Emergency Planning



Why have an emergency plan?

A definite plan to deal with major emergencies is an important element of OH&S programs.

Besides the major benefit of providing guidance during an emergency, developing the plan has other advantages. You may discover unrecognized hazardous conditions that would aggravate an emergency situation and you can work to eliminate them. The planning process may bring to light deficiencies, such as the lack of resources (equipment, trained personnel, supplies), or items that can be corrected before an emergency occurs. In addition, an emergency plan promotes safety awareness and shows the organization’s commitment to the safety of workers.

The lack of an emergency plan could lead to severe losses such as multiple casualties and possible financial collapse of the organization.

Since emergencies will occur, preplanning is necessary. An urgent need for rapid decisions, shortage of time, and lack of resources and trained personnel can lead to chaos during an emergency. Time and circumstances in an emergency mean that normal channels of authority and communication cannot be relied upon to function routinely. The stress of the situation can lead to poor judgment resulting in severe losses. A well thought out, well organized emergency response plan will help to eliminate these issues.

What is the overall objective of the plan?

An emergency plan specifies procedures for handling sudden or unexpected situations. The objective is to be prepared to:

- Prevent fatalities and injuries.
- Reduce damage to buildings, stock, and equipment.
- Protect the environment and the community.
- Accelerate the resumption of normal operations.

Development of the plan begins with a vulnerability assessment. The results of the study will show:

- How likely a situation is to occur.
- What means are available to stop or prevent the situation.
- What is necessary for a given situation.

From this analysis, appropriate emergency procedures can be established.

At the planning stage, it is important that the relevant individuals or groups be asked to participate. Members of the team can include:

- employees with knowledge of the work
- supervisor of the area or work
- safety officer
- health and safety committee
- union representative, if applicable
- employees with experience in investigations
- “outside” experts
- representative from local government, police, fire, or ambulance

Where appropriate other organizations should also be consulted, especially when your organization’s plan involves using outside resources, such as fire, police or ambulance. In some situations, one organization may develop shared response teams with neighbouring organizations.

In all situations, communication, training and periodic drills will help make sure the plan is executed well.

Note: In some cases, other authorities may have jurisdiction, such as if a serious injury or fatality occurred. Your organization should establish, implement, and maintain a procedure to coordinate managing incidents with the authority having jurisdiction (e.g., police, OH&S inspectors, etc.). This coordination may include the authority taking control of the incident scene.

What is a vulnerability assessment?

Although emergencies by definition are sudden events, their occurrence can be predicted with some degree of certainty. The first step is to identify which hazards pose a threat to your organization.

Since major emergencies are rare events, records of past incidents and occupational experience are not the only source of valuable information. Knowledge of both technological (chemical or physical) and natural hazards can be broadened by consulting with similar organizations, fire departments, insurance companies, engineering consultants, and government departments.

What are examples of technological and natural hazards?

Examples of technological hazards are:

- Fire.
- Explosion.
- Building collapse.
- Major structural failure.
- Spills
- Unintentional release of products.
- Deliberate release of products (e.g., hazardous biological agents, or toxic chemicals).
- Other terrorist activities.
- Exposure to ionizing radiation.
- Loss of electrical power.
- Loss of water supply.
- Loss of communications.

Areas where flammables, explosives, or chemicals are used or stored should be considered as the most likely place for a technological hazard emergency to occur.

The risk from natural hazards is not the same across Canada but the list would include:

- Floods.
- Earthquakes.
- Tornadoes.
- Severe wind storms.
- Snow or ice storms.
- Severe extremes in temperature (cold or hot).
- Pandemic diseases like influenza.

The possibility of one event triggering others must be considered. An explosion may start a fire and cause structural failure while an earthquake might initiate many of the technological events listed above.

What is the series of events or decisions that should be considered?

Having identified the hazards, the possible major impacts of each should be itemized, such as:

- Sequential events (for example, a fire after an explosion).
- Evacuation.
- Causalities.
- Damage to plant infrastructure.
- Loss of vital records/documents.
- Damage to equipment.
- Disruption of work.

Based on these events, the required actions are determined. For example:

- Declare emergency.
- Sound the alert.
- Evacuate danger zone.
- Close main shutoffs.
- Call for external aid.
- Initiate rescue operations.
- Attend to casualties.
- Fight fire.

Also consider what resources are required and their location, such as:

- Medical supplies.
- Auxiliary communication equipment.
- Power generators.
- Respirators.
- Chemical and radiation detection equipment.
- Mobile equipment.
- Emergency protective clothing.
- Fire fighting equipment.
- Ambulance
- Rescue equipment.
- Trained personnel.

What are the elements of the emergency plan?

The emergency plan includes:

- All possible emergencies, consequences, required actions, written procedures, and the resources available.
- Detailed lists of emergency response personnel including their cell phone numbers, alternate contact details, and their duties and responsibilities.
- Floor plans.
- Large scale maps showing evacuation routes and service conduits (such as gas and water lines).

Since a sizable document will likely result, the plan should provide staff members with separate written instructions about their particular emergency response duties.

The following are examples of the parts of an emergency plan. These elements may not cover every situation in every workplace but serve as a general guideline when writing a workplace specific plan:

Objective

The objective is a brief summary of the purpose of the plan; that is, to reduce human injury and damage to property and environment in an emergency. It also specifies those staff members who may put the plan into action. The objective identifies clearly who these staff members are since the normal chain of command cannot always be available on short notice. At least one of them must be on the site at all times when the premises are occupied. The extent of authority of these personnel must be clearly indicated.

Organization

One individual should be appointed and trained to act as Emergency Co-ordinator as well as a “back-up” co-ordinator. However, personnel on site during an emergency are key in ensuring that prompt and efficient action is taken to minimize loss. In some cases it may be possible to recall off-duty employees to help, but the critical initial decisions usually must be made immediately.

Specific duties, responsibilities, authority, and resources must be clearly defined. Among the responsibilities that must be assigned are:

- Reporting the emergency.
- Activating the emergency plan.
- Assuming overall command.
- Establishing communication.
- Providing medical aid.
- Alerting staff.
- Ordering response, including evacuation.
- Alerting external agencies, as necessary.
- Confirming evacuation is complete.
- Alerting outside population of possible risk, as necessary.
- Requesting external aid.
- Coordinating activities of various groups.
- Advising relatives of casualties.
- Providing medical aid.
- Ensuring emergency shut offs are closed.
- Sounding the all-clear.
- Advising media.

This list of responsibilities should be completed using the previously developed summary of responses for each emergency situation. Sufficient alternates for each responsible position must be named to ensure that someone with authority is available onsite at all times.

External organizations that may be available to assist (with varying response times) include:

- Fire departments.
- Mobile rescue squads.
- Ambulance services.
- Police departments.
- Telephone companies.
- Hospitals
- Utility companies.
- Industrial neighbors.
- Government agencies.

These organizations should be contacted in the planning stages to discuss each of their roles during an emergency. Mutual aid with other industrial facilities in the area should be explored.

Pre-planned coordination is necessary to avoid conflicting responsibilities. For example, the police, fire department, ambulance service, rescue squad, company fire brigade, and the first aid team may be on the scene simultaneously. A pre-determined chain of command in such a situation is required to avoid organizational difficulties. Under certain circumstances, an outside agency may assume command.

Possible problems in communication have been mentioned in several contexts. Efforts should be made to seek alternate means of communication during an emergency, especially between key personnel such as overall commander, on-scene commander, engineering, fire brigade, medical, rescue, and outside agencies. Depending on the size of the organization and physical layout of the premises, it may be advisable to plan for an emergency control centre with alternate communication facilities. All personnel with alerting or reporting responsibilities must be provided with a current list of cell phone numbers and addresses of those people they may have to contact.

Procedures

Many factors determine what procedures are needed in an emergency, such as:

- Nature of emergency.
- Degree of emergency.
- Size of organization.
- Capabilities of the organization in an emergency situation.
- Immediacy of outside aid.
- Physical layout of the premises.

Common elements to be considered in all emergencies include pre-emergency preparation and provisions for alerting and evacuating staff, handling casualties, and for containing the hazards.

Natural hazards, such as floods or severe storms, often provide prior warning. The plan should take advantage of such warnings with, for example, instructions on sand bagging, removal of equipment to needed locations, providing alternate sources of power, light or water, extra equipment, and relocation of personnel with special skills. Phased states of alert allow such measures to be initiated in an orderly

manner.

The evacuation order is of greatest importance in alerting staff. To avoid confusion, only one type of signal should be used for the evacuation order. Commonly used for this purpose are sirens, fire bells, whistles, flashing lights, paging system announcements, or word-of-mouth in noisy environments. The all-clear signal is less important since time is not such an urgent concern.

The following are “musts”:

- Identify evacuation routes, alternate means of escape, make these known to all staff; keep the routes unobstructed.
- Specify safe locations for staff to gather for head counts to ensure that everyone has left the danger zone. Assign individuals to assist employees with disabilities.
- Carry out treatment of the injured and search for the missing simultaneously with efforts to contain the emergency.
- Provide alternate sources of medical aid when normal facilities may be in the danger zone.
- Ensure the safety of all staff (and/or the general public) first, then deal with the fire or other situation.

Testing and Revision

Completing a comprehensive plan for handling emergencies is a major step toward preventing disasters. However, it is difficult to predict all of the problems that may happen unless the plan is tested. Exercises and drills may be conducted to practice all or critical portions (such as evacuation) of the plan. A thorough and immediate review after each exercise, drill, or after an actual emergency will point out areas that require improvement. Knowledge of individual responsibilities can be evaluated through paper tests or interviews.

The plan should be revised when shortcomings have become known, and should be reviewed at least annually. Changes in plant infrastructure, processes, materials used, and key personnel are occasions for updating the plan.

It should be stressed that provision must be made for the training of both individuals and teams, if they are expected to perform adequately in an emergency. An annual full-scale exercise will help in maintaining a high level of proficiency.

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