

# Is your construction site prepared for a disaster?



There were 26 named storms in the Atlantic Basin in the record 2020 season. Nine became hurricanes. Three of those became major (category 3 or stronger) storms. A typical year has 12 named storms, six hurricanes, and three major hurricanes.<sup>1</sup>

Natural and man-made disasters can strike anyone, anytime, anywhere. Because clear thinking is difficult when a crisis is occurring, creating emergency action plans in advance is the best way to ensure that the proper steps are taken when the “what if?” becomes “it’s happening!”

## Your schedule is at risk

An emergency on a construction jobsite can come in many forms and threatens employees, subcontractors, nearby businesses, or even the general public. The emergency can disrupt or shut down construction activities and/or damage existing property, as well as cause schedule delays.

Emergencies can be natural or man-made and include the following:

- Weather events like floods, wildfires, hurricanes, tornadoes, winter storms, earthquakes, etc.
- Fires and explosions
- Chemical spills, toxic gas releases, and radiological accidents

<sup>1</sup> <https://www.iii.org/fact-statistic/facts-statistics-hurricanes>

## Emergency Action Plans for Construction



- Civil disturbances, bomb/other threats, and workplace violence
- Serious accidents on a jobsite (cranes, scaffold collapse)

Construction jobsite emergencies can come in many forms and might change with geographical location. In either case, the first step in developing an emergency action plan is to brainstorm the “what ifs” for worst-case scenarios.

### Examples:

- What if a tornado warning was issued in the area?
- What if a fire broke out on a building under construction?

A great way to ensure employee awareness of the EAP procedures and planning is to include them in regular jobsite communications, such as safety training, emails and meetings.

If you are aware of higher than expected probability of weather or other hazardous events, you could focus on the related procedures.

- What if a train carrying hazardous materials derailed on the tracks behind the construction jobsite?
- What if gas line was struck while excavating on the jobsite?

A construction site emergency action plan (EAP) should include:

- Names and responsibilities of designated EAP Managers
- Procedures for reporting a fire or other emergency (phone numbers, emergency contact numbers, etc.)
- Procedures for emergency evacuation, including type of evacuation and exit route assignments.
- Procedures to be followed by employees who remain to operate critical plant operations before evacuating
- Procedures to account for all employees after evacuation
- Procedures to be followed by employees performing rescue or medical duties and who to contact for more information about the EAP

Emergency action planning is essentially an exercise in repeatedly asking, “what if?” and planning a logical response to each potential emergency. Nationwide Loss Control Services has a wealth of disaster planning resources on [MyLossControlServices.com](http://MyLossControlServices.com).

[Click here](#) to access an Occupational Safety and Health Administration (OSHA) resource that is designed to help you craft an emergency action plan for your construction jobsite.

## Developing a written emergency action plan

Construction Industry EAP standards outline requirements and best practices such as designating responsible persons and reviewing EAP assignments with pertinent employees (NFPA 241, OSHA 1926).

Guidelines also state that the written plan shall be kept at the workplace and made available for employee review. For those employers with 10 or fewer employees the plan may be communicated orally to employees and the employer need not maintain a written plan (OSHA 1926).

Most businesses find it beneficial to include a diverse group of management and employees in the emergency action planning process.



The group should work together to develop a plan that includes (at least) the following elements:

- 1. Procedures for reporting a fire or other emergency:** Determine the preferred procedures for reporting emergencies such as dialing 911 or internal emergency number. Emergency numbers should be conspicuously posted. The key to reporting and responding to emergency situations is the use of an alarm or other employee notification system. Alarms must use distinct sounds for emergencies, audible above the ambient noise on the jobsite/project and recognized by employees. Where access within structures may be unduly difficult because of secured openings, an approved key box may need to be installed so that firefighters can access if needed.
- 2. Procedures for emergency evacuation, including type of evacuation and exit route assignments:** Emergency evacuation plans should include escape procedures and escape route assignment. This would need to be addressed on a project-by-project basis because there can be no generic plan for escape with the variety of construction projects a company may have. For example, an emergency evacuation plan for a high-rise construction project can differ from a single-story commercial project. Different types of emergency evacuation plans should also be addressed, such as a complete evacuation or shelter in place.
- 3. Procedures to be followed by employees who remain to operate critical plant operations before evacuating:** Determine which employees are required to operate fire extinguishers or shut down gas and/or electrical systems and other special equipment that could be damaged if left operating or create additional hazards to emergency responders (such as releasing hazardous materials). Consideration should be given to moving heavy equipment or other items that could impede an emergency vehicle from reaching the immediate area. This is another area where the fire department can assist in identifying recommended practices. Be sure to include statements that instruct when employees should abandon these unique responsibilities to ensure they can evacuate safely.

## Emergency Action Plans for Construction



Response and speed of evacuation could be the difference in life and death. Have a clear plan so everyone knows their roles and responsibilities during an emergency. Keep an electronic copy of the Emergency Evacuation Plan on a shared drive or application with mobile access to aid improved coordination during emergencies.

**4. Procedures to account for all employees after evacuation:** This is usually a task that the Foreman or Supervisor on the project/jobsite would perform. This can be more of a generic plan in that on each project there should a similar (if not exact) process for determining who is on the jobsite each day (sign in, attendance forms, etc.). The Foreman/Supervisor may perform activities like checking work areas, restrooms, etc. before evacuating and taking a roll call in the designated assembly area. To ensure the quickest and most accurate accountability of employees in an emergency:

- Designate areas, preferably outside the immediate jobsite activity area, where employees should gather after evacuating. Assembly locations within the jobsite are often referred to as areas of refuge or shelter-in-place areas. Examples of emergency shelter-in-place examples would be a weather-related event (lightning, strong storm).

Make sure the assembly area has enough space to accommodate all employees. Exterior assembly areas, used when the active jobsite must be evacuated, are typically located in parking lots or other open areas away from busy streets. Landmarks such as the “old oak tree” or flagpole create simple reminders of where employees should go when evacuating.

- Take a head count after the evacuation. This can be done by the immediate crew Foreman who should be in contact with the Jobsite Supervisor. Identify the names and last known locations of anyone not accounted for and pass them to the Supervisor (or person in charge). Accounting for all employees following an evacuation is critical. Confusion in the assembly areas can lead to delays in rescuing anyone trapped within the active jobsite or cause unnecessary and dangerous search-and-rescue operations.
  - Establish a method for accounting for non-employees such as suppliers and customers. One way to do this is to have all visitors sign in at the front desk, and take the sign-in sheet on the way out.
  - 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.

**5. Procedures to be followed by employees performing rescue or medical duties** If employee rescue and medical duties have been assigned or required by various OSHA standards, this information should be included in the plan. Determine what responsibilities, if any, will be completed by employees and ensure those employees are trained to perform the assigned duties (e.g., first aid, CPR, etc.)



## Emergency Action Plans for Construction

6. Who to contact for more information about the plan document the names, titles, departments, and telephone numbers of employees who can be contacted for additional information and/or explanation of their duties under the plan.

### Employee training: putting it all together

Employers shall designate and train a sufficient number of people to assist in the safe and orderly emergency evacuation from the jobsite/project.

Training should be provided to each employee who is affected by the plan. Training should occur when:

- The plan is initially developed
- New employees are hired or begin working at the facility (e.g., new hire orientation program)
- New equipment, layouts, materials, or processes are introduced into the workplace that affect evacuation plans.
- Emergency procedures are revised or updated

Training programs will vary based on factors such as size of the jobsite/project or head count. Though, certain aspects of emergency action plans are standard among most businesses. General training on the emergency action plan should include at least the following components:

- The name(s) of those in charge during an emergency.
- Elements of the emergency action plan, including types of potential emergencies, reporting procedures, alarm systems, evacuation plans, and shutdown procedures.
- Special hazards at the jobsite/project such as flammable materials, toxic chemicals, radioactive sources, or water-reactive substances
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Fire extinguisher and medical care preferences. Clearly state whether employees should use fire extinguishers on their own or if they should instead report fire emergencies through another method, consistent with your fire prevention plan.

It's a good idea to hold practice drills to keep employees prepared (after initial training). Management and employees should evaluate the effectiveness of drills, identify strengths and weaknesses of the plan, and work to improve it.

Many businesses hold annual evacuation and shelter-in-place drills and offer refresher training to employees. A short program each year can help to keep employees aware of their responsibilities and preferred actions in the event of a workplace emergency.



## Emergency Action Plans for Construction

### Other plan considerations for unique situations

Unique situations are sometimes encountered when developing an emergency action plan, such as:

- Special hazards at the jobsite/project such as flammable materials, toxic chemicals, radioactive sources, or water-reactive substances On multi-employer jobsites/projects (subcontractors involved), the company in charge of the jobsite/project (Controlling Employer) should work with all subcontractors on site to coordinate the Emergency Action Plan. Become aware of any special hazards they introduce in the jobsite/project, coordinate evacuation meeting locations, etc.
- Special hazards at the jobsite/project such as flammable materials, toxic chemicals, radioactive sources, or water-reactive substances If relying on assistance from local emergency responders such as the fire department, local HAZMAT teams, or other outside responders, coordinate emergency plans with these organizations so that both sides are aware of the capabilities and expectations of the emergency response. If medical response is not available within three to four minutes of a serious injury, consider training an on-site emergency response team in first aid, CPR, and similar topics. This training is available from the American Red Cross, fire departments, and similar entities.
- Special hazards at the jobsite/project such as flammable materials, toxic chemicals, radioactive sources, or water-reactive substances In some facilities, hazards may be encountered during evacuation or shelter-in-place that require personal protective equipment (PPE) such as respirators, body suits, or similar devices. Ensure an adequate quantity of accessible PPE is available for these situations.

### Additional Resources

OSHA provides an Evacuation Plans and Procedures eTool to help businesses develop and implement an effective plan. While this tool references the 1910 Standard (General Industry) on Emergency Action Plans it can be used as the basis for a Construction jobsite/project Emergency Action Plan which is covered under the 1926 Standard (Construction Industry). Included in the eTool is an Expert System that creates a basic plan that meets the needs of most small- and medium-sized businesses, as well as providing a foundation for a large-business plan. Find the eTool [here](#).

Another key resource is [www.disastersafety.org](http://www.disastersafety.org) which includes a tool that provides a summary of potential natural disasters that affect each state.

For similar information that pertains to other types of businesses, see our bulletin on general [Emergency Action Plans](#).



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