MANAGING SAFETY

REPORT ABOUT SAFETY IN ENGINEERING

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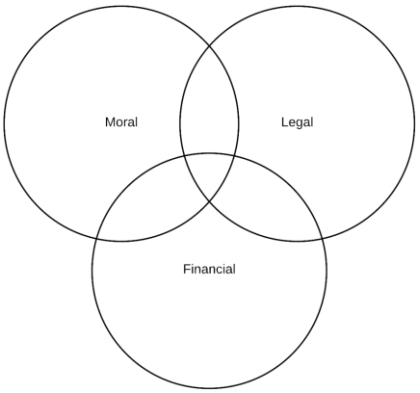
Part 1
Introduction

1: There are many reasons why we should manage health and safety, but they can be grouped into three fundamental reasons:

A) Moral
B) Legal
C) Financial



A) Moral

Most people would agree that, whatever risks they choose to take them, it is unacceptable to put other people at risk, particularly when this is done without their knowledge or consent. Everyone is entitled to feel confident that they will go home to their loved ones safely. Nobody wishes to suffer an injury or cause somebody else to suffer one.

B) Legal

Health and safety legislation places a number of duties on employers and employees. Failure to carry out these duties can result in fines and/ or imprisonment in certain cases. The legal requirements will be examined in another part of the course. However, the fundamental principle is that every employee must take reasonable care for their own safety and the safety of others who may be affected by their acts or omissions.

C) Financial

Accidents can cost a great deal of money, especially when we take into account interruption to production, negative effect on quality of products, possible damage to the environment, and of course there is the potential for massive legal costs and fines should the accident lead to a court case. The Health and Safety Executive (HSE) operates a Fee for Intervention (FFI) cost recovery scheme. Organizations that are

breaking health and safety laws are charged a fee for the time and effort that the HSE spends helping them to put the matter right, investigating and taking enforcement action.

2: So far we have dealt with the company or the organization's responsibilities. Let's now consider your responsibilities as a manager. As a manager, you are expected to ensure health and safety is effectively established in your area of control, and should you fail at this, then you could be held accountable for such failings. Managers have a responsibility to assess and manage the risks employees under their control are exposed to, they have a responsibility to investigate accidents to ensure immediate causes of accidents are identified and controlled. If managers fail to take reasonable care in their provision of supervision they could be held accountable, and sadly managers may have the difficult but necessary task of informing the next of kin of their employees that their loved ones are not returning home as a result of an accident. Remember: As a manager, you can delegate responsibility but you cannot delegate accountability.

Part 2
Assessing Risks

1) What is **RISK** and **HAZARD**?

A **risk** is the chance, high or low, that any hazard will actually cause somebody harm.

For example, working alone away from your office can be a hazard. The risk of personal danger may be high. Electric cabling is a hazard. If it has snagged on a sharp object, the exposed wiring places it in a 'high-risk' category.

A **hazard** is something that can cause harm, e.g. electricity, chemicals, working up a ladder, noise, a keyboard, a bully at work, stress, etc.

2) What is **Risk Assessment**?

Risk assessment is the process where you:

- Identify hazards.
- Analyze or evaluate the risk associated with that hazard.
- Determine appropriate ways to eliminate or control the hazard.

In practical terms, a risk assessment is a thorough look at your workplace to identify those things, situations, processes, etc that may cause harm, particularly to people. After identification is made, you evaluate how likely and severe the risk is, and then decides what measures should be in place to effectively prevent or control the harm from happening.

3) Why is **Risk Assessment Important**?

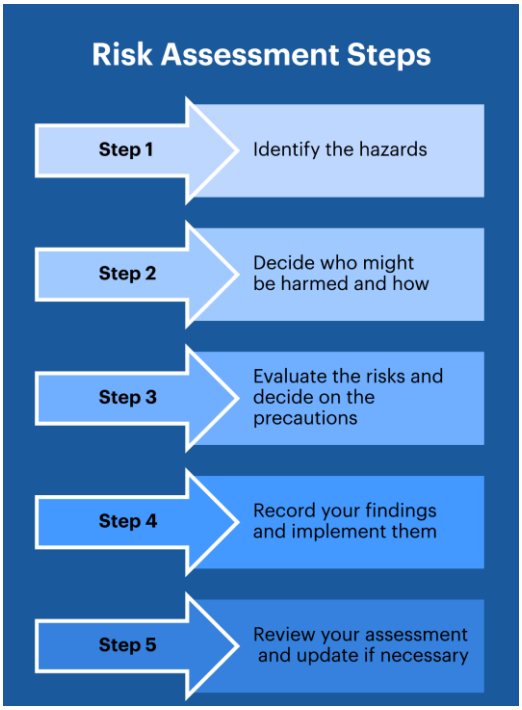
Risk assessments are very important as they form an integral part of a good occupational health and safety management plan. They help to:

- Create awareness of hazards and risks.
- Identify who may be at risk (employees, cleaners, visitors, contractors, the public, etc).
- Determine if existing control measures are adequate or if more should be done.
- Prevent injuries or illnesses when done at the design or planning stage.
- Prioritize hazards and control measures.

4) What is the **Goal of Risk Assessment**?

The aim of the risk assessment process is to remove a hazard or reduce the level of its risk by adding precautions or control measures, as necessary. By doing so, you have created a safer and healthier workplace.

5) How do you **Do a Risk Assessment**?



Assessments should be done by a competent team of individuals who have a good working knowledge of the workplace. Staff should be involved always include supervisors and workers who work with the process under review as they are the most familiar with the operation.

In general, to do an assessment, you should:

- Identify hazards.
- Evaluate the likelihood of an injury or illness occurring, and its severity.
- Consider normal operational situations as well as non-standard events such as shutdowns, power outages, emergencies, etc.
- Review all available health and safety information

about the hazard such as MSDSs, manufacturers' literature, and information from reputable organizations, results of testing, etc.
- Identify actions necessary to eliminate or control the risk.
- Monitor and evaluate to confirm the risk is controlled.
- Keep any documentation or records that may be necessary. Documentation may include detailing the process used to assess the risk, outlining any evaluations, or detailing how conclusions were made.

When doing an assessment, you must take into account:

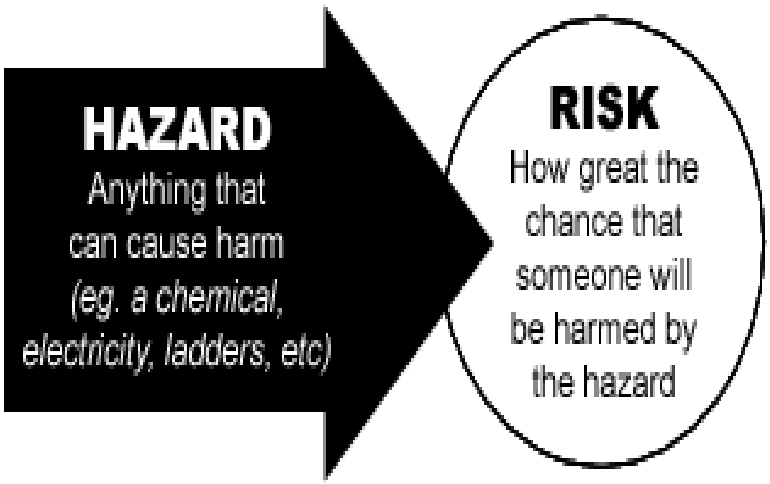
- The methods and procedures used in the processing, use, handling or storage of the substance, etc.
- The actual and the potential exposure of workers.
- The measures and procedures necessary to control such exposure by means of engineering controls, work practices, and hygiene practices and facilities.

By determining the level of risk associated with the hazard, the employer and the joint health and safety committee can decide whether a control program is required.

It is important to remember that the assessment must take into account not only the current state of the workplace but any potential situations as well.

6) How is the **Hazards Identified**?

Overall, the goal is to find and record possible hazards that may be present in your workplace. As mentioned, it may help to work as a team and include both people familiar with the work area, as well as people who are not – this way you have both the "experienced" and "fresh" eye to conduct the inspection.



To be sure that all hazards are found:

- Look at all aspects of the work.
- Include non-routine activities such as maintenance, repair, or cleaning.
- Look at accident / incident / near-miss records.

- Include people who work "off site" either at home, on other job sites, drivers, teleworkers, with clients, etc.
- Look at the way the work is organized or "done" (include experience and age of people doing the work, systems being used, etc).
- Look at foreseeable unusual conditions (for example: possible impact on hazard control procedures that may be unavailable in an emergency situation, power outage, etc.).
- Examine risks to visitors or the public.
- Include an assessment of groups that may have a different level of risk such as young or inexperienced workers, persons with disabilities, or new or expectant mothers.

7) How do you know if the hazard is serious **(Poses a Risk)**?

Each hazard should be studied to determine its' level of risk. To research the hazard, you can look at:

- Product information / manufacturer documentation.
- Past experience (workers, etc).
- Legislated requirements and/or applicable standards.
- Industry codes of practice / best practices.
- Health and safety material about the hazard such as material safety data sheets (MSDSs), or other manufacturer information.
- Information from reputable organizations.
- Results of testing (atmospheric, air sampling of workplace, biological, etc).
- The expertise of an occupational health and safety professional.
- Information about previous injuries, illnesses, "near misses", accident reports, etc.

Remember to include factors that contribute to the level of risk such as:

- The work environment (layout, condition, etc.).
- The capability, skill, experience of workers who do the work.
- The systems of work being used.
- The range of foreseeable conditions

8) How do you **Rank the Risks**?

Ranking or prioritizing hazards is one way to help determine which hazard is the most serious and thus which hazard to control first. Priority is usually established by taking into account the employee exposure and the potential for accident, injury or illness. By assigning a priority to the hazards, you are creating a ranking or an action list. The following factors play an important role:

- Percentage of workforce exposed.
- Frequency of exposure.
- Degree of harm likely to result from the exposure.
- Probability of occurrence.

There is no one simple or single way to determine the level of risk. Ranking hazards requires the knowledge of the workplace activities, urgency of situations, and most importantly, objective judgment.

9) What options exist to **Rank or Prioritize Risks**?

One option is to use a table similar to the following as established by the British Standards Organization:

Risk Assessment by the British Standards Organization			
Likelihood of Harm	***Severity of Harm***		
	Slight Harm	***Moderate Harm***	***Extreme Harm***
Very unlikely	***Very low risk***	***Very low risk***	***High risk***
Unlikely	***Very low risk***	***Medium risk***	***Very high risk***
Likely	***Low risk***	***High risk***	***Very high risk***
Very likely	***Low risk***	***Very high risk***	***Very high risk***

Definitions for Likelihood of Harm

Very Likely – Typically experienced at least once every six months by an individual.

Likely – Typically experienced once every five years by an individual.

Unlikely – Typically experienced once during the working lifetime of an individual.

Very unlikely – Less than 1% chance of being experienced by an individual during their working lifetime.

Definitions for Severity of Harm

Potential severity of harm – When establishing potential severity of harm, information about the relevant work activity should be considered, together with:

a) Part(s) of the body likely to be affected.

b) Nature of the harm, ranging from slight to extremely harmful:

1. Slightly harmful (e.g., superficial injuries; minor cuts and bruises; eye irritation from dust; nuisance and irritation; ill-health leading to temporary discomfort)
2. harmful (e.g., lacerations; burns; concussion; serious sprains; minor fractures; deafness; dermatitis; asthma; work-related upper limb disorders; ill-health)
3. extremely harmful (e.g., amputations; major fractures; poisonings; multiple injuries; fatal injuries; occupational cancer; other severely life shortening diseases; acute fatal diseases)

10) What **is Methods of Hazard Control**?

Once you have established your top priorities, you can decide on ways to control each specific hazard. Hazard control methods are often grouped into the following categories:

- Elimination (including substitution).
- Engineering controls.
- Administrative controls.
- Personal protective equipment.

11) Why is it important to **Review and Monitor Your Assessment**?

It is important to know if your risk assessment was complete and accurate. It is also essential to be sure those changes in the workplace have not introduced new hazards or changed hazards that were once ranked as lower priority to a higher priority.

It is good practice to review your assessment on a regular basis to be sure that nothing has changed and that your control methods are effective. Triggers for a review can also include:

- The start of a new project.
- A change in the work process or flow.
- A change or addition to tools, equipment, machinery (including locations or the way they are used).
- New employees.
- Moving to a new building or work area.
- Introduction of new chemicals or substances.
- When new information becomes available about a current product.

12) What documentation should be done for a risk assessment?

Keeping records of your assessment and any control actions taken is very important. You may be required to store assessments for a specific number of years. Check for local requirements in your jurisdiction.

The level of documentation or record keeping will depend on:

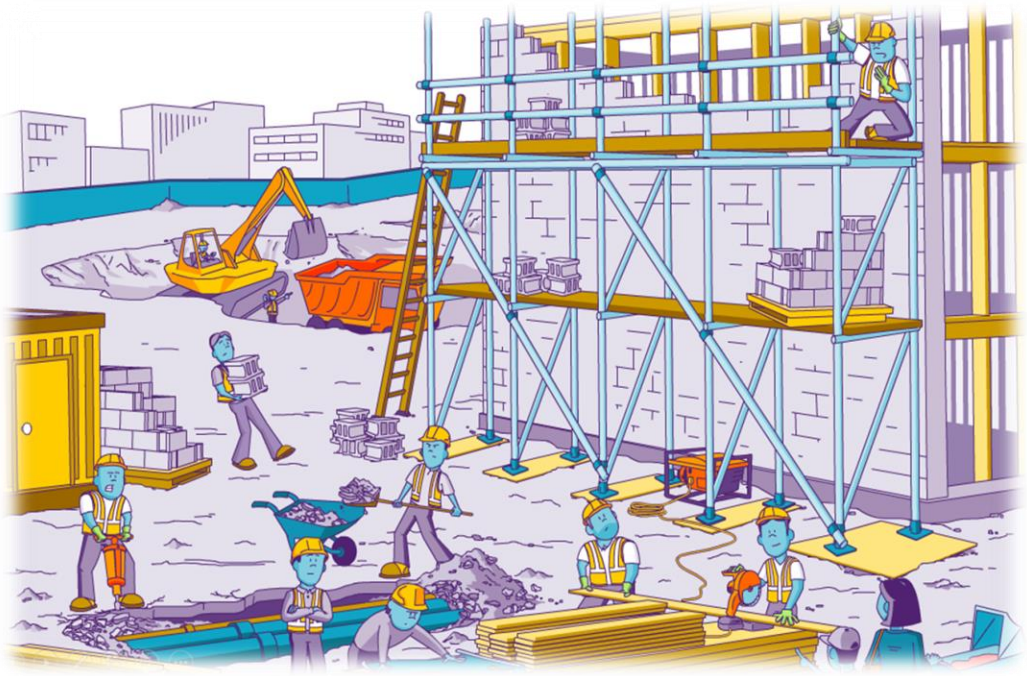
- Level of risk involved.
- Legislated requirements.
- Requirements of any management systems that may be in place.

Your records should show that you:

- Conducted a good hazard review.
- Determined the risks of those hazards.
- Implemented control measures suitable for the risk.
- Reviewed and monitored all hazards in the workplace.

Part 3

Controlling Risks



1) As part of managing the health and safety of your business, you must control the risks in your workplace. To do this you need to think about what might cause harm to people and decide whether you are taking reasonable steps to prevent that harm.

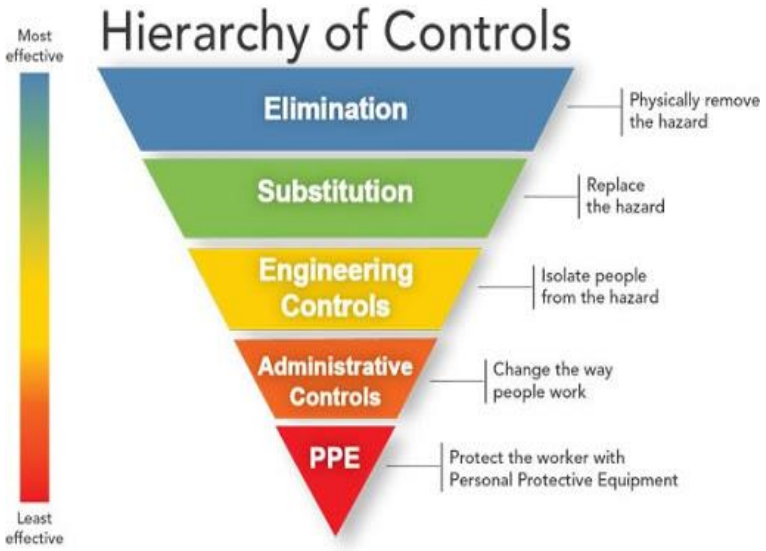
Risk = likelihood*consequence

Therefore if we want to reduce risk we need to:-

1- Reducing the likelihood of the hazardous event happening
2- Reducing the consequence of the hazardous event
3- Reducing both factors

2) How do we decide which risk control to use?

To decide on a risk control ,there is an order or hierarchy of risk control that we can use , Basically risk control options at the top of the hierarchy are the preferred option because they are much less reliant on people to do something they can also protect larger numbers of people.



Eliminate the hazard:

Eliminating the hazard—physically removing it—is the most effective hazard control. For example, if employees must work high above the ground, the hazard can be eliminated by moving the piece they are working on to ground level to eliminate the need to work at heights.

a- Reduce the hazard:
The second most effective hazard control, involves replacing something that produces a hazard (similar to elimination) with something that does not produce a hazard

b- Prevent people coming into contact with hazard:
The third most effective means of controlling hazards is engineered controls. These do not eliminate hazards, but rather isolate people from hazards. Capital costs of engineered controls tend to be higher than less effective controls in the hierarchy; however they may reduce future costs.

c- Introduce a safe system of work:
Administrative controls are changes to the way people work

d- Provide personal protective equipment:
(PPE) includes gloves, respirators, hard hats, safety glasses, high-visibility clothing, and safety footwear. PPE is the least effective means of controlling hazards because of the high potential for damage to render PPE ineffective.

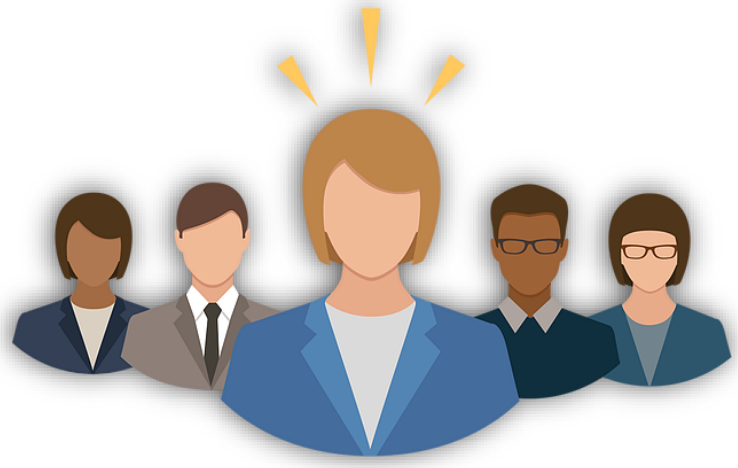
Part 4
Understanding your Responsibilities

Do you know your responsibilities when it comes to health and safety? If you don't, you're not alone. Owners, managers, and workers across the province think it is someone else's job. But it's not. Every single person in an organization has health and safety responsibilities.

In Ontario, under the Occupational Health and Safety Act (OHSA), this concept is referred to as the Internal Responsibility System (IRS). With a strong IRS, everyone understands their contribution to a healthy workplace. When this happens, workers stay safe and productivity and profits increase.

Employer Responsibilities

Employers have a lot of responsibility when it comes to workplace safety. Chief among them is the responsibility to take every reasonable precaution for the safety of workers. This encompasses the concept of due diligence.



So, while everyone in the workplace contributes to safety, being able to prove due diligence is up to the employer. The employer is also the party responsible for ensuring that the IRS is established, promoted, and that it functions successfully.

Supervisor Responsibilities

Supervisors have the same overall responsibility to ensure the safety of workers. According to section 27 of the OHSA, supervisors must take every precaution reasonable in the circumstances for the protection of the worker. Other duties include:

- Ensuring workers work in compliance with health and safety policies and procedures, and the OHSA
- Ensuring that personal protective equipment (PPE) is worn when necessary
- Advising workers of any potential or actual dangers known to them
- Providing workers with written instructions on any measures and procedures to be taken for the workers' protection
- Offering training and education about potential or actual hazards

Worker Responsibilities

Safety isn't just the job of management. Safety is a personal responsibility. The OHSA outlines the responsibilities of workers as well. While the main one is to work safely, workers are also responsible for:

- Wearing appropriate personal protective equipment
- Operating equipment in a safe manner
- Working in compliance with OHSA and its regulations
- Reporting any known workplace hazards or OHSA violations
- Knowing their rights under the OHSA

Every worker in Ontario must complete Health and Safety Awareness Training to learn about their rights and responsibilities.

JHSC Responsibilities

The joint health and safety committee (JHSC) is another integral part of the IRS. It is comprised of workers and management. The committee inspects the workplace and meets regularly with the goal of creating a safe workplace. The JHSC cannot function without the active participation of workers.

Whether that is by being on the committee or by readily engaging with the JHSC when they have questions or concerns.

Part 5
Identifying Hazards

One of the most important aspects of your risk assessment is accurately identifying the potential hazards in your workplace. A good starting point is to walk around your workplace and think about any hazards. In other words, what is it about the activities, processes or substances used that could injure your employees or harm their health?

When you work in a place every day it is easy to overlook some hazards, so here are some tips to help you identify the ones that matter:

Check manufacturers' instructions or data sheets for chemicals and equipment as they can be very helpful in spelling out the hazards and putting them in their true perspective. **Look back at your accident and ill-health records** - these often help to identify the less obvious hazards

Take account of non-routine operations (eg maintenance, cleaning operations or changes in production cycles)

Remember to think about long-term hazards to health (eg high levels of noise or exposure to harmful substances)

Visit the HSE website. HSE publishes practical guidance on hazards and how to control them.

There are some hazards with a recognized risk of harm, for example working at height, working with chemicals, machinery, and asbestos. Depending on the type of work you do, there may be other hazards that are relevant to your business.

A common way to classify hazards is by category:

- **biological - bacteria, viruses, insects, plants, birds, animals, and humans, etc.,**
- **chemical - depends on the physical, chemical and toxic properties of the chemical,**
- **ergonomic - repetitive movements, improper set up of workstation, etc.,**
- **physical - radiation, magnetic fields, pressure extremes (high pressure or vacuum), noise, etc.,**
- **psychosocial - stress, violence, etc.,**
- **Safety - slipping/tripping hazards, inappropriate machine guarding, equipment malfunctions or breakdowns.**

Part 6
Investigating Accidents And Incidents

Accidents happen for a reason and can be avoided with good management. With proper controls and procedures in place, it is possible to reduce the number of accidents and incidents and protect staff and others from injury.

One of the best ways to reduce accidents and incidents is to find out what went wrong and take action to make sure that similar incidents do not happen again. The most effective way to do this is to investigate each incident and find out what caused it.

Simply attributing the accident to human error or blaming the injured person is not helpful and will not lead to any improvement in safety. In most cases there is an underlying reason why the incident happened, e.g. lack of training, inadequate supervision, no risk assessment, no safe system of work etc.

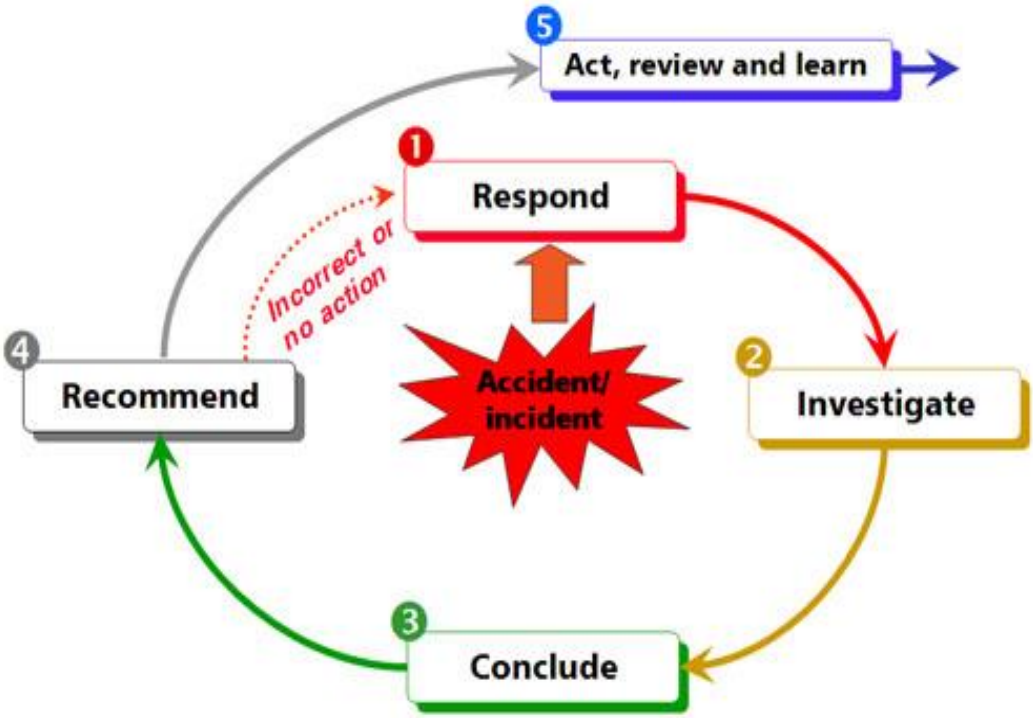
The depth to which an incident needs to be investigated will depend upon the severity (or potential for it to have been more severe) and the likelihood that it will happen again.

Investigation of “near misses”, i.e. incidents where there was no actual injury, can also provide valuable information that could prevent future accidents.

The aim of this guidance is to provide a framework for accident and incident investigation at an appropriate level that ensures that the immediate, underlying and root causes can be identified and remedial action can be implemented.

Why Investigate Accidents and Incidents?

- To comply with the law
- To provide full information in the event of a legal claim
- To gain an understanding of how and why things went wrong
- To identify deficiencies in risk control and to learn lessons which can be applied to other activities
- To discover how work is really done in practice and check that existing procedures are adequate
- To help prevent similar incidents happening (you could be criticized if previous warnings regarding similar incidents have been disregarded)
- To reduce the costs from the disruption of work and possible legal claims
- To improve the morale of staff who may co-operate more readily with new safety measures if they feel valued and involved



The Level of Investigation Needed

Ideally, this should be a joint effort between you, as the manager, and your staff. All staff involved in the incident should be included in any investigation.

Even if accidents and incidents are not reported directly to you (e.g. if your staff work in a building where accidents are recorded centrally), as a manager you still have a responsibility to investigate incidents that happen to staff or others within your line management control. If this is the case, you will need to take adequate steps to make sure you are kept appropriately informed about the incidents that occur to your staff.

As with other safety issues, you can delegate the task of incident investigation to one of your staff members, however **you** will retain the responsibility for ensuring that everything reasonable has been done.

You will need to make sure that any person you delegate this important task to is competent to do it and give them a copy of this guidance to help them. You should also make sure that they complete the task to an adequate standard. The outcome of any investigation may be asked for by HSE inspectors, safety advisers etc and could potentially be used in legal proceedings.

(**NB** You will still need to make sure you comply with the requirements of the Accident Reporting Procedure).

Minor Accidents

Where the incident is of a minor nature and the likelihood of it happening again is small, a brief investigation will be all that is needed.

If you have had a number of similar minor accidents, there may be underlying problems. You will need to investigate accordingly to identify what the causes are. For example, a manager found that over the last month staff had had 7 minor falls on a particular corridor near the front door that had a linoleum floor covering (everywhere else had carpet). The investigation found that the cleaners had changed their cleaning product recently and it was incompatible with the flooring, so when people walked on it with wet shoes (e.g. because it was raining) they were likely to slip and fall. The manager asked the cleaning supervisor to change to a different product and the incidents stopped.

Moderate Accidents

If the incident is of a more severe nature (or could potentially have been) and/or the likelihood of it happening again is high, you should carry out a detailed investigation. You can obtain the relevant information by talking to the injured person and any witnesses to the incident. You may need to involve employee reps as appropriate.

When you have a clear idea of what happened, you can then identify any lessons to be learned and take action to prevent it happening again.

Serious Incidents

For serious incidents, safety advisers will assist you in your investigation and in the case of very serious or fatal accidents the HSE and Police will also be involved.

What Does a Good Investigation Involve?

The objective is to find out not only how the adverse event happened, but also what allowed it to occur in the first place. It is important that you: -

- Start your investigation as soon as possible after the event, while the incident is fresh in peoples' minds and the scene of the accident has not been disturbed. (In the case of some incidents, certain steps such as administering first aid and making the scene safe have to be taken immediately)
- Adopt a systematic approach – avoid jumping to conclusions
- conduct the investigation with accident prevention in mind, not finding someone to blame for it
- analyze all the information available, including (where appropriate) physical evidence about the scene of the accident, witness statements and written documents such as risk assessments, procedures, permits to work etc to find out what went wrong
- identify the immediate causes of the incident (e.g. trailing cable tripping hazard), the underlying causes (i.e. previous actions which have allowed unsafe practices or conditions to exist, e.g. people ignoring the tripping hazard) and the root causes (poor supervision, training etc)
- find out what you need to do to prevent it happening again

The root causes of adverse events can almost always be traced to failings in management systems, organization or planning. It is therefore important that the

staff understand the health and safety policy and procedures, especially those relating to their work.

Before Investigation

For all accidents and incidents, you will need to make sure that the following is done:

- Any emergency action required is taken, e.g. give first aid where needed
- The area is made safe and the scene of the accident preserved
- The names of people involved are written down, including any witnesses
- Details of any equipment used is written down, together with identification numbers
- The accident reporting procedure is followed

If you are on a different site to your staff, you should make sure they are aware of the above.

You will then need to decide on the depth of investigation needed and who will do it. You should consider what could potentially have been the worst case scenario when making these decisions.

Conducting Your Investigation

Step 1 Information Gathering

Begin as soon as possible after the incident and gather the facts of the incident together. The information completed in Part 2, 3, & 4 of the Reportable Injury Form (RIF1) should give you a good start, if one was completed.

Speak to everyone involved or who saw the event. Ask them what they heard and saw.

Make appropriate sketches, take photos and measurements and inspect documentation.

Keep detailed notes, as this will be helpful when analyzing information later. Keep an open mind, be objective and avoid trying to find someone to blame.

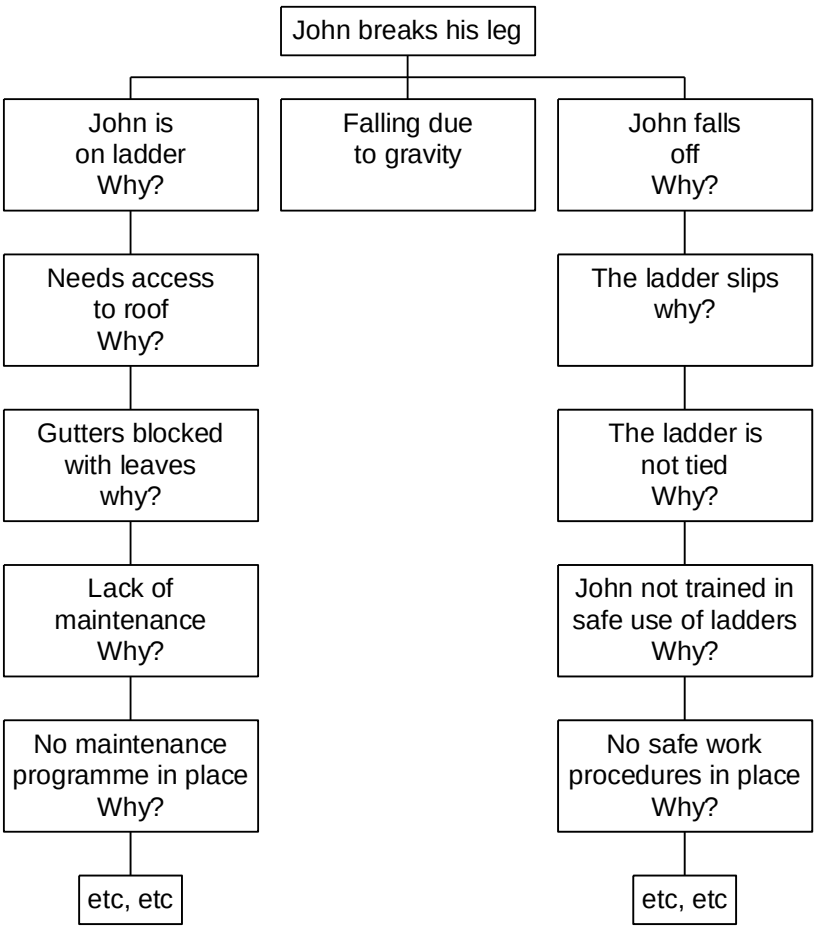
The type of questions to ask is: -

- Where and when did the incident happen?
- Who was injured / suffered ill health or was otherwise involved?
- How did the event happen? (note any equipment involved)
- What activities were being carried out at the time? Were they authorized?
- Was there anything different or unusual about the working conditions?
- Were there adequate safe working procedures? Were they followed?
- What injuries or ill effects, if any, were caused; was first aid given?
- If there was an injury, how did it occur and what caused it? (E.g. John slipped and fell. The spilled oil on the floor caused him to slip)
- Was the risk known? Why wasn't it controlled?
- Was the maintenance and cleaning schedule followed and was it sufficient?
- Did the organization of the work affect the incident? (check standards of supervision, inappropriate working practices etc)
- Were the people involved suitably trained and did they appreciate the potential risks? For example, young workers or new staff require additional supervision
- Was the workplace layout a problem e.g. was there enough room to move around?

- Were the materials involved hazardous, heavy etc?
- Was any equipment involved difficult to use?
- Was safety equipment available and was it being used?
- Were there any other factors that influenced the event, e.g. weather, sabotage, disability, misunderstandings etc?

Step 2 Analysis of Information

The key to a detailed analysis is to keep asking **"WHY?"** until the question is no longer meaningful. The information completed in Part 2 of the Reportable Injury Form (RIF1) should give you a good start, if one was completed. For example: -



- **The immediate cause** of John breaking his leg was falling from the ladder because the ladder was not properly tied.
- **The underlying causes** were that John wasn't trained in ladder safety and possibly shouldn't have been doing the job anyway.
- **The root causes** were lack of proper work procedures, training and management

Examine all the facts that you have collected. Organize the information. Decide what is relevant and what is not, and what information is still missing. Look at what happened and why, to enable you to determine the immediate, underlying and root causes of the incident.

If human error is identified as a cause of the adverse event, these can fall into several categories: -

- Skill-based errors such as a slip or lapse of memory e.g. when doing repetitive tasks. (These can generally be foreseen and controlled)
- Mistakes or errors of judgment, e.g. when the wrong rule is applied in a certain situation or there is deliberate rule breaking or cutting corners. (Training and safe working procedures can remedy these problems)
- Job factors, e.g. time available too short, high level of attention required
- Human factors, e.g. physical ability, skills of individual etc
- Organizational factors, e.g. work pressure, supervision etc
- Equipment factors, e.g. easy to read/operate controls

Step 3 Identify Suitable Accident Prevention Control Measures

When you identified the immediate, underlying and root causes of the incident at Step 2, you will have highlighted areas where current control measures have failed or do not exist. This should also have prompted ideas for further control measures that can be put in place to prevent or reduce the risk of a recurrence of the incident. The information completed in any relevant risk assessment and in Part 4 of the Reportable Injury Form should give you a good start, if one was completed.

Consider measures that: -

1. Eliminate the risk, e.g. using water rather than solvent based products
2. Reduce the risk, e.g. by providing manual handling equipment rather than lifting manually
3. Introduce safe working procedures, e.g. provide training etc

You should also consider whether these control measures could be applied to any other activity that has not yet caused an accident.

For further information about selection of control measures, see the Risk Assessment guidance on the Safety Website.

Step 4 Preventing A Recurrence

As a manager you are responsible for taking reasonable action to prevent a recurrence of the incident by implementing any control measures you have identified and monitoring their effectiveness.

You should look at all the control measures that you identified in Step 3 and priorities them in order of importance. Measures that can be easily achieved immediately should be implemented immediately. High priority measures should include those that would safeguard the highest number of people. For those risks that are not high or immediate, the control measures identified for these should be included in your risk assessments, prioritized in order of importance and given appropriate timescales for implementation.

All relevant staff should be advised of the control measures that have been/will be introduced. Where there are any lessons to be learned which would prevent a similar accident happening in another area, you should pass details of these on to other managers in your Department (or Occupational Safety if it could apply in other areas of the Council).

Risk Assessments

As a result of the investigation, all relevant risk assessments should be reviewed and amended where necessary, or new ones completed where none previously existed. You should include in your review any new hazards and risks identified as a result of your investigation. A failure to do this could result in you being held accountable and be a breach of the law.

Part 7
Measuring Performance

The guidance on measuring health and safety performance is organized under these main headings:

- **Why measure?**
- **What to measure.**
- **When to measure.**
- **Who should measure?**
- **How to measure.**

The guidance expands on the Measuring performance chapter in HSE's publication HSG65 Successful health and safety management, 1 which provides guidance on managing health and safety. The chapter Planning and implementing from HSG 65 has been included with this guidance to provide background information which will put it into context.

Too often, the only measures used in workplaces and by government authorities are 'negative' measures. These are known as outcome indicators, and while they are important, they generally reflect the results of past actions.

Outcome indicators may hide potential risks. For example, having a low incidence of injury does not necessarily mean that adequate safety systems and controls are in place. Examples of outcome indicators are:

- number of claims
- number of hours/days lost (Lost time injury frequency rates or LTIs)
- claims costs

The traditional approach to measuring safety performance if managing directors or CEOs were asked how they measured their companies' performance, they would probably mention measures like percentage profit, return on investment or market share.

A common feature of the measures quoted would be that they are generally positive in nature - reflecting achievement - rather than negative, reflecting failure. If the same people were asked how they measured their companies' health and safety performance, it is likely that the only measure quoted would be injury statistics. While the general business performance of an organization is subject to a range of positive measures, for health and safety it too often 5 comes down to one negative measure, injury and ill health statistics - measures of failures. Health and safety differs from many areas measured by managers because success results in the absence of an outcome (injuries or ill health) rather than a presence. But a low injury or ill-health rate, even over a period of years, is no guarantee that risks are being controlled and will not lead to injuries or ill health in the future. This is particularly true in organizations where there is a low probability of accidents but where major hazards are present. Here the historical record can be a deceptive indicator of safety performance.

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