

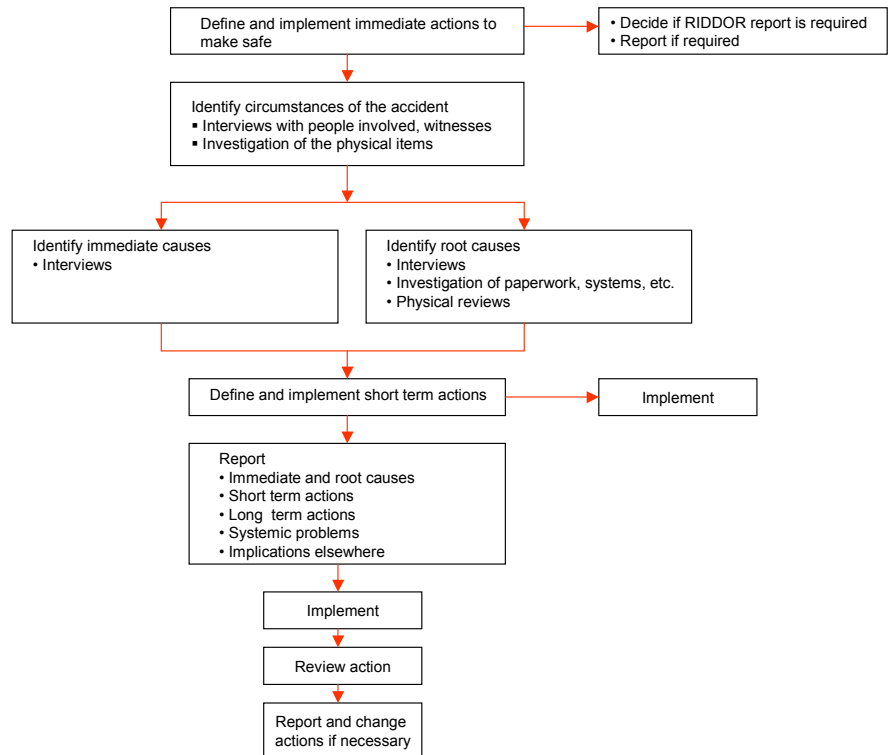
How to investigate an accident

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Of course, investigating an accident may seem like shutting the stable door after the horse has bolted, but if done properly, we can learn from accidents and apply this elsewhere to prevent other accidents.

The circumstances of an accident are unlikely to occur again. Rather than just concentrating on the accident being investigated, we should be looking for root causes which may be applied elsewhere.

This shows a generic flowchart for the investigation of an accident. The first stage should have been carried out before the investigation starts.



Investigation will involve interviews with people involved, witnesses, etc., and a physical investigation of the site. These are not sequential; familiarisation of the accident site is necessary before starting interviews but further visits may be necessary to gain further understanding of the statements made by the people being interviewed.

Interviews must filter out:

- What actually happened and,
- Opinion on why it happened

The opinion on why it happened may have a bearing on defining root and actual causes. "He had to override the interlock to feed material and he was caught in rollers" is a mixture of the two. What happened was that he was caught in rollers. Whether it is necessary or not to override the interlock is opinion but it should be investigated as part of the underlying causes.

One factor that must be bourn in mind when interviewing people involved is that no-one likes to look stupid and therefore statements on their actions may be modified because of this. It may be that physical examinations of the site may show evidence that is contradictory to that stated by interviewees, possibly because of this; the investigator must take this into account.

It is essential to identify root causes in addition to the cause of this particular accident. The circumstances of an accident are unlikely to repeat themselves, but there may be many accidents from the same root cause waiting to happen. For example, repairing a failed interlock which caused an accident will cure the fault on one machine, but there may be many machines with failed interlocks and therefore a root cause may be that interlocks are never checked. It therefore would be appropriate to initiate a programme of regular interlock checks on all machines to address this root cause.

When defining an action plan, the ways of verifying that the plan actually works should be defined in the report. Therefore the action list not only defines the actions to be taken, by when and possibly by whom, but how their effectiveness will be measured and reported upon

Witness interviews

As stated above, one of the problems when interviewing people is that opinions can get mixed up with fact. One of the skills as an accident interviewer is to be able to sort between the two.

When interviewing witnesses, I recommend the following steps:

Preparation

Before starting interviews, familiarise yourself with the accident site, operations at the time of the accident and try to find out who should be interviewed. This may start out as people directly involved with the accident and witnesses, but it may develop into seeing people with indirect involvement such as machine designers, maintenance personnel, etc.

Introduction

Introduce yourself if you are unknown to the person being interviewed and state the purpose of the interview. You should emphasise that the aim is to determine the causes of the accident rather than apportion blame. State the steps that will be taken and state that there will be a point at which the interviewee may give his or her opinion on the causes.

Information gathering

Facts

Ask for the facts (only) relating to the accident. If the person was involved, what was he or she doing? If machinery is involved, what was the state of the machinery? (Isolated, idling, running, etc.) If the person was a witness, where was he or she and when did he or she start to witness the events? What did they witness? What action did they take after the accident?

If they switched off the machine, this may have an effect on your subsequent site investigations.

Opinions

Ask the interviewee for his or her opinion on the cause of the accident. Ask if they have been involved with or witnessed incidents (near misses) around this or similar equipment. Ensure that 'urban myths' are excluded by accepting such information only from those who have been involved or were witnesses. If they know of incidents, ask them who was involved, and then ask that person.

Wrap up

Thank the interviewee and state what will happen next. Ask if they believe that there are other who should be interviewed.

Information reviewing

Review the information gathered above and if necessary, view the accident site again. You may need expert assistance here. The prime function of this is to understand the interviewee's statements. It may be necessary to speak to the interviewee again to clarify any points.