIMATE CHANGE IMPACT

THE INTERGOVERNMENTAL Panel on Climate Change (IPCC) Summary for Policymakers: Managing the Risks of

Copenhagen was hit by a cloudburst on 2 July 2011; more than 120 mm of rain fell over the city in the course of 2 hours.



Extreme Events and Disasters to Advance Climate Change Adaption reports that weather observations from countries all over the world, collected since 1950, indicate a likely trend for increased heavy precipitation events over many regions. Even in areas where the annual precipitation is projected to decrease, there is medium confidence of an increase in heavy precipitation.

In Europe, the European Commission's Joint Research Centre set up the PESETA project (Projection of Economic impacts of climate change in Sectors of the European Union based on bottom-up Analysis) with a scope to focus on the impacts of climate change on, amongst other areas, floods. The project reported in November 2009 that the expected annual economic damages from river floods in the 2080's would more than double the average damages over the 1961 to 1990 period, even when population growth and economic development are not taken into account.

In the Netherlands the effects of climate change on seasonal discharge in the Rhine and Meuse indicate an increase in extreme discharges from 16,000m³/s to 18,000m³/s for the Rhine in 2100. The 2100 projected discharge figures are now being used in the design of flood protection to these rivers.

Similar studies on the effect of climate change to individual river catchments have been carried out in many regions outside of Europe. For example in China the effects of climate change have been modelled and indicate, with some uncertainty, a high flood risk in the Haihe River, the middle and lower reaches of the Yangtze River and the Pearl River basin.

IN GENERAL, expectations for more extreme peak river flows are based upon modelled rainfall events becoming more extreme in the future. Since rainfall events are the main contributor to urban flooding from inadequate sewerage networks, an increase in the frequency of the type of event experienced in Copenhagen might be expected.

YOUR RESPONSE

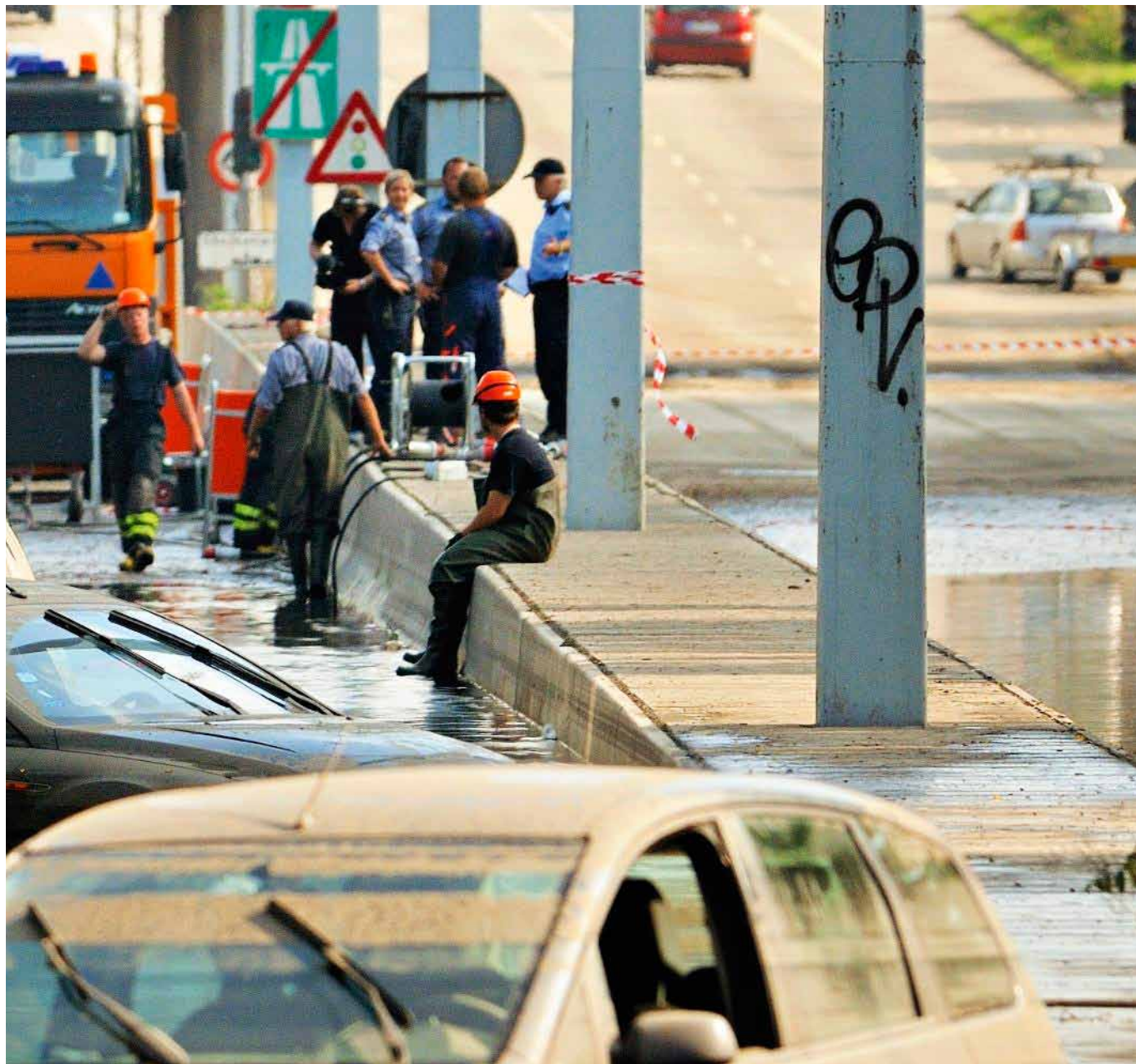
ALTHOUGH THE efforts of the authorities may reduce the exposure flooding in your area in the long term, your own efforts can prove invaluable sooner that you may wish to know. A good start is in understanding your exposure to this kind of loss. Even if you are not next to a river or on the coastline, there are some questions, which you should ask in determining your risk:

1. Is there history of flooding in the local area? In this respect history is likely to repeat itself. You may want to learn from history. However, lack of flood history need not mean that the area is safe from flooding in extreme events.

2. Does the local or national government have an analysis of the exposure in your area? Systems are now available that can predict water flows and accumulation levels locally related to specified rain events. Many municipalities have bought access to such systems and may be able to provide you with information on your location or, at least, with a list of most exposed areas in the municipality. If not, you can obtain this data directly from the provider. There may also be a flood warning service available, to which you can register.

3. Where is surface water likely to flow in your area? Nearby water bodies may give you a clue, but you have to bear in mind that even if your location has a commanding view, a local topographic depression will still allow water to accumulate, if not properly drained.

4. How much water is the local sewerage system able to handle? The local authorities should be able to provide details on



Investing in safety improvement reduces insurance premiums

Case Cargotec Finland

The premium systems in workers' compensation in Finland for large companies have an in-built incentive to prevent losses. Individual companies pay premiums accordingly with their claims costs. Less costs means less premiums, whereas an increase in the number and cost of claims increases premiums.

THE FORTHCOMING new workers' compensation law and the related premium regulations in Finland demand more proactive incentives to promote good safety practices. Thus insurance companies are also looking for new and innovative solutions for providing incentives; in particular there is a need to employ well-designed incentives to motivate small and medium-sized enterprises.

For large accounts, the main incentive will remain the premium system itself, the retrospective and experience ratings regulated individually based on the real cost of claims. Furthermore, If may provide an additional incentive for industrial clients. An example of this is the construction of the new occupational health and safety management system in accordance with the OHSAS 18001 certification. During the year of investment in the management system, the client may get a premium discount based on the cost of investment up to a certain amount, based on the approval made by If underwriting and risk management. There is due evidence that a certified safety management system provides a sound basis for well-managed health and safety, and together with good leadership practices is likely to result in claims reduction.

Cargotec Corporation is a cargo handling solutions provider operating in



Cargotec's new Technology and Competence Center in Rusko, Tampere, will be ready on December 2012

120 countries and in 600 different locations, with more than 10,000 employees worldwide. Cargotec has committed internationally with its health and safety management system according to OHSAS 18001. All product development, production, assembly and services in Finland were recently organized in the company Cargotec Finland Oy. Parallel with the reorganization of the business in Finland, Cargotec rebuilt its health and safety management system and acquired certification for OHSAS 18001 to all its operations in Cargotec Finland Oy during 2011–2012. Thus the company will receive a significant discount on its final workers' comp insurance premiums for 2012.

Cargotec Finland Oy is currently building its new technology and competence centre in Tampere, Finland, to be completed in December 2012. The new site has an office building and a workshop for prototype manufacturing, and will also host an extensive five-hectare test area, including unmanned equipment and fleets, navigation systems and remote steering and control. The first

test runs in the area have already been performed.

Tomi Sundell, Risk Manager at Cargotec Corporation, and Merja Valkama, manager of the EHS processes in Cargotec Finland, expressed their views concerning the If investment support for OHSAS 18001 certification: "It is of utmost importance, especially during a time of change, that we have a firm basis for our health and safety management, in order to confirm our continuous development towards zero-accident performance. The support provided by If is a valuable additional incentive, besides the lowered cost of risk premiums we achieve through the reduction in accident rates."

the design criteria for the local sewerage system. Your location is safer the more conservative the design is, however, the system's maintenance is also an important factor.

5. How are your buildings constructed? Modern designs may leave the first floor or stairways to basements flush with the surrounding ground. This design feature is pleasing to the eye and convenient for handicapped users, but unfortunately also allows easy access for run-off water to the buildings. Ramps to underground parking and store rooms have also proved to be effective conduits for water. The situation will be further aggravated if the local land slopes toward the buildings.

6. Which values do you store in the basement? Development of a basement area is cheaper than building new facilities. This is probably the reason why we see ever more expensive occupancies in these

vulnerable areas. Restaurants and bars open up in basements, while in industrial properties we often find archives and server rooms here. Perhaps a cloudburst had not been considered when such areas were established. Depending on answers that you have acquired above, you may want to reconsider how you use your basement areas.

7. How good is your emergency planning? Have you identified where you might be most vulnerable to flooding and what can be done to minimise the damage that might occur? A plan should also be tested to see that everyone involved understands their role and acts promptly.

OUR RISK management specialists can provide estimates for your loss exposures as well as valuable advice in the design of the engineering solutions that will provide the safety and stability to your operation that you need.



HALLDOR MACHHOLM
halldor.machholm@if.dk



POUL NØRGAARD
poul.norgaard@if.dk



PHIL PRESTON
philip.preston@if.dk



KARI HÄKKINEN
kari.hakkinen@if.fi

Stable partner

"Every solution we provide is tailor-made to meet customers' needs," states Reija Laatikainen, Head of Marketing and International Services.

IF DOES BUSINESS with Nordic corporations and global companies with Nordic interests. As companies grow their international operations they expose themselves to new risks. These risks may comprise property, business interruption, cargo or liability exposures abroad, as well as global business travel or protection of expatriates.

"Our business is to understand our customers' business. Top professionals are always seeking ways to improve and learn. Our vision is to exceed expectations. This goal requires that we continuously strive to improve," states Laatikainen.

1. INTERNATIONAL CUSTOMERS

"With over eighty percent of our clients working on an international basis, we have vast experience of providing international insurance services. Every year, we handle 3,000 local policies and adjust 25,000 claims outside the Nordic region".

If is a leading insurance partner for captives, insuring more industrial clients in the Nordic area than any competitor.

"We can support our customer with an insurance solution that meets demands related to the consistency of coverage, and to costs and deductibles – while providing the ideal structure for covering risks and complying with local regulations."

2. RELIABLE NETWORK

If can provide its clients with thorough understanding of local legislation and

country or region-specific coverage requirements and solutions.

If has a strong network of trusted insurance partners in over 100 countries and offices of its own in 12 countries, including the Nordic and Baltic countries, Russia, France, Germany, the Netherlands and the UK.

"We can arrange local insurance coverage in all key customer locations. We maintain a close relationship with our partners and strive to follow the same service standard everywhere."

3. SERVICES THROUGHOUT THE WORLD

If's ultimate goal is to reduce loss exposure throughout the world. If's approach focuses on four main areas: property and business interruption risks, cargo risks, liability risks and health & safety. If has the largest risk management unit in the Nordic insurance market.

"We have extensive knowledge of risks and a track record of working closely with clients across various industries."

If's goal is to improve the entire risk management process. "Our specialists have a particular focus on exposures that are critical to the client's business. We work actively onsite, in evaluating risks and identifying solutions that are pragmatic and cost effective."

4. GLOBAL CLAIMS SUPPORT

"Every claim has the potential to impact on day-to-day operations. We at If focus on proactively processing all claims as quickly and efficiently as possible."

Claim notifications can be made 24/7 through our online services tool, If Login, by e-mail or phone. Once the claim is registered, If assumes responsibility for handling it within 24 hours.

"Our customers can rely on us for effective global claims support. In addition to over 650 If claims specialists, we have a global network of trusted partners."

5. "WHENEVER, WHEREVER"

Online processes and enhancement of internet interfaces have been at the core of If's product development. Applications are designed to improve and add value to If's and customers' business processes, by simplifying and speeding up routine procedures.

"Our online services provide clients and brokers with secure and flexible management of their insurance portfolios. The key term for If Login, If Extranet and Agent Online is 'customised services.' Some services can be securely integrated into customers' IT landscapes, in order to improve data quality and minimise administrative tasks," Laatikainen explains.

HARRY NORDQVIST

Hot work

Ensure that your company complies with control procedures

HOT WORK is, as we all know, dangerous and can lead to disastrous fire losses. Plant management should therefore ensure that strict hot work control procedures are followed.

The starting point is that hot work should be avoided and safer work methods preferred, or the work should be performed in a workshop or at a safe distance outside. If none of these options are possible, a written hot work permit must be issued for any specific hot work undertaken. In brief, the following is always required:

- Hot work is performed safely in accordance with the applicable laws and regulations.
- The plant management appoints a person(s) who can authorise hot work.
- Before hot work is undertaken in a non-designated area, a written hot work permit must be issued by a person authorised by plant management.

- The person who will perform the hot work is qualified and appropriately trained (e.g. has a valid hot work certificate).

- Permits are only issued after careful consideration of the circumstances in question. Any additional precautions or restrictions must be recorded in the permit. A permit is principally valid for one work shift only.

- A fire watch is present during the work, during breaks and for at least 1 hour after the work has been completed, as well as for a longer period, if necessary.

- After completion of the hot work, the expiry of the fire watch period and the reinstatement of all fire protection installations, the permit is returned to the permit issuer for a possible physical check and final signature.

IN THE NORDIC countries, anyone who performs hot work must have a valid hot work certificate, verifying that they have

passed a special training course. Please note that this certificate is not a hot work permit!

All of the above rules apply both to the employer's own maintenance personnel and to external contractors. Thus, a written hot work permit must always be issued for anyone, whether belonging to the company's own or external workforce, who undertakes hot work in a non-designated area.

If you have any further questions, please contact If's risk management specialists.



ANNA MARIA VÄHÄKUOPUS
annamaria.vahakuopus@if.fi

APPOINTMENTS



SAANA HONKANEN
Country Manager for
Cargo Claims FIN



STEN DUMELL
Nordic Head of Motor
Underwriting SWE



TAPIO TUONONEN
Account Executive
FIN



HELI LEHMUSSAARI-
REHN
Country Manager for
Liability Claims FIN



REETTA LAJUNEN
Claims Lawyer in
Liability Claims
FIN



LARS CARLSSON
Senior Underwriter
for Motor SWE



MAARIT LAHTINEN
Executive Assistant
FIN



MARIETTE
SCHELANDER
Country Underwriter
for Property SWE



NETTA HÄNNINEN
Property UW
Assistant FIN



NILS NAUMBURG
Risk Engineer
SWE

*Managing
risks together*

