THE FUNDAMENTALS OF HEALTH AND SAFETY

Hazards and harm

What is a workplace hazard?
The short answer to the question is that a hazard is anything which could, in certain circumstances, cause harm. The answer becomes a lot longer, however, once you start looking at the details.

To know what a hazard is, you must first understand what harm is. The Health and Safety in Employment Act says harm may be a ***physical injury*** of some kind, ***physical ill health***, from a migraine headache or sore throat to cancer and neurological damage, or ***mental ill health***, such as depression or anxiety.

Some harm becomes apparent immediately. Other types of harm – overuse injuries, work-related diseases and psychological problems – may take weeks, months or years to become obvious.

So a hazard, in terms of the HSE Act, is anything in or around a workplace that has the potential cause one or more of the above conditions. Some hazards are things you can see and touch, such as machines, structures or pieces of equipment. Others are processes or activities - things that happen or things that people do. Hazards may also be substances – ones you know are there, like ice, metal fragments, wood dust or solvents, and also those that are invisible to the naked eye, like asbestos fibres. Noise, weights, radiation, working hours, postures, light or a lack of light, weather conditions or temperature can also be hazards – in fact, almost any event, object, situation or phenomenon has the potential to become a workplace hazard in certain circumstances. There are even situations where, perhaps as a result of fatigue or other impairment, your own behaviour or that of a co-worker may be a hazard.

How do I recognise a hazard when I see it?
When it comes to identifying the hazards in a workplace, there are no quick formulas to apply. Some hazards are part of the regular work environment. Others become a problem only in particular situations - during maintenance or repair work, for example, or as a result of processing changes. Something that will not cause harm to day-shift workers may be a potential risk to night workers, or vice versa, and new employees or workplace visitors may be at risk from things that pose no difficulties for those who are familiar with them.

Because successful hazard identification is so complex, the HSE Act requires it to be done "systematically" and on an ongoing basis.

To be effective, a hazard id system should involve at least two steps:

- A thorough inspection or analysis of the workplace and its processes, and
- Consideration of all accidents or near-miss incidents which caused, or could have caused, harm. This is a requirement under health and safety law.

Information about accidents and near-misses (events that almost resulted in an accident, or resulted in an incident in which no injury occurred), should be recorded in the company's accident register.

Entries should include enough detail to identify the hazards involved in each event – for instance, if a worker suffers a same-level fall, the register should specify whether he fell because the floor was wet, he tripped on a cable or because there was mud on the soles of his footwear. Such details provide valuable pointers to hazards that might otherwise be overlooked.

Any thing, action or situation that has already caused an injury (or near-injury) is a hazard, even if it is obvious that no harm would have occurred had there not been an element of human error (or perhaps even deliberate risk taking and/or skylarking). The fact is that humans will always break rules, deliberately or otherwise, and therefore a factor that has caused harm on one occasion has the potential to do so again.

How do I use a workplace inspection or analysis to find hazards?
There are three different ways generally used to search for hazards in your workplace. Unless yours is a very small workplace, it may be best to use a combination of the three. They are:

- Physical inspection – Walk around the workplace with a checklist, examining each work area for existing or potential hazards.
- Task analysis – List all the tasks that are performed in the workplace and watch each one being performed, making a note of the hazards in the area and those that occur during or as a result of the task.
- Process analysis – Follow the production or service-delivery process from start to finish, identifying the hazards at each stage.

Don't forget to include occasional events, such as maintenance shut-downs or special jobs, in your analysis. Substance safety data sheets, operating manuals for equipment and other relevant paperwork will provide a lot of valuable information.

The *Want to know more?* box below gives the web addresses for a couple of useful hazard checklists.

Who should be involved in hazard identification?
It is important to involve frontline employees in this, because they are the ones who know if a machine sometimes jams, or a workroom becomes too hot in the afternoons. But it is also a good idea to involve people from a variety of work areas, because familiar hazards are easy to overlook. An outsider may quickly spot the hazard presented by a pile of boxes in an accessway, while those who work in the area may have become so used to the situation that they no longer see it as a problem.

If you have a very large or

LINKS **Want to know more?**

- The OSH website (www.osh.govt.nz) offers a simple form of hazard checklist. **http://www.osh.dol.govt.nz/order/catalogue/pdf/form-hazid.pdf** will take you straight to it. Also on the site are lists of possible agencies and mechanisms of harm, which can be used to jog your memory as you work through the hazard identification process. You'll find them on pages 31-32 of *A Guide to the HSE Act 1992*, which is at **http://www.osh.dol.govt.nz/order/catalogue/pdf/hseguide-2ed.pdf**
- If you want some pointers to help you control specific hazards in your workplace, the list of Approved Codes of Practice on the OSH site may give you what you need. You'll find 30 codes, covering both industry groups and generic hazards, such as VDU use and noise, at **http://www.osh.dol.govt.nz/order/catalogue/index.shtml#ap**
- If your industry does not have a code of practice, contact your industry organisation for help.

technically complex workplace, or one with a lot of significant hazards, you may want to engage a consultant to help with your hazard id, but otherwise a team drawn from a variety of work areas should be able to do the job effectively.

What happens next?

Having recorded all the hazards you can find, the law requires you to work out which ones are "significant". This means those with the potential to cause serious harm – death or serious illness and injury, which could include things like:

- OOS conditions (occupational overuse syndrome - joint and muscle pain associated with prolonged or repeated muscle tension),
- injuries requiring hospitalisation or prolonged treatment,
- severe psychological distress,
- illness requiring hospitalisation or prolonged treatment, and
- chronic health conditions such as asthma, industrial deafness or asbestosis.

The law requires you to manage all workplace hazards – that is, take steps to try to prevent them causing accidents - but those that are significant come in for special attention.

How do I manage a significant hazard?

The HSE Act sets out three ways of dealing with significant hazards. The three choices – elimination, isolation and minimisation – are known as the hierarchy of controls. This means that, while the law gives you three options, they are ranked in order of desirability, and an employer will not be meeting his legal obligations if he chooses to minimise a hazard which could reasonably be eliminated or isolated.

- **Elimination** means doing away with a hazard altogether. For instance, if a machine is so noisy as to be a significant hazard, the problem can be eliminated by replacing it with a quieter piece of machinery. All significant hazards must be eliminated if it is practicable to do so.
- **Isolation** means physically separating workers from the hazard, such as by enclosing the machine with sound-absorbing walls, and keeping workers out of the area when the equipment is operating. This should only be done if it is not practicable to eliminate the hazard.
- **Minimisation** means reducing the risk of harm associated with the hazard. In this case it would mean issuing and using approved hearing protection and/or limiting the amount of time individual workers spend in the noisy environment. Minimisation is a last resort and should only be done if it is not practicable to either eliminate or isolate the hazard. If an employer minimises a significant hazard, he or she must monitor employees' exposure to it and, with their consent, monitor any associated health effects. This would mean measuring the noise exposure of workers in the affected area, ensuring hearing protection was worn consistently and offering regular hearing tests for all exposed workers. If these tests indicated that hearing was being damaged, a higher level of control would have to be introduced. (Check the OSH *Approved Code of Practice or the Management of Noise in the Workplace* at www.osh.dol.govt.nz/order/catalogue/15.shtml for more information on this particular issue.)

What else do I have to do to manage the hazards in my workplace?

Every employee who is, or may be, exposed to any sort of hazard in the course of their work must be given information *in a form that they can understand* about:

- what the hazard is,
- what should be done to minimise the risk associated with it,
- what protective equipment is to be used,
- how this equipment is to be used (eg, correct insertion of ear plugs, correct face seal for respirator, etc),
- where the equipment is kept, and
- what to do if an emergency occurs while he or she is working with or near a hazard.

It is vital to ensure that all employees understand this information. Be aware that some people may have limited literacy or speak English as a second language.

You will also have to train and supervise each worker to ensure they have the knowledge and experience to safely carry out their work, use plant or deal with substances in their place of work.

Is that it?

No – hazard identification is a never-ending process. The law requires you to continually reassess both the hazards you know about (to ensure that nothing has changed, that the controls you implemented are working effectively and that you have correctly identified all those that are significant) and those you may not know about – any new processes or equipment, different ways of doing things (perhaps as a result of staff or environmental changes), or something that may have been overlooked in the initial id process. Analysis of accident and near-miss reports is an important part of this process.

Staff are to be kept informed of any newly identified hazards that may affect them.

This article is intended to provide only a broad overview of its topic. Our thanks to Patrick Seaman of Patrick Seaman Workplace Safety Ltd for his comments on the text. Any errors, however, are Safeguard's. ■

NEXT TIME

How do I learn something useful from a workplace accidents?

Any questions?

If there is a health and safety topic you'd like to know more about, send the details to jackie@safeguard.co.nz