



Assessing and Developing Fire Safety at Company X

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This thesis was commissioned by a company that works in the automotive industry focusing on retail, maintenance, and distribution. The company had noticed that their fire drills had some weaknesses that they wanted to have fixed. Another aspect they wished developing on was employee trainings regarding safety. The objectives of this thesis were to find out the flaws regarding fire safety of the premises and how to improve them, and to assess how employees can be better trained.

Methodology used included interviews of employees, document review and a safety walk. The document review included multiple sources, such as laws and regulations in Finland, academic literature, and the already existing documents presented by the commissioner. The safety walk gave insight into the current situation of physical aspects related to fire safety.

The results revealed that the current situation is not entirely bad but in need of improvement. The employee know-how needed to be developed and fire drill situations made more coherent and clearer for all participants. It is suggested that all employees go through a training where they learn all the important safety aspects of the premises, such as locations of emergency exits and portable fire extinguishers. Finally, a fire drill shall take place to see if things have changed and whether the results of the fire drill have improved. Ultimately, the commissioner was satisfied with the results.

Keywords: fire safety, emergency plan, fire drill, evacuation

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1 Introduction

Fire safety is often a subject that is not taken seriously enough. It is fairly common for people to not really think about fire safety in their everyday lives and to think it's enough to have a smoke detector or two, but how many people take the time to check the functionality of the devices, or replace the devices every now and then?

The importance of fire safety is highlighted during emergency situations and fire safety drills. A company in the automotive industry, that wishes to remain anonymous in this project, has conducted some fire drills on their premises in recent history and the latest one brought up some defects. This thesis is conducted because the company wishes to have these defects corrected as well as the execution of future fire drills be clearer and more coherent. The company also wishes that its employees were more educated on how to act in emergency situations.

The Finnish Rescue Act (379/2011) and the Government Decree on Rescue Services (407/2011) establish the criteria for emergency planning related to properties. As the already existing documents and manuals of the company's premises regarding emergency preparedness are not too deficient, there is no need to create a completely new emergency plan but only develop some parts of it. This thesis is development based and will work to develop already existing operating manual and emergency plan made by the commissioner. The aim is to list all flaws and aspects that require further developing regarding fire safety and have all employees be aware of exactly what to do when there is a fire alarm at their workplace.

Due to limitations with the timetable, a fire drill with the developments made during this project could not be executed to make any further developments or changes. This is not seen as a big issue, since the company, also referred to as the commissioner of this project, feels that the major parts of the existing emergency plan were already sufficient but they wanted to fix the smaller issues and have the plan be more coherent. The commissioner is also going through some changes in the employee base, which means there are going to be new employees that are not familiar with the current emergency plan. Therefore, the commissioner wishes for better education of the plan for both new and old employees.

Determining the goal of this thesis was not easy. Many different options were considered and the main research question did not come to be until near the end. The thesis focused on fire safety, emergency planning, and planning fire drills. After much consideration, the research question was decided on; How can the execution of fire drills be better at the premises of the company?

This thesis is executed for the benefit of company X. The company is in the premium automotive industry, providing services such as retail, maintenance and distribution. They provide their services straight to consumers but also to companies. The thesis is executed specifically at one of the company's premises located in Southern Finland. They have approximately 150 employees in different sectors, such as sales, maintenance, and management. (Website of company, not cited due to anonymity)

The premises have customers visiting daily - some to meet up with salespeople and some to pick up or drop off cars for maintenance. The premises have separate halls for maintenance. The safety regulations and laws regarding these halls are complex, but not considered during this project, as the scope of the project would widen too much. One aspect regarding these halls that is crucial though, is how fire safety is taken into account there.

The employees working in the maintenance halls often wear hearing protection when doing maintenance work on the vehicles. This may pose an issue when the fire alarm goes off. It is possible, that the hearing protection combined with the noise of the halls block out the sound of a fire alarm. Employees from the other sectors mainly spend their workdays in the general area of the premises where fire alarms are evident and near impossible to miss.

2 Emergency Preparedness

The Ministry of the Interior is responsible for drafting laws regarding fire safety. The responsibility of implementing other rules and regulations regarding fire safety fall on the owners and occupants of premises. The Rescue Act is a crucial part of emergency preparedness in Finland.

According to the Rescue Act (379/2011) section one, the purpose of the act is to "improve the safety of people and reduce the number of accidents." Sections 9 and 10 of the Rescue Act regard emergency exits of buildings, stating for example that emergency exits and passageways must be cleared at all times to ensure smooth passing through for people. It is also mentioned that signs indicating escape routes must be indicated and lit.

Section 11 of the Rescue Act is about emergency access roads. The section states that emergency access roads shall be kept free of parked vehicles and other obstacles. The property owner and occupant are responsible for ensuring that the emergency access roads are indicated and kept cleared (Rescue Act 379/2011).

Section 12 of the Rescue Act concerns maintenance of safety equipment. According to the Ministry of Interior Decree on Inspection and Maintenance of Fire Extinguishers (2005), portable fire extinguishers need to be inspected yearly if the extinguisher is stored in a

manner that exposes it to factors such as moisture, vibration, or changes in temperature. If however, the fire extinguisher is located in a dry place with little to none temperature fluctuation, the inspection needs to happen only every two years.

Sections 14 and 15 cover self-preparedness and emergency plans, both of which are highly related to this project. Section 14 covers responsibilities that fall on the owner and occupants of a building, such as preventing fires and dangerous situations, preparing for the protection of people, property, and the environment, and ensuring safe exit in dangerous situations and fires. Drawing up an emergency plan is also the owner's or occupant's responsibility. Section 15 describes what is required in an emergency plan, for example the conclusions of assessments of dangers and risks of the premises, the safety arrangements of the building, and instructions for residents and other people on preventing accidents.

2.1 Fire Safety

Statistics from the Emergency Services Academy Finland (2023) reveal information regarding the use of smoke detectors in residential buildings in the year 2022. The pie chart below represents the role of smoke detectors in fires. It paints a shocking picture, as the smoke detectors being activated during a fire is almost equal to the amount of no smoke detectors at all on the premises. This proves that there is room for improvement regarding fire safety, both at home, and in places of work. In 2012, the Ministry of the Interior drafted a project with the goal of establishing a set date for a so-called smoke detector day as a part of fire safety communication of rescue services (The Ministry of the Interior, 2012). The date chosen was December first, or 1.12. The reason was that the general emergency number in EU countries is 112, so the date would be easier to remember. The objective is that people would check their smoke detectors on a said date and therefore the fire safety statistics would not look so dark. This applies to workplaces too.



Figure 1: Statistics on the role of smoke detectors in fires in residential buildings in Finland in 2022 (Emergency Services Academy Finland, 2023)

Companies in the automotive industry are going through immense changes with the popularity of electric cars and vehicles growing considerably. According to the Finnish Transport and Communications Agency, in 2023 the number of electric cars registered in Finland was 29 536, an increase of 103% compared to the year 2022 (2024). The Finnish Central Organisation of Road Transport (2024) has generated a graph of the increase of usage of electric cars, which demonstrates the growth in the popularity. These changes affect many different aspects in the industry but for companies that maintain, sell, or possess such vehicles on their premises, the safety aspect of it is crucial. That would be a great reason for these companies to check their safety rules and regulations on their premises, including emergency plans. That was the case for this thesis even though the schedule of this project did not allow the research to go deeper into the subject and study how safety and security are present when dealing with the electric vehicles on the premises.

Autoalan Tiedotuskeskus

Electric passenger cars in traffic use

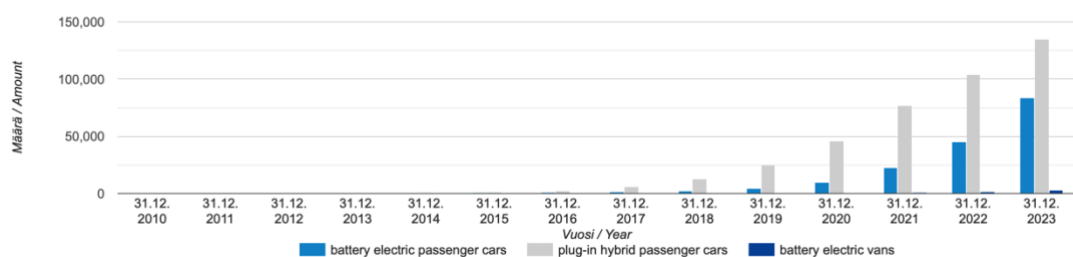


Figure 2: Electric passenger cars in traffic use (Finnish Central Organisation of Road Transport, 2024)

An article by Laura Kukkonen for Helsingin Sanomat (2022) describes how a car manufacturing plant experienced two different batteries catching on fire within a week. Fires that start in electric vehicles are much more difficult to put out and may require tens of thousands of liters to extinguish, with the added possibility of soon catching on fire again. Challenging this statement, an article by Jasper Jolly for the Guardian (2023) states that electric vehicles are much less likely to set on fire than traditional petrol and diesel vehicles. Electric vehicles may catch on fire for multiple reasons, for example due to a malfunction of the battery, charging the vehicle improperly, or “thermal runaway”, which happens when the battery overheats (Dragonfly Energy, 2022). Thermal runaway may be the most challenging problem with fire safety of electric vehicles, as it can cause very high temperatures of up to 400 degrees Celsius. The effects of electric vehicle malfunctions can be extremely brutal and deadly, which is why developing safety regulations and training people working with electric vehicles should be done by companies in the field.

The commissioner shall for their part ensure that employees are prepared for a fire sparking from an electric vehicle, as the protocol of a regular fire drill will not be appropriate. Like said previously, the timeline of this project did not allow the fire safety of working with electric vehicles to be assessed in more detail but discussions with the commissioner were held on the subject.

2.2 Emergency Exit Safety

Emergency exit safety focuses on the measures and protocols used to ensure a safe and quick evacuation of people in the event of an emergency, such as a fire or a natural disaster. According to Halttunen, Linjala & Waitinen (2016, 18), the aim of evacuation drills is to evaluate the effectiveness of an emergency plan when the situation requires individuals to leave premises to a safer location. The goal is that through sufficient practicing, real life situations requiring evacuation can be performed smoothly and safely. The drills are an opportunity for employees to learn more about the overall safety culture of their workplace.

Evacuation situation protocols rely heavily on law and safety regulations but a big factor is how people act in these sudden situations. It cannot be assumed that people automatically turn on their logical thinking and behave in the correct way, as some people may start panicking and acting irrationally, especially if they do not have much experience from evacuation situations. According to Proulx (2001), often in public buildings people avoid reacting to hearing the fire alarm. This may stem from not wanting to overreact if the alarm is a false one or a situation that has already been handled. Such behavior may delay the correct actions for evacuation if the alarm is real. Individuals’ characteristics play a role in

how they act as well. Some people rely on others more heavily, copying what others decide to do, while others may take on the role of a leader easily. Proulx (2001) also states that roles affect behavior here too. He gives an example of a fire in a restaurant; the owner is more likely to fight the fire than customers dining at the premises. This example works well at the commissioner's premises too. The premises have customers visiting daily who may mirror employees behavior in emergency situations. This highlights the importance of employees being well aware of the correct ways of acting in an emergency situation.

A major factor in emergency exit safety during a fire is choosing which exit route to utilize. (Huang, Wang & Yuen, 2006). An individual's decision on how to act in an emergency will likely be affected by the environment. Choosing an exit route may be highly influenced by where other people are heading towards, even if they logically knew that another exit route would be the best and safest option.

3 Methodology

The methodology chosen for this thesis includes interviews with two employees, document reviews, and studying the premises through a safety walk. These methods help give a better understanding of the current state of emergency preparedness at the premises. After reviewing and analyzing the existing documents and the state of the premises, the interview questions were easier to come up with. The existing documents include an emergency plan for the premises and an operating instructions manual.

3.1 Interview

According to Hirsjärvi and Hurme (2022), interviews are the most utilized method of collecting data. They state that during an interview, it is possible to learn more from non-verbal cues of the interviewee. The interviews conducted during this thesis will be semi-structured, meaning the questions were pre-planned, but open discussion is welcomed. This type of interview fits this project the best as there is some prior knowledge already, but some details need answering. The goal of the interviews is also to gain information on how the interviewees view fire safety at their workplace.

The interviews will be a good opportunity to learn more about the emergency preparedness and overall safety of the premises. One interview will be held with a person whose job title is receptionist/secretary of the premises. They have worked at the company for close to two years now and have a sufficient understanding and knowledge of everything related to the premises, such as the location of emergency exits. They have been involved in the execution of a fire drill in the past and they have noticed the need to improve them. They will be referred to as interviewee number 1.

Another interview will be held with a mechanic working in the maintenance hall to gain more information from a different aspect, as the interviewee number 1 does not have experience from working in the maintenance halls. They will be referred to as interviewee number 2. The flow of events during a fire alarm must be quite different for one executing manual labor in the maintenance halls, than for interviewee number one, that mainly works on a computer in the general areas of the premises.

The answers will remain anonymous, and the direct answers cannot be found here, rather the answers will be analyzed later. The interview questions can be found below in table 1.

1) How long have you worked at your current position?
2) If a fire alarm happened now, how confident are you in knowing what to do?
3) Can you name the location of the assembly point in an evacuation situation?
4) How many fire drills do you remember there being during your employment here?
5) How is fire safety visible in your daily work?
6) Do you treat the maintenance of electric cars differently than fuel powered cars?
7) Can you hear the fire alarm when you are working in the maintenance hall?
8) Who is responsible for inspecting the portable fire extinguishers of the premises?

Table 1: Employee interview questions

Questions 6 and 7 are targeted only at interviewee number 2 and question 8 is for interviewee number 1.

3.2 Document review

According to Frechtling (2010), document studies are a less common method for project evaluation. He states that “Existing records often provide insights into a setting and/or group of people that cannot be observed or noted in another way.” (Frechtling 2010, 69). Reviewing literature during this project included studying the existing documents made on emergency preparedness and fire safety of the premises, studying laws on these subjects, and reading other professional sources related to the subject. Reviewing literature continued throughout the whole process.

Currently the commissioner has two different manuals in use - an emergency plan and an operating instructions manual - both of which have been updated November 4th, 2021. These documents were reviewed to gain a thorough understanding of the current situation of the company's emergency preparedness. Both documents were analyzed thoroughly to ensure the information was appropriate and the emergency plan in correspondence with the requirements of the Finnish Rescue Act.

The documents were studied thoroughly multiple times and the most important and relevant parts were highlighted and written down as notes. The importance of the selected parts was justified by analyzing what is important regarding emergency preparedness and fire safety. The notes included bullet points and mind maps to brainstorm ideas and thoughts that occurred.

3.3 Safety walk

Conducting safety walks give valuable first-hand information regarding the safety of the premises. The walk focused on checking out the exit maps, emergency exits, and equipment needed for extinguishing or controlling fires. The safety walk was conducted together with an employee to simultaneously discuss any defects they have noticed while working there. Having studied laws and regulations regarding emergency preparedness was an advantage during this process. A small checklist was drafted before the walk to ensure that no important details are left unnoticed. The checklist included all emergency exits, fire extinguishers, and other equipment. Overall, the safety walk was a relaxed situation to ensure open discussion about safety matters. Had the walk been strictly formal, the number of comments from the employee might have been fairly low.

1 Emergency exits, lights indicating them
2 Handheld fire extinguishers
3 Automated fire extinguishing systems, sprinklers
4 Fire doors
5 Emergency exit map

Table 2: Safety walk checklist

The person conducting this thesis was responsible for writing down all notes that were later analyzed and reported here. The role of the employee focused on presenting the premises

and pointing out all aspects related to safety and security on the premises, such as exit maps, emergency exits, and fire equipment.

Many companies have outsourced conducting safety walks and fire drills to businesses working in the field. This could be beneficial to the commissioner as well since they have always conducted fire drills by themselves. Some businesses that provide these services include Securitas, Yrityssuojeluyhdistys Ry and Suomen Turvallisuusopisto. The fire drills are customized to meet the requirements of the premises and designed to teach all participants important safety aspects.

There are also ready-made checklists for safety walks for businesses to use, for example by Suomen Pelastusalan Keskusjärjestö (SPEK). Utilizing one of these templates would be highly beneficial for the commissioner since it would guarantee that the most crucial aspects get checked. The previously mentioned checklist includes for example: cigarette butts having a separate metal container, roads being cleared of snow, trash containers being located at least eight meters from buildings, etc. Due to limitations with the timeline, this type of checklist was not utilized during this project. The possibility of using these types of services done by professionals is suggested for the company in the future if they want to gain a deeper understanding of the safety of their premises.

4 Results

This section includes the results of the interviews, document reviews, and the safety walk. The results will be analyzed here.

4.1 Interview results

The interviews were conducted sequentially on the same day. They turned out semi-structured as planned, which resulted in open discussion on the subject. The interviews were intriguing and provided relevant information.

The first interview was held with interviewee number 1. When presented with question number 2 (If a fire alarm happened now, how confident are you in knowing what to do?), they seemed assured when stating that they would not have a problem. They went on describing the things they would do; escorting customers visible outside and checking the downstairs area for any customers. They stated that the downstairs area is their responsibility in dangerous situations while the other floors are the responsibility of others. They also mentioned the automated fire alarm systems which is a positive thing. It is important that employees are aware of the automated systems, so they won't waste precious time contacting the fire department. The interviewee did know the location of the assembly point

but was unable to name it precisely as it is in the emergency plan. This could pose a problem if they had to inform other people on the assembly point; the instructions could come off as unclear to someone who has not spent much time on the premises. The interviewee remembers only one fire drill taking place in the last two years. They stated that they have worked at the premises for quite exactly two years now.

The interviewee could not give a straightforward answer for question number five (How is fire safety visible in your daily work?). Initially, they could not think of one way how fire safety would be present in their daily work but after some discussion and exploring of the question, the interviewee came up with a few ideas. They mentioned for example always being aware of their surroundings. This includes knowing their location on the premises and the location of the nearest exits, doing quick assessments of the physical conditions of the fire extinguishers and emergency exit signs when walking by, and overall staying alert during the day. They mentioned the importance of preparing for other hazardous situations as well as fire alarms, such as medical emergencies, violence, and arson/vandalism. Overall, they feel that they are sufficiently alert and ready for action, no matter what happens.

The interviewee was able to tell that there is an assigned person that checks and maintains the portable fire extinguishers but was unable to say by who and how often it happens. They were also aware of the laws regarding the maintenance of the extinguishers. Open discussion revealed that during the last fire drill, the interviewee remembers customers left roaming around the lobby of the buildings. There were no employees there to guide them out. The interviewee handled the situation but stated that said area is not on their list of responsibilities during a fire.

Results from interviewing interviewee number 2, the mechanic, provided valuable information and answers. They stated that they have been working at their current position for about 2 and a half years and they remember 2 or 3 fire drills taking place during that time. This does not correspond with the answer of interviewee number 1, who stated remembering only one fire drill in the last 2 years. There is a possibility that they were absent from work during a fire drill, for example. The mechanic also seemed confident in knowing what to do in case of a fire drill and was able to name the location of the assembly point. They did not have a clear answer for how fire safety is visible in their daily work but just as with the first interview, some further discussion resulted in a similar answer as with the first interview.

They stated that they see working on electric vehicles a little differently than on traditional fuel vehicles. They proceed with a heightened sense of carefulness, wear protective hand gear, and make sure the vehicle is positively dead, or shut down, before doing anything to it. According to their answers, they hear the fire alarm in the maintenance halls, even if they

are wearing hearing protection. Open discussion during the interviews revealed that both interviewees have been involved in first-aid training.

The two interviews resulted in somewhat coherent results. Both respondents seemed like they knew how to act in a fire alarm, and they did not have any uncertainties regarding the subject. The atmosphere during the interviews was calm and assured and the answers did seem convincing. However, an interview situation is a completely different one than a real fire alarm. These answers are promising but only during a fire alarm will the truth unveil on how the employees will act and if they remember all the things then, that they mentioned during the interviews. There are some limitations with the interview results as the number of interviewees was so low. Had the timeline allowed, more people would have been interviewed to gain more information. Only one mechanic being interviewed is not enough to really understand how the mechanics see fire safety in their work.

4.2 Document review results

The emergency plan of the premises states that the whole employee base must be trained to know the locations of all portable fire extinguishers and all emergency exits. They should also feel responsible for taking care of other people making it outside safely during a fire alarm. Requiring the employees to have a feeling of responsibility about others is not easily implemented, as it depends on one's character and way of behaving during a possibly stressful situation. It is recommended by the plan to execute fire drills at least once a year. It is difficult to know whether this is the case or not, since interviewee number 1 remembers only one fire drill taking place in the last two years, like stated above.

4.2.1 Emergency plan results

The emergency plan is a bit more detailed than the operating instructions manual but the two have some of the same information. The emergency plan refers to laws, such as the Occupational Safety and Health Act section 46 (2002), regarding first aid. The emergency plan includes a risk assessment that mentions some risks, their probability, and consequences if they happen. A few mentioned include occupational hazards and risks related to heating, ventilation, and air conditioning (HVAC).

The plan has a section for instructions on how to act to prevent accidents and how to act in dangerous situations. The instructions are generic, such as calling the emergency number and following the instructions from the professionals. There are also separate instructions for fire alarms, such as putting on your outdoor clothes if they are near and easily accessible, closing doors and windows and instructing customers and guests on where the closest emergency exit is located. Other dangerous situations mentioned are bomb threats, power outages and

electric cars catching on fire. The latter is especially important nowadays that electric automobiles are getting more common.

The plan covers emergency access roads, which are roads designed to allow emergency vehicles to get sufficiently close to buildings during emergencies (Ministry of the Interior Department for Rescue Services, 2023). The plan correlates with The Rescue Act section 11, as it states that no vehicles can be parked or obstacles placed on emergency access roads. The company's emergency plan also states that snow cannot be left on these roads and it must be cleared immediately.

The emergency plan appears to have accurate and legitimate data. The plan has different laws and regulations written out and it describes possible risks and threats of the premises, including their possible outcomes. It also describes how to act in dangerous situations, and how to attempt prevention of them. All in all, there are no clear errors in the plan but the physical appearance of the document is not very appealing. A suggestion is to update the plan to be more pleasant to read; it could improve the motivation of employees to familiarize themselves with the plan.

4.2.2 Operating instructions manual results

The operating instructions manual includes brief instructions on how to act in different types of emergencies, such as fires, bomb threats, and medical emergencies. The section regarding fires is short and simple as it only describes generally recommended actions when an individual spots a fire, such as saving individuals in immediate danger, calling the emergency number, and closing all doors and windows to limit the spreading of the fire. There is not much specification for the premises regarding whether responsibilities are delegated between employees for example. The section does however specify that the premises have automated fire alarm systems, which automatically inform the rescue department of a fire.

There is a section concerning preventive measures of employees in the manual. The section is essentially a list of things that fall into the responsibilities of the employees. This list includes keeping emergency exits and passageways cleared, instructing new employees on safety and security measures, being aware of where the portable fire extinguishers are located, and how they are used, to name a few. The list is quite peculiar, as the responsibilities are described in such a vague way. For example, the list makes it seem like all current employees are responsible for educating possible new employees on safety issues, which would not be efficient or smart.

The manual has valid information and instructions, but it is unlikely that all employees are aware of its contents, even though it is highly recommended. Employees should be trained on the details to ensure correct maneuver from employees. The content of the operating

instructions manual is written down on the emergency plan in the same format without any additional information. This raises the question of is the operating instructions manual even necessary to have and update?

4.3 Safety walk results

The safety walk took place on the premises on a quiet Friday morning when there was little to no customers on the premises. The walk was conducted with an employee, who is also interviewee number 1, who guided the tour around the premises. The walk included open discussion about general information of the premises as well as safety related information. The employee pointed out one emergency exit sign that was not lit up and said that it had not been working for a long time. Another flaw detected was the emergency exit maps missing a few emergency exits in the building.

The safety walk included the outside of the building too. The parking lot is quite big and filled with different types of cars, vans, trucks, etc., which may result in a high risk for blocked emergency access roads at the premises. The vehicles parked include both the company's owned vehicles, but also customers' vehicles, who may be on their first visit to the premises, meaning it could be unclear for them on where to park. Improving the visibility of emergency access roads markings is recommended.

Emergency exits, lights indicating them

- → One light was not lit

Handheld fire extinguishers

- → The inspections were up to date

Automated fire extinguishing systems, sprinklers

- → Maintenance is not the company's responsibility, locations were checked out

Fire doors

- → Locations were checked

Emergency exit map

- → Some emergency exits were not indicated on map

Table 3: Safety walk checklist results

It is suggested that a set of supervisors go through the premises and report all the mistakes to the party responsible. After fixing the emergency exit maps, which is the responsibility of property maintenance, the results shall be introduced to all employees. All employees shall also be taken on a tour of the premises and have emergency exits pointed out to them.

5 Conclusions

The interviews were the heart of this project, as they provided incredibly important information on how the current situation regarding safety and security of the premises is. The safety walk together with the interviewee was an excellent opportunity to note any concrete problems they have.

After the project was near finished the thesis was presented and explained in detail to the commissioner. The commissioner strongly feels that all employees must have a scheduled safety training session to either learn these things, or have their memory refreshed. The original emergency plan includes a statement that all employees must be able to name the locations of all emergency exits and portable fire extinguishers. This shall be emphasized during training. The plan is to execute these training sessions during the spring of 2024 and to do them in groups of 5-10 people. That leaves room for any questions and answers employees might come up with.

An important update that needs to happen is reporting every fire drill that takes place, including the date and time, and any defects noticed and how they are planned to be fixed. These reports will make it easier to check information on previous fire drills and to make sure they are executed once a year. Delegation of responsibilities shall be clearer. As seen in the results of the operating instructions manual, educating new employees on emergency preparedness is not delegated to a specific person. There is a possibility that the responsibility falls on supervisors, but nonetheless it should be expressed distinctly.

After the training sessions have finished, there shall be a fire drill executed. Only after the drill will it be clear if any more changes need to be made to the fire drills, or the emergency plan. It is proposed that after the drill, employees are provided with a survey to find out if there were any unclear aspects or mistakes noticed. The survey shall have anonymous answers to ensure honesty in the results. It is recommended for the commissioner to make changes to their operating manual and emergency plan if, and when, they spot any room for improvement during these trainings.

The aim of this thesis was to have fire drill experiences be clear and simple at the company's premises. The commissioner and the writer of this thesis feel that the finished project met the goal. The commissioner feels confident that their next fire drill will be a successful one thanks to observations made during this project.

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