

INTRODUCTION

At one time the recording and investigating of accidents was practically the only monitoring activity carried out by management, and then only for serious accidents. This is largely changed now with the increased use of pre-accident measures such as safety inspections, safety sampling, safety audits and job hazard analysis. However, there is no doubt that the thorough investigation of an accident can yield valuable lessons.

Of course, the motives for investigating accidents vary considerably according to who is doing the investigation. Clearly, the motives - and probably the modus operandi - of the Health and Safety Inspector, the insurance assessor and the safety adviser will all differ.

WHY INVESTIGATE

We investigate accidents for the purpose of detecting specifically what should be done to eliminate or control hazards. In other words, we want to prevent any accident from happening again.

Accidents can be defined as events that interrupt the smooth flow of profitable production or service. As this definition indicates, not all accidents result in injuries. Every company needs to set up an appropriate plan for accident investigation. If at all possible, every accident should be investigated to some degree, since even minor accidents *could* have been more serious.

Some other reasons for investigating accidents are to discover and eliminate all the causes of work stoppages in order to prevent their recurrence. If your accident investigation accomplishes these two objectives, then you have a **productive** accident investigation.

CONDUCTING AN ACCIDENT INVESTIGATION

When to investigate

To conduct a productive accident investigation, many guidelines need to be considered. The first is that an accident should be investigated immediately, if possible. Careful judgment must be exercised when the person is upset or has sustained a serious injury. In those cases, it is probably better to wait until everyone involved has had a chance to calm down before questioning them about the accident. In general, though you should investigate as soon as possible:

- While facts are fresh in participant's minds, and the shock of the accident inclines them to be truthful;
- before witnesses can have a chance to talk and influence each other;
- While all of the physical conditions are unchanged and employees involved are still available;
- before memories become distorted; and
- before excuses or second thoughts come into play.

Where to investigate

The investigation should always be made at the scene of the accident, since all of the tools, materials, people and circumstances that may provide clues to the cause are present at that location.

Who should investigate?

The line managers should investigate the accident, since they are in the best position to find out what happened and to make immediate changes. They want to know what happened and why, so they can prevent recurrence and ensure the safety of employees.

Areas to consider

Specific areas that must be considered in a productive accident investigation include:

- The physical conditions (what and where)
- The person (who)
- The time (when)
- The method (how) and
- Other factors

Physical conditions

Was the machine properly adjusted, and/or guarded?

Was it properly maintained?

Was it the right machine for the job?

Was it positioned correctly?

Was it readily available?

Was it designed correctly?

Was proper material handling equipment used?

Was there an equipment failure?

What caused it to fail?

Was the machine poorly designed?

Were hazardous substances involved?

Were they clearly identified?

Was a less hazardous substance possible or available?

Was the raw material different or substandard?

Should personal protective equipment have been used?

If you get unsatisfactory answers to any of these questions, dig deeper and find out why this is occurring.

Other questions about the physical conditions of the accident should include:

Was the area well lit?

Was the floor surface even, non-slippery, and in good condition?

Was the plant layout free of congestion?

Was the noise level high enough to be distracting or for the hazard to go undetected?

Could smoke, fumes, or vapours have affected the employee's senses and contributed to the accident?

The person

The person is one of the tougher factors to investigate and may not always lead to a specific cause. It can, however, give us much insight into additional information.

Look into their placement, former instruction, experience on the job, health, physical capabilities, job attitude, length of service, and general job performance. These may all be contributing factors to an accident.

Some questions to ask of the person include:

Were workers experienced in the work being done?

Had they been adequately trained?

Were they physically capable of doing the work?

Were their health and eyesight all right?

Were they tired?

Were they under some stress (work or personal)?

Time

Time affects everything. It is one of the factors that we don't always measure but can add up to many pounds. Time needs to be looked at in relation to the who, how, what, and where of the accident, since it affects all those areas.

The method

Questions about the method include:

Was a safe work procedure used?

Had conditions changed to make normal procedures unsafe?

Were the appropriate tools/materials available? Were they used?

Were safety devices working properly?

Were lockout procedures used when necessary?

Were safety rules in existence?

Were they being enforced?

Was there adequate supervision?

Had the hazards been previously identified? If not, why not?

If the hazards had been identified, were procedures developed to overcome the hazards?

Were unsafe conditions corrected?

Was regular maintenance of equipment carried out?

Were regular safety inspections carried out?

Other factors

Other factors that can be just as significant are the time, the shift, other persons involved, unusual job conditions, one-of-a-kind seasonal jobs or short-handed conditions.

Points to remember

Some of the important items to keep in mind when doing the investigation and talking to witnesses or the injured party are as follows:

- don't blame anyone;
- let people talk;
- allow for personality traits;
- be specific when required;
- ask for illustrations;
- test the evidence;
- probe for all clues;
- get all sides;
- solicit ideas on how to prevent the accident from happening again.

GUIDELINES FOR EFFECTIVE INVESTIGATION

- a) Where injuries have been sustained, make sure the injured party is properly cared for before anything else.
- b) Where practicable, preserve the scene to facilitate investigation.
An accident is reportable to the Authority where the injured employee is unable to work for more than three consecutive days. Weekends and other normal days off are included when calculating the period of absence. For example, an employee, who normally has Saturday and Sunday off work is injured on Wednesday and returns to work the following Monday, the incident is reportable.
In relation to non-employees, any accident where medical treatment is required must be reported. In addition, the Authority should be notified immediately (e.g. by telephone or fax) when a fatal accident takes place in a workplace.
- c) Investigate as promptly as possible.
- d) Photographs, sketches and measurements of the scene help to paint a clearer picture.
- e) Interview all witnesses separately.
- f) Reassure each witness of investigations' real purpose, i.e. to prevent recurrence.
- g) Get witnesses initial version with minimal interruptions; ask questions to fill in gaps; have them describe and point without doing.
- h) Apply empathy in interviews; make no attempt to place blame or find fault.
- i) Be objective; don't have fixed opinions in advance.
- j) Read statement back to witness in order to confirm understanding and accuracy.

- k) Express appreciation to everyone who helped in the investigation.
- 1) Record data accurately.

SUMMARY

Since most accidents have multiple causes, they should also have multiple corrective measures. Possible corrective actions include physical and procedural changes in such areas as training programmes, personnel and selection, the environment, and worker behaviour.

Unless you **follow up** to make sure that the accident investigation reports have been routed to the interested parties and that the proper remedial action has been carried out, your job is not finished and the accident may recur.

It is also important to periodically review your past accident investigations to see if there are repeaters who need retraining or other managerial attention. These continued investigations can also reveal problem areas or operations that need attention. Trends in frequency and severity may indicate a need for continued safety stimulation.

Investigation of an accident is an inherently serious matter. Your interest in and ability to conduct a productive investigation will be greatly enhanced when you and those co-operating with you realise the constructive reasons for the investigation, and when you are armed with the necessary specific and general information.