IF'S RISK MANAGEMENT MAGAZINE 04/2020

Risk Consulting

Protecting life and property through safety research

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Editorial

Fire safety is a priority

t is no surprise that fires are still the most common property claim and, I expect, this will continue long into the future. Even with new threats, like cyber-crime or pandemics, a fire event in your office or production facility will have the most immediate and damaging physical impact on your business.

At If, we have always had fire safety at the core of our risk management operations. To support our clients, we offer our expertise and experience gained over decades. Real scale fire research and investigations are essential to understanding the risks of everything from the toxicity of smoke rising from an electrical vehicle fire to the precious minutes that can be gained in fire safety by selecting the right building materials.

Research and innovation drive understanding and increase awareness of this age-old threat to businesses across a wide range of industries. Even with extensive claims data gathered over the years, capabilities honed across various materials and equipment, a fire event must



always be taken into consideration and continues to challenge us all. In this issue of Risk Consulting magazine, we look into research studies and projects If is involved with to help clients reduce the risk of fire incidents, improve fire resilience, and raise awareness on fire safety. Working by your side, we stay ahead, through dedicated efforts into continued fire safety research. Together with our clients and partners we are committed to understanding this challenging element and continue to manage the risks together. \Box

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Poul Steffensen Head of BA Industrial, If

Why is safety research important?

Safety research is a continuous effort to improve upon existing products, tools, materials, systems and equipment to ensure safe execution of a task. Enhancing safety measures is an area of constant focus for companies and regulators alike, as efforts are made to minimise accidents and risks in the workplace.

Second Participation

ccording to Fredrik Holmqvist, Head of Property Risk Management Services, Denmark, "If Insurance is actively involved in safety-related research projects across the Nordics. Our research work can take the form of larger collaborations, working together with universities and test institutes such as the KLIMPEN project and the E-TOX project presented in this magazine (See page 6, and page 8). It can also be more applied tests and research projects that we do together with our clients to advance their and our knowledge on a certain topic. We can also be invited to observe tests, as a partner for discussion, which the fire door test described in this magazine is a good example

of (See page 14). From time to time our clients reach out to us, to get our opinion about an emerging risk, a new

technical solution and the like. If we do not have well founded opinion on a specific subject, we can set up a joint research project to find the facts needed to support the decision making. The key is that we would like to be a partner in risk with our clients and the community at large."

In Norway, the If Security Safety Centre in Hobøl offers courses in fire protection and fire prevention work. Among other things, the centre has courses in hot work as well as smoke-diving and is built adapted for injury loss prevention, learning and training. Our instructors have extensive experience and background and train some 3,500 course participants through valuable and exciting course days.

According to Anders Rørvik Ellingbø, Head of Property Risk Management Services, Norway,

"We built and started the If Safety Centre many years ago in order to provide a service to our clients. The aim was to help them improve their loss prevention activities and awareness of fire hazards. Over the years the centre has been used for everything from summits, client meetings, filmmaking, training facilities for public and client fire brigades and not least training for If clients and others."

The August Ramsay Foundation promotes loss prevention in companies insured by If P& C Insurance Ltd (publ), branch in Finland, as well as raises awareness about practical and theoretical research within risk management, loss prevention and insurance. The Foundation was established in 1929 to honour

and part of the solution."

Mr August Ramsay, the first managing director of one of the predecessors of the Mutual Company Industrial Insurance.

To achieve its purpose the Foundation grants awards to persons and communities in Finland that have been taking part in the loss prevention work, e.g. saving property and lives through excellent performance during fire incidents, for example. Graduate studies with a focus on property, business interruption and personnel safety commonly receive scholarships to support research and development, which have practical implications for loss prevention.

PEOPLE AT THE HEART OF THE TASK

At the centre of any task is the person executing it. Often, companies rely on their employees to alert supervisors of any safety concerns or

People are both part of the problem,

issues, potential hazards that exist, for example, either in the work environment, the tools that are utilised or in the processes involved.

Despite careful planning, investments made into safer equipment and systems, one risk factor remains, the human conducting the task. Essentially, people must be able to identify hazards and risks they face in their work. More importantly, these issues need to be reported to supervisors and be thoroughly evaluated and removed.

Companies can work to manage preventable risks, such as mishandling sensitive information, through internal processes, guidelines and rules. These risks are tackled through active prevention, codes of conduct and monitoring of daily operations.

> Rule-based risk management is not always the solution, so how can people locate the potential hazard areas and be prepared for nonpreventable

accidents? As an example, external risks, such as a spreading pandemic, are difficult to prepare for.

"People are both part of the problem, and part of the solution"

Despite even the most meticulous safety measures and equipment, few companies e.g. in the aviation, restaurant or travel industry, considered a scenario where a pandemic would spread around the world. The COVID-19 coronavirus continues to impact business operations, the workforce and markets.

Risk Managers and Risk Engineers play an important role to assess and mitigate the potential hazards and risks companies are facing. If's clients have access to risk management experts, where we work by your side to plan and prepare for the worst-case scenario.

How will climate change impact power generation?

Prior to the outbreak of COVID-19, the World Economic Forum had highlighted¹⁾, that climate change was the greatest threat to businesses and industries.

Article by Kristian Orispää

n Sweden, the ambitious KLIMPEN project is underway to understand the climate impacts and opportunities for increased sustainability in the power generation industry. Within the project there are working groups focused on various forms of energy: hydro, nuclear and wind power, solar energy, biomass, as well as power distribution and energy use. Fredrik Aronsson, Risk Engineer at If P&C Insurance and Chairman of If's Energy Competence Center, explains, "The KLIMPEN climate research project started in January 2020 and is expected to be completed in March 2021. Government research institutes for energy and the environment are involved including the IVL Swedish Environmental Research Institute and Swedish Meteorological and Hydrological Institute (SMHI), alongside notable energy power companies such as Vattenfall, Statkraft and Fortum. All of which have influence and assets in the energy production sector in Sweden and in the Nordics."

PAINTING A PICTURE **OF THE FUTURE**

"The work is basically laid out as research done by SMHI, who are actively studying changes in the climate and modeling potential future outcomes over the coming 20, 30 and 40 years going forward in Sweden. From looking at wind, temp, precipitation, as well as snow and ice formation, SMHI experts will present conclusions for each energy segment."

The aim of the project is to prepare stakeholders for the future. How will the changes in the climate affect the energy system? What adaptation measures may be needed? How can companies be prepared for changed production conditions?

KLIMPEN features multiple working groups, each dedicated to a specific energy production or distribution related topic. Authorities and representatives from energy companies, and If P&C Insurance, who is involved as a sponsor and contributing to risk management and claims knowledge and supporting the coordination of the working groups.



Climate scenarios for each energy segment will provide vital information and data that will help both companies and municipalities prepare for the potential impacts a changing climate will have in their region, or on their operations in a given location.

FOCUS ON SAFETY

As an example, the nuclear energy working group, which includes a company from Finland, is looking at the potential risks facing the very foundations of safe nuclear energy production.

These are; to control the core and maintain stability, keep the core cool (also after shutdowns or incidents, specifically to control the decay heat) and to contain radiation as much as possible if an accident occurs. The question this working group will focus on is; how will climate change impact these overarching safety goals?

With this climate research project, Sweden has been modeled from south to north and the research utilises measured data and runs simulations that cater to a variety of meteorological scenarios. For example, samples are created for specific geographic regions where observations and predictive modeling have been completed with increasing climate temperatures to understand how the area will develop over the coming decades.

EXAMPLES OF A CHANGING CLIMATE

The formation of frazil-ice, a type of frozen water that has been observed to form in subcooled moving water, can occur quickly and may block cooling-water intakes at nuclear power plants.

In 2008, this very scenario unfolded at the Olkiluoto 2 nuclear production plant in Finland. As seawater rapidly cooled down, frazil ice formed to block the circulating

water screening filters and weakened the flow of seawater, which was used as coolant at the power plant. There have been at least three such incidents at Olkiluoto 2 since it was commissioned, subsequently leading to improvements made to prevent frazil-ice from forming. (Source: STUK report)

WE NEED TO BE PREPARED

Substantial changes are needed to slow down the changing climate. The KLIMPEN climate research study will be a vital piece of the puzzle in preparing for changing weather impacts across all the Nordic countries.

As Fredrik Aronsson concludes. "The results and data from the project will visualise the type of risks that we are facing and can be used to strengthen the importance of prevention, prepare for future risks and help minimise losses from potential changes in the climate. The final working group reports, due for publication in the beginning of 2021, will identify the risk areas, and capture how the experts see the impacts of a changing climate in power production in a particular region in Sweden. After this, it is up to each energy producer, municipality or other authority to decide what they should focus on, to ensure that they are resilient enough to the coming changes, and will we need to step up to the challenges ahead."

The KLIMPEN project will provide valuable insights into the future of power generation in Sweden. However, the results and outcomes of this research will be valid and applicable to any industry or location. These exposures are universal, and therefore the learnings from this project will add value to assessing risks from climate change, whether this is from, frazil ice, wildfires, floods or other phenomena, which can occur anywhere in the world. \Box ¹⁾ WEF Global Risks Report 2020

Understanding electric vehicle fires

The popularity of electric vehicles (EVs) and the use of lithium-ion batteries is booming. However, the risk of fires in EVs has received attention due to widespread concerns. One such concern is related to the fumes that rise from a burning EV, specifically the potential release of toxic gasses from the batteries as e.g. hydrogen fluoride (HF). The toxic HF gas can be of great danger and may contribute to hesitation among firefighters and affect their response strategy. A delayed response time entails a greater risk of fire spread and release of toxic and corrosive gases, as well as reduced recycling potential and larger damages.



Article by Caroline A. Bødkerholm



ithium-ion batteries are also often seen in forklifts, robots, factory equipment and energy storage systems (ESS). However, this article will focus on the relevant risks connected to the use of lithium-ion batteries in electric vehicles. Our goal at If Insurance is to support a safe development of the use of lithium-ion batteries by supporting research on the topic and by engaging in dialogue with firefighters, the research community, manufacturers as well as our own risk specialists. Working together, we aim to identify safety measures and share good practices when dealing with fires in EVs.

NEW RESEARCH FROM RISE

Ola Willstrand, Project Manager of RISE Research Institutes of Sweden, explains why the recent research project E-TOX 'Toxic gases from fire in Electric Vehicles' was initiated.

"Several knowledge gaps regarding electrical vehicles were identified during meetings between RISE and various rescue services. The concern regarding toxic gases is one of the most important ones. Therefore, E-TOX was initiated to increase knowledge, get more data and to analyse what the rescue service will have to deal with in a worst-case scenario with an EV fire in a parking garage. Financed by the Swedish Energy Agency, RISE has realised the project together with insurance companies (including If Insurance), six rescue services, Borås bildemontering and MSB".

EV'S ARE EVERYWHERE

Every year, the International Energy Agency, collects data on trends within the automotive industry.

The consumer demand speaks for itself, and it is clear to see, that EVs on our roads are here to stay. The batteries are getting more efficient and cheaper to manufacture, also the look and feel of the cars are increasingly attractive. Consumers believe in supporting environmental ambitions and to reduce CO_2 -emissions from driving. All of these have contributed to the increasing sales and popularity of EVs.

For now, EVs will be utilising lithium-ion batteries. Mainly due to the fact that lithium-ion batteries are unparalleled in comparison to any other battery types on the market. According to RISE this is especially true "in terms of cycle life, energy density and efficiency".

STUDYING THE TOXIC EMISSIONS

It is important to design and conduct fire tests that can provide data to support the design of structures or materials and give data and insights on e.g. heat release as well as smoke generation.

The full-scale fire tests make it possible to collect data on the visual burning behavior, heat release and to conduct a combustion gas analysis. The full-scale tests can be easier to understand when compared to smallscale tests, but the full-scale test is very expensive.



Toxic gases are released in all kinds of fires. What makes the difference, is that some materials and products are of bigger concern than others. Many modern vehicles contain large amount of plastics, which is a potential source of toxic combustion material. These fires will release carbon monoxide, organic irritants and carcinogenic organic compounds, further can some plastics be the source of e.g. hydrogen chloride (HCI). A concern with lithium-ion batteries is the potential release of toxic gases as e.g. hydrogen fluoride (HF). Toxic gases such as HF can be of great danger to first and second responders.

FROM A FIREFIGHTER'S POINT OF VIEW

Tommy Carnebo, a firefighter based at Södertörns fire department, is specialised in fires involving electric vehicles and hybrid vehicles. He uses his knowledge and experience to educate other firefighters and second responders on the topic throughout the Nordic Region.

"As firefighters, we know that car manufacturers improve their batteries every year. It means, we constantly must revise our response strategy. It is very important that we have the right information about the toxicity level, so we can use the right equipment and protection. It is therefore highly important that we conduct the tests continuously, so we know the risks we are dealing with". It is very important that we have the right information about the toxicity level."

- Tommy Carnebo, a firefighter based at Södertörns fire department



"What is special about EVs, is that the risk isn't over when the fire is put out. If an EV has been involved in an accident, the car can re-ignite again hours, days, even weeks after the accident. If there is energy left in the battery and it is damaged, it is of great risk. That's why we say that both first responders, second responders and third responders should adequately be prepared to safely handle the EV after an accident. The responders can be e.g. the car mechanic, who receives the car after the accident or the professional clean-up team at the site of the fire. What most people do not know, is that a damaged battery will have to be in quarantine for 14 days, before it is safe to look at."

The soot from a fire in an EV can contain large amounts of cobalt, nickel and manganese compounds. These heavy metals can cause severe allergic reactions on unprotected skin. So, clean-up after an electrical car fire should be done by professionals with adequate protective gear.

KEY LEARNINGS

Ola Willstrand concludes on the key learnings of the E-TOX research project and highlights some of the upcoming research work that needs to be done, as follows;

"Except increasing the knowledge level regarding toxic gases from electric vehicles, the E-TOX project has so far both confirmed some earlier assumptions, but also shows that gas and heat release from a free burning battery is not the same as from a battery integrated into a vehicle. Ongoing simulations will demonstrate what gas concentrations can be expected from an EV fire inside a parking garage, which is important knowledge for the rescue service.

There is however much more that can be done regarding toxic gases, e.g. analysis of extinguishing runoff water and environmental impact, ability and effect of washing down toxic gases as well as more comparative fire tests. The level of protection for the rescue services with standard turnout gear including the effect of wet clothes can also be further investigated".

DOING OUR PART

At If, this project has been very valuable. Sören Isaksson, Senior Risk Engineer at If Insurance notes that it is important to understand the risks involved with extinguishing a burning EV fire.

"As an insurance company, we need to understand how technical development affects risk. This goes both for If as an insurance provider and how we work with our clients and serves society as a whole. We want to contribute to a better understanding of e.g. the impact of the growing use of lithium-ion batteries.

The lack of knowledge leads to uncertainty, which e.g. in the case with rescue services may lead to the adoption of restrictions to the maximum time of smoke diving. This can result in larger losses because firefighting becomes less effective unless active protection systems such as automatic water sprinklers are used.

The E-TOX project provides increased knowledge in the formation of toxic products in EV fires, that will hopefully make the rescue services more confident in how they best protect their staff. The test results and comparisons with other tests show that the thermal impact of an EV fire is similar to a fire in a fossil-fueled vehicle which is also an important learning.

A fire starting in a vehicle has often spread to adjacent vehicles before the rescue services arrive at the scene. Recent large fires in parking garages in the UK and Norway indicate that the installation of automatic water sprinklers may be the most effective protection against extensive fire spread".



The number of electric vehicles being sold across the Nordics continues to rise. Globally, electric mobility is also gaining ground. According to the International Energy Agency, in 2010, the number of

on the road - 47% of these are in China.

plug-in electric vehicles in



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Putting fire safety first Lessons for modular constructions and prefabricated buildings

Andreas Kräling, Head of Risk Management Services and Sören Isaksson, Risk Engineer at If P&C Insurance have combined more than 50 years of work experience in risk engineering. In their daily work they instruct If clients in the use of combustible materials. In this article, they are sharing their knowledge on modular constructions and prefabricated buildings.

Article by Caroline A. Bødkerholm

BENEFITS OF MODULAR CONSTRUCTION

Lower labour costs, less materials, shorter construction time and higher quality. These are just some of the benefits of modular and prefabricated construction. Rather than laying brick by brick and pouring concrete on-site, several components are built in a factory and transported on-site. With a cost focused housing market, there is a need for exactly these kinds of solutions to meet the demand.

WHAT TO BE AWARE OF?

The likelihood of fire hazards in modular constructions has received new attention after the Moorfield Hotel fire in the summer of 2020. In this article, we will take a deep dive into the risk of fire hazards in especially modular and prefabricated buildings. Lastly, we will outline what precautions there should be considered in order to minimise the risk of fire hazards. Don't limit the safety and protection level to only the minimum requirements in legislation and codes. Apply Risk Management and evaluate what is needed based on the risk and exposure." Andreas Kräling, Head of Risk Management Services, Sweden

FIRE HAZARDS IN MODULAR CONSTRUCTIONS: AN EXAMPLE FROM SUMMER 2020

The Moorfield Hotel in the Shetland Islands burned to the ground after a devastating fire (source: BBC). The 106-bed hotel was manufactured offsite using insulated panels and modules utilising sandwichconstruction. The construction consisted of a wooden board (OSB), using a polyurethane foam insulation, and close to the void or gap between the modules, there was another OSB board (source: FPA). This void in the construction was about 12 millimetres wide, which meant that there was wooden material on both sides of this void. Both the wooden board (OSB) and the Polyurethane foam are highly combustible materials, which may have been contributing factors to the severity of the fire.

INSIGHTS FOR YOUR NEXT CONSTRUCTION PROJECT

According to Andreas Kräling and Sören Isaksson at If, this type of construction is unfortunately common in modern construction, and several large losses have occurred as a result of combining modular constructions with combustible building materials.

There are precautions that builders and developers should take into consideration to minimise the risk of fire hazards and still benefit from cost-effective construction methods. Andreas Kräling and Sören lsaksson have provided insights into some key considerations for your next construction project:

1. ENGAGE IF'S RISK ENGINEERS AS EARLY AS POSSIBLE IN THE PLANNING STAGE

Engaging If's risk engineers in the early planning stages of e.g. the construction of a large industrial building, will result in a thorough understanding of the existing as well as potential risks. In the early planning stage, If's risk engineers can provide advice, based on lessons from losses, e.g. the use of non-combustible building materials to ensure that adequate fire protection is installed.

According to Sören Isaksson, Senior Risk Engineer, Risk Management Services, "It's important for me to emphasize that voids inside a construction made from combustible materials is a huge potential risk. If a fire finds its way to this void, it is extremely difficult to access by the fire brigade or a sprinkler system installed in the rooms. An uncontrolled fire spreading in the voids can as in the Moorfield fire lead to a complete loss of the entire building".

2. INSTALL A RELIABLE FIRE SAFETY SYSTEM

A well-designed and properly installed sprinkler system will prevent the fire spreading, control and extinguish it. However, despite the importance of a well-functioning sprinkler system, it should never be at the expense of additional fire safety systems. The sprinkler system should be connected to the fire alarm system that can detect the generation of combustion gases at a very early stage. The fire safety system should be commissioned and approved by a third party. To ensure effectiveness of the protection systems, assembly and quality of works are essential, as unintentional voids and gaps risks compromising the protection system.

3. GO BEYOND THE LEGISLATIVE DEMANDS

The legislative demands for the fire safety of buildings focuses on protecting lives and stopping fire spread to the neighbors' property. However, it is not intended to provide protection of property at the location where a fire starts to the same extent. Here we should instead use common sense, look at the risks and apply a risk management approach to ensure the right level of safety and risk mitigation also regarding protection of property and production capacity. It is important to note, that sometimes it is not enough to simply follow the minimum legal requirements, as this does not necessarily result in reliable protection against losses.

For example, regulations differ immensely from country to country. In the US, each state has its own legislation, and even on county level, there will be differences.

Do you have a site in the U.S? What are the local requirements there and what are the exposures? Should we consider the risk of natural catastrophes, such as earthquakes and floods? Ask the right questions and accept that a one-size-fits-all model isn't good enough when it comes to minimising the risk of fire hazards and other risks.



If you are interested in seeing the Combustible insulation hazard info sheet, contact Risk Management at If. **RISK MANAGEMENT**

Securing fire doors and fire sliding doors

To see the importance of having fire rules and fire prevention work, we must turn back the time. Large city fires have been a major problem during the past. Some city fires could rage for several days destroying up to 1/3 of the cities. Back then, most of the houses were half-timbered houses, and the foundations were intended only to carry a half-timbered house, and not a much heavier ground-walled house.

Article by Caroline A. Bødkerholm

istorically, city fires, have resulted in the establishment of rules and building codes in the area of fire prevention, and the insurance industry as we know it today. Building regulations today are normally performance based in most countries. One important factor in fire prevention is passive fire protection:

- The construction of fire walls
- Fire section walls and fire cells
- Securing of doors and door openings
- Pipe and cable penetrations, etc.

Over the last 30 years, the new European fire classes have been introduced. The reason for these additions was the desire for a pan-European way of documenting the properties of construction products. European standards for testing and classification have therefore been developed. As a result, the national system for classification of building materials and components was replaced by the European system.

The European fire classes do not inform about the specific requirements in every country as they have the freedom to decide on their own safety level. For that reason, it is necessary to look into the national regulations and investigate the minimum requirement for personal safety to secure a legal construction. Oftentimes, this requirement is lower than the insurance companies' recommendations, as the insurance companies base the requirements on value hedging, which is based on experience from real fires.

WHAT SHOULD BE CONSIDERED WITH YOUR PASSIVE FIRE PROTECTION?

For the past 20 years, it has been possible to classify more and more building components. However, some are still missing e.g. doors and exterior doors. All types of openings in a fire separating wall must be able to meet the fire separation classification and thus integrity. It is especially important to choose the correct fire sliding door, or side hung fire door for exterior walls, these must be per. November 1st, 2019 be approved and CE marked.

"Fire doors and fire sliding doors are important as they prevent the spread of fire and smoke between building sections, thereby optimising personal safety and the rescue of values and minimising the extent of damage". – Hans Raeder, Senior Risk Engineer, Risk Management Services Denmark

Today, we see a lot of buildings where the passive fire protection is supplemented by active fire protection as e.g. sprinkler systems that will prevent the fire from spreading. From a risk point of view, if the sprinkler system works, then there shouldn't be a need for the passive constructions. However, if the sprinkler system fails, which is something we experience every year, then it is necessary to have a passive construction, which can withstand a fire without the help of an active system.

The penetration of fire rated walls and floors is often necessary to accommodate electricity, data cables and piping systems. In these cases, exceptional care is needed. Fire rated walls will be unable to provide protection against the spread of smoke and heat if there are unsealed penetrations.

operational losses al and equipment." – Hans Raeder, Senior Risk E

In connection with the fire separations, it is important to have a correct finish to the roof, either as a fire parapet, or fire parapet replacement. A building can be divided into several fire sections, where the fire section walls must prevent a fire from spreading and help to limit the extent of the damage

BEST PRACTICE

When the building is in use, it is important that the building's fire properties are maintained and not deteriorated. It is often seen that the function of the firewalls and fire section walls is forgotten or not respected in connection with remodeling.

HAVE A FIRE PLAN WITH FIRE RATINGS

It is important to have fire plans, that show the location of fire separations, both horizontal and vertical. The approved fire plans should preferably appear in the operating manual for the building.

Fire prevention is an important parameter in the operation of a modern company, as it will minimise operational losses and avoid injuries, both to persons

– Hans Raeder, Senior Risk Engineer, Risk Management Services Denmark

CONTROL OF THE BUILDING DURING CONSTRUCTION

It is also important that there is control of the building during construction, where the finish of the fire section walls is checked, as well as seals around ventilation, pipe and cable ducts are closed.

POST-CONSTRUCTION CHECK

This check must be prepared to check for external faults and defects so that everything is in order and operational before the building is put into service.

CONTINUOUS MAINTENANCE

It must be regularly ensured that fire doors and fire sliding doors can close completely and that the closing device and retaining brackets work, the frequency for various checks must be 1/4, 1/2 and 1 yearly. Fire seals must also be regularly inspected, as these are often removed in connection with re-installation of installations.

If you have any questions to above article, you are more than welcome to contact Risk Management at If.

Getting ready for a change in European standards

External fire doors and industrial fire sliding doors

In November 2019, the coexistence phase for the harmonised European product standard EN16034 expired. After this date all exterior and industrial fire doors should be CE marked. No national approvals are valid since then.

Article by Caroline A. Bødkerholm

his change in regulation is vital for many attentive companies that are required to take action accordingly. One of them is our client Danish Crown. In this article, you can read about the regulations, the approval of fire doors and get an insight into how risks were managed together with Danish Crown.

BUT FIRST, WHY IS IT IMPORTANT FOR COMPANIES TO FOLLOW THE **NEW STANDARDS?**

"Fire doors and fire sliding doors are important as they prevent the spread of fire and smoke between building sections, thereby optimising personal safety and the rescue of values and minimising the extent of damage. With the new EU standards companies are ensured a secure fire technical solution". - Hans Raeder, Senior Risk Engineer, If P&C Insurance

Furthermore, fire doors and shutters play a critical role in maintaining the integrity of a fire wall or other type of fire separation. If a fire door or shutter is not closed or fails to close properly, fire and smoke could spread from one fire compartment to another, thereby increasing the property damage and the resulting business interruption. The fire doors, as part of the fire division walls and thus the fire safety of the building, are also vital in ensuring the safe evacuation of the persons present in the building.

WHY IS IT RELEVANT FOR ALL EUROPEAN COUNTRIES?

Before the EU introduced the CE marking, e.g. Danish companies were met with different technical requirements every time the product was to be sold across national borders. A product for the same use in several countries, could thus be met with

different requirements for approval and test methods in Italy, Sweden, England and Germany. The CE marking has helped to change this, so it becomes easier to market products across national borders. CE marking enables free trade within all Member States. The harmonised Product standards, test standards and classification standards are the same. When you buy a CE-marked construction product, you can be sure that the product complies with a number of requirements for environment, health and safety, which are the applicable standards in the EU.

Generally speaking, sometimes builders trust the CE mark too much, rather than take an overarching view. However, it is rarely enough. We do not set the same quality requirements for construction throughout Europe. A CE-marked wall cladding with a fire classification that does not live up to the requirements of general technical common ownership can thus pose a fire risk if it is used incorrectly. And a CE-marked window with a degree of thermal insulation at a level that means it can be used for all construction(s) in, for example, Italy, is perhaps only good enough for a stable construction in Denmark.

HOW WE MANAGE RISKS TOGETHER WITH DANISH CROWN

Danish Crown was building a new slaughterhouse in 2013 and needed five 4,7-meter-high fire rated, stainless steel sliding doors. However, here they ran into a challenge, as it was not able for the general contractor at the project, to find any tested doors at the European market.

To this Flemming Damholt, the Global Fire Safety and Security Officer at Danish Crown comments:

"I therefore took contact to Preben Søndergaard at Door System and asked if he would help. Preben agreed in developing a tested certified door from the (at that time) new European standard. Door System managed to do it, and five months after the inquiry, the fire sliding door was installed, which solved a big challenge for us".

The company Door System has long been selling hinged fire doors that have been tested and approved to the new standard, and they have also approved their production system so they can begin CE-marking their hinged fire doors.

In March 2020, their brand-new fire sliding door also passed fire test # 2. The new door managed almost 1 hour and 16 minutes, thus reaching a distance above the important limits respectively 1 hour and then 1 hour and 8 minutes. The last minutes mean a lot compared to the door's usability.

CUSTOM SOLUTION

Although a sliding door has passed the fire test, some work still needs to be done. In principle, an approved fire test only allows the sale of a door, like the specific door that has been tested, with very limited possibility of adjusting the size in relation to the door tested. In order to offer as many options as possible an EXAP (Extended Application Report) is being prepared in a collaboration between Dansk Brand- og sikringsteknisk Institut (DBI) and Door System.

The EXAP provides the opportunity to meet several customer requirements about, among other things, height, width, installation of alarm, magnet, automatic braking

WHAT IS THE CE MARKING?

The CE marking is an administrative marking that indicates conformity with health, safety and environmental protection standards for products sold within the European Economic Area. With the CE marking, the manufacturer declares that his product meets the requirements of the applicable EC directives. Product performance must be defined beforehand and stated in the 'declaration of performance' document. This document provides a brief description of the product to the buyer.

system, etc. Based on the EXAP, DBI prepares a Classification Report which is proof of what the door is approved for.

"If you have to change the wall type, add a window, seals or door in the sliding door, a new fire test is required," says Quality Manager, Brita Rosenbech, Door System.

At the same time, there are also several specific issues that need special attention. For example, fire doors must be tested in the specific wall type for the door to be CE marked. If the same door can be placed in both concrete, panel and plaster, it means that it must be tested in all 3 wall types. Another thing is the lock case, which is approved together with the door and therefore cannot always be replaced.

HOW DO YOU GET THE FINAL APPROVAL?

- 1. Production processes must be reviewed and approved by a certification institute, a so-called FPC (Factory Production Control) approval. This must be done once a year going forward to ensure a consistent production of products. The inspection must ensure that the requirements regarding traceability, inspection and documentation in accordance with EN 16034 are met when producing the fire doors.
- 2. After the approved FPC, a CPR certificate is issued by the certification body.
- 3. Once the Classification Report and CPR Certificate are available, a CE label can be affixed to the fire sliding door.
- 4. Together with the CE mark, the performance declaration (DoP = Declaration of Performance) is the customer's proof that the door is an approved fire door according to EN 16034.

When new standards are being implemented, research results play an important role. The purpose of testing fire doors is ultimately about protecting lives and property. \Box

If clients can access our updated Hazard info sheets about Fire doors in RM Library via If Login.

Not vet a client, contact If at www.if-insurance.com

Liability risks in the United States

According to Barclays Research analysis, during late 2018 to 2019, the rates for 2019 on general liability increased 2% in Q1 to 5% in Q3 in average. On individual basis rate increases were up to 25%. Further increases are expected for 2020, driven by "industry-wide unsustainable loss ratios". All major broker houses as well as reinsurers are predicting higher rates on US Liability. So, what is behind these developments? And what are the consequences of this?

Article by Joe Pino/Liberty Mutual Insurance and Kristian Orispää/If

n the United States, the insurance market is reacting to changes in the casualty market by increasing rates as, in particular, complex risks with exposure to social inflation, health and personal injuries are facing large rate increases.

Reinsurers are exerting pressure following clear changes in the marketplace observed in 2020, effectively this is no longer a buyer's market. Reinsurers focus on US exposures due to underlying challenges in the US. For first time in ten years we have seen reinsurers actively demanding new exclusions during 2020 renewals. Today, large reinsurers are prepared to walk away from business unless exclusions are introduced. Some of these include, particularly pandemics or communicable diseases, as well as opioids and e-cigarettes.

A DIFFICULT YEAR

Around the world, 2020 has been a disorienting year. The United States has experienced an unusual year as the COVID-19 pandemic continues to spread across the country. The nation has also faced racial tensions on an unprecedented level, including protests, riots and a rise in civil unrest.

From a business perspective, companies are still trying to maintain their operations and survive the pandemic. While sales are declining and some businesses are facing bankruptcy, others are fighting to adapt to the new circumstances. For large international corporations, the aftermath of the COVID-19 pandemic is yet to be seen. However, the risks remain high for many companies. Risk factors include, but are not limited to, medical and social inflation, litigation funding and auto claims.

INSIGHTS & PERSPECTIVES ON US LIABILITY

According to Joe Pino, Manager, Industry Property & Multinational, from Liberty Mutual Insurance:

"The litigious environment in the U.S. is much different than anywhere else in the world. Large jury verdicts are not uncommon, and the cost to defend such matters sometimes outweighs the actual damages themselves. Companies domiciled outside of the U.S. conducting business here should be aware of the unique legal landscape. "

Joe Pino also states that, "Some jurisdictions in the U.S. tend to be less favourable for large corporations in the event a case goes to trial. Jurors may assume large corporations and/or insurance carriers have 'deep pockets."

Public sentiment goes a long way in a jury trial, and generally people are more inclined to side with individuals rather than international corporations.

In the United States however, not all cases go to trial. Generally speaking, both parties may try to resolve their differences outside of the courtroom through mediation or agreeing to a settlement. These options may ultimately be more cost effective than going to trial.

In certain cases, companies may decide to pursue an appeal if they have lost a case. However, such appeals are not common. There are many reasons for this, but in the end, this is about costs.

The number of legal cases against international companies, as well as the number of 'nuclear verdicts' have been rising dramatically."

"If a company feels their case has true merit, they may pursue an appeal, however, it is important to weigh in the costs of taking further action," Joe Pino explains.

In recent years, both the number of legal cases against international companies, as well as the number of

Joe Pino, Liberty Mutual Insurance

'nuclear verdicts' have been rising dramatically.

There are ways to mitigate against litigation, such as jurisdictional defences, thorough product safety documentation, warnings and instructions, as well as arbitration clauses. It is also important to maintain and uphold up-to-date contracts with regards to indemnities and warranties, insurance requirements and review additional insured wordings.

COVID-19 AND US CLAIMS

Joe Pino believes that, "we believe the insurance industry will continue to see an increase in the number of claims relating to coronavirus." He notes key considerations on the pandemic impacts as:

- From a frequency standpoint, while shelter-in-place orders and court closings have reduced the number of litigation claims in the short term, an increase of pandemic-related claims are expected when economies reopen.
- What is currently unknown is how the events over the last few months COVID-19 exposure, the economic downturn, the political climate, and recent unrest highlighting systemic inequality and abuse will impact jury decisions.
- Additionally, as COVID-19 continues to impact business operations, juries may have different views on what is 'reasonable; the duty of corporations to protect employees, customers, and the general public; and how to determine liability."

LIABILITY

ow unemployment is forcing ransportation companies to ire less qualified drivers.

Claims are impacting the US casualty market

Article by Kristian Orispää

The US casualty claims have always been a source of concern for insurers. This has been exasperated over the past years as claims have continued to rise in the US at an even higher rate than other regions. The driving forces behind this development are several and can vary between different industries and clients. Among the most frequently discussed drivers are social inflation, increased use of litigation funding, active shooter incidents, advanced science and technology involved in litigation driving up costs, traumatic brain injury and the ongoing opioid epidemic to name a few. The negative claims development in combination with cumulative rate decreases for several years has led to hardening of US casualty market; higher premiums and scarcer capacity. One area which is under particular scrutiny is that of excess auto liability coverage, which combines many of the factors impacting the general casualty market in the US with some additional problems specific for this cover.

LIABILITY CLAIMS ARE CHANGING THE MARKET

A typical commercial auto liability insurance has a limit of at least USD 1M and provides coverage for company owned vehicles and when employees drive a personal or rented vehicle for business (hired and non-owned vehicles extension).

When talking about excess auto liability, we refer to the coverage provided above the primary auto liability policy, that attaches above the primary policy limit.

In the United States, compulsory auto liability insurances provide cover for both bodily injury and property damage. However, compulsory limits vary from state to state, with New Hampshire state motto of "Live free or die" is echoed in the fact that they do not set any minimum or compulsory level of insurance needed. Liability still sits with the driver of the vehicle, but the level of insurance cover is completely left to the individual citizen or company to decide. Other states have compulsory limits between about USD 15,000-100,000 for auto liability (some examples: Maine: \$50/100K per person/accident, including \$25K property damage, Arizona: \$15/30K per person/accident, \$10K property damage).

Looking at this from a Nordic perspective, this is a very different approach. The Nordic countries are in

the past years. The lock downs associated with the spread of COVID-19 has however led to a drop in the frequency of claims due to less vehicles being on the roads. As less traffic allows for higher speeds, the severe claims have if anything seen a further increase as less traffic allows for higher speeds (with shelterin-place laws in effect earlier this year, a new record for driving New York to Los Angeles was reportedly set with an average speed of 170km/h).

Driver distraction and impairment is another growing concern, both in terms of mobile use and driving under the influence of alcohol or other drugs.

Specifically, the number of DUI cases involving narcotics is rising following the ongoing opioid crises in the United States. A 2016 study found that 11% of fatally injured drivers and 20% of all DUI drivers had some sort of prescription opioid in their body.

Perhaps, no one spends more time on the roads, and drives more miles, in the United States than a truck driver. Unfortunately, low unemployment is forcing transportation companies to hire less qualified drivers, who in turn are transporting goods over an aging infrastructure, which is also in need of a massive overhaul with an infrastructure investment deficit estimated to reach USD 3,36 trillion by 2040.

Since 2010, trucks have been involved in 59 percent more accidents per mile, according to data from the American Trucking Association."

general setting mandatory auto liability limits with the safety of the people injured as the main concern. Limits in Norway and Finland in fact being without an upper limit.

"There is no safe point of attachment anymore," as an unnamed underwriter stated when talking about excess auto, in Insurance Insider (14 January 2020). This quote summarizes the view amongst many of the local excess and umbrella underwriters writing excess auto in the US.

While attachment points have traditionally been USD 1M, this has started to change due to increased spill over from the primary auto policy into the excess layers. The excess layers being there for emergencies, these emergencies have been happening more and more often, resulting in premium increases, withdrawal of capacity, stricter guidelines, increased focus on fleet safety programs and higher minimum attachment points.

HOW IS MY DRIVING?

Many of the factors driving the overall rate increases for casualty insurances in the US are applicable for excess auto. In addition to these general factors, there are specific issues impacting auto claims. For example, people have been driving more over Since 2010, trucks have been involved in 59 percent more accidents per mile, according to data from the American Trucking Association. Moreover, deaths in trucking accidents have risen a third since 2009. Reasons include truck driver shortage, distracted or impaired drivers and aging infrastructure.

Anders Lindström, Senior Underwriter at If Insurance explains that, "against this backdrop, rates are steadily increasing as claims continue to rise in both frequency and severity. In fact, rate increases on primary auto liability have been a reality for 35 quarters in a row with increased spill over to excess/ umbrella."

Further to this, states are adopting other changes that build upon the current negative development; increases in speed limits. "An increase in the speed limit by 5 MPH provides has statistically caused an 8% increase in interstate fatalities. Thankfully, according to the National Highway Traffic Safety Administration and CTIA, data usage nearly doubled from 2017 to 2018 with fatalities actually decreasing by 2,5%, which means the correlation between mobile data usage and vehicle fatalities has been broken."

The huge jury awards we are currently seeing are wiping out the insured's primary coverage, triggering the protection offered by the umbrella or excess policy. These cases with overspill to excess auto coverage is happening both more often and with greater severity than before.

As an example, some examples of so-called nuclear verdicts in the US are listed below to illustrate the liability consequences with Auto Excess Insurance: Many of these cases involved driver distractions, from texting to narcotics use.

- A Texas case where a drunk driver of a dealer's car killed a scooter rider led to a negligent entrustment casa against the car dealer. Jury deliberated for 25 minutes before awarding several hundred dollars to the claimants.
- Another Texas case with awards of several hundred million dollars was when an oilfield water treatment truck killed a passenger in another vehicle. The claim was based on negligent maintenance of the truck.
- In California, a tractor trailer standing still on the highway shoulder was rear ended by another vehicle leading to multiple fatalities. The driver of the other vehicle fell asleep and drifted off to the side of the road, hitting the truck which did not have emergency flashers on, leading to an award in excess of USD 100M.

In summary, US casualty claims are increasing rapidly with personal injury claims being the major driver. As part of this, excess auto is impacted by several of the general drivers but also additional specific challenges such as truck driver shortage, driver impairment and infrastructure investment deficit. For clients without US operations, employees travelling to the US and renting vehicles is a risk not to underestimate.

CLIENTS ARE RECOMMENDED TO:

- Conduct regular driver training as a central part of your operations
- Enforce a strict mobile phone use policy, discuss the possibility of installing cell phone blockers
- Utilise other technical solutions, such as ignition interlock devices, telemetric devices, for example
- Make sure you have a fleet safety program implemented with an up-to-date maintenance program
- Be sure to review and update your policy for car rentals for both local and traveling employees

• Mobile phone use tripled from 2014 to 2016

Marijuana legalization 2016: 11% of fatally injured drivers
prescription opioids

• Simultaneous increase of speed limit to 85 mph in some states

Source: CCC Information Services and USDOT, 4/3/17; IIHS, 6/12/17; National Safety Council, 2/27/17. The Wall Street Journal, February 21, 2017, "Smartphone Addicts Behind the Wheel Driver Car Insurance Rates Higher

Digital claims handling increases efficiency

In 2019, If P&C Insurance introduced a new claims process for Industrial clients and brokers in the online If Login portal. The aim of the new service has been to increase transparency and further simplify the claims handling process for our clients.

Article by Kristian Orispää

he new claims handling service allows clients and brokers to register a claim for Liability, Property, or Marine Cargo in If Login via pre-filled registration forms. Attachments can be added to the claim, including documents and pictures. The claims handler and the client can communicate within If Login where also all necessary details of the claim are displayed. All the details are in one place and clients can review the progress of their claim, receive alerts on any status changes, new messages or when a document is published. This gives the user a full overview of what is going on in each claim and what has been communicated within that specific claim.

BENEFITS OF EASIER CLAIM HANDLING

According to Tania Kerbs, Product Owner for If Login, "when the client has submitted the claim, they can follow its progress in real-time. If any additional information is needed for the claim, details can be discussed directly in If Login between the client and the claims handler. Everything relating to the client's claim is documented in one place, including the claim decision documentation."

Clients especially appreciate the possibility to follow the claims process, keeping them up to

If Login brings added value and benefits to claims handling, some of these include:

• Easier registration

Pre-filled registration forms, including company and user information, speed up registration

• Email alerts

Clients will never miss any important details, thanks to email notifications which are sent when any changes are made to the claim.

• Remove any personal dependencies

> Multiple users can participate in the registration and communicate with the claims handler, in a safe, secure, and GDPR compliant environment.

• Everything in one place

Registration, claim details, the activity log, attached documents and messages to and from the claims handler are all located in the same place, reducing the need to search through emails for information.

CLIENT PERSPECTIVES

If P&C Insurance is supporting its clients, and almost all new developments in If Login are based on customers' needs. We regularly interact with clients to ensure they are provided with solutions that truly add value.

Clients especially appreciate the possibility to follow the claims process, keeping them up to date on how their claim is being handled.

Anna Pajunen, Logistics Specialist, Kalmar Services at Cargotec Finland Oy highlights that the usability and functionalities in If Login have steadily developed over the years.

"If Login is easy to use and allows me to stay on top of things. When handling multiple claims. If Login provides a clear overview of which claims are open and which

date on how their claim is being handled."

have been closed. I appreciate the communication functionalities, which allows me to track the conversations that have been communicated with If directly per each claim. These discussions were previously managed over email, which was cumbersome to follow."

David Prins, Return Handling Expert & Non-Conformity Expert with Transportation Claims, at Wärtsilä Global Logistics Services states, "If Login is user-friendly, convenient, and I am very happy about having a single location which stores all the documents. I have a total overview of all ongoing claims, rather than having to go through separate documents when handling a claim. The alerts are also a very good feature, I appreciate that the link in the email will take me directly to the claim in question, which makes working with If Login very easy. Overall, my experience has been very good."

CLIENT NEEDS DRIVE DEVELOPMENT

The demand for digital capabilities, and all the requirements relating to If Login development work, comes from our clients. According to Anne Ramsby, Head of Industrial Sales in Denmark at If, 'We start to see in tender material from Global clients the request for 'digital preparedness' where communication around claims is one of the important parameters in their request. To meet their requests, we actively work on our solution and are committed to If Login's competitiveness in the marketplace."

Carl-Johan Björkgren, Development Manager at If, "Going forward, Motor and Employee Benefits claims will also be added to the service, offering similar digital capabilities for more claim types. Future development work includes adjustments to claims reporting, based on feedback received from both If employees and clients. When clients and brokers have a need for claim statistics, If Login aims to be the primary channel to find the information." \Box

Ne are in a hurry to transform energy production to more sustainable alternatives."

Sustainability risks and future energy solutions

Climate change is one of the core risks that If P&C Insurance is following to secure its ability to serve its clients in their risk management. The worst predictions are dim, and the stakes are high, but the world has already started to move towards sustainability. The governmental and the regulatory pressure are pushing the development further. The drivers, like the cost and the investors' appetite or the obstacles such as needed political and behavioral changes, must be taken into consideration too.

Article by Matti Sjögren

ransforming the way we produce and use energy to comply with the sustainability targets of the UN Paris Agreement requires another major technical revolution occurring in quite near future. The global average temperature should stay well below 2°C above pre-industrial levels. This calls for lowering greenhouse gas emissions to net zero. Currently, energy production causes two thirds of those emissions.

The main technologies for renewable energy production are hydropower, wind, biomaterials, solar, geothermal and ocean energy. The potential of these technologies exceeds tremendously the energy needs of the world. Some of the methods are already vastly in use like hydropower, or they are increasing and developing rapidly, e.g. solar and wind. But time is essential in fighting against climate change, which paradoxically may

actually hinder the implementation of new production technologies

New energy production technologies are typically decentralised compared to traditional sources of energy, creating requirements for delivery networks. The existing infrastructure may not be able to bear the stress that will come with distributing power. Also, e.g solar and wind production are more dependent on weather conditions, requiring more stable energy production support.

All new technical facilities are subjected to basic risks like fires and machinery breakdowns. However, each completely new technology carries new types of risks which can often take some time and experience to recognise. Examples are fire risks with solar panels and breakdowns at wind power plants.

Liability risks stemming from the new power generation methods include environmental risks prevalent in offshore wind and in the production of renewable biomaterials.

Further to this, the construction projects for production facilities may be huge and take place in very demanding circumstances. The special skills needed require numerous companies to co-operate. The contractual relationships are complicated, and interdependencies are strong. There is an urge to focus on quality and durability instead of cost savings.

Another perspective to the climate targets is illustrated by the technologies to collect greenhouse gases like CO, from the production processes, or to remove them directly from the atmosphere. It is possible in theory, but the scalable solutions are still under development

With all these developments and investments in new technology comes big business opportunities. The insurers, like If, are providing capacity for risk transfer and risk management services to reach the targets both in projects as well as in operating the facilities. We are in a hurry to transform energy production to more sustainable alternatives.

The rapid erection of new production units with less tested features can be challenging for the insurer, which may be balanced by standardisation of the materials and technologies. The unnoticed accumulation of similar new risks in the insurer's portfolio, possibly being triggered at the same time, is the risk that keeps If P&C Insurance firmly positioned in these ambitious and inspiring projects for a more sustainable energy future.

Markus Munter Head of Employee Benefits UW, FI

Karl Hedvall Risk Engineer, SWE

ER CORNER

Short news

New Cargo info sheets

Get familiar with the new Cargo info sheets. Our Cargo risk management specialists have prepared 7 different info sheets about handling cargo, containers, before chartering vessels, contaminated tankers, and dangerous goods. As a client you can read them in the RM Library which can be found in If Login. Also, the Towage information form has been updated, published on if-insurance.com.

Access liability certificates 24/7

When you need a liability insurance certificate, you can now access these anytime, anywhere, 24/7. The renewed service is fast and easy to use. Customise the certificate to suite your needs with the help of pre-filled policy details and then simply select the scope of cover you need. Go to If Login to learn more!

Appointments

Henrik Rahm Nordic Head of Employee Benefits UW

Piiamari Poikonen Property UW, FI

Oscar Alvarsson Risk Engineer, SWE

Tuomas Yläsalm Property UW, FI

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Risk Consulting is If's professional magazine on risk management and loss prevention, and is one of the oldest client magazines in the Nordic countries.