

! Safe Maintenance

Saves Time >> Saves Money >> Saves Lives

5 Basic Rules

- Planning
- Making the work area safe
- Using the appropriate equipment
- Working as planned
- Final Check

2 Maintenance Tasks

- Corrective
- Preventive

3 Key Hazards

- Asbestos
- Work at Height
- Isolation

Want to Know More? Additional information is available from the HSENI website www.hseni.gov.uk or via the helpline number 0800 0320 121

Dangers
lurk in every workplace

1 **in** 3*
workplace
deaths
are caused by
>> maintenance
failures

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Your five-step guide to
safe corrective and preventive
maintenance in the workplace

*Statistic based on HSENI workplace fatalities during 2009/10

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CONTROLLING RISK TOGETHER

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What is maintenance?

Maintenance is carried out on buildings, plant, equipment and vehicles to enable it to perform the function required of it. Corrective repair and ongoing preventive maintenance tasks are carried out in all sectors and all workplaces.

Typical maintenance activities include:

- inspection • testing • measurement • replacement
- adjustment • repair • upkeep • fault detection
- replacement of parts • servicing • lubrication
- cleaning • clearing blockages • thorough examination

Saves	Facts
 <p>Saves time</p>	<p>Time is saved by good preventive maintenance that keeps the working environment, buildings and machinery both safe and reliable.</p> <p>Lack of or inadequate maintenance leads to time consuming faults and the need for repairs.</p>
 <p>Saves money</p>	<p>Maintenance is critical to ensure continuous productivity, to deliver products of high quality and to keep a company competitive.</p>
 <p>Saves lives</p>	<p>Statistics prove maintenance is a high-risk activity, with maintenance workers more likely than other employees to be exposed to a range of hazards.</p> <p>In 2009/2010, one third of NI's workplace fatalities were related to maintenance activities.</p>

The 5 basic rules to get it right

These five basic rules for safe maintenance provide common principles applicable to all industry sectors and tasks:

1. Planning
2. Making the work area safe
3. Using the appropriate equipment
4. Working as planned
5. Final Check



Planning

Maintenance should **start with proper planning. Consulting workers and keeping them informed is vital** throughout the planning stage including involvement in preparing risk assessments. Their participation increases not only maintenance safety, but also its quality, because of the workers familiarity with their work, its hazards and short cuts that may be taken.

Define the task

- What needs to be done? By whom?
- How will it affect other workers and activities in the workplace?
- Will it affect anyone outside the workplace?
- What problems or emergency situations may arise?



Do you need a licensed asbestos contractor?



Can machine guards be designed to allow minor maintenance without removing the safeguards?

Risk assessment

Pay particular attention to **Asbestos**, **Work at Heights** and **Isolation** from energy sources, dangerous or unstable machinery and locations. Potential hazards have to be identified and measures need to be developed to eliminate or minimise the risks. Hazards may be physical, chemical, biological, or psychosocial.

Safe systems of work

Define how the area will be made safe. Decide whether formal management systems are required to control the risks such as **Signs and Physical Barriers; Safe Stop; Lock-Out Tag-Out; Control of Contractors; Permission to Proceed; Permits to Work**. Procedures need to be in place for **emergency situations**.



Are hot areas cool enough for entry?

The time and resources

Before starting work, identify and provide the right equipment, sufficient competent staff and adequate time.

Communication

- Employers should decide who is in charge i.e. the '**chain of command**' both for normal maintenance tasks and if unforeseen problems arise.
- Communicate appropriately with all parties. This is especially important if the maintenance is carried out by **subcontractors** who may not be familiar with your workplace or the consequences of their maintenance actions on others.



Maintenance is the most subcontracted function in industry.



Several men were exposed to asbestos when it was mishandled during a shop refurbishment project and the asbestos was spread across the site. Project costs soared and time was wasted due to the clean up operation.

Competence and adequate training

Employers must **ensure that workers have the skills that they need** to carry out the necessary tasks. Workers must be **informed** about safe work procedures, and receive on-site training if required. They must be clear about the chain of command and know what to do when a situation exceeds their competence or should a problem arise. It is very important to remember that exceeding the scope of your own skills and competence may result in accidents – especially if unfamiliar with hired equipment.



Can Isolation be achieved by simply unplugging?

2

Making the work area safe

- Secure the work area to prevent unauthorised access, for example, by using **barriers** and **signs**.
- Keep the area **clean** and **safe**, with power locked-off, moving parts of machinery secured, temporary ventilation installed, and **safe routes** established for workers to enter and exit the work area.



Has your working platform adequate edge protection to prevent a fall?



Many entrapment accidents result when loose clothing becomes entangled with moving machinery.

3

Using appropriate equipment

- Employers must provide the right tools and equipment for the job (with appropriate instructions in using it), in appropriate condition and suitable for the work environment (e.g. no sparking tools in flammable atmospheres).
- Maintenance equipment may be different from what is normally used e.g. hired equipment.
- **Personal Protective Equipment** must be appropriate for the task, without itself leading to any increased risk.

4

Working as planned

The work should be **monitored** by the person in charge so that the agreed safe systems of work and site rules are observed. Maintenance is often carried out under pressure – for example when a fault has brought the production process to a standstill. Safe procedures must be followed, **even when there is time pressure**. Shortcuts are costly – they lead to accidents, injuries, or damage to equipment.



Is a Mobile Elevated Working Platform (e.g. cherry picker) more appropriate than a ladder or makeshift scaffold?



Unstable ground caused a telehandler to overturn, injuring two painters. Their injuries have had long term life-changing consequences.

5

Making final checks

The maintenance process ends with **checks**:

- Has the task been completed?
- Has the item under maintenance been left in a safe condition?
- Has all waste material been cleaned away?
- When all is checked and declared safe, then the maintenance task is complete and normal operations can restart.



A rotating drive shaft ripped clothes off a young worker during the repair of machinery in a printing line.

Depending on the industry, hold a **review meeting** with the workers involved in the process to discuss the maintenance activity and suggest improvements. A **written report** may be produced to summarise the work, any difficulties encountered, and to make **recommendations for improvement**.