# STUDY UNIT 6: EMERGENCY RESPONSE AND PREPAREDNESS

## INTRODUCTION

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| Emergency management (or disaster management) is the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies preparedness, response, and recovery in order to reduce the harmful effects of all hazards, including disasters.If possible, emergency planning should aim to prevent emergencies from occurring, and happening that, should develop a good action plan to mitigate the results and effects of any emergencies. As time goes on, and more data becomes available, usually through the study of emergencies as they occur, a plan should evolve.LEARNING OUT COME FOR STUDY UNIT 6 At the end of the lesson you should be able to:6.1 Discuss the procedures applied for developing emergencies response plan6.2. Describe the concept of fire prevention and suppression6.3 Identify the obstruction to means of Egress6.4 Give regulations about smoking in the workplace6.5 Identify ways of preventing fire based on fire prevention triangle6.6 Explain the fire prevention and fire safety practices6.7 Discuss the building evacuation procedure6.1 Discuss the procedures applied for developing emergencies response planThe same procedures and responsibilities would apply to other emergencies, with a Steps for Developing the Emergency Response Plan1. Review performance objectives for the program.2. Review hazard or threat scenarios identified during the risk assessment.3. Assess the availability and capabilities of resources for incident stabilization including people, systems and equipment available within your business and from external sources.4. Talk with public emergency services (e.g., fire, police and emergency medical services) to determine their response time to your facility, knowledge of your facility and its hazards and their capabilities to stabilize an emergency at your facility.5. Determine if there are any regulations pertaining to emergency planning at your facility; address applicable regulations in the plan.6. Develop protective actions for life safety (evacuation, shelter, shelter-in-place, lockdown).7. Develop hazard and threat-specific emergency procedures using guidance from experts and OSHA authorities.8. Coordinate emergency planning with public emergency services to stabilize incidents involving the hazards at your facility.9. Train personnel so they can fulfill their roles and responsibilities.10. Facilitate exercises to practice your plan.6.2 FIRE PREVENTION AND SUPPRESSIONThe same procedures and responsibilities would apply to other emergencies, with appropriate variations.**Fire Drills**A Fire Drill will be conducted once each year. This drill shall be arranged by the Chief of the Fire Department in coordination with the administration and shall be conducted under their joint supervision and direction.Particular care should be given to handicapped persons. If they cannot be evacuated from the building, they should be moved to a safe area (enclosed stairway, exit way as remote from the fire as possible). Do not leave a handicapped or immobile person alone. Notify immediately, the first arriving fire department personnel if this situation exists.**COMMUNICATIONS****Fire Alarm System**The building fire alarm system and unit heat detector are connected directly to a central dispatch and upon activation, will transmit the alarm to the Fire Department.**Reporting Emergencies**When reporting the incident by telephone (999), the following information shall be given: 1. Name of person making call
2. Location of emergency
	* Building name and address
	* Floor
3. People injured if any
4. Type of emergency - fire, flood, etc.
5. Remain on the phone until message is confirmed

In the event of any emergency, take the following steps after the fire department has been notified:1. Call the security desk's direct telephone extension.
2. Remain calm and follow the instructions of the Security officer and/or the administration, if possible.
3. If the building must be evacuated, use the designated evacuation route posted on each floor.
4. Evacuate the building whenever alarm sounds, even if there is no fire or smoke evident.
5. If the building must be evacuated for emergencies other than fire, notification may be made over the building's audio alert system.

6.3 OBSTRUCTION TO MEANS OF EGRESS (ACT OF COMING OR GOING OUT)**Exits**All exits and means of egress in the building shall be kept clean and clear of obstructions at all times; and every means of egress in the building shall be properly maintained.**Aisles (passage)**All aisles and other means of egress in the building shall be kept free from any object that might delay or obstruct the egress of persons from the building. The building Management is to be notified of any violation of the above regulations or of any possible unsafe condition that might affect the safety of building occupants.6.4 SMOKING REGULATIONS**Smoking Prohibited Areas*** Smoking is prohibited in ALL areas of the building so as to comply with the set regulations
* Ensure smoking area(s) are away from flammable material
* Arrange for cigarettes and matches to be disposed of safely and away from other combustible rubbish
* No person shall smoke, carry or have any lighted match, pipe, cigarette or cigar in any elevator, or in any other areas of the building.

6.5 FIRE PREVENTIONThe safest way to deal with fire is to prevent it. Every employer shall identify hazards, assess risks and have a written risk assessment, including any unusual or other risks. To comply with the regulations, employers are required to carry out risk assessments and to record these in the Safety Statement. A fire safety risk assessment should be conducted. Fire prevention should form part of this.**The Fire Prevention Triangle - Heat, Oxygen and Fuel**A fire needs three elements - heat, oxygen and fuel. Without heat, oxygen and fuel a fire will not start or spread. A key strategy to prevent fire is to remove one or more of heat, oxygen or fuel. The risk assessment should include detail on all three elements to minimize the risk of a fire starting/ spreading.A fire prevention strategy and a fire risk assessment should include detail and a full consideration of all of the issues - including issues arising from heat, oxygen and fuel. Advice on these three elements follows. This advice is not exhaustive and is given in no particular order.**Figure 6.1:** Fire prevention triangle**Source:** <https://www.hsa.ie/eng/Topics/Fire/Fire_Prevention/>**Heat**Heat can be generated by work processes and is an essential part of some processes such as cooking. This heat must be controlled and kept away from fuel unless carefully controlled. Heat generated as a by-product of a process must be dealt with properly.**Heat Safeguards*** Ensure employees are aware of their responsibility to report dangers
* Control sources of ignition
* Have chimneys inspected and cleaned regularly
* Treat independent building uses, such as an office over a shop as separate purpose groups and therefore compartmentalize from each other
* Ensure cooking food is always attended
* Use the Electricity Supply Board's Safety webpage
* Use the Code of Practice for Avoiding Danger from Underground Services

**Plant and Equipment**Plant and equipment which is not properly maintained can cause fires* Ensure all work equipment protects against catching fire or overheating
* Ensure proper housekeeping, such as preventing ventilation points on machinery becoming clogged with dust or other materials - causing overheating
* Have electrical equipment serviced regularly by a competent person to prevent sparks and fires
* Properly clean and maintain heat producing equipment such as burners, heat exchangers, boilers (inspected and tested yearly), ovens, stoves, and fryers.
* Require storage of flammables away from this equipment.
* Use a planned maintenance programme to properly maintain plant and equipment. Review your programme if you already have one.

 **A planned maintenance programme should deal with*** frictional heat (caused by loose drive belts, bearings which are not properly lubricated or other moving parts)
* electrical malfunction
* flammable materials used in contact with hot surfaces
* leaking valves or flanges which allow seepage of flammable liquids or gases
* static sparks (perhaps due to inadequate electrical earthing)

**Portable Heater*** Do not use portable heaters unnecessarily.
* They should have emergency tip-over switches, and thermostatic limiting controls.
* Turn them off if people leave the room or are going to sleep
* Ensure they are away from anything that can burn
* Do not use them to dry clothes

**Hot Work**Hot work often arises from construction and/ or maintenance activities. Hot work is work that might generate sufficient heat, sparks or flame to cause a fire. Hot work includes welding, flame cutting, soldering, brazing, grinding and other equipment incorporating a flame, e.g. tar boilers, etc. Hot work can be very dangerous and stringent controls must be in place e.g welding **Identify all hot work*** Only allow hot work if no satisfactory alternative
* Ensure relevant contractors are aware of hot work procedures and controls
* Use a hot work permit system including
* fire-resistant protective clothing
* clear responsibility
* logging and audit processes
* routine checking and supervision
* item to be worked on removed to safe area
* remove or protect combustible or flammable materials
* prevent, suppress and control sparks
* prevent, suppress and control heat
* provision of and training on suitable fire-fighting equipment
* provision of a separate person to fire-watch and use fire-fighting equipment –the fire watcher
* particular precautions for special risks, e.g. confined space
* leave workplace clean and safe
* final check of area at least 60 minutes after completed job and certainly prior to premises being vacated

**Electrical safety*** All electrical equipment and installations designed, constructed, installed, maintained, protected, and used to prevent danger
* Get a qualified electrical contractor to carry out installation and repairs to electrical equipment and fittings
* Maintain proper pest control to avoid rodent damage to electric wiring and equipment
* Check electrical equipment and remove defective equipment
* Ensure electrical cords are in good condition
* Plug appliances and lights into separate electrical outlets
* Avoid using extension cords. If you require an outlet in an area where there is none, have one installed by a qualified electrician.
* Use extension cords safety - not under carpets or across walking areas
* Use only one device per outlet

6.6 Fire Prevention Practices* Never use immersion type heating devices.
* Avoiding electrical overloading. Avoid octopus plugs. Do not plug high voltage items into electrical outlets without first checking with building Management.
* Store waste paper at least six to eight feet away from any operating electrical appliance or machine.
* Use fireproof containers to dispose of oily rags, and/or other related, waste-soaked materials.
* If any electrical appliance is emitting smoke, immediately remove the electrical plug from the wall outlet and notify the Fire Department and Security officer.

6.6.1: Fire Safety Practices* In case of fire, activate the fire alarm and call 999 for the Fire Department before attempting to extinguish fire.
* Never use elevators for evacuation of the building.
* When evacuating your area, do so in an orderly manner -- don't panic, walk, do not run.
* Help handicapped employees and support staff leave the building, if possible.
* Familiarize yourself with the location of the fire extinguishers and the instructions how to operate them, which are printed on all fire extinguishers.
* Cooperate with and follow the directions of Management, Security, or Fire Department officials.
* During building evacuation proceed in an orderly manner to the designated means of egress. When out of the building at ground level, proceed to the opposite side of the street or as directed by Fire Department Officials.
* Stay in single file in the stairways, as Fire Department personnel may be coming up the same stairway.

6.7 BUILDING EVACUATION PROCEDURES**Emergency Evacuation and Fire Drill Rules**In the event of a fire or any other emergency that would warrant the complete evacuation of this building, all employees and support staff of the building must participate with no exceptions.During a building evacuation or fire drill in this building, each employee and support staff is responsible for any valuables, and the locking of all doors to and from their room/office, as soon as the last person has left the area, if possible.Before opening any door of your room/office, which leads to the main hallway, feel the door to see if it is hot. If the door is not hot, open it slowly; and if conditions allow, proceed to the assigned stairway and follow the evacuation plan. If the smoke is too heavy, do not enter the stairway, close the door, place any cloth item along the bottom edge of the door, open your windows for fresh air, hang any long cloth item available out the window to let the fire department know you are still in the room/office. If the door to your room/office is hot, do not open it. Follow the same procedure as outlined above. If, for any reason you must remain in your room/office during any fire or other emergencies, remain calm and wait for the fire department to assist you.Hats, coats or other wearing apparel must be disregarded in the event of an actual fire. Time is very important and the evacuation of each room/office must be completed as soon as possible.**Fire Drill Procedures**During a fire drill in this building, each employees and support staff is responsible for any valuables and the locking of all doors to and from their room/office as soon as the last person has left the area. Turn off any appliances, gas fired equipment, or electrical equipment if it is in use at the time of any emergency, if possible.Be sure to take your room/office key with you.EXTINGUISHMENT OF INCIPIENT FIRES**Portable Fire Extinguishers**There are fire extinguishers located on every floor of the building. Different types of extinguishers are used to control different kinds of fires. For instance, water is a conductor of electricity and should never be used on any electrical fires. However, water is very effective in controlling trash fires. Fires have been classified as A, B, C depending on their origin. Each extinguisher is marked according to the class of fire it will control.**For class A Fires:** wood, rags, paper, etc.                     **Use:** pressurized water extinguisher**For Class B Fires:** oil, grease, paint or other flammable liquids                     **Use:** dry chemical or carbon dioxide extinguisher**For Class C Fires:** live electrical fires in motors, electrical wiring and electrical appliances                     **Use:** dry chemical or carbon dioxide extinguishers.The proper way to extinguish all fires that occur in a frying pan, cooking pot, deep fat fryer or broiling pan is to put a cover over the container involved, use lids if available, otherwise, use any cover that may be handy, a cutting board or a small rug from the floor.Do not throw water into or on any container that is on fire on the stove or in the oven. This will cause the fire to spread and flare up.Do not attempt to use any portable fire extinguishers if you are not familiar with them.All extinguished fires must be reported to the Fire Department for final investigation.GENERAL INSTRUCTIONS* Do not use elevators to exit the building. Anyone trapped in a disabled elevator is requested to remain calm, as his or her rescue will be affected as soon as possible.
* Special attention should be given to the elderly and handicapped.
* If complete evacuation or any partial evacuation is required, do not remain in the lobby. Proceed out doors and away from the building and avoid interfering with Fire Department operations.
* In all cases, where the building is completely evacuated, the management will make every effort to get the students and faculty back into their rooms/offices as soon as possible.
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