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FIRE EMERGENCY MANAGEMENT

Abstract: *Emergency situations cause loss of life and financial losses in enterprises every year. However, this can be prevented. If businesses are prepared for such situations, damage and injury or loss of life can be prevented, their impact can be reduced, and businesses can return to their normal lives more quickly. Whether operating in a multi-storey building or in an industrial complex; be the owner or tenant of your current property; Emergency management can be applied regardless of the size and size of the enterprise. You do not need vast emergency management information for start-up. What you need is your organization's senior management to authorize and implement a plan for emergency management and to support and adopt it as a business culture. In this paper, emergency management will be explained by examples.*

Keywords: *Fire, Emergency, Management*

1. Introduction

An emergency may result in the injury or loss of life of the employees of the company, the employees of the contractors working in the company, the visitors or the nearby facilities or settlements, and may, in whole or in part, damage the facility or the natural environment, threatening unplanned events.

Emergency management is the process of reducing, interfering and influencing the effects of the incident. Emergency management is a dynamic process. Planning is one of the most critical stages. Trainings, exercises, testing of equipment and coordinating activities are other important functions.

The most severe and painful losses after the earthquake are observed during and after a fire. Even though the earthquake occurred over a long period of time, according to Fire Safety Europe's article published in 2014, 2,000,000 fire incidents occur each year in Europe. As it is understood from the statistical data, it cannot be said that a fire

disaster is a rare event.

According to Fire Safety Europe, 70,000 people are hospitalized every year in Europe due to a fire-related injury. In addition, an average of 12 people die each day due to fire. More than 50% of these losses are caused by inhalation of toxic fumes and gases caused by fire. Fire disaster causes loss of life as well as loss of property. This situation affects both the financial situation of the victims and the country's economy negatively. According to Fire Safety Europe's data, fire-related property damage in Europe is € 126 billion annually. This figure corresponds to 1% of the gross domestic product of the European Union countries. Apart from the classical reasons set forth in the reduction of this life and property loss, the Fire Incident firstly occurred due to the time of the fire and the loss of very valuable time at the 3 (Pre, After, and After) stage. events will be explained.

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2. Lost Time

Outside of working hours, especially in the evening hours 22:00, at midnight 03:00, and the hours between the hours of 05:00 to 07:00 can not be prevented and the loss of life and property is seen much more than the fire and fire reports of these fires, expert reports, examination of camera records According to media reports and the reasons are investigated, 3 main reasons are encountered.



Figure 1. Fire beginning Time

- a. Large, high-rise and closed areas of enterprises are large,
- b. Working with less personnel in the same enterprise in the enterprises with the shift system,
- c. Operation of electrical and electronic systems that cannot be stopped or shut down during operating hours.

If not, these reasons are not eliminated, they cannot be solved by substitution or engineering solutions. Fire risk analysis should be carried out at these times in order to prevent the increase of life and property loss of the fire. Hazards must be identified in all shifts in which the entity operates, and risk analysis should be made.

Protective measures should be taken according to the results of risk analysis and Fire prevention rescue and extinguishing planning should be made. The Fire Plan

should be performed not only in the daytime working hours, but also in cases where the fires are effective and the officials are insufficient, external support is needed and risk analysis is performed. In the morning, it is not possible to extinguish and manage an untested fire by the intervention teams. This is clearly demonstrated by the camera footage of a factory using solvent in production at 5.31 am in our country.

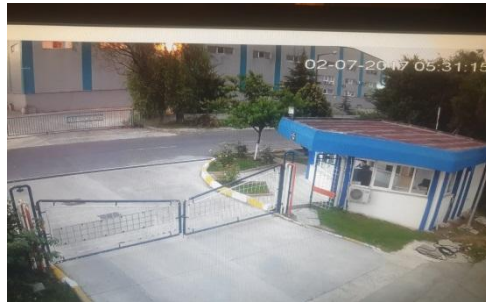


Figure 2. The beginning of the fire, the neighbor is aware of the factory employee and looking for the fire department

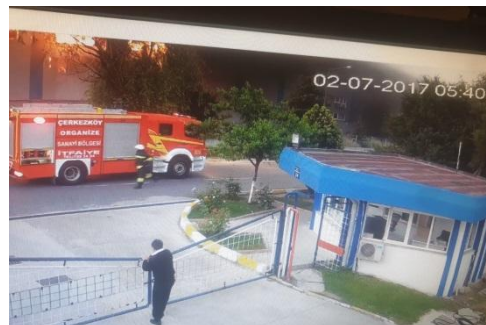


Figure 3. The arrival of the first fire truck and start to intervene without information

After the news of an electric fire that occurred in the morning at 7.10, the course of the fire is as follows. 07:10 Electric Shift workers ME and AS ÇD1 Main Drive Motor while checking bracelet, D2 main drive motor is detected by smoke in the starter, fire is in the fire area and is in the fire station in front of the EA2 building which is 35 meters away. Dry Chemical Powder and Foam Fire Extinguishers (YSC) have interfered with. At the same time due to fire, A.S has cut the energies of ADP panels. In the meantime,

according to our estimate from the starter, the fire with the heat of the instant overheated, the flame was enlarged, and the workers could not approach the distance of intervention is not possible.

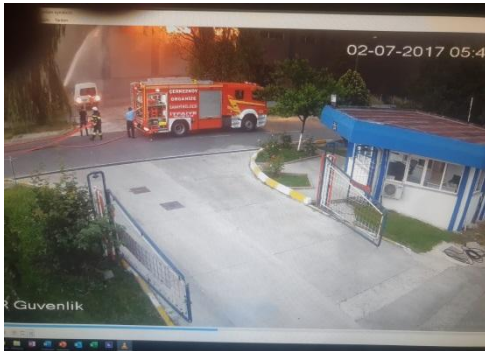


Figure 4. The personnel of the enterprise came to the fire place but the fire brigade started to spray water and did not know what was burning.

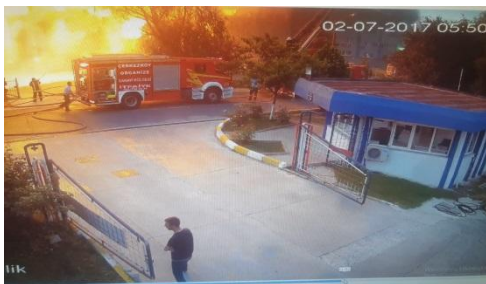


Figure 5. As the fire department did not have any information before and could not get information when it reached the fire place, the fire was spread to the whole factory as a result of the water squeezed in 10 minutes and burned in a short time. The distance of the fire brigade is 1200 meters.

The first job of the fire brigade entering the area sprinkled with water next to the hoses had intervened. 7.10 fire, the main electrical energy was cut, foam and dusty devices were interfered but not extinguished.

However, there were 9 bar fire hydrants, 20 meters near the fire place, and water tanks and pumps were active. However, because there was no managerial or educated person, the fire spread and caused great material

damage. There is therefore a very valuable 17 minutes lost.



Figure 6.

07:15 M.E, who works in the Electrical Maintenance Shift, has been informed by the radio with the announcement of the fire safety (Emergency Notification -Contact Point) and fire support is requested.

07:27 The first car belonging to the District Fire Department entered the site.

3. Management of fire place

3.1. Pre-Fire

With the taking of the measures required by laws and standards, a fire directive belonging to the enterprises of the public or public places must be prepared and a directive to the fire brigade shall be submitted and a copy of this directive shall be submitted to the local fire brigade. knowingly and will facilitate the way of intervention. It is very important for enterprises to interfere with the first viewers to make the protocol of mutual assistance and cooperation with neighboring enterprises. 5.31 If the fire in the neighboring plant had the possibility of communication in the burning of the factory's staff could be reported more closely.

3.2 During the fire

Industrial facilities where people are in bulk, Business Halls, Businesses, Hospitals,

shopping centers, cinema and theater and so on. In accordance with the Law No. 6331 on Occupational Health and Safety, the necessary plans are made in line with the regulations that are gained in accordance with the law and these plans are only the procedure plans.

The works to be done later are unfortunately managed by those who are there and the necessary works cannot be carried out according to the duties and instructions specified in the plan.

Determination of the current situation, What happened? Where? What's burning? What's inside? Are they being interfered? Evacuation started? Anybody inside? What are their status? The answers to the questions should be sought and planned.

The collection of the correct information in the right places and the order of the emergency response. A management room where the information will be transferred as soon as possible. All information should be transferred to this room and evaluated here.

Operation and management of emergency teams and support staff, determination of priorities or action of actions to be taken at the same time. Extinguishing, Evacuation, Counting, Shrinking etc. Every change of the works must be recorded, the teams that have been set up must be assigned to the task, and each team structure must pass every action to the management or the crisis room. When the fire brigade or AFAD arrive at the scene, the current situation should be correctly transferred and the fire brigade should be transferred to the auxiliary position.

3.3. After the fire

The safety and security of the fire place are usually ensured by law enforcement officers after the fire. However, since the security forces have fulfilled the general safety rules, the employees and the fire brigade come to the field before them. As all units focus on fire extinguishing, they ignore the causes of the fire and wait for the fire to end.

Then, first of all, the fire brigade report and then the insurance experts and the courts are investigating the reasons of the fire. Unfortunately, this application leads to loss of evidence and loss of time in finding the actual exit of the fire and to create misleading results. Personnel assigned as protection team after the fire should be trained for this purpose until the firefighters and police forces come and the security of the fire place should be provided by them only.

3.4. Spread of Fire

Especially when the flammable materials are used more intensively in buildings, the rate of spread of fire has increased. In the 1950s, 25 minutes were required for the fire to become uncontrollable, but a fire in the present day was in a position to threaten the safety of the people in the building within 3 minutes. According to Fire Safety Europe's data, the firefighting time in Europe is approximately 8 to 15 minutes. Considering that the fire becomes uncontrollable 3 minutes after the occurrence of the fire, this period is quite long.

4. SAMPLE CASE

Three factories in Esenyurt

"The fire was reported at 6:40.

Istanbul Metropolitan Municipality Kıraç fire department intervened in 06.43 fire.

The fire has spread to 3 floors and 4 floors.

The Istanbul Fire Department was on the alert after the fire spread.

Although the fire brigade was very close in the fire in question, it was not extinguished and there was great material damage.

Detection of the parameters required for the formation of the fire outside the detection and automatic extinguishing of the standards is possible with the present technology and sensors. Workplace Ambient measurements can be measured at certain times with temperature, gas, oxygen, sound, noise or

chemical reactions and results in numerical values. In areas with high fire risk, if these sensors are left inactive for 24 hours and transferring the measurements to a computer, it will be possible to realize the fire without any fire and to provide clear evidence to investigate the cause of the fire.

5. CONCLUSION

As a result, the emergence of fire incidents which occur very often after the earthquake and cause loss of life and property, should be taken into consideration and reveals the necessity of planning and management works to be carried out periodically according to the working period of enterprises or institutions and dynamics should be tried at these hours.

The fire risk analysis of the specified

enterprise, private or public institutions and organizations, taking into account the situation of the situation separately from all emergencies, the prevention of the fire extinguishing and evacuation work, the most important of which is the prevention of the fire and the necessary correct communication with the related aid organizations. it will also have a large role in providing effective incident location management.

In case of internal arrangements before the fire, cooperation with the fire brigade and the presence of the current situation before the fire and any fire-related dynamics of the enterprises to be known by the local fire department, and according to the need to supply and extinguish the fire fighting material will be developed and this operation will prevent the lost time.

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