Emergency Response Planning

for

Construction Projects

Provincial Labour-Management Health and Safety Committee

This booklet has been reviewed and endorsed by the Provincial Labour-Management Health and Safety Committee and is fully a document of accord between labour and management authorities.

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Emergency Response Planning for Construction Projects

OBJECTIVE

The *Occupational Health and Safety Act* requires that the constructor shall establish Emergency Response Procedures for every project. This document provides a plan to assist constructors in developing these procedures.

Emergency preparedness helps to minimize the human suffering and economic losses that can result from emergencies.

It should be understood that the size and complexity of projects, as well as their access and location, have a bearing on the degree of planning necessary for emergencies. It is therefore strongly recommended that the constructor ensure that a member of staff ***on site*** assist in developing the emergency response plan.

HOW TO DEVELOP A PLAN

Planning shall begin before any work commences on the project. Although there may be little time between the award of the contract and the start of the project, a good emergency response plan can be generic and, with some minor changes, can be easily adapted to specific sites and readily implemented. This is especially the case where a constructor specializes in similar types of projects.

Development should include the following considerations:

1) hazard identification/assessment
2) emergency resources
3) communication systems
4) administration of the plan
5) emergency response procedure
6) communication of the procedure
7) debriefing and post-traumatic stress procedure.

Each of these points is explained in the following sections.

Hazard Identification/Assessment

The process of hazard identification and assessment involves a thorough review that should include, but not be limited to, the following points:

- transportation, materials handling, hoisting, equipment or product installation, temporary structures, material storage, start-up, and commissioning activities
- environmental concerns
- consultation with the client regarding potential hazards when working in or adjacent to operating facilities
- resources such as material safety data sheets (MSDSs) to determine potential hazards from on-site materials
- proximity to traffic and public ways.

Because construction sites are frequently fast-changing, the process of hazard assessment must be ongoing to accommodate the dynamic environment. Once hazards are identified, the next task is to assess the potential or risk involved in each. For each hazard identified, ask:

- What can go wrong?
- What are the consequences?

For each potential hazard it is important to identify resources necessary for an appropriate emergency response. For most events in construction, a simple analysis based on the experience of the people involved on the project is likely sufficient.

Emergency Resources

It is important to identify which resources are available and have contingency plans in place to make up for any deficiencies.

The most important resource on most projects will be a 911 system. It is essential to verify that 911 is in effect in the area. Most Ontario communities have a 911 system in place, but it is important to know the facilities or limitations available in that location. Is a high-reach rescue team available? What is the response time? What must site personnel do in the meantime?

Other on-site resources such as fire extinguishers, spills containment equipment, and first aid kits must be maintained and clearly identified. Construction equipment may be included among potential emergency resources. Personnel, especially on-site medical staff or workers trained in first aid, should be included in the plan.

There may be situations where outside resources are so far away that an adequate response is not possible. In these situations, resources may have to be obtained and kept on site. Examples would include fire protection or ambulance/medical resources in remote areas.

Whatever the situation may be, people, equipment, facilities, and materials are needed for emergency response. Where they will come from must be determined in advance. Moreover, the people supplying these resources must be made aware of their role in the plan.

Communication Systems

An important key to effective emergency response is a communications system that can relay accurate information quickly. To do this, reliable communications equipment must be used, procedures developed, and personnel trained. It is a good idea to have a backup system in place, in case the system is rendered useless by the emergency. For example, telephone lines may be cut.

The type and location of emergency communication systems must be posted on the project. This will include location of telephones, a list of site personnel with cellular phones or two-way radios, and any other equipment available. Emergency phone numbers and the site address/location should be posted beside all site phones. On large sites, the location of emergency phones must be clearly marked. The poster *Emergency Response* (P103), available from CSAO, can be used to record this and other information.

A communication system must be made up of strategically placed equipment and properly defined responsibilities. The emergency response plan posted in a conspicuous place on the project must identify the designated equipment and the people to operate it.

Administration of the Plan

The task of administering and organizing the plan is vital to its effectiveness. The person who has this task will normally be the person in charge of the emergency response operation. It is their task to ensure

- that everyone clearly understands their roles and responsibilities within the emergency response plan (a chart may be helpful in this regard)

- that emergency resources, whether people or equipment, are kept at adequate levels in step with the progress of the project.

It is very important to review the emergency plan on a regular basis and especially after an emergency has occurred. Changes may be necessary where deficiencies became apparent as the plan went into operation.

Emergency Response Procedure

An emergency can be reported from any source—a worker on site, an outside agency, or the public. Remember that circumstances may change during the course of an emergency. Any procedures you develop must be able to respond to the ongoing situation.

The following list covers basic actions to take in an emergency. These steps apply to almost any emergency and should be followed in sequence.

- Stay calm.
- Assess the situation.
- Take command.
- Provide protection.
- Aid and manage.
- Maintain contacts.
- Guide emergency services.

Stay calm – Your example can influence others and thereby aid the emergency response.

Assess the situation – Determine what happened and what the emergency is. Look at the big picture. What has happened to whom and what will continue to happen if no action is taken? Try to identify the cause that must be controlled to eliminate immediate, ongoing, or further danger.

Take command – The most senior person on the scene should take charge and call, or delegate someone to call, emergency services—generally 911—and explain the situation. Assign tasks for controlling the emergency. This action also helps to maintain order and prevent panic.

Provide protection – Eliminate further losses and safeguard the area. Control the energy source

causing the emergency. Protect victims, equipment, materials, environment, and accident scene from continuing damage or further hazards. Divert traffic, suppress fire, prevent objects from falling, shut down equipment or utilities, and take other necessary measures. Preserve the accident scene; only disturb what is essential to maintain life or relieve human suffering and prevent immediate or further losses.

Aid and manage – Provide first aid or help those already doing so. Manage personnel at the scene. Organize the workforce for both a headcount and emergency assignments. Direct all workers to a safe location or command post. This makes it easier to identify the missing, control panic, and assign people to emergency duties. Dispatch personnel to guide emergency services on arrival.

Maintain contact – Keep emergency services informed of situation. Contact utilities such as gas and hydro where required. Alert management and keep them informed. Exercise increasing control over the emergency until immediate hazards are controlled or eliminated and causes can be identified.

Guide emergency services – Meet services on site. Lead them to emergency scene. Explain ongoing and potential hazards and cause(s), if known.

Communication of the Procedure

To be effective, an Emergency Response Procedure must be clearly communicated to all site personnel. The following activities should be considered:

- Review the procedure with new site subcontractors and new workers to ensure that it covers their activities adequately.
- Review the procedure with suppliers to ensure that it covers any hazards that the storage or delivery of their materials might create.
- Review new work areas in operating plants with owner/client to ensure that new hazards are identified and covered in the procedure.
- Review the procedure with the Joint Health and Safety Committee or Health and Safety Representative on a regular basis to address new hazards or significant changes in site conditions.
- Post the procedure in a conspicuous location.

The Emergency Response Procedure for a construction project must continually undergo review and revision to meet changing conditions.

Debriefing and Post-Traumatic Stress Procedure

The recovery process, or what happens after the emergency response has been completed, is a critical step in the plan.

Many emergency tasks may be handled by people who are not accustomed to dealing with emergencies. People may have seen their work partners and friends badly injured and suffering great pain.

Once the emergency is over, the attitude should not be “Okay, let’s get back to work” or “Let’s go home.” Some of the people involved may need assistance in order to recover. In some cases professional counselling may be needed. As part of site emergency planning, construction companies should have measures in place to deal with post-traumatic stress. For more information, refer to the brochure *Post-Traumatic Stress* (F013), available from CSAO. Local hospitals, ambulance services, and medical practitioners may also be able to help.

Debriefing is necessary to review how well the plan worked in the emergency and to correct any deficiencies that were identified. Debriefing is critical to the success of future emergency response planning.

SUMMARY

Slow response, lack of resources, or the absence of trained personnel will lead to chaos in an emergency. To minimize human suffering and financial losses, all personnel must know their responsibilities under the emergency response plan.

Remember – planning for emergencies should include the following points:

1) hazard identification/assessment
2) emergency resources
3) communication systems
4) administration of the plan
5) emergency response procedure
6) communication of the procedure
7) debriefing and post-traumatic stress procedure.

The plan should be used to set emergency procedures, implement and communicate the procedures, and ensure that any required training has been completed. The plan should also be evaluated regularly to ensure that it conforms to current operations and conditions.

In any Emergency Response Procedure, the following steps are basic and essential:

- Stay calm.
- Assess the situation.
- Take command.
- Provide protection.
- Aid and manage.
- Maintain contact.
- Guide emergency services.

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