



**INLAND  
WATERWAYS**  
ASSOCIATION

# GUIDANCE NOTE

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*Preparing a Risk  
Assessment*

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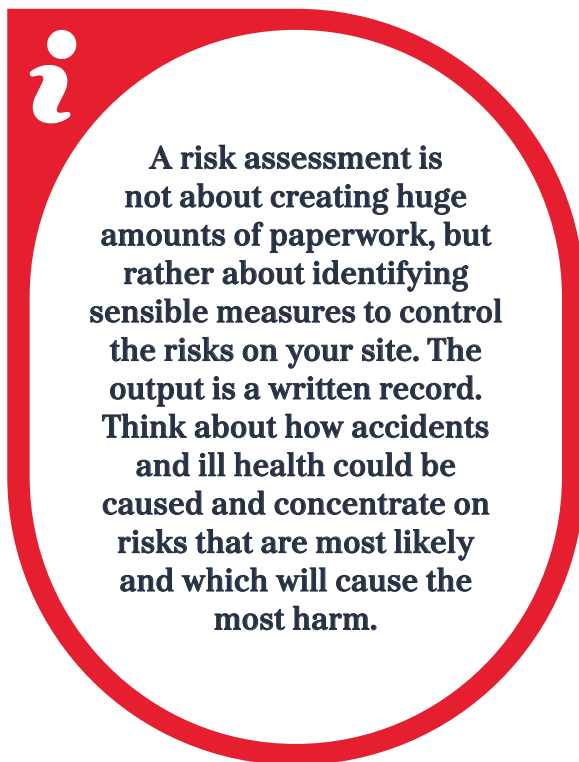
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First published as v.1 in 2022. This is a web-friendly document and will be reviewed and updated when the source legislation changes. Any printed version may not be the latest version and a check should be made on IWA website. IWA has interpreted the current legislation, as dated in the document, in good faith but the reader should check for themselves that it is the latest version and that they are acting within the legal framework.

## INTRODUCTION

Keeping your volunteers safe and preventing ill health means that you need to think about the risks they will be facing and how to control them. The assessment of risk is the fundamental behind this control and is vital in reducing accidents and ill health.

The Management of Health and Safety at Work Regulations (1999) (MHSWR) requires that a suitable and sufficient assessment of the risks to health and safety for all work is carried out. Other regulations require a risk assessment for specific threats to health or safety, see the list at the end of this note p.14.



You don't need a complete set of risk assessments for your project before work starts. Risk assessments should be prepared for each task as construction proceeds. However no task can start without a risk assessment in place.

### Definitions used in a risk assessment:

- ① **Hazard:** Anything that has the potential to cause harm (injury, ill health or damage).
- ② **Accident:** An unplanned event that results in damage, injury or ill health.
- ③ **Incident:** An unplanned event that causes damage to plant or a structure.
- ④ **Likelihood:** The chance (probability) that an accident will occur (almost certain, very likely, likely, unlikely or extremely unlikely).
- ⑤ **Risk:** The likelihood of an event occurring as a result of a hazard coupled with the severity of harm caused.
- ⑥ **Severity:** How serious the consequences of an event will be.
- ⑦ **Danger:** A person is in danger when they are exposed to a risk.
- ⑧ **Near Miss:** An event that, while not causing harm, has the potential to cause injury (including dangerous occurrence).
- ⑨ **Competence:** Having practical and theoretical knowledge, training and actual experience of the work involved.



## PRINCIPLES OF PREVENTION

Schedule 1 of MHSWR lists general principles of prevention which are used to determine control measures which should be applied to reduce risks identified in the assessment.

- 1 Avoid risks where possible, such as ordering prefabricated items to eliminate the risks associated with cutting on site.
- 2 Evaluate the risks that cannot be avoided and introduce measures to reduce them, such as carrying out the work at a different time of year to reduce risks from poor weather.
- 3 Combat the risk at source, for instance by installing protective barriers at excavations or covering openings.
- 4 Adapt the work to an individual, especially regarding the design of the workplace, choice of equipment and choice of working methods.
- 5 Adapt to technical progress, such as using telescopic equipment from the ground to avoid working at height.
- 6 Replace the dangerous with the safe or less dangerous, for example by using water based rather than solvent based material.
- 7 Develop a coherent overall prevention policy that covers technology, work conditions, organisation of work and social relationships.
- 8 Give collective measures priority over measures that protect the individual, such as the use of safety nets or air bags.
- 9 Give appropriate instructions to volunteers about the task and the risks involved.

# STEPS TO A RISK ASSESSMENT

## IDENTIFY THE HAZARDS

The first thing to do is to identify the hazards. Look at your site and think about what could cause harm.

### *Think about:*

- ① How volunteers work and their awareness of hazards.
- ② How plant and equipment are used.
- ③ What chemicals and substances are used.
- ④ What makes work practices safe or unsafe.
- ⑤ The general state of your work site.
- ⑥ Utility services present on the site.
- ⑦ Specific threats, such as noise, asbestos, lead, water, work at height.

Check your records to identify less obvious hazards which have caused accidents or ill health in the past. Consider seasonal changes, visiting contractors, restrictions around the site and non-routine operations. Think about hazards such as manual handling, use of chemicals and causes of work-related stress.

New volunteers may not be used to site activities and will need to be made aware of the hazards on the site. Involve your volunteers, they usually have good ideas and might notice something that you weren't aware of.

## WHO MIGHT BE HARMED AND HOW?

You need to identify the individuals or groups who are at risk of being harmed and how they might be harmed. You and your volunteers are obvious candidates, but also consider contractors and volunteers not involved in the actual activity, visitors (including delivery drivers), members of the public or trespassers (particularly children) and neighbours.

### *Some volunteers have particular requirements, for example:*

- ① Young or inexperienced workers.
- ② People for whom English is not their first language.
- ③ New or expectant mothers.
- ④ Adults at risk.
- ⑤ People with disabilities.

## EVALUATE THE RISKS AND DECIDE ON THE CONTROLS TO REDUCE THE RISK

Once you identify the hazards and who could be harmed, you need to evaluate the risk to that hazard causing harm. This is done by deciding the likelihood that an accident will occur and the severity of the consequences when it does. Ask yourself, '**What if...? What's the worse that could happen?**'. Use your judgement, then decide if applying control measures could reduce the risk.



Health and safety law requires controls that are 'reasonably practicable' so this takes account of risk versus cost, time and effort to put them in place. You are not expected to eliminate all risks.



*There is a hierarchy of controls which can be applied:*

- 1 **Eliminate** – can you do the work without realising the risk? For instance if the risk is working at height, can you do the work at ground level, or raise the ground to working height?
- 2 **Reduce** – replace the dangerous with non-dangerous or less dangerous for instance use 110v in place of 240v equipment.
- 3 **Isolate** – separate the volunteers from the hazard, such as using edge protection.
- 4 **Control** – use organisational or technical controls, such as methods of work, training, safety devices.
- 5 **Protect** – provide personal protection, hard hats, gloves etc.
- 6 **Discipline** – make sure the safe methods defined are carried out.

### RECORD YOUR FINDINGS

*If you have 5 or more volunteers, you must record your significant findings in writing, including:*

- 1 The hazards (things that may cause harm).
- 2 Who might be harmed and how.
- 3 What you are doing to control the risks.

If you have fewer than 5 volunteers you do not need a written record, but you still need to carry out the risk assessment. It is best to record that you have done the risk assessment.

### REVIEW THE CONTROLS

*You must review the controls you have put in place to make sure they are working. You should also review them if:*

- 1 You believe they may no longer be effective.
- 2 There are changes that could lead to new risks such as changes to people on site, a process or the substances or equipment used.
- 3 Part of the work has finished.
- 4 When new conditions are discovered, such as uncovering a structure during excavation or finding that a structure is unstable while doing the work.

Consider a review if your volunteers have spotted any problems or there have been any accidents or near misses. Update your risk assessment record with any changes you make. Do not rely purely on paperwork, your main priority should be to control the risks in practice. Communicate any changes to your volunteers.

At the end of your risk assessment record, leave space to add any dynamic risk assessments that need to be carried out in response to unexpected circumstances. For example overnight adverse weather may have caused damage or flooding, or the wrong plant or equipment has been delivered but can still be used, but in a different way, to carry out the work.



# TYPES OF RISK ASSESSMENTS

The level of detail which you include in your risk assessment record will depend on the complexity of the work involved.

*The law does not specify how risk assessments should be structured but three common conventions have evolved:*



**Qualitative risk assessment**  
 Outlines the hazards and risk control measures but does not quantify the level of risk.



**Semi-quantitative risk assessment**  
 The process is the same but the level of risk is quantified as High, Medium or Low to enable corrective actions to be prioritised.



**Quantitative risk assessment**  
 Numerical values are assigned to likelihood and severity of the risk.

## QUALITATIVE RISK ASSESSMENT

This type of risk assessment does not use ratings but records the findings of the risk assessment. It identifies what you are already doing and what you need to do to further control the risk. It assigns an action and sets a deadline. Finally it records that the action has been taken.



**SEMI-QUANTITATIVE RISK ASSESSMENT**

*The likelihood and severity are rated as high, medium or low according to:*

- 1 **Likelihood**
  - ▶ **High** – will happen regularly or is a common occurrence.
  - ▶ **Medium** – less regular, but is still likely to happen.
  - ▶ **Low** – has not happened for a long time, is known to be infrequent and is not likely to happen.
  
- 2 **Severity**
  - ▶ **High** – could be a fatal accident or multiple injuries, major property damage, substantial pollution or environmental impact.
  - ▶ **Medium** – could cause serious injuries, substantial property damage or cause some pollution.
  - ▶ **Low** – would be minor injury or slight property damage.



A combined risk, after applying control measures, of high is unacceptable and the work should not be undertaken until the risk has been reduced. Where the combined risk is medium, action must be taken and additional measures put in place, such as signage or training, to reduce the risk and allow the work to proceed. The work can proceed if the combined risk level is low, but the assessment should be reviewed regularly.

Likelihood and severity can be assessed and the highest outcome can be entered on a matrix:

<b>LIKELIHOOD</b>	<b>High</b>	<b>High</b>	<b>High</b>	<b>High</b>
	<b>Medium</b>	<b>Medium</b>	<b>Medium</b>	<b>High</b>
	<b>Low</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>
		<b>Low</b>	<b>Medium</b>	<b>High</b>
<b>SEVERITY</b>				



## QUANTITATIVE RISK ASSESSMENT

This is similar to semi-quantitative assessments but scores are assigned subjectively to likelihood and severity and a risk value calculated from likelihood x severity. A risk level of high, medium or low can then be assigned.

*IWA uses the following scores:*

- 1 **Likelihood**
  - ▶ Extremely unlikely (EU).
  - ▶ Unlikely (UL).
  - ▶ Likely (L).
  - ▶ Very likely (VL).
  - ▶ Almost certain (AC).
  
- 2 **Severity**
  - ▶ No injury, near miss (NM).
  - ▶ Minor injury, no lost time, minor property damage or minor environmental incident (Min).
  - ▶ Time off work for more than 3 days, significant property damage or local environmental incident (>3D).
  - ▶ Major injury, substantial property damage or serious environmental incident (Maj).
  - ▶ Fatal, catastrophic event or environmental disaster (F).



**IWA has a quantitative risk assessment template and example risk assessments on the website.**

The level of risk is first assessed with no controls in place. Controls are then evaluated and the assessment repeated to ensure the level of risk is reduced to an acceptable level or more action is required. In this process the control measures will be able to reduce the likelihood, but the severity will remain the same.

As above, a combined risk of high is unacceptable and the work should not be undertaken until the risk has been reduced. Where the combined risk is medium, action must be taken and additional measures put in place, such as signage or training, to reduce the risk and allow the work to proceed. The work can proceed if the combined risk level is low, but the assessment should be reviewed regularly.

A matrix can be used to establish the risk value and risk level:

<b>LIKELIHOOD</b>	5 (AC)	5	10	15	20	25
	4 (AL)	4	8	12	16	20
	3 (L)	3	6	9	12	15
	2 (UL)	2	4	6	8	10
	1 (EU)	1	2	3	4	5
		1 (NM)	2 (Min)	3 (>3D)	4 (Maj)	5 (F)
<b>SEVERITY</b>						

## GENERIC RISK ASSESSMENT

On a project where a task is repeated, but at different locations or on different structures, such as brick laying, a generic risk assessment can be prepared. There must be a guarantee that the task carries the same level of risk at each location.



## EXAMPLES OF COMPLETING A RISK ASSESSMENT FOR A SIMPLE TASK

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In order to show how the types of recording the risk assessment are used we can look at an example for a simple task of using hand tools. For this task the hazard is the hand tools. Each type of risk assessment has been completed in the tables that follow.

### QUALITATIVE RISK ASSESSMENT

<b>What are the hazards?</b>	Hand tools
<b>Who might be harmed and how?</b>	Volunteers / cuts , grazes, impact injuries / manual handling injuries
<b>What are you already doing?</b>	Using the right tool for the job / providing training in how to use the tools / making sure the tools are properly maintained in good condition with no loose parts or excessive wear/ providing and wearing appropriate gloves
<b>Do you need to do anything else to control the risk?</b>	Ensure volunteers take regular breaks to avoid fatigue
<b>Action by who?</b>	Site leader
<b>Action by when?</b>	During the working day
<b>Done</b>	<b>Recorded when the action is complete</b>



## SEMI-QUANTITATIVE RISK ASSESSMENT

Task	Hazard	Who is exposed and how	L	S	RL
Use of hand tools	Hand tools	Volunteers. Cuts, grazes, impact injury.	M	L	M
	Hand tools	Volunteers. Manual handling injury.	M	L	M

## QUANTITATIVE RISK ASSESSMENT

Task	Hazard	Who is exposed and how	Risk level			
			L	S	RV	RL
Use of hand tools	Hand tools	Volunteers. Cuts, grazes, impact injury.	3	2	6	M
	Hand tools	Volunteers. Manual handling injury.	3	2	6	M

**Abbreviations:**

L - likelihood

S - severity

RL - risk level

RV - risk value

	Control measures	L	S	RL	Further action
	Use the right tool for the job. Provide training in how to use the tools. Make sure the tool is maintained with no loose parts. Wear gloves.	L	L	L	
	Use the right tool for the job. Provide training in how to use the tools. Make sure the tools is sharpened if appropriate. Take breaks to avoid fatigue.	L	L	L	Monitor volunteers to make sure breaks are taken

	Control measures	New Risk level				Further action
		L	S	RV	RL	
	Use the right tool for the job. Provide training in how to use the tools. Make sure the tool is maintained with no loose parts. Wear gloves.	1	2	2	L	
	Use the right tool for the job. Provide training in how to use the tools. Make sure the tools is sharpened if appropriate. Take breaks to avoid fatigue.	1	2	2	L	Monitor volunteers to make sure breaks are taken



## HEALTH & SAFETY REGULATIONS THAT REQUIRE A RISK ASSESSMENT

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The following list of regulations govern specific hazards that require an assessment of risk. The findings of the assessment can be recorded in the risk assessment for the task or procedure involving the hazard.

Other guidance notes provide information on specified hazards and control measures that can be adopted to reduce the risk. The Useful Resources includes links to these guidance notes. Many of the toolbox talks cover specific hazards and a link to the list of toolbox talks is given in Useful Resources.

Title	Specific regulation	Date
The Management of Health and Safety at Work Regulations	Reg 3(1)	1999
The Control of Substances Hazardous to Health Regulations	Reg 6(1)	2002
The Genetically Modified Organisms (Contained Use) Regulations	Reg 5(1), 6(1)	2014
The Control of Lead at Work Regulations	Reg 5(1)	2002
The Control of Noise at Work Regulations	Reg 5(1)	2005
The Control of Vibration at Work Regulations	Reg 5(1)	2005
The Control of Asbestos Regulations	Reg 6(1)	2012
The Manual Handling Operations Regulations	Reg 4(1)	1992
The Personal Protective Equipment at Work Regulations	Reg 6(1)	1992
The Health and Safety (Display Screen Equipment) Regulations	Reg 2(1)	1992
The Dangerous Substances and Explosive Atmospheres Regulations	Reg 5(1)	2002
The Regulatory Reform (Fire Safety) Order	Reg 9(1)	2005
The Ionizing Radiations Regulations	Reg 8(1)	2017
The Control of Electromagnetic Fields at Work Regulations	Reg 5 & 8	2016
The Control of Artificial Optical Radiation Regulations	Reg 3(1)	2010

**USEFUL RESOURCES:**

**The Management of Health and Safety at Work Regulations 1999**

**HSE guidance**

Sign up to read the full Practical Restoration Handbook and supporting resources here:  
**[waterways.org.uk/practicalrestorationhandbook](http://waterways.org.uk/practicalrestorationhandbook)**



Historic England

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