

# **HEALTH AND SAFETY AT WORK**

## **RISK ASSESSMENT**

### **POLICY AND PROCEDURES**

**MAY 2007**

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## **RISK ASSESSMENT PROCEDURE**

### **1. Introduction**

It is the duty of the Council to identify all hazards, evaluate the risks and implement suitable control measures associated with its undertaking.

The risk assessments must be documented and its findings communicated to all relevant employees.

The aim of this procedure is to support managers and employees in their roles and responsibilities in relation to risk assessments. It will assist in identifying areas where further controls are required and set an action plan aimed at reducing the risks.

### **2. Legal Requirements/Reference Documents**

- Health and Safety at Work Act 1974
- The Management of Health and Safety at Work Regulations 1999
- Bromsgrove District Council Health and Safety Policy

The Council must make a suitable and sufficient assessment of:

- (1) the risks to the health and safety of its employees to which they are exposed whilst they are at work; and
- (2) the risk to the health and safety of persons not in its employment arising out of or in connection with the conduct of our undertaking.

The Council must record the risk assessment, identifying the group of people who are identified by it as being at risk.

The following definitions have been taken from the documents listed above:

“The assessment” means risk assessment to comply with the legal requirements laid out as above.

“New or expectant mother” means an employee who is pregnant, who has given birth within the previous 6 months, or who is breastfeeding.

“Young person” means a person who is over the minimum school leaving age but under the age of 18.

“Managers” refers to anyone who is responsible for employees or is a person with a designated responsibility for carrying out risk assessments.

### **3. Scope of the Procedure**

The risk assessment procedure shall apply to all tasks, activities, locations and work equipment that are associated with Bromsgrove District Council's undertaking. All foreseeable risks to employees or non-employees must be assessed in line with “The Management of Health and Safety at Work Regulations 1999”.

#### 4. Arrangements for Securing the Health and Safety of Employees

##### 4.1 General Principles of risk assessment

It is recognised that managers already carry out *de facto* risk assessments on a daily basis during the course of their work; they will note changes in working practice, recognise faults as they develop and they will take necessary corrective actions.

The “Management of Health and Safety at Work Regulations 1999” requires employers to undertake a systematic examination of the hazards associated with their work activity and record the findings.

A risk assessment should involve identifying the hazards present in any undertaking (whether it arises from work activities or from other factors, e.g., layout of the premises, inclement weather etc.), and then evaluating the extent of the risks involved, taking into account whatever precautions are already being taken.

##### 4.2 Purpose of risk assessment

The purpose of risk assessments is to enable the Council to determine what measures are required to protect employees and non-employees from hazards.

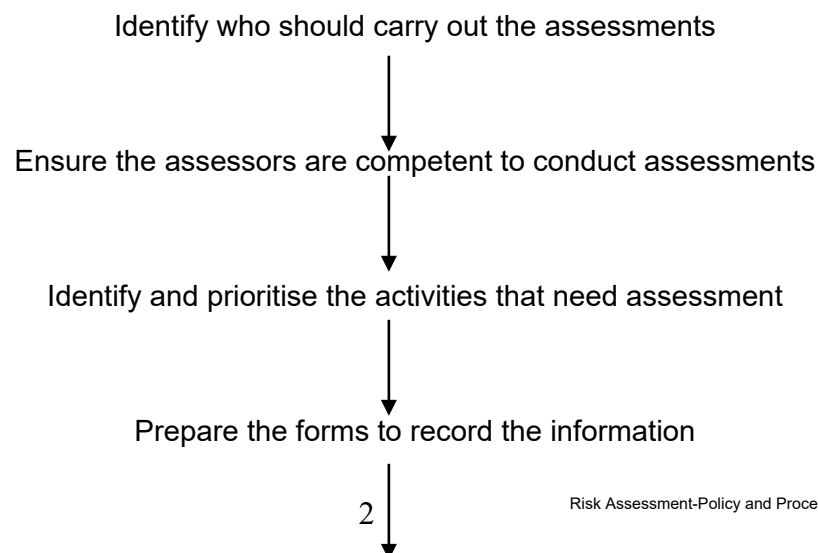
It should ensure employees are safe whilst carrying out work activities, and that a safe place of work is maintained at all times.

The risk assessment should also protect non-employees by considering what controls are required to ensure they are free from hazards caused by the Council’s undertaking.

In addition, a risk assessment will ensure that the Council complies with duties placed under relevant statutory provisions.

##### 4.3 Key steps to carrying out risk assessments

The basic approach to the management of risks can be summed up in the following steps, which are reflected in the requirements of the Management Regulations:



Enlist/inform employees required for the assessment



Carry out the assessment by:

- 1) Identifying the hazards
- 2) Deciding who is at risk and how
- 3) Ensuring that the controls are suitable
- 4) Identifying the risks and drawing up an action plan
- 5) Implementing the action plan



Monitor and Review the assessment

#### 4.4 Risk Assessors

Risk assessors should be familiar with the Regulations and have received the relevant training to ensure they are competent to conduct assessments. The Council's Risk Assessment in the Workplace Course has been designed to do this and covers the following:-

- The legal duties relating to risk assessment
- The process of risk assessment
- How to use the forms
- Opportunities to conduct assessments
- Problem solving

In complex situations they may need to enlist the expertise of others, e.g., the Health and Safety Advisor or a specialist in a particular field.

#### 4.5 Using the Council's risk assessment process and form

To comply with the Management of Health and Safety at Work Regulations 1999 the Council has devised a standard risk assessment form. The format ensures the Council complies with relevant legislation. All risk assessments should be completed using the Council's risk assessment format.

A management guidance note is available from the Health and Safety Advisor for this procedure for reference as to how to complete the risk assessment form. An action plan summary form is used in conjunction with the risk assessment form.

#### 4.6 Training

Training will be provided to ensure that relevant employees are competent to complete suitable and sufficient risk assessments. This training should be updated on a regular basis to ensure that good practice is maintained throughout the organisation.

All new employees, under their induction, shall be informed of their role and responsibilities in relation to risk assessments and the Council's procedures. The training is also available to all employees and should be considered by managers when conducting annual training plans/performance reviews.

#### 4.7 Young persons' risk assessment

Managers who employ young persons (including volunteers, work experience and casual employees) must complete a young persons' risk assessment before engaging them in employment.

The assessment must consider the young persons lack of experience, the absence of awareness of existing or potential risks, the fact that they may not have fully matured as well as the level of additional supervision required.

In addition, the Council must not employ a young person for work:

- (a) that is beyond their physical or psychological capacity;
- (b) that involves harmful exposure to agents that are toxic, cancer causing, cause heritable genetic damage or harm to an unborn child, or which in any other way chronically affect human health;
- (c) involving harmful exposure to radiation;
- (d) involving the risk of accidents which may be reasonably be assumed cannot be recognised or avoided by young persons owing to their insufficient attention to safety, or lack of experience, or training;
- (e) in which there is a risk from extreme close, heat, noise or vibration;
- (f) where they may come into contact with dangerous machinery.

#### 4.8 New or expectant mother risk assessment

The regulations require a risk assessment to be carried out when an employer employs a woman of childbearing age even before she is pregnant. The assessment is designed to ascertain whether the work could be a risk to her health, or the health of her child should she become pregnant.

The most common 'hazards' within the Council's activities will be associated with manual handling, slips, trips and falls, or shift working. However, other issues could involve being subjected to violence, chemical or biological agents, noise and fatigue.

When conducting a new or expectant mother risk assessment managers should consider what provisions are required to secure the health, safety and welfare of employees. Provisions may for example include altering working conditions or hours of work, changing roles and responsibilities or suspending her from work to secure her safety **for the duration of her pregnancy**.

#### 4.9 Records

Risk assessments must be stored at the workplace at which they are relevant. They should be in a place that can be accessed by employees at all reasonable times.

Risk assessments may be required as evidence following an accident and/or a visit by the Health and Safety Executive. Risk assessments must be retained at the site of origin for at least 3 years from when they are no longer valid.

## **5. Responsibilities**

### **5.1 All employees' responsibilities**

1. Employees are responsible for ensuring their own safety and that of others when conducting their tasks. They should report to management any concerns immediately so that appropriate action can be considered.
2. Employees must comply with the system of work prescribed following a formal risk assessment. It is the individual's responsibility to have read and understood the formal risk assessments.
3. If any employee is unsure about safety relating to any task or equipment they must not undertake that task or use the equipment without further instruction and advice.
4. Where equipment is provided for a task, employees must make full and proper use of it in accordance with the training and instruction given and the systems of work defined by their line manager.
5. Employees must inform their manager of any concerns or health conditions affecting their capabilities.
6. Employees must inform their manager if they are pregnant or have a medical condition likely to render them unfit to safely carry out their duties.
7. All accidents and incidents must be reported to the line manager immediately, following the Council procedures.
8. Employees must attend and participate in the agreed level of training, and demonstrate the appropriate knowledge and skill to the agreed level of competence.

Employees should be aware that failure to comply with this procedure may result in action under the Council's Disciplinary Procedure.

### **5.2 Managers' responsibilities**

1. Managers must be aware and have an understanding of the Council's risk assessment procedure.
2. Managers must, in accordance with the Health and Safety at Work etc. Act 1974, and the Management of Health and Safety Regulations 1999, ensure that employees are not exposed to any foreseeable risk or injury or ill health as far as is reasonable practicable.
3. Managers must, in accordance with the Health and Safety at Work etc. Act 1974, and the Management of Health and Safety Regulations 1999, ensure that non-employees (members of the public, contractors, etc.) are not exposed to any foreseeable risk of injury or ill health as far as is reasonably practicable.
4. Managers are required to systematically assess and record the risk of injury to their employees. To assist in this process managers have access to Risk Assessment training.
5. Managers must consult with employees when completing risk assessments, and thus detail a system of work for minimum risk at all times. All sections of the risk assessment form must be completed. Risk assessments must be stored in a place where employees can access it at any reasonable time.
6. Managers are responsible for ensuring that the outcome of risk assessment is available for employees to view.

7. All managers must ensure that every employee within their sphere of control, including relief, agency cover, work experience etc., is made aware of the prescribed safe systems of work.
8. Managers must ensure that this procedure has been brought to the attention of all employees within their responsibility and that records are available to demonstrate they have undertaken this task.
9. Managers are responsible for ensuring that employees understand the risks associated with their work and the safe procedures to be followed so that accidents and injuries can be prevented.
10. Managers have a responsibility to ensure (so far as is reasonable practicable) that staff are fit to perform the tasks assigned, and where appropriate, arrange a referral (through Human Resources) to the Occupational Health Service.
11. Managers must ensure that risk assessments are reviewed and stored appropriately.
12. Managers should be aware that failure to comply with this procedure may result in action under the Council's Disciplinary Procedure.

## **6. Guidance for Risk Assessors**

This guide is intended to provide assistance to assessors, in general risk assessment. It is not intended as a replacement for the proper training of assessors.

Risk assessment is nothing more than thinking about what is being done, what can go wrong and deciding what, if anything else, needs to be done to prevent harm to people. It is formal, systematic and recorded. The purpose of risk assessment is to reduce the numbers and severity of accidents and ill health at work.

A risk assessment involves identifying the hazards present, whether arising from work activities or from other factors, such as the layout of the premises where the work activity is taking place. Then evaluating the extent of the risks involved and taking into account whatever precautions are already being taken. Then deciding if these are sufficient to reduce the risk to the lowest level possible and, if not, what extra precautions need to be taken. A risk assessment does not need to be perfect, it needs to be suitable and sufficient.

The principles outlined in this document apply to all assessments and not just general risk assessment. Where specific assessments are required further information and training on the specific requirements is needed. The way in which the general risk assessment process is related to more specific assessments is detailed in the flowchart in Appendix 1.

## **7. Definitions**

- 7.1 Hazard A hazard is anything with the potential to cause harm (this can include substances, machines, methods of work and a range of other aspects or work organisation).

Risk The risk is the likelihood that the harm from a particular hazard will be realised. The term risk covers both the likelihood that harm will occur and its severity. The extent of the risk covers the people who may be affected by a risk, e.g., the number of people who might be exposed and the consequences or severity for them. The risk assessment chart detailed below (paragraph 7) will assist in making these judgements.

7.3 Harm An injury caused by the risk, which may be physical, mental or financial.

7.4 A suitable and sufficient risk assessment To be suitable and sufficient the assessment must:

- Identify the significant risks arising out of the work, this means focusing on those risks that are liable to arise because of the work activity. Trivial risks can usually be ignored, as can risks arising from routine activities associated with life in general, unless the work activity compounds those risks.
- Enable the employer to identify and prioritise the measures that need to be taken to comply with current legislation and best working practices. The general duty imposed on all employers is to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all their employees.
- Be appropriate to the nature of the work and as such should remain valid for a reasonable period of time. This will enable the significant findings to be used positively by management, e.g., to change working procedures or to introduce medium to long term controls. The Council's risk assessment form will lead you through the process systematically.

## 8. Practicable Risk Assessment

There are no fixed rules about how a risk assessment should be carried out. Each assessment will depend upon the specific work activity and the type and extent of the hazards and risks. Consideration should also be given to what would happen if something went wrong with the activity. Above all the assessment needs to be practical with careful consideration given to working arrangements and the individuals involved.

It is important that a structured approach to risk assessment is adopted, and a risk assessment should:

- **Ensure that all relevant risks or hazards are addressed.** The aim is to identify the significant risks in the workplace. Do not obscure those risks with excess information or by concentrating the trivial risks that occur in normal life. By systematic in looking at hazards and risks. For example, in each operational area, it may be easier to look at all electrical or manual handling hazards together. In some cases, the most effective approach will be to look at specific work activities task by task. Decide which approach or combination is most suitable for you. Also consider the consequences that happen when the risk identified actually occurs and the steps to be taken to reduce the impact.



- **Address what actually happens in the workplace.** Actual practice may differ from written procedures, and is often a route whereby risks creep in unnoticed. Think about non-routine operations, e.g., maintenance or deliveries or any interruption to the usual work activity. Investigate why any written procedures are not followed, they may be impractical, or the type of training or information provided may be inadequate. Any training or information given must be sufficient to enable staff to work safely.
- **Ensure all groups of people that might be affected are considered.** Employees, contractors, residents, pupils, members of the public. It is important not to forget 'out of hours' activities, cleaners, visitors or extra curricular activities.
- **Identify groups of people who might be particularly at risk.** For example young or inexperienced workers those who work alone, home workers, any disabled staff, new or expectant mothers, or staff on a phased return to work.
- **Take account of existing preventative or precautionary measures.** They may already reduce the risk sufficiently, but consider if they are working properly. Does action need to be taken to ensure that the control measures are maintained?

## 9. Assessments under any other specific regulations

Where assessments have already been carried out under more specific regulations, e.g., working with chemicals under the Control of Substances Hazardous to Health Regulations, it is not necessary to repeat the assessment as long as they remain valid, but it is essential to ensure that all significant risks are covered. Review these assessments and ensure that all training is up to date and that any relevant changes have been made to the documentation. If something needs improving note this on the general risk assessment form for incorporation in the managers' action plan.

In other cases, tasks will be identified that need assessment under specific regulations, e.g., use of display screen equipment or excessive noise, where no action has been taken. It should be noted on the general risk assessment that an assessment under more specific regulations is required.

## 10. Recording

It will be necessary to record details of the assessment itself, in addition to the significant findings. It may be necessary to demonstrate to the Service Head, the Council's Health and Safety Adviser, Safety Representatives or an HSE Inspector, that risk assessments have been undertaken for each operational area. Records will also ensure that if circumstances change the assessment can be reviewed and any necessary changes recorded. The Risk Assessment Form and the form guide are designed to ensure that a systematic approach is followed and a proper record kept.

Risk assessments previously undertaken and recorded on previous forms remain valid until a review is carried out or for some other reason become invalid. The form should be used for all new assessments and when reviewing existing risk assessments.

## 11. Review of the Assessment

Every assessment should be reviewed at regular frequencies based on the residual risk after the present control measures that are in place. The chart (in Section 2) is a guide to when the assessment should be reviewed. The higher the residual risk, the more often a review be carried out. As a guide:

High Risk	-	Weekly
Medium Risk	-	Monthly
Low Risk	-	Annually

The review time can be changed from the above if the assessor has concerns about the risk involved.

## 12. Risk Assessment Chart

To assist in quantifying the risk, the chart below should be used. Assess the risk; consider the likelihood of the hazard occurring and the severity of the consequences. To determine the degree of risk, find the point in the table below where the likelihood and the severity meet.

LIKELIHOOD	SEVERITY				
	No Injury or Damage	Minor Injury	Absence from work (3 days +)	Major Injury	Fatality or Severe Disability
Very Unlikely		LOW	LOW	LOW	LOW
Unlikely		LOW	LOW	MEDIUM	MEDIUM
Possible		LOW	MEDIUM	HIGH	HIGH
Likely		MEDIUM	HIGH	HIGH	HIGH
Highly Likely		MEDIUM	HIGH	HIGH	HIGH

### DEGREE OF RISK – ACTION REQUIRED

**HIGH** - Work **must** not be started until the risk has been reduced. Considerable resources may have to be allocated to reduce the risk to an acceptable level. Where the risk involves work in progress, urgent action should be taken.

**HIGH** - Work **must** not be started or continued until the risk has been reduced. If it is not possible to reduce the risk even with unlimited resources, work has to remain prohibited.

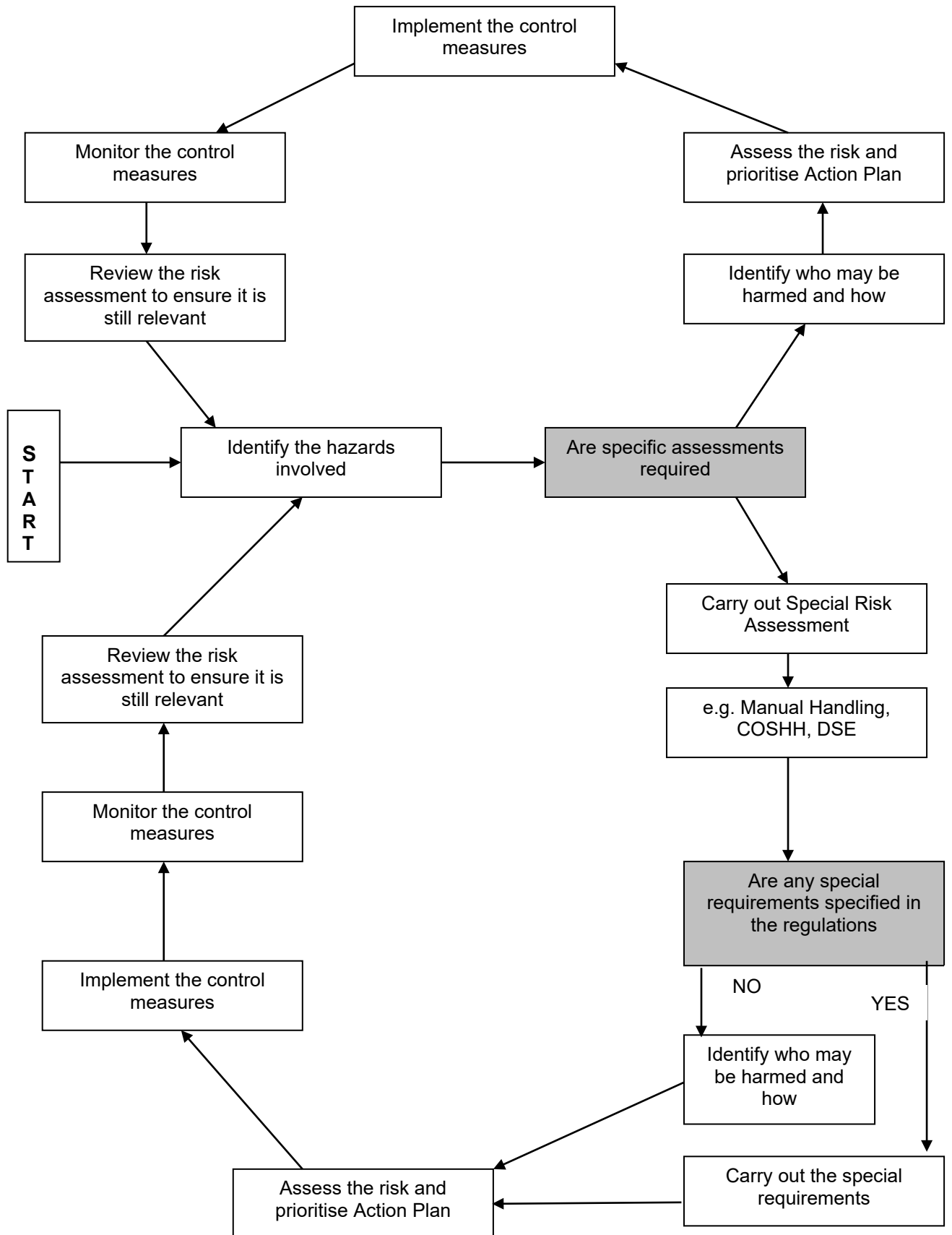
- MEDIUM** - Efforts **must** be made to reduce the risk, but the cost of the prevention should be carefully measured and limited. Risk reduction measures should be implemented within a defined time period.
- LOW** - No additional controls are required. Consideration may be given to a more cost – effective solution or improvement that imposes no additional cost burden. Monitoring is required to ensure that controls are maintained.
- TRIVIAL** - No action is required and no documentary records need to be kept.

**NOTE: ‘LOW’** here means that risk has been reduced to the lowest level that is reasonably practicable

### **13. Further assistance**

Information regarding control measures to eliminate or reduce risks can be found in the Council’s guidance and codes of safe working. If you experience any problems, please talk to your line manager. Advice and information is available from the Council’s Health and Safety Advisor.

General Risk Flowchart



## 14. GENERAL RISK ASSESSMENT FORM COMPLETION GUIDE

This is a step by step guide to assist with the completion of the Corporate General Risk Assessment Form (see blank risk assessment form in Appendix 2 and completed example lines of two separate activities in Appendix 2A).

### 14.1 General Assessment Details:

Allocate a number to the assessment sheet to assist in record keeping. Enter the name of the service, the section and the workplace address or location where the assessment is being carried out. The name of the person carrying out the assessment should be entered, and signed when the assessment has been completed.

1. **Serial Number:** Allocate a number to the work task/activity.
2. **Work Task/Activity:** Identify the hazards associated with each work task.
3. **Hazards Identified:** List the identified hazards associated with each work task.
4. **Person(s) at Risk:** List the categories of people that are or may be at risk from each of the identified hazards, for example:
  - Employees
  - Particularly vulnerable staff (new and expectant mothers, young persons under 18 years, staff with disabilities)
  - Service users/clients
  - Contractors
  - Members of the public
  -
5. **Existing Controls:** State any existing controls in use, associated with each identified hazards, for example:
  - Have any safe working instructions been given?
  - Have staff had relevant training?
  - Has personal protective equipment been provided?
6. **Degree of Risk:** Assess the risk; consider the likelihood of the hazard occurring and the severity of the consequences. To determine the degree of risk, find the point in the table below where the likelihood and the severity meet, (LOW/MEDIUM/HIGH) and state this on the form.

**SEVERITY**

LIKELIHOOD	No Injury or Damage	Minor Injury	Absence from work (3 days +)	Major Injury	Fatality or Severe Disability
Very Unlikely		LOW	LOW	LOW	LOW
Unlikely		LOW	LOW	MEDIUM	MEDIUM
Possible		LOW	MEDIUM	HIGH	HIGH
Likely		MEDIUM	HIGH	HIGH	HIGH
Highly Likely		MEDIUM	HIGH	HIGH	HIGH

**14.2 DEGREE OF RISK – ACTION REQUIRED**

- HIGH** - As described in **Section 12, Pages 9 and 10.**
- MEDIUM** - As described in **Section 12, Pages 9 and 10.**
- LOW** - As described in **Section 12, Pages 9 and 10.**

**The degree of risk should be eliminated or reduced to the lowest level possible, with proper control measures maintained.**

7. **Remedial Action:** Consider the degree of risk and the existing controls, then state any remedial action(s) that may need to be taken to eliminate or reduce the risk. An action plan will need to be determined based on the degree of risk (as described in 6 above).
8. **Action Plan:** Remedial action(s) will need to be progressed and completed. These should be recorded by the Assessor on the form shown in Appendix 3 – Managers’ and Assessors’ Action Plan, and passed to the appropriate manager for completion.
9. **Residual Risk:** Use the table in 5 above to assess the residual risk. Do this by considering the existing controls and any remedial action taken.
10. **Other Assessment:** If the general risk assessment has identified that a more specific assessment is required under other Regulations, enter the type of assessment that is needed, e.g., Manual

Handling. If no other assessment is needed make no entry in this column.

**11. Review Date Due:** Reviews of work task/activity assessment should take place periodically to keep the assessment live. A review should be carried out of work tasks/activities, following changes such as new staff, new equipment, working methods etc. If any of these are due to take place then a review date should be established.

**12. Hazard Checklist:** Suggested hazards by type can be found in Appendix 4 to assist in hazard identification. The hazard checklist is arranged as follows:

- Hazards associated with plant and equipment (including non-powered plant and hand tools).
- Hazards associated with materials and substances.
- Hazards associated with the workplace.
- Hazards associated with the work environment.
- Hazards associated with the work methods.
- Hazards associated with the work organisation.
- Other types of hazard.

Assessment Sheet No.

**Service**  **Section**

**Workplace Address or Location**

<b>Assessment Date</b>	<b>Review Date Due</b>
<b>Name of Assessor</b>	<b>Assessors Signature</b>

Serial Number	Work Task/Activity	Hazard Identified	Person(s) at Risk	Degree of Risk	Existing Controls	Remedial Action Required	Residual Risk	Other Assessment



**EXAMPLE**

**General Risk Assessment Form**

Assessment Sheet No. SM0001

**Service** (1) Planning and Environmental Services (2) Street Scene and Waste Management **Section** (1) Reception / (2) Recycling

**Workplace Address or Location** (1) The Council House / (2) Depot Services

<b>Assessment Date</b>	1 January 2003	<b>Review Date Due</b>	1 January 2004
<b>Name of Assessor</b>	Ann Other	<b>Assessors Signature</b>	AO

Serial Number	Work Task/Activity	Hazard Identified	Person(s) at Risk	Degree of Risk	Existing Controls	Remedial Action Required	Residual Risk	Other Assessment
1.	Dealing with public enquiries at reception	1. Assault from public	Employees, Public	MEDIUM	1. Reception area designed to separate staff from public. 2. Panic button fitted. 3. Two staff on duty at all times.	1. Staff to be given training in dealing with aggressive behaviour 2. Review written safe working instructions.	LOW	
2.	Emptying boxes of glass into cages	1 Noise from dropping. Bottles into cages.	1. Recycling Operatives. 2. Public.	MEDIUM	1. Appropriate type of ear defenders to be used at all times when sorting glass. 2. Noise assessment to be carried out. 3. Soundproofing of cage.	1. Arrange staff refresher training. 2. Arrange work rotation where possible. 3. Review written safe working instructions. 4. Review risk assessment	LOW	Manual Handling

## ACTION PLAN – MANAGER'S SUMMARY

Type of Assessment – General Risk Assessment/COSSHE/PPE/Display Screen Equipment/Other .....

Name of Assessor .....

Date .....

Action Required	Risk Level	<u>By Who</u>	Target Date	Date Completed

Manager's Signature ..... Service..... Date .....

ACTION PLAN – MANAGER'S SUMMARY

APPENDIX 3

**HAZARD CHECKLIST**

The hazard checklist is arranged as follows:

- Hazards associated with plant and equipment (including non-powered plant and hand tools).
- Hazards associated with materials and substances.
- Hazards associated with the workplace.
- Hazards associated with the work environment.
- Hazards associated with the work methods.
- Hazards associated with the work organisation.
- Other types of hazard.

**Hazards associated with plant and equipment**

**(including non-powered plant and hand tools**

<b>Mechanical Hazards</b>				
Trapping Hazards	Impact Hazards (includes puncture)	Contact Hazards (cutting, friction or abrasion)	Entanglement Hazards (rotating parts)	Ejection Hazards (e.g. of work piece or part of tool)
<ul style="list-style-type: none"> <li>• Two moving parts or one moving part and a fixed surface</li> <li>• Conveyor belt and drive</li> <li>• Vee belt and pulley</li> <li>• Power press</li> <li>• Mangle</li> <li>• Guillotine</li> <li>• Scissors</li> <li>• Stapler</li> <li>• Using hammer</li> </ul>	<ul style="list-style-type: none"> <li>• Something that may strike or stab someone or can be struck against</li> <li>• Moving vehicle</li> <li>• Robot arm</li> <li>• Sewing machine</li> <li>• Drill</li> <li>• Hypodermic needle</li> <li>• Pendulum</li> <li>• Crane hook</li> </ul>	<ul style="list-style-type: none"> <li>• Something sharp or with a rough surface</li> <li>• Knife, chisel, saw etc.</li> <li>• Blender blade</li> <li>• Circular saw blade</li> <li>• Sanding belt</li> <li>• Abrasive wheel</li> <li>• Hover mower</li> <li>• Blade</li> </ul>	<ul style="list-style-type: none"> <li>• Drill chuck and bit</li> <li>• Power take off shaft</li> <li>• Pipe threading machine</li> <li>• Abrasive wheel</li> </ul>	<ul style="list-style-type: none"> <li>• Cartridge tool</li> <li>• Thickness machine</li> <li>• Using hammer and chisel</li> <li>• Abrasive wheel</li> </ul>

<b>Electrical, Pressure, Stored Energy, Stability, Overloading</b>				
Electrical Hazards	Pressure Hazards	Stored Energy Hazards	Stability Hazards	Overload/defective due to mechanical failure
Electricity <ul style="list-style-type: none"> <li>• Electricity above 240v</li> <li>• Electricity (240v)</li> <li>• Electricity (110vcte)</li> <li>• Extra low volt electricity</li> </ul> Ignition sources: <ul style="list-style-type: none"> <li>• Static</li> <li>• Batteries</li> </ul>	<ul style="list-style-type: none"> <li>• Compressed air</li> <li>• Compressed gas</li> <li>• Steam boiler</li> <li>• Vacuum</li> <li>• Hydraulic system</li> </ul>	<ul style="list-style-type: none"> <li>• Springs under tension</li> <li>• Springs under compression</li> <li>• Hoist platform/lift cage</li> <li>• Conveyor tension weight</li> <li>• Raised tipper lorry body</li> <li>• Counterweight</li> <li>• Load carried by crane</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate crane base</li> <li>• Forklift truck on slope</li> <li>• Machine not bolted down</li> <li>• Mobile scaffold too high</li> <li>• Scaffold not tied</li> </ul>	<ul style="list-style-type: none"> <li>• Crane overload</li> <li>• Chain sling</li> <li>• Eye-bolt overload</li> <li>• Scaffold overload</li> <li>• Hopper overfill</li> </ul>

<b>Radiation, Noise, Vibration and Thermal Hazards</b>			
Radiation Hazards	Noise Hazards	Vibration Hazards	Thermal Hazards
Ionising Radiation: <ul style="list-style-type: none"> <li>• X Rays</li> <li>• <math>\alpha</math> or <math>\beta</math> radiation</li> <li>• neutrons</li> </ul> Non-ionising radiation: <ul style="list-style-type: none"> <li>• microwave</li> <li>• radio frequency</li> <li>• laser</li> <li>• ultraviolet</li> <li>• infra-red</li> </ul>	<ul style="list-style-type: none"> <li>• pneumatic drill</li> <li>• operation of plant</li> </ul>	<ul style="list-style-type: none"> <li>• pneumatic drill</li> <li>• operation of plant</li> </ul>	<ul style="list-style-type: none"> <li>• hot surface</li> <li>• using blow lamp</li> <li>• welding flame/arc</li> <li>• refrigerant</li> <li>• steam</li> </ul>

## Hazards Associated with Materials and Substances

<b>Fire/Explosion Hazards</b>			
Combustion Hazards	Flammable Substances (including highly and extremely flammable – see also explosive below)	Oxidising Substances	Dust Explosion Hazards
<ul style="list-style-type: none"> <li>• timber stack</li> <li>• coal store</li> <li>• paper store</li> <li>• magnesium</li> <li>• straw</li> <li>• plastic foam</li> <li>• oxygen enrichment</li> </ul>	<ul style="list-style-type: none"> <li>• petrol</li> <li>• propane gas</li> <li>• methane</li> <li>• carbon monoxide</li> <li>• methanol</li> <li>• paraffin</li> <li>• acetone</li> <li>• toluene</li> </ul>	<ul style="list-style-type: none"> <li>• organic peroxide</li> <li>• potassium permanganate</li> <li>• nitric acid</li> <li>• explosive material</li> <li>• fireworks</li> <li>• proprietary explosives</li> <li>• detonators</li> <li>• some oxidising agents</li> <li>• highly flammable gas</li> </ul>	<ul style="list-style-type: none"> <li>• coal dust</li> <li>• wood dust</li> <li>• aluminium powder</li> <li>• flour</li> </ul>

<b>Hazardous Substances</b>				
Corrosive/Irritating Materials	Dust Explosion Hazards	Fumes	Vapours	Gases
<ul style="list-style-type: none"> <li>• sulphuric acid</li> <li>• caustic soda</li> <li>• man-made mineral fibre</li> </ul>	<ul style="list-style-type: none"> <li>• asbestos fibres</li> <li>• silica dust</li> <li>• dust mite faeces</li> <li>• pigeon droppings</li> <li>• coal</li> <li>• dust grain dust</li> <li>• wood dust</li> </ul>	<ul style="list-style-type: none"> <li>• lead fume</li> <li>• rubber fume</li> <li>• asphalt fumes</li> </ul>	<ul style="list-style-type: none"> <li>• acetone</li> <li>• 1,1,1 trichloroethane</li> <li>• dichloromethane</li> <li>• benzene</li> <li>• isocyanates</li> </ul>	<ul style="list-style-type: none"> <li>• carbon monoxide</li> <li>• hydrogen sulphide</li> <li>• sulphur dioxide</li> <li>• carbon disulphide</li> </ul>

Mists	Asphyziants	Ingestion Hazards	Contact Hazards
<ul style="list-style-type: none"> <li>• oil mist</li> <li>• printing ink mist</li> <li>• water-legionella</li> </ul>	<ul style="list-style-type: none"> <li>• nitrogen</li> <li>• carbondioxide</li> <li>• argon</li> </ul>	<ul style="list-style-type: none"> <li>• toxic, harmful, corrosive and irritant liquids</li> <li>• poisons, e.g. all harmful aerosols, polluted water, contaminated food and drink</li> </ul>	<ul style="list-style-type: none"> <li>• swarf</li> <li>• rough timber</li> <li>• concrete blocks</li> <li>• molten metal</li> <li>• frozen food</li> </ul>

<b>Hazards Associated with the Workplace</b>				
Access	Work at Heights	Obstruction	Stacking/Storing Hazards	Work Over/Near Liquids, Dust, Grain etc.
<p>Trips/Slips:</p> <ul style="list-style-type: none"> <li>• damaged floors</li> <li>• trailing cables</li> <li>• oil spills</li> <li>• water on floor</li> <li>• debris</li> <li>• wet grass</li> <li>• sloping surface</li> <li>• uneven steps</li> <li>• changes in floor level</li> </ul> <p>Access:</p> <ul style="list-style-type: none"> <li>• locked exits</li> <li>• obstructed egresses</li> <li>• long exit route</li> </ul>	<ul style="list-style-type: none"> <li>• fragile roof</li> <li>• edge of roof</li> <li>• edge of mezzanine floor</li> <li>• work on ladder</li> <li>• erecting scaffold</li> <li>• hole in floor</li> </ul>	<ul style="list-style-type: none"> <li>• low headroom</li> <li>• sharp projections</li> </ul>	<ul style="list-style-type: none"> <li>• high stacks</li> <li>• insecure stacks</li> <li>• inadequate racking</li> <li>• stacking at heights</li> </ul>	<ul style="list-style-type: none"> <li>• grain silo</li> <li>• tank</li> <li>• reservoir</li> <li>• sump</li> <li>• work over river</li> <li>• work near canal</li> </ul>

<b>Hazards Associated with the Work Environment</b>			
Light	Temperature	Confined Spaces	Ventilation
<ul style="list-style-type: none"> <li>• glare</li> <li>• poor lighting</li> <li>• stroboscopic effect</li> <li>• arc welding</li> <li>• molten metal</li> </ul>	<p>Indoor Work:</p> <ul style="list-style-type: none"> <li>• work in furnace</li> <li>• cold room</li> </ul> <p>Outdoor Work:</p> <ul style="list-style-type: none"> <li>• hot weather</li> <li>• cold weather</li> <li>• wind chill factor</li> <li>• work in rain, snow etc.</li> </ul>	<ul style="list-style-type: none"> <li>• work in tank</li> <li>• chimney</li> <li>• pit</li> <li>• basement</li> <li>• unventilated room</li> <li>• vessel</li> <li>• silo</li> </ul>	<ul style="list-style-type: none"> <li>• fumes</li> <li>• odours</li> <li>• tobacco smoke</li> </ul>

<b>Hazards Associated with Work Methods</b>		
Manual Handling	Repetitive Movements	Posture
<ul style="list-style-type: none"> <li>• lifting</li> <li>• lowering</li> <li>• carrying</li> <li>• pushing</li> <li>• pulling</li> <li>• hot/cold loads</li> <li>• rough loads</li> <li>• live loads, i.e., person or animal</li> </ul>	<ul style="list-style-type: none"> <li>• keyboard work</li> <li>• using screwdriver</li> <li>• using hammer and chisel</li> <li>• bricklaying</li> <li>• plucking chickens</li> <li>• production line tasks</li> </ul>	<ul style="list-style-type: none"> <li>• seated work</li> <li>• work above head height</li> <li>• work at floor level</li> </ul>

<b>Hazards Associated with Work Organisation</b>		
Contractors	Organisation of Work	Work in Public Areas
<ul style="list-style-type: none"> <li>• work above employees</li> <li>• use of harmful substances</li> <li>• contractors' welding</li> <li>• process fumes</li> <li>• services (e.g., underground electricity cables)</li> <li>• stored hazardous materials</li> </ul>	<ul style="list-style-type: none"> <li>• monotonous work</li> <li>• stress</li> <li>• too much work</li> <li>• lack of control of job</li> <li>• work too demanding</li> </ul>	<ul style="list-style-type: none"> <li>• trailing cables</li> <li>• traffic/plant movement</li> <li>• obstruction to blind person</li> <li>• obstruction to prams, etc.</li> <li>• work above public</li> </ul>

<b>Other Types of Hazard</b>		
Attack by Animals	Attack by People	Natural Hazards
<ul style="list-style-type: none"> <li>• bees</li> <li>• dog</li> <li>• bull</li> <li>• fleas</li> <li>• snake</li> </ul>	<ul style="list-style-type: none"> <li>• criminal attack</li> <li>• angry customer</li> <li>• angry student</li> <li>• drunken person</li> <li>• drug abuser</li> <li>• mentally ill person</li> </ul>	<ul style="list-style-type: none"> <li>• lightning</li> <li>• flash flood</li> <li>• trees</li> </ul>