

Topic 5 Section 5

Accident Response, Reporting and Investigation

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Initial Response to Emergency or Accident

Under some conditions on the job, emergency situations may arise. The effects of emergencies on both people and plant can be minimised by following correct procedures. The purpose of the following text is to make you aware of the procedures and how you should use them if the need arises.

The best way to deal with accidents, injuries and emergencies is to make sure they don't happen at all. Whenever you begin a task or enter a workplace, you should make a habit of assessing where the hazards and potential accidents are.

Remember!

Most accidents and emergencies are preventable.

Important!

The over-riding rule of accident prevention is: If you think it may not be safe, don't do it.

Previous sections in this topic have provided plenty of hints about how to prevent and avoid accidents.

There are two important elements of emergency response:

- communication
- initial response.

Emergency Communication

An emergency is a situation where additional resources are needed, and the actions of one person will not be enough to control the problem. Calling for assistance is therefore the first step. The person on the spot who is in a position to make the call must get it right, first time.

If you are calling for help in an emergency, you have no time to:

- learn how to use communications equipment (you must already know how to)
- stop and argue about what needs to be done
- run around in circles
- panic.

Important!

Panic can be contagious and can lead to more problems than there were originally.

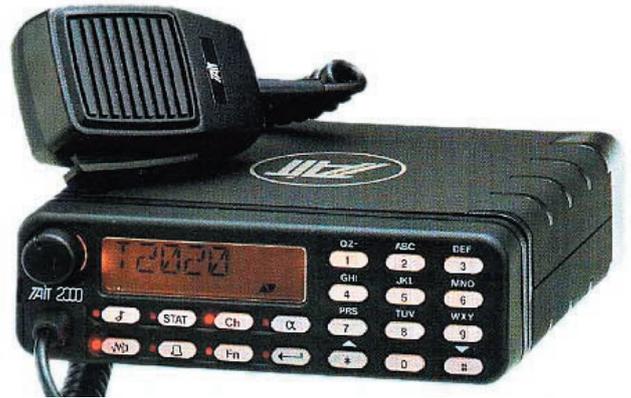
The appropriate response is to stay clam, and use either the two-way radio or the telephone effectively, before carrying out initial response procedures.

At this stage, lives may depend on clear communication.

Two-Way Radio

The following procedure is used to transmit an emergency call over the two-way radio:

- Set the two-way radio to the emergency channel, if one has been designated for the job.
- Use the press-to-talk key and transmit the words ‘Emergency, Emergency, Emergency’.
- Release the press-to-talk key.
- If there is no response within a few seconds, re-broadcast the call and request somebody to answer.
- When you establish contact, provide the following information:
 - your name
 - your location
 - location of the accident
 - type of injuries
 - number of persons injured
 - nature of the hazard
 - what assistance is required.



Once you have given this information, stay close to the radio, until you are told to leave. Keep the radio in stand-by mode.

During an emergency, all other radio traffic not related to the emergency must cease. You will be advised when the emergency is over.

Telephone

The emergency number is 000, unless some other number applies to your specific worksite.

When you dial 000:

- the operator will ask you whether you want police, fire or ambulance
- when you respond, the operator will then connect you to the service in your area
- when you establish contact, provide the following information:
 - your name
 - your location
 - location of the accident
 - type of injuries
 - number of persons injured
 - nature of the hazard
 - what assistance is required.

Important!

Do not hang up until the operator tells you to do so.

There are some important points to remember about using 000:



- The 000 number may only be used for emergencies. If you use 000 to call any of the emergency services about a routine matter, the operator will tell you to hang up immediately.
- All calls to 000 are voice-recorded.
- If you need to talk to any of the emergency services about a routine matter, look up the relevant office telephone number in the white pages in your local telephone directory. This number is in the directory under Ambulance, Fire or Police.
- The number 112 may be dialled from a mobile phone. This number will contact the emergency services even if the phone is locked or the sim card is removed. Depending on your location it will also look for other service providers if you are out of range of your normal provider.

Taking Initial Action Following an Emergency

The following discussion is about accidents involving people, plant, vehicles or machinery.

The first response of everyone who is able to respond to an emergency must be to stay calm, and spend a few moments thinking through the priorities. Then, without further delay, take action to:

- Remove injured persons from danger, if it is safe to do so.
- Give first aid to the injured.
- Switch off plant, vehicle or machinery, if it is safe to do so.
- Bring fires under control.
- Redirect road and job traffic.

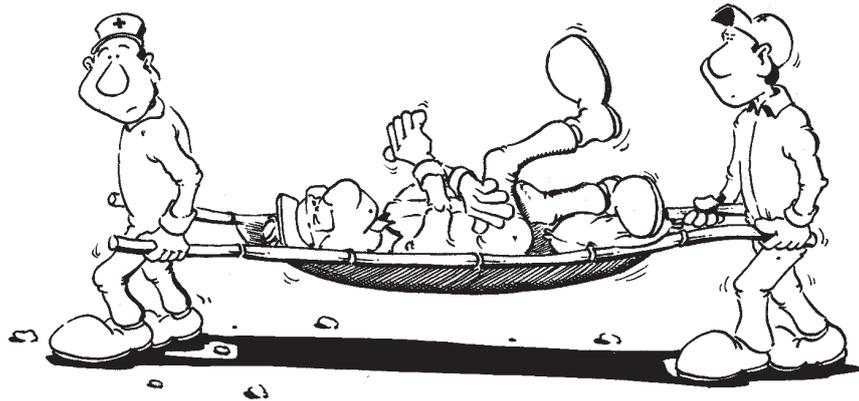
There are two important points to remember:

- In your haste to rescue somebody, do not put yourself in unnecessary danger.
- Make sure you do not inflict more injury when moving an already injured person.

Remember!

Many incidents are escalated when would-be rescuers rush in and become casualties themselves.

At the scene of an emergency, you cannot do everything by yourself. It is better to use whatever help is available at the time, and sometimes, to stand aside and let others handle the injured. Whatever role you are playing in an emergency, always consider the whole situation before making decisions or organising others.



Moving plant, equipment or machinery out of the way at an accident scene is justified only where necessary to save a life or prevent serious injury. This is a legal requirement, related to the need to investigate the causes of the accident at a later date or time.

First Aid

Coverage of first-aid procedures is beyond the scope of this topic. To become a qualified first aider, you must complete a first-aid course run by a reputable first-aid training organisation.

However, it is worth making two points here, about:

- basic first aid procedures
- first aid rooms.

Basic First Aid Procedures

Each person involved in an emergency situation can improve his or her own chances of survival, and that of any victims, by following the basic first-aid procedure known as DRABC. This is explained in the table below.

D _{anger}	<p>Quickly assess the situation. Ensure the safety of the patient and yourself.</p> <p>In a dangerous situation, remove the cause of danger from the patient or the patient from the source of danger (e.g. shut off moving machinery, isolate electricity).</p> <p>Move the patient as little as possible. If a patient can be treated where he or she lays, do not move them. Move a patient only if:</p> <ul style="list-style-type: none"> • they are in danger • it is necessary to establish an airway.
R _{esponse}	<p>Determine whether more than one person is injured. Ask his or her name and give a simple command, such as ‘open your eyes’ or “squeeze my hand”.</p> <p>If the person responds, then he or she is conscious.</p> <p>Give priority to the unconscious patients.</p>
A _{irway}	<p>Make sure the airway is clear. For example, the throat may be blocked by the person’s tongue.</p>
B _{reathing}	<p>Check if the patient is breathing. If not, begin expired air resuscitation (EAR) immediately.</p>
C _{irculation}	<p>Check the circulation by feeling for the carotid pulse. To do this, place the flat section of your first and second fingers in the patient’s neck, just above and to the side of the Adam’s apple. (Do not use the fingertips).</p> <ul style="list-style-type: none"> • If the patient has pulse, continue EAR. • If the patient does not have a pulse, apply cardio-pulmonary resuscitation (CPR) as well as EAR.

First Aid Rooms

On large construction sites, a fully equipped first-aid room may be available. A first-aid officer may be summoned to deal with injuries to people who cannot be moved, or the ‘walking wounded’ may present themselves at the room for treatment.

On sites where a first-aid room is available, any employee who sustains an injury of any kind should report to the first-aid room for treatment, or to the site office if the first-aid room is closed at the time.

Access to Site by Emergency Services

Road construction work, by its very nature, requires restriction of access by the travelling public, including closure of traffic lanes while construction machinery is at work.

On occasions, however, the contractor may be advised by emergency services that accelerated or safe passage through the site is required.

This need is addressed by using two strategies:

- emergency access procedure
- liaison

Emergency Access Procedure

All employees, subcontractors, employees and visitors must therefore be aware of procedures to be adopted in the event that emergency services require access to or through the work site.

These procedures may form part of the site induction, or may be included as an annexure to the site emergency response plan.

Typical content of the procedure would be as follows:

EMERGENCY ACCESS PROCEDURE

In the event that any emergency vehicle is heard approaching the site, the site supervisor is responsible for ensuring that the following action is taken, as appropriate:

- Remove all construction plant so as to ensure at least one lane is open and unobstructed.
- Traffic controllers and other employees are to direct traffic to stop or pull off the road, to allow the emergency vehicle or vehicles through work area.
- Personnel at points further along the road are to be advised of any approaching emergency vehicle.

Liaison

Parties who will be affected by changes to traffic conditions on the works site must be advised, well before the changes come into effect. This would include all local emergency services and the relevant Main Roads Traffic Control Centre.

For this advice to be effective, the affected parties must also be notified of the telephone numbers of the:

- site office
- site supervisor.

This advice will enable emergency services to give advanced warning of approaching vehicles, and broadcast of advice of expected delays to the travelling public.

Emergency Response Plan

Procedures for emergency response by site personnel may be included in a dedicated emergency response plan, or may be included as elements of other plans, such as the:

- community liaison plan
- traffic management plan
- project safety plan.

The plan or plans may include:

- names of emergency contact details (i.e. names and numbers for people in the company and numbers and locations for the emergency services)
- a list of accident and emergency procedures.

Information about emergency contacts is covered in later discussion (see Local Emergency Services).

Accident and Emergency Procedures

The following accident or emergency procedures may be produced in written form; if so, they become part of the site emergency response plan:

- first-aid procedures
- serious injury response procedures
- evacuation procedure
- fire control instructions
- hazardous substances/materials procedure
- media policy

The type of information included in each is shown in the following discussion.

Procedures for First Aid Treatment and Evaluation

The first aid procedures may include the following information:

- Name of the project first aid officer
- Location of first aid facilities (e.g. site shed, foreman's vehicle)
- Person to whom all work injuries are to be reported (e.g. first aid officer, site foreman)
- Name of person authorised to give initial first aid
- Responsibility for evaluating seriousness of work injuries and determining whether further treatment is necessary offsite
- Responsibility for determining how the patient is to be moved to offsite treatment area (e.g. local doctor or hospital; use of ambulance).

Serious Injury Response Procedures

A typical set of procedures for response to a serious injury or dangerous event on site might include:

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SERIOUS INJURY RESPONSE PROCEDURES

- Stop work in the immediate vicinity to ensure the safety of other workers or the public.
- Notify one of the following personnel immediately: project manager, first aid officer, WH&S officer, or foreman.
- Contact emergency services and give relevant information, including type of accident and nature of injuries, number of persons involved, and location of site entrance.
- Site supervisor is to assume control of the situation, by:
 - Eliminating any risk in the vicinity of the accident (e.g. power)
 - Ensuring no-one interferes with the accident scene
 - Ensuring no-one moves the patient other than to make him or her comfortable
 - Arranging for first-aid officer to apply first aid and stay with the patient until the ambulance arrives.
- Detail a person to meet emergency personnel at the site entrance and direct them to the scene.
- If evacuation is necessary, ensure that the evacuation signal is sounded and all workers leave the work area for the assembly area as denoted on the site plan.

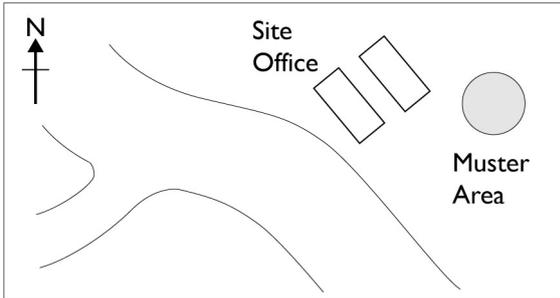
Evacuation Procedure

A typical site evacuation plan will include procedures appropriate to the site. The following is an example:

ABC CO. PTY. LTD.
SITE EVACUATION PROCEDURES

- Evacuation may be necessary because of:
 - Fire
 - Gas or electrical hazard
 - Structural collapse
 - Explosion
 - Climatic conditions
 - Bomb threat
 - Equipment failure
 - Escape of combustible or toxic materials.
- If any of the above events occur:
 - Remain calm
 - Don't panic
 - Stop work
 - Respond quickly
 - Notify the site office.
- Go straight to the evacuation assembly area and have your name checked off on the list.
- Don't leave the assembly area until instructed.
- The site supervisor is to check the site, if safe, and check the workforce register to ensure all workers have been accounted for.
- If staff of this company are on another contractor's site, the evacuation procedure applicable at the other site shall take precedence.

The map below shows the site assembly areas. If evacuation becomes necessary, **ALL STAFF** must initially report to one of these areas.



The diagram is a site map enclosed in a rectangular border. In the top-left corner, there is a north arrow pointing upwards, labeled with the letter 'N'. To the right of the north arrow, there are two rectangular shapes representing buildings, labeled 'Site Office'. Further to the right, there is a shaded circular area labeled 'Muster Area'. The map also shows several curved lines representing site boundaries or paths.

Assembly Points

Assembly points are designated as part of the initial planning for the site. Their purpose is to ensure all staff can move to a designated safe location, and be readily accounted for, in the event of an emergency. Assembly areas are selected so that they are away from obvious hazards, such as electricity lines or tall trees.

All staff must:

- familiarise themselves with the location of the site assembly area or areas
- be aware of alarm and other warning systems used to alert people to an emergency situation
- take part in evacuation drills
- read and understand the written evacuation and emergency plans.

Fire Control Instructions

Written fire-control instructions may be prepared and posted on site at appropriate locations, e.g. in crib rooms and beside fire extinguishers.

The following is an example of typical content of fire-control instructions:

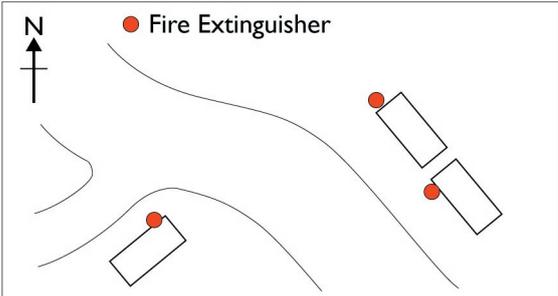
ABC CO. PTY. LTD.

FIRE CONTROL INSTRUCTIONS

In the event of fire affecting any of the company's assets:

- Remain calm— do not panic.
- Warn all persons in the vicinity of the danger.
- Contact emergency services on 000 (or 112 from a mobile phone).
- Attempt to extinguish the fire only if:
 - you are confident of your safety
 - you have a defined escape path
 - the correct fire extinguisher is available for the class of fire.
- Move to the designated assembly area.
- Follow the directions of and assist fire services officers when they arrive.

The map below shows the locations of fire extinguishers on site.



Hazardous Substances/Materials Procedure

Procedures for control of hazardous materials or substances on site may be prepared and posted at appropriate locations, e.g. near sheds where hazardous substances are stored, or at the same place where material safety data sheets (MSDSs) are kept.

The following is an example of typical content of a site hazardous-materials control procedure:

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HAZARDOUS MATERIALS PROCEDURES

- Subcontractors who use hazardous substances or materials on site must notify the company and supply an MSDS for each item.
- The site supervisor or delegate will register all hazardous substances used on site by company personnel and subcontractors, ensure that the MSDSs are filed, and that a copy is available at the point where the substance is stored.
- The site supervisor or delegate will maintain a hazardous substances register, keep it up to date at all times, and ensure that appropriate hazardous substances signage is installed on site.
- In the event of a hazardous substance spill, the project manager must be notified immediately.
- The project manager will ensure that remedial action is carried out in accordance with the MSDS for the substance, and/or instructions given by emergency services personnel.

Media Policy

All personnel employed on site need to be aware of the company's media policy.

At times, some aspect of a project (e.g. traffic restrictions) or an incident (e.g. a chemical spill) may be seen as 'news worthy' by media representatives. At such times, site employees may be pressured to make casual or unvetted statements about the project or some aspect of operations on site. Even when made with the best of intentions, loosely worded statements may lead to a number of problems, such as:

- damage to the company's reputation or image
- exaggeration of the extent or seriousness of a problem or incident
- unauthorised entry of persons to the site
- exposure of additional persons to danger, e.g. from mobile equipment.

The company may therefore have a written media policy, which is usually displayed at the site office.

The following is an example of typical content of a media policy:

<p>ABC CO. PTY. LTD.</p> <p>MEDIA POLICY</p> <p>Entry to site is available only to company employees and contractors, emergency services personnel, police and authorized government officials.</p> <p>The entry to site of any person representing, or claiming to represent, a media organisation will be authorised only by the superintendent, acting on behalf of the principal.</p> <p>Staff are directed to make no statement or comment to any person representing or claiming to represent a media organisation, unless directed to do so by the company's general manager.</p>
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Local Emergency Services

A list of contact numbers and personnel for local emergency services is retained on site, for ready reference in the event of an emergency. An example of such a list follows:

Agency	Contact Details
Police	Location: Mary St, Atown Phone: 2042 3465
Local Doctor/Medical Centre	Name: Beetown Medical Centre Location: Elizabeth Street Phone: 2043 8967
Fire	Location: Main Street, Atown Phone: 2042 2233
Ambulance	Location: Main Street, Atown Phone: 000 (or 112 from mobile phone)
Local Hospital	Name: Seatown Private Hospital Location: Hospital Road Phone: 2441 5490
Government Safety Authority	Name: Division of Workplace Health & Safety Location: Deeville Road, Seatown Phone: 2470 8833

Accident Reporting Checklist

The following is a guide to reporting requirements, as laid down in the *Workplace Health and Safety Act 1995*.

The basic requirements after an accident are:

- Employers, self-employed people and principal contractors must make a record of every work injury, work-caused illness and dangerous event that happens at their workplace.
- Where there is a serious injury, work-caused illness or dangerous event, a notice must be sent to Workplace Health and Safety Queensland.
- If a death occurs, the Division must be informed as soon as possible.

Type of accident or incident	Reporting requirements
Hazardous condition, work practice or related issue, but no injury or damage to property	Workplace Health and Safety Form 4 (Hazard Report)— to employer
Injury to employee, where injured person resumes work after first-aid treatment	Workplace Health and Safety Form 3 (Incident Notification Form)— to employer WorkCover Queensland claim for workers' compensation (see www.workcover.qld.gov.au for more information) Other form of notification or report required by employer
Worker sustains serious bodily injury (i.e. loss of distinct part of organ of injured person's body, or person absent from employment for more than 4 days)	Workplace Health and Safety Form 3 (Incident Notification Form)— to employer WorkCover Queensland claim for workers' compensation Notification to employer within 24 hours Other form of notification or report required by employer Notification to company health and safety officer Relevant statutory declaration Notify Police if arson, malicious intent, etc is suspected
Worker killed	Immediate notification to employer Immediate notification to company health and safety officer Workplace Health and Safety Form 3 (Incident Notification Form)— to Department of Industrial Relations, Division of Workplace Health and Safety WorkCover Queensland claim for workers' compensation Other employer reporting requirements Relevant statutory declaration Notify Police if arson, malicious intent, etc is suspected

Type of accident or incident	Reporting requirements
<p>Dangerous event as defined in Part 7 of Workplace Health and Safety Regulation 1997, i.e. involving—</p> <ul style="list-style-type: none"> • high-risk plant • collapse of excavation or shoring • failure of crane, hoist, conveyor, etc • explosion or fire • hazardous materials • fall or release from height • damage to boiler, pressure vessel or refrigeration plant • escape of gas or steam. 	<p>Relevant requirements as above</p> <p>Notify company plant inspector or other specialist</p> <p>Ensure cause of incident has been secured and record details of all steps taken</p> <p>Notify all site workers that machinery, etc is not be started or moved until investigation has been completed</p> <p>Notify Police if arson, malicious intent, etc is suspected</p>
<p>Work-caused illness</p>	<p>Workplace Health and Safety Form 3 (Incident Notification Form)— to employer</p> <p>WorkCover Queensland claim for workers' compensation</p> <p>Notification to employer within 24 hours</p> <p>Other form of notification or report required by employer</p> <p>Notification to company health and safety officer</p> <p>Relevant statutory declaration</p>

Investigating Accidents

The main reason for investigating accidents is to ensure that the same set of circumstances do not lead to an accident or injury in the future.

The investigation begins immediately after the emergency stage of the accident has passed.

Immediate Steps After the Accident

After all reasonable steps have been taken to treat the injured and ensure their removal to medical treatment, and the site has been stabilised, you will need to consider some factors that will affect the investigation, such as:

- Was any plant or equipment moved during the course of rescue or treatment of injury?
- Are there any items that need to be protected as evidence?
- What reporting, both internal and external, will be required?

- Is there a need to make a statement to the police?
- Who are the witnesses, if any?
- Should you start investigating the accident now or later?

Decisions will need to be made about each of these, usually in consultation with your supervisor. In turn, your supervisor may need to organise resources needed for the investigation, such as the company safety officer, plant inspectors, and government workplace health and safety officers.

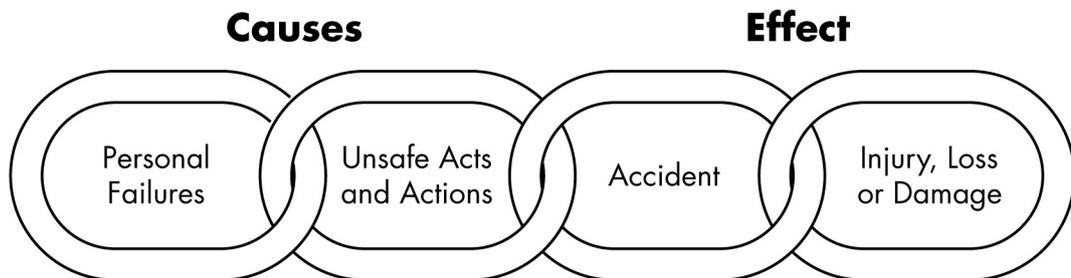
Conducting the Investigation

Always carry out an investigation and make out your report as soon as possible after the accident.

When accidents occur, refer to the Accident Reporting Checklist (see previous pages). These tell you what to do by way of reporting.

When we investigate accidents, we are looking for verifiable facts that, if necessary, will stand up to legal scrutiny in court. More importantly, from the job point of view, we are trying to eliminate the underlying causes.

When accidents are analysed, we often see that they involved a chain reaction between the cause and the effect, as shown in the drawing:



The best way to investigate accidents is to work through the chain in reverse, i.e. investigate in turn the:

- injury
- accident
- unsafe acts and conditions
- personal failures.

Injury

The location on the victim, the type and extent of the injury in relation to the situation indicates what probably happened and whether suitable protective equipment was used.

Accident

A detailed inspection of the area and the plant, vehicle or machines and the statements of eye witnesses should confirm what happened and how it happened, and lead towards identification of the causes.

In many cases, particularly with plant and vehicle accidents, supporting evidence such as distances, drawings and photographs will be necessary. If in doubt about the value of a fact as evidence, record it anyway.

Unsafe Acts and Conditions

At this stage, the unsafe acts or conditions, or both, may become apparent. Information that has been collected about the injuries, the accident itself, and any unsafe acts and conditions, may provide direct clues as to why the accident happened.

Personal Failures

In this part of the investigation we must make sure that we confirm why the accident happened and who was at fault, and whether the person was (or persons were) involved in the accident.

The conclusions you have reached as a result of the investigation must be included in the final reports produced after the accident, including all the evidence used to arrive at the conclusion.

Preventing Future Accidents

It does not matter whether an accident has resulted in injury to a person or loss or damage to equipment, or not; the fact is, it still represents a set of conditions which, if repeated, may again cause injury, loss or damage in the future.

The final outcome of the investigation is therefore a list of recommendations for eliminating the causes of the accident. These may include:

- Eliminating, guarding against or warning against the unsafe condition.
- Eliminating the unsafe acts by modifying methods.
- Replacing dated or defective materials or equipment.
- Eliminating personal failures by changing the attitudes and habits of the people at fault.
- Paying particular attention to the circumstances that led to the accident, until we are sure that the necessary preventive measures have been incorporated into the work method.

Section 5 – Assessment Activities

For information on how these assessment activities may be used as part of the learning process, see the section on ‘Assessment’ in the ‘Topic Descriptor’ section at the front of this topic.

Theory Questions

The following questions allow you to assess your progress in understanding the material presented in Section 5. The questions may be of any of the following types:

- multiple choice (identify correct answer or answers)
- multiple choice (identify incorrect answer or answers)
- fill in the gaps in a sentence or statement
- identify a sentence or statement as TRUE or FALSE
- write a few sentences or a short paragraph.

Answers to the question are shown in the separate ‘Answer’ section.

Question 1

Why is panic dangerous in an emergency situation? What is a more appropriate response?

Question 2

In an emergency, what information do you provide to the responding party once you have established initial contact?

Question 3

What do you do once you have given this information?

Question 4

In an emergency, you have called, established contact with the operator and given relevant information. A workmate calls out for help. Do you:

- Hang up immediately so that you can respond to the call for help?
- Inform the operator of the call for help then hang up?
- Respond to the call for help but leave the phone off the hook?
- Inform the operator of the call for help and await his or her response?

Question 5

What are the two key points to remember when making an initial response to an emergency involving people, plant, vehicles or machinery?

Question 6

In an emergency, you come across two casualties, neither of whom is in immediate danger. One is calling out and the other appears not to be conscious. To which one do you give priority?

Question 7

How would you determine if the person was conscious?

Question 8

What procedure should be adopted on a roadworks site where traffic controllers are on duty, when any emergency vehicle is heard approaching the site?

Question 9

Why is there a provision in the typical site evacuation procedure requiring all personnel to immediately report to the evacuation assembly area?

Question 10

A fire has started in a vehicle parked near the site office. In what circumstances would you attempt to extinguish the fire using a fire extinguisher?

Question 11

Why is it not advisable for site employees to make statements to media representatives about work being carried out on site?

Question 12

In what circumstances is it justifiable to move plant or equipment during the course of an emergency?

Question 13

Identify the correct statement or statements in relation to investigating accidents.

- The main reason for investigating accidents is to ensure that the same set of circumstances do not lead to an accident or injury in the future.
- The investigation and completion of a report may be delayed until there has been time for everyone to recover from the accident.
- The best way to investigate accidents is to work through the chain from personal failures to unsafe acts and conditions to accident to injury.
- The best way to investigate accidents is to work through the chain from injury to accident to unsafe acts and conditions, to personal failures.

Question 14

Name three types of recommendations for eliminating the causes of the accident that may be made following an investigation.

Practical Exercises

Practical Exercise 1

Under supervision, use the two-way radio system provided in your workplace. What are the site-specific procedures for using the radio in an emergency?

Practical Exercise 2

Complete a Workplace Health and Safety Incident Notification Form for one of the dangerous events described in the Case Studies for this topic. What type of dangerous event is it in terms of Part 7 of the Workplace Health and Safety Regulation 1997?