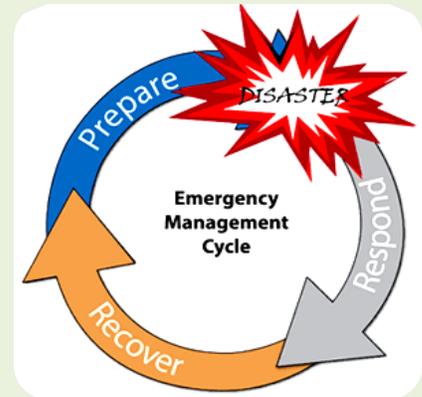




Emergency Preparedness

Emergencies can create a variety of hazards for workers in the impacted area. Preparing before an emergency incident plays a vital role in ensuring that employers and workers have the necessary equipment, know where to go, and know how to keep themselves safe when an emergency occurs. Everyone in a workplace should know and be prepared and response on how to respond when in emergency and the hazards to be aware of when an emergency occurs.

Nobody expects an emergency or disaster -- especially one that affects personally, employees and workforce, and the business personally. Yet the simple truth is that emergencies and disasters can strike anyone, anytime, and anywhere. The employer and employees could be forced to evacuate company when you least expect it.



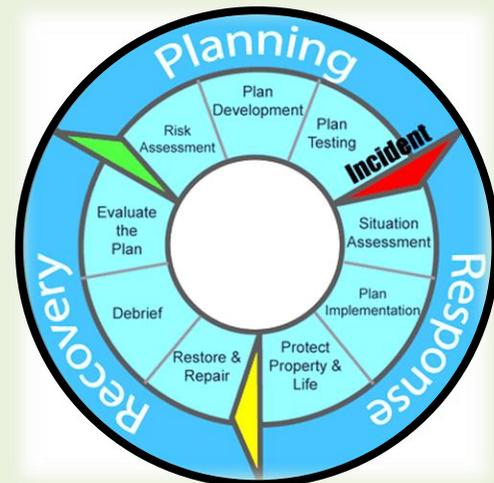
What is a workplace emergency?

A workplace emergency is an unforeseen situation that threatens employees, customers, or the public; disrupts or shuts down operations; or causes physical or environmental damage. Emergencies may be natural or manmade and include the following:

- Floods,
- Hurricanes,
- Tornadoes,
- Fires,
- Toxic gas releases,
- Chemical spills,
- Radiological accidents,
- Explosions,
- Civil disturbances, and
- Workplace violence resulting in bodily harm and trauma.

The best way is to prepare to respond to an emergency before it happens. Few people can think clearly and logically in a crisis, so it is important to do so in advance, when you have time to be thorough. The company or the organization should prepare a group/ committee (emergency response) which should prepare a detailed plan for emergency situations.

The committee must **Brainstorm the worst-case scenarios**, what to be done if the worst happen. What if a fire broke out in boiler room/ workplace or a hurricane hit building / workplace head-on, or a train carrying hazardous waste derailed while passing loading dock, chemical leaks or fire or any type of accident which creates emergency situation. Once the committee identifies potential emergencies, consider how they would affect everyone (inside as well as outside the organization) and how to respond.



Emergency action plan

An emergency action plan covers designated actions employers and employees must take to ensure employee safety from fire and other emergencies. Not all employers are required to establish an emergency action plan. Even if it is not specifically required to do so, compiling an emergency action plan is a good way to protect oneself, employees, and business during an emergency. Putting together a comprehensive emergency action plan that deals with all types of issues specific to worksite is not difficult. It is beneficial to include management team and employees in the process. Explain goal of protecting lives and property in the event of an emergency, and ask for their help in establishing and implementing emergency action plan. Their commitment and support are critical to the plan's success.

What should your emergency action plan include?

When developing emergency action plan, it's a good idea to look at a wide variety of potential emergencies that could occur in workplace. It should be tailored to worksite and include information about all potential sources of emergencies. Developing an emergency action plan means doing a hazard assessment to determine what, if any, physical or chemical hazards in workplaces could cause an emergency. If there is more than one worksite, each site should have an emergency action plan.

Emergency action plan must include the following:

- A preferred method for reporting fires and other emergencies;
- An evacuation policy and procedure;
- Emergency escape procedures and route assignments, such as floor plans, workplace maps, and safe or refuge areas;

- Names, titles, departments, and telephone numbers of individuals both within and outside your company to contact for additional information or explanation of duties and responsibilities under the emergency plan;
- Procedures for employees who remain to perform or shut down critical plant operations, operate fire extinguishers, or perform other essential services that cannot be shut down for every emergency alarm before evacuating; and
- Rescue and medical duties for any workers designated to perform them.

It should also consider designating an assembly location and procedures to account for all employees after an evacuation. In addition, it may find it helpful to include in, plan the following:

- The site of an alternative communications center to be used in the event of a fire or explosion; and
- A secure on- or offsite location to store originals or duplicate copies of accounting records, legal documents, your employees' emergency contact lists, and other essential records.

Alerting employees to an emergency

The plan must include a way to alert employees, including disabled workers, to evacuate or take other action, and how to report emergencies, as required. Among the steps you must take are the following:

- Make sure alarms are distinctive and recognized by all employees as a signal to evacuate the work area or perform actions identified in plan;
- Make available an emergency communications system such as a public address system, portable radio unit, or other means to notify employees of the emergency and to contact local law enforcement, the fire department, and others; and
- Stipulate that alarms must be able to be heard, seen, or otherwise perceived by everyone in the workplace. Consider providing an auxiliary power supply in the event that electricity is shut off.
You should also consider the following:
- Using tactile devices to alert employees who would not otherwise be able to recognize an audible or visual alarm; and
- Providing an updated list of key personnel such as the plant manager or physician, in order of priority, to notify in the event of an emergency during off-duty hours.

Develop an evacuation policy and procedures

A disorganized evacuation can result in confusion, injury, and property damage. That is why when developing emergency action plan it is important to determine the following:

- Conditions under which an evacuation would be necessary;
- A clear chain of command and designation of the person in business authorized to order an evacuation or shutdown. Designating an "evacuation warden" or Emergency responder to assist others in an evacuation and to account for personnel is very helpful, he/ she must be substituted with equally competent person during his absence/ leave/sickness/vacation
- Specific evacuation procedures, including routes and exits. Post these procedures where they are easily accessible to all employees;
- Procedures for assisting people with disabilities or who do not speak English;
- Designation of what, if any, employees will continue or shut down critical operations during an evacuation. These people must be capable of recognizing when to abandon the operation and evacuate themselves; and
- A system for accounting for personnel following an evacuation. Consider employees' transportation needs for community-wide evacuations.

Conditions of call for an evacuation

A designated person within every workplace should be responsible for making the decision to evacuate or shut down operations. Protecting the health and safety of everyone in the facility should be the first priority. In the event of a fire, an immediate evacuation to a predetermined area away from the facility is the best way to protect employees. On the other hand, evacuating employees may not be the best response to an emergency such as a toxic gas release at a facility across town from workplace. The type of building of work could be a factor in decision. Most buildings are vulnerable to the effects of disasters such as tornadoes, earthquakes, floods, or explosions. The intelligence and experience of the emergency responder plays an important in this case. It is therefore advisable to choose intelligent people for emergency response. Adequate training and regular/ scheduled emergency drills should be done to minimize the adverse effects of emergency.

Role of coordinators, evacuation wardens, emergency responders during an emergency

When drafting emergency action plan, select a responsible individual to lead and coordinate emergency plan and evacuation. It is critical that employees know who the coordinator is and understand that person has the authority to make decisions during emergencies.

What are the minimum elements of an emergency action plan?

- Procedures for reporting fires and other emergencies.
- Procedures for emergency evacuation, including the type of evacuation and exit route assignments.
- Procedures for employees who stay behind to continue critical plant operations.
- Procedures to account for all employees after evacuation.
- Procedures for employees performing rescue or medical duties.
- Name or job title of employees to contact for detailed plan information.
- Alarm system to alert workers.

In addition, must designate and train employees to assist in a safe and orderly evacuation of other employees. Must also review the emergency action plan with each employee covered when the following occur:

- Plan is developed or an employee is assigned initially to a job.
- Employee's responsibilities under the plan changes.
- Plan is changed.

The coordinator should be responsible for the following:

- Assessing the situation to determine whether an emergency exists requiring activation of emergency procedures;
- Supervising all efforts in the area, including evacuating personnel;
- Coordinating outside emergency services, such as medical aid and local fire departments, and ensuring that they are available and notified when necessary; and
- Directing the shutdown of plant operations when required.

It is beneficial to coordinate the action plan with other employers when several employers share the worksite.

In addition to a coordinator, designate evacuation wardens/ emergency responders to help move employees from danger to safe areas during an emergency. Generally, one warden for every 20 employees should be adequate, and the appropriate number of wardens should be available at all times during working hours. Employees designated to assist in emergency evacuation procedures should be trained in the complete workplace layout and various alternative escape routes. All employees and those designated to assist in emergencies should be made aware of employees with special needs who may require extra assistance, how to use the buddy system, and hazardous areas to avoid during an emergency evacuation.

Establishing evacuation routes and exits

When preparing an emergency action plan, designate primary and secondary evacuation routes and exits. To the extent possible under the conditions, ensure that evacuation routes and emergency exits meet the following conditions:

- Clearly marked and well lit;
- Wide enough to accommodate the number of evacuating personnel;
- Unobstructed and clear of debris at all times; and
- Unlikely to expose evacuating personnel to additional hazards.

Prepare drawings that show evacuation routes and exits; post them prominently for all employees to see.

Account for employees after an evacuation

Accounting for all employees following an evacuation is critical. Confusion in the assembly areas can lead to delays in rescuing anyone trapped in the building, or unnecessary and dangerous search-and-rescue operations. To ensure the fastest, most accurate accountability of employees, consideration of the following steps in emergency action plan should be given:

- Designate assembly areas where employees should gather after evacuating;
- Take a head count after the evacuation. Identify the names and last known locations of anyone not accounted for and pass them to the official in charge;
- Establish a method for accounting for non-employees such as suppliers and customers; and
- Establish procedures for further evacuation in case the incident expands. This may consist of sending employees home by normal means or providing them with transportation to an offsite location.

Planning for rescue operations

It takes more than just willing hands to save lives. Untrained individuals may endanger themselves and those they are trying to rescue. For this reason, it is generally wise to leave rescue work to those who are trained, equipped, and certified to conduct rescues. If there is an operation that takes place in permit-required confined spaces, emergency action plan should include rescue procedures that specifically address entry into each confined space.

Medical assistance during an emergency

If company should have a formal medical program. If there is none, then, a basic program should be in place to investigate ways to provide medical and first-aid services. If medical facilities are available near worksite, arrangements can be made to handle emergency cases. A written emergency medical procedure to minimize confusion during an emergency should be provided to the workers.

If an infirmary, clinic, or hospital is not close to workplace, onsite person(s) should be adequately trained in first aid, fire fighting and other possible emergencies. Treatment of a serious injury should begin within 3 to 4 minutes of the accident. Establish a relationship with a local ambulance service so transportation is readily available for emergencies.

Role of workers/ employees in emergency action plan

The best emergency action plans include employees in the planning process, specify what employees should do during an emergency, and ensure that employees receive proper training for emergencies. When including employees in planning, encourage them to offer suggestions about potential hazards, worst-case scenarios, and proper emergency responses. After developing the plan, review it with employees/ workers to make sure everyone knows what to do before, during and after an emergency. Keep a copy of your emergency action plan in a convenient location where employees can get to it.

What is an *exit route*?

An exit route is a continuous and unobstructed path of exit travel from any point within a workplace to a place of safety. An exit route consists of three parts:

- **Exit access** – portion of an exit route that leads to an exit.
- **Exit** – portion of an exit route that is generally separated from other areas to provide a protected way of travel to the exit discharge.
- **Exit discharge** – part of the exit route that leads directly outside or to a street, walkway, refuge area, public way, or open space with access to the outside.

What are the requirements for exits?

- Exits must be separated by fire resistant materials—that is, one-hour fire- resistance rating if the exit connects three or fewer stories and two-hour fire-resistance rating if the exit connects more than three floors.
- Exits are permitted to have only those openings necessary to allow access to the exit from occupied areas of the workplace or to the exit discharge. Openings must be protected by a self-closing, approved fire door that remains closed or automatically closes in an emergency.

Training to employees

All employees should be educated about the types of emergencies that may occur and train them in the proper course of action. The size of workplace and workforce, processes used, materials handled, and the availability of onsite or outside resources will determine training requirements. Ensure employees understand the function and elements of emergency action plan, including types of potential emergencies, reporting procedures, alarm systems, evacuation plans, and shutdown procedures.

Discuss special hazards present onsite, such as flammable materials, toxic chemicals, radioactive sources, or water-reactive substances. Clearly communicate who will be in charge during an emergency to minimize confusion.

General training for employees should address the following:

- Individual roles and responsibilities;
- Threats, hazards, and protective actions;
- Notification, warning, and communications procedures;
- Means for locating family members in an emergency;
- Emergency response procedures;
- Evacuation, shelter, and accountability procedures;
- Location and use of common emergency equipment; and
- Emergency shutdown procedures.

Four general elements critical to a successful safety and health management program

- Management leadership and employee involvement;
- An analysis of worksite hazards;
- Use of hazard prevention and control initiatives; and
- Safety and health training.

Train employees in first-aid procedures, respiratory protection, including use of an escape-only respirator; and methods for preventing unauthorized access to the site. Once reviewed emergency action plan with employees and everyone has had the proper training, it is a good idea to hold practice drills as often as necessary to keep employees prepared. Include outside resources such as fire and police departments when possible. After each drill, gather management and employees to evaluate the effectiveness of the drill. Identify the strengths and weaknesses of plan and work to improve it.

Frequency of training employees

Review plan with all employees and consider requiring at least 6 monthly training in the plan. Also-

- Develop initial plan;
- When new employees are hired;
- When introduce/ purchase new equipment, materials, or processes into the workplace that affect evacuation routes;
- Change in the layout or design of the facility; and
- If or when Revise or update emergency procedures.

Include (about) hazardous substances in the emergency plan

No matter what kind of work or workplace, it could potentially face emergency involving hazardous materials such as flammable, explosive, toxic, noxious, corrosive, biological, oxidizable, or radioactive substances.

The source of the hazardous substances could be external, such as a local chemical plant that catches on fire or an oil truck that overturns on a nearby freeway. The source may be within physical plant. Regardless of the source, these events could have a direct impact on workers/employees and work and should be addressed by emergency action plan.

If there is a storage of hazardous substances at worksite, there is always an increased risk of an emergency involving hazardous materials and should address this possibility in emergency action plan. Standards requires employers to use hazardous chemicals to inventory them, keep the manufacturer-supplied Material Safety Data Sheets (MSDSs) for them in a place accessible to workers, label containers of these chemicals with their hazards, and train employees in ways to protect themselves against those hazards.

A good way to start is to determine from hazardous chemical inventory what hazardous chemicals used and to gather the MSDSs for the chemicals. MSDSs describe the hazards that a chemical may present, list the precautions to take when handling, storing, or using the substance, and outline emergency and first-aid procedures.

Special equipment for emergencies

Employees/ workers may need personal protective equipment to evacuate during an emergency. Personal protective equipment must be based on the potential hazards in the workplace. Assess workplace to determine potential hazards and the appropriate controls and protective equipment for those hazards. Personal protective equipment may include items such as the following:

- Safety glasses, goggles, or face shields for eye protection;
- Hard hats and safety shoes for head and foot protection;
- Proper respirators (Respirators selected should be appropriate to the hazards in your workplace, meet national and internal applicable standards criteria)
- Chemical suits, gloves, hoods, and boots for body protection from chemicals;



- Special body protection for abnormal environmental conditions such as extreme temperatures; and
- Any other special equipment or warning devices necessary for hazards unique to your worksite.

Coordination when drafting emergency action plan

It is always useful to coordinate efforts with any other companies or employee groups in building to ensure the effectiveness of company's emergency plan. In addition, if company rely on assistance from local emergency responders such as the fire department, local HAZMAT teams, or other outside responders, it will always be useful to coordinate emergency plans with these organizations. This ensures that company / management is well aware of the capabilities of these outside responders and that they know what you expect of them.

Value of a good safety and health program

A good, effectively managed worker safety and health program can be a big factor in reducing work-related injuries and illnesses and their related costs. Various organizations can provide with safety and health information that can be helpful in formulating emergency action plan. It is always beneficial to take help from them, if required.

Maintenance, safeguarding, and operational features for *exit routes*

- Keep exit routes free of explosive or highly flammable furnishings and other decorations.
- Arrange exit routes so employees will not have to travel toward a high-hazard area unless the path of travel is effectively shielded from the high-hazard area.
- Ensure that exit routes are unobstructed such as by materials, equipment, locked doors, or dead-end corridors.
- Ensure that safeguards designed to protect employees during an emergency remain in good working order.
- Provide lighting for exit routes adequate for employees with normal vision.
- Keep exit route doors free of decorations or signs that obscure the visibility of exit route doors.
- Post signs along the exit access indicating the direction of travel to the nearest exit and exit discharge if that direction is not immediately apparent. Also, the line-of-sight to an exit sign must be clearly visible at all times.
- Mark doors or passages along an exit access that could be mistaken for an exit "Not an Exit" or with a sign identifying its use (such as "Closet").
- Install **"EXIT"** signs in plainly legible letters.
- Renew fire-retardant paints or solutions often enough to maintain their fire-retardant properties.
- Maintain exit routes during construction, repairs, or alterations.
- Provide an emergency alarm system to alert employees, unless employees can promptly see or smell a fire or other hazard in time to provide adequate warning to them.

Establishing exit routes an important part of workplace safety

Workplace emergency exit routes are not only helpful, but required for safe evacuation.

An exit route is a "continuous and unobstructed path of exit travel from any point within a workplace to a place of safety," and can be broken down into three separate parts.



The exit access, exit, and exit discharge points must all be clearly established, with at least two routes available to all employees and personnel during an emergency.

Basic requirements of exit routes include placing them as far apart as possible from each other in the event one is blocked, ensuring that the route is a permanent fixture in the workplace, and separating each exit with fire resistant materials. A route must lead directly to a street, refuge area, open space, or public way with access to the outside, and must be large enough to accommodate the likely amount of people using the exit in an emergency.

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