201: Health and safety in building services engineering  
**Handout 6: Risk assessment**

**Learning outcome**

The learner will:

1. Be able to demonstrate and understand the procedures for establishing a safe working environment

**Assessment Criteria**

The learner can:

3.1 state the procedure for producing risk assessments and method statements in accordance with their level of responsibility.

3.2 describe the procedures that should be taken to remove or minimise risks before deciding PPE is needed.

**Risk assessment**

As already mentioned earlier, all workplaces will have hazards that have the potential to cause harm. Some of the hazards will carry a high risk of causing harm, whilst others will have a low risk. We need to carry out risk assessments to determine the hazards and their likelihood to cause harm, and then implement steps to control the risk. In order to control the risk of an accident we usually:

* eliminate the cause
* substitute a procedure or product with a less risky one
* enclose the dangerous situation
* put guards around the hazard
* use safe systems of work
* supervise, train and give information to staff
* provide PPE if the hazard cannot be removed or minimised.

**Hazard and risk**

A hazard is something with the ‘potential’ to cause harm, e.g. chemicals, electricity or working above ground.

A risk is the ‘likelihood’ of harm actually being done.

Competent persons are often referred to in the Health and Safety at Work Regulations, but who is ‘competent’? For the purposes of the Act, a competent person is anyone who has the necessary technical skills, training and expertise to carry out the particular activity safely. Therefore, a competent person dealing with a hazardous situation reduces the risk.

Think about your workplace and at each stage of what you do – and think about what might go wrong.

How high are the risks? Think about what might be the worst result.

* Is it a broken finger or someone suffering permanent lung damage or being killed?
* How likely is it to happen?
* How often is that type of work carried out and how close do people get to the hazard?
* How likely is it that something will go wrong?
* How many people might be injured if things go wrong?
* If so, would this also include people who do not work for your company?

Employers having more than five people must document the risks at work and the process is known as **Hazard Risk Assessment**.

**Hazard Risk Assessment – the process**

The Management of Health and Safety at Work Regulations 1999 tells us that employers must systematically examine the workplace, the work activity and the management of safety in the establishment through a process of risk assessments. A record of all significant risk assessment findings must be kept in a safe place and be made available to an HSE Inspector if required.

Information based on the risk assessment findings must be communicated to the relevant staff and if changes in work behaviour patterns are recommended in the interests of safety then they must be put in place.

So risk assessment must form a part of any employer’s robust policy of health and safety. However, an employer only needs to ‘formally’ assess the significant risks; he is not expected to assess the trivial and minor types of household risks.

Staff are expected to read and to act upon these formal risk assessments and they are unlikely to do so enthusiastically if the file is full of trivia. An assessment of risk is nothing more than a careful examination of what, in your work, could cause harm to people. It is a record that shows whether sufficient precautions have been taken to prevent harm.

The HSE recommends five steps to any risk assessment.

* **Step 1 – Identify the hazards.** Firstly, work out how people could be harmed. When working in a place every day, it is easy to overlook some hazards, so here are some tips to help to identify the ones that matter.
* Walk around the workplace and look at what could reasonably be expected to cause harm.
* Ask employees or their representatives what they think; they may have noticed things that are not immediately obvious.
* Visit the HSE website (www.hse.gov.uk). HSE publishes practical guidance on where hazards occur and how to control them.
* If you are a member of a trade association then contact them, as many produce very helpful guidance.
* 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.
* Have a look back at your accident and ill-health records; these often help to identify the less obvious hazards.
* Remember to think about long-term hazards to health (e.g. high levels of noise or exposure to harmful substances) as well as safety hazards.
* **Step 2 – Decide who might be harmed and how.** For each hazard, be clear about who might be harmed; it will help to identify the best way of managing the risk. That doesn’t mean listing everyone by name but rather identifying groups of people (eg ‘people working in the storeroom’ or ‘passers-by’).

In each case, identify how they might be harmed, ie what type of injury or ill health might occur. For example: ‘Shelf stackers may suffer back injury from repeated lifting of boxes.’

Don’t forget the following:

* some workers have particular requirements, eg new and young workers, new or expectant mothers and people with disabilities may be at particular risk and therefore extra thought will be needed for some hazards
* cleaners, visitors, contractors, maintenance workers, etc who may not be in the workplace all the time
* members of the public, if they could be hurt by your activities
* if you share your workplace, you will need to think about how your work affects others present, as well as how their work affects your staff – talk to them
* ask the staff if they can think of anyone you may have missed.
* **Step 3 – Evaluate the risks and decide on precautions**. Having spotted the hazards the next step is to decide what to do about them. The law requires that everything ‘reasonably practicable’ to protect people from harm is implemented. The easiest way is to compare what is being done with good practice.

There are many sources of good practice, such as HSE’s website (www.hse.gov.uk).

First of all, look at what you’re already doing and then think about what controls are in place and how the work is organised. Then compare this with good practice and see if there is more that should be done to bring the situation up to standard. In asking these questions, consider:

* can the hazard be eliminated altogether?
* if not, how can the risks be controlled so that harm is unlikely?

When controlling risks, apply the principles below, if possible in the following order:

* try a less risky option (e.g. switch to using a less hazardous chemical)
* prevent access to the hazard (e.g. by guarding)
* organise work to reduce exposure to the hazard (e.g. put barriers between pedestrians and traffic)
* issue personal protective equipment (e.g. clothing, footwear, goggles, etc)
* provide welfare facilities (e.g. first aid and washing facilities for removal of contamination).

Improving health and safety need not cost a lot. For instance, placing a mirror on a dangerous blind corner to help to prevent vehicle accidents is a low-cost precaution, considering the risks. Failure to take simple precautions can cost a lot more if an accident does happen.

Involve staff, so that what is proposed will work in practice and won’t introduce any new hazards.

* **Step 4 – Record your findings and implement them**. Putting the results of the risk assessment into practice will make a difference when looking after people and the business.

Writing down the results of the risk assessment, and sharing them with staff, encourages this. If a business has fewer than five employees then it is not necessary to write anything down, though it is useful so that reviews can be carried out at a later date if, for example, something changes.

When writing down your results, keep it simple; for example, ‘Tripping over rubbish: bins provided, staff instructed, weekly housekeeping checks’ or ‘Fumes from welding: local exhaust ventilation used and regularly checked.’

The HSE does do not expect a risk assessment to be perfect, but it must be suitable and sufficient. It must be shown that:

* a proper check was made
* you asked who might be affected
* all the significant hazards were dealt with, taking into account the number of people who could be involved
* the precautions are reasonable, and the remaining risk is low
* staff or their representatives were involved in the process.

There is a template on the following page that can be used when conducting a risk assessment.

* **Step 5 – Review your risk assessment and update if necessary**. Few workplaces stay the same. Sooner or later, new equipment will be brought in, as well as substances and procedures that could lead to new hazards. It makes sense, therefore, to review what is being done on an ongoing basis. Every year or so formally review the situation to make sure that improvements are still being made or at least that things are not sliding back.

Look at the risk assessment again. Have there been any changes? Are there improvements that still need to be made? Have the workers spotted a problem? Have lessons been learnt from accidents or near misses? Make sure the risk assessment stays up to date.

When you are running a business, it’s all too easy to forget about reviewing your risk assessments on a regular basis.

Method statements

The purpose of a method statement is to ensure that safety-critical work is carried out in a particular sequence. There are few examples where their definitive requirements are laid down by statute or other regulatory standard and, where they do exist, they are predominantly for high-risk activities, such as licensed asbestos removal, demolition and steel erection. In these cases, not only is a method statement a legal requirement, but also its structure and format are clearly defined.

The general principle is to ensure that a safe system of work applies to all work activities and, as such, a method statement is an ideal way to prove that the risks associated with a particular activity have been carefully considered and appropriate controls implemented.

**Format**

The actual format is dependent on the work being undertaken and the organisational arrangements put in place; however, as a minimum it must achieve the following objectives.

* It should be up to date, identifiable and its source accountable.
* It should contain the sequence of works.
* It should identify the associated risks and control measures.
* It should state actions/authorisation required to deviate from method statement.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Company name: | | Date of risk assessment: | | | | | |
| Step 1 What are the hazards? | Step 2 Who might be harmed and how? | Step 3 What are you already doing? | | What further action is necessary | Step 4 How will you put the assessment into action? | | |
| Spot hazards by:   * walking around your workplace * asking your employees what they think * visiting the *Your industry* areas of the HSE website * checking manufacturers’ instructions * contacting your trade association.   Don’t forget long-term health hazards. | Identify groups of people. Remember:   * some workers have particular needs * people who may not be in the workplace all the time * members of the public * if you share your workplace think about how your work affects others present.   Say how the hazard could cause harm. | List what is already in place to reduce the likelihood of harm or to make any harm less serious. | | You need to make sure that you have reduced risks ‘so far as is reasonably practicable’. An easy way of doing this is to compare what you are already doing with good practice. If there is a difference, list what needs to be done. | Remember to prioritise. Deal with those hazards that are high-risk and have serious consequences first. | | |
| Action  by whom | Action by when | Done |
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| Step 5 Review date: | | | * Review your assessment to make sure you are still improving, or at least not sliding back. * If there is a significant change in your workplace, remember to check your risk assessment and, where necessary, amend it. | | | | |

Below is an example method statement for relatively low-risk activities. It can be as simple or as detailed as the job/risk requires, so long as it meets the four main objectives.

**Method statement**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Originator: | Mr D Jones | Position: | Contracts Director | Date: | 15/08/2012 |
| **This method statement is critical to the health and safety of the activity(ies) it relates to. It is to be strictly adhered to. Any deviation must first be authorised by the Site Supervisor.** | | | | | |
| Planned Task/Activity Description: | | | | | |
| Modifying/extending/relocating existing lighting circuits and points (single core cables in trunking and conduit) | | | | | |
| Location and Access: (attached plan as appropriate) | | | | | |
| Main office area | | | | | |
| Working Environment & Restrictions: | | | | | |
| Open plan office. Only Electrical Contractors allowed to be present during operation. Existing sections of ceiling will be removed by others. | | | | | |
| Protection of others: | | | | | |
| Work undertaken out of hours. Only contractors and client representative present. | | | | | |
| Emergency Procedures: Normal site emergency procedures followed | | | | | |
| Operatives/Competence: C&G Qualified Electricians | | | | | |
| Personal Protective Equipment: | | | | | |
| Safety footwear, gloves, goggles | | | | | |
| Plant & Equipment: Steps, cordless drill | | | | | |
| Materials Handling/Storage & Safety Information: | | | | | |
| All material in manageable individual lengths | | | | | |
| Critical Stages: (must be undertaken in correct sequence) | | | | | |
| 1. On arrival, site contact made and site induction undertaken 2. Work area cleared for safe access 3. Final circuit arrangements will be determined as indicated on the installation drawings 4. Obtain permit to work 5. Circuits to be modified will be identified, isolated from the electrical supply by the turning off and locking the relevant circuit protective devices and fuses removed, danger label fitted and circuit verified dead. 6. Existing luminaires will be unplugged and removed to allow access to ceiling roses as required 7. Ceiling roses will be disconnected and removed 8. All wiring contained within the conduits will be pulled back to the nearest convenient point and left neatly coiled 9. The existing conduit/trunking installation will be amended to suit the new layout as indicated on the installation drawings 10. When the amended conduit installation is complete the cables will be drawn back in 11. Circuits will be rewired/amended as necessary to suit the new layout 12. The complete circuit will be tested in accordance with B.S.7671 17th Edition I.E.T. Wiring Regulations prior to connection 13. Accessories/equipment will be second fixed. Luminaires will be replaced and repositioned/new luminaires will be installed 14. When all accessories are fitted and it is safe to do so the circuits will be re-energised and danger label removed 15. Final live tests will be carried out 16. Site will be cleared and equipment replaced 17. Site contact notified of work finished 18. Cancel permit to work | | | | | |
| Final Clearance: (Work/Activity completed to satisfaction). | | | | | |
| Name: |  | Position: |  | Date: |  |