Tips for investigating workplace incidents

The *Work Health and Safety Act 2011* outlines the general health and safety duties of PCBUs, officers of companies, unincorporated associations, government departments and public authorities (including local governments), workers and other people at a workplace. These general duties require the duty holder to ensure health and safety, so far as is reasonably practicable, by eliminating risks to health and safety. If this is not possible, risks must be minimised so far as is reasonably practicable.

Investigating incidents to prevent reoccurrence helps to achieve safer workplaces.

> *The main objective of an investigation is prevention. A good investigation aims to establish a series of events that should have taken place and compares it to what actually happened to identify areas that need changing.*

The team approach to investigations

The type of investigation conducted depends on the seriousness or complexity of the incident, but it is best done as a team so all parties can contribute their skills and expertise to achieve the best result. The PCBU is responsible for putting an investigation team together. Investigators are collectors of evidence and must base their conclusions on that evidence. Take the time to choose the right people to conduct the investigation. The following people should be considered for the team:

- ✓ safety representatives where they exist
- ✓ line manager/supervisor
- ✓ person/s from the worksite
- ✓ people with the relevant knowledge.

Investigation procedures

Investigation procedures need to be systematic. For any investigation the team should:

- act as soon as possible after the incident
- visit the scene before physical evidence is disturbed
- not prejudge the situation
- not remove anything from the scene
- enquire if anyone else has moved anything
- take photographs and/or sketches to assist in reconstructing the incident.

After the initial investigation is complete the team should:

- identify, label and keep all evidence. For example, tools, defective equipment, fragments and chemical samples
- interview witnesses separately
- check to see if there have been any “near misses” in similar circumstances
- note down all sources of information
- keep records to show that the investigation was conducted in a fair and impartial manner

- review all potentially useful information including:
  - design specifications
  - operating logs, purchasing records
  - previous reports
  - procedures, equipment manuals

  job safety analysis reports
  - records of training and instruction of the people involved and experiences of people in similar workplaces/industries
- reconstruct the incident (while ensuring that another incident doesn't occur) to assist in verifying facts, identifying what went wrong and what can be done to prevent it happening again.

> *Look for causes, not blame. Systems fail for many reasons and the people involved are not always the cause of the incident.*

What to look for

Build a chain of events to identify all the causes. For the investigation to be successful it is necessary to establish the following information:

1. **Events leading up to the accident**

   Investigate:
   - the system of work being carried out and the adequacy or suitability of that system for the job
   - the instructions and/or training given for the work
   - any variation from instructions or standard work practices and the reasons for such variation
   - the workplace conditions, such as lighting, floor surfaces, stair treads and handrails, warning signs, temperature and weather (if the incident occurred outside)
   - the exact location of the incident with sufficient detail for the spot to be readily identified by others reading the report
   - the materials in use or being handled
   - the type of transport or equipment in use
   - whether adequate supervision was provided.

2. **Facts of the incident itself**

   Investigate:
   - the state of the system and the actions that occurred at the time
   - the people directly and indirectly involved
   - the tools, equipment, materials and fixtures directly connected
   - the time the accident or incident occurred.

3. **Facts regarding what occurred immediately after the incident**

   Investigate:
   - any injuries or damage resulting directly from the accident
   - the people involved, including those rendering aid
   - any problems in dealing with the injuries or damage, for example faulty extinguisher or if isolation switch difficult to locate.

4. **Essential factors and causes**

   To conduct an effective accident/incident investigation, it is essential to look for the design, environment/work process, and behavioural components, such as plant, procedures and people, rather than trying to isolate a single cause.

   i. **Design components:** Poor systems design may result in exposure to hazards such as:

- unguarded dangerous parts of machinery
- ineffective safety devices
- provision of makeshift plant, equipment and tools
- inadequate ventilation.

ii. **Environmental components/work processes:** How people function in the work environment depends on what they experience in it. Environmental factors may be both physical and social. The way in which people do the job, the procedures they follow and the work process are important factors in incident investigation. Poor work process may lead to hazard exposure.

iii. **Behavioural components:** Examples include misuse of safeguards, improper use of tools and equipment, disregard of cautionary notices, failure to wear personal protective equipment, horseplay and poor standards of housekeeping. Poor practices may indicate that improved communication, further training or some other action, such as supervision, are necessary.

The common practice in industrial accident/incident investigation is to look for the cause of any accident/incident. Searching for a single cause of an accident/incident is restrictive. It focuses attention on only one, or at best a very few, of the essential factors while others, which may be more easily controlled, pass unnoticed.

Establishing the facts

This list of questions may assist investigators to establish the facts. *Note: Care must be exercised in obtaining answers to some of these questions, as the investigator could be accused of apportioning blame.*

Who	was injured? saw the incident? was working with the injured person/s? had instructed and/or assigned the job? else was involved? has information on circumstances/events prior to the incident?
What	is the injury? is the damage or loss? was the injured person/s doing? is the work process? had the injured person/s been instructed to do? tools were being used? Machinery/ plant/ equipment was in use? similar incidents have occurred previously? action had been taken to prevent recurrence? safety rules were violated? safe systems of work, permits to work, isolation procedures were in place? training had been given? were the contributing causes of the accident/incident? communication system was in use?
When	did the accident/incident occur? did the damage become evident? did the injured person/s start the job? was an explanation of the hazards given? did the supervisor last see the injured person/s? was something seen to be wrong?

Why	did the injury occur? did communication fail? was training not given? were there unsafe conditions? was the hazard not evaluated? was the system of work inadequate or inappropriate? was personal protective equipment not provided? was protective equipment not used? was there no safe system of work, permit to work or isolation procedure operating? were specific safety instructions not given? was the supervisor not consulted when things started to go wrong? was the supervisor not there at the time?
Where	did the accident/incident occur? did the damage occur? was the supervisor at the time? were the witnesses at the time?
How	did the injury occur? could the incident have been avoided? could the injury have been avoided? could the supervisor have prevented the incident? could better design of plant or systems of work help?

Determining recommendations and conclusions

This checklist may help the investigators when determining the recommendations.

What systems failed?

- ☐ How can we prevent failure or make it less likely?
- ☐ How can we detect approaching failure?
- ☐ How can we detect failure when it occurs?
- ☐ How can we control failure and minimise the consequences?

What does the system do?

- ☐ Why do we do this?
- ☐ What could we do instead?
- ☐ How else could we do it?

Which persons failed?

- ☐ What did they fail to do? In considering this, include failure to supervise, train, check, adequately design etc, as well as failure of a work practice such as closing a valve.
- ☐ How can we make failure less likely?

What is the purpose of the person's action?

- ☐ Why do we do this?

What could we do instead?

- ☐ How else could we do it?
- ☐ Who else could do it?
- ☐ When else could it be done?

What specific items in the system triggered the accident/incident?

- ☐ What does it do?
- ☐ Why do we do this?
- ☐ What could we do instead?
- ☐ What could we use instead?
- ☐ How else could we do it?