

CARRYING OUT RISK ASSESSMENT: PROCEDURE AND GUIDANCE

1. FOUNDATION IN POLICY

This procedure has been put in place to expand on the University Health, Safety and wellbeing Policy which requires that the University will ensure the preparation and review of written statements of policy, local rules, guidance notes and risk assessments with respect to health, safety and environmental issues at work and bring any such documents and revisions to the notice of all those persons affected.

It also allows the University to comply with Regulation 3 of the Management of Health and Safety at Work Regulations, 1999.

This procedure forms part of the University's Safety Management System and must be adhered to.

2. SCOPE OF THIS PROCEDURE

This Procedure applies to all Schools, Divisions and Units of the University and to all activities that could give rise to significant risk.

The responsibility for ensuring that risk assessments are carried out lies with Health & Safety Champions within each School/Department. While it may seem that this procedure will apply only to Estates and the Schools of Health and Life Science and Computing, Engineering and Physical Science (CEPS), this is not the case.

Schools such as Education, Business Enterprise, CCI and Media, Culture and Society routinely send students out on placement for work experience.

Such placements can give rise to significant risks and the Schools must assure themselves that the organisation offering the placement has carried out suitable and sufficient risk assessment and have in place appropriate control measures.

In addition, Schools have research projects and student practical works that may give rise to risks while support departments such as the Library and Student Services may face situations involving risks from aggression.

The Head of School or Department must ensure that all operations likely to give rise to risk are fully assessed and that control measures are put in place to reduce any significant risks.

3. RESPONSIBILITY FOR CARRYING OUT ASSESSMENT

The requirement to carry out risk assessment is implicit in the Health & Safety at Work etc. Act 1974. This duty has been made explicit for specific hazards in the COSHH Regulations and other Regulations.

In the Management of Health & Safety at Work Regulations (re-issued in 1999) were enacted requiring all employers to carry out assessment of risk arising out of **all** hazards involved in their undertaking. They apply directly to the University of the West of Scotland, as does the requirement for risk assessment contained in other Health & Safety Regulations.

This procedure is intended to assist Heads of Departments/Units, Staff and Students in complying with the requirements of Health & Safety legislation with respect to the requirements for risk assessment.

The requirement to carry out risk assessment is an absolute duty and failure to carry out assessment of significant risk is a breach of regulation leaving the University and individuals involved open to prosecution.

a. Schools and Departments

At School/Departmental level the responsibility to ensure that risk assessments are carried out rests with the Head of School or Department. It was not anticipated that a new profession of "risk assessor" would be formed to carry out such risk assessments.

Within the University sector these risk assessments are carried out at departmental level by the individuals working with, or supervising those working with, the hazards which give rise to the risk. The assessment and control of risk arising out of work is an aspect of the professionalism of those carrying out the work.

In Academic departments assessments should be carried out by Academic staff and Senior Technical staff. The requirement to carry out risk assessment applies to all work within the department, including undergraduate practical classwork and both undergraduate and postgraduate projects.

It is recommended that postgraduate and 4th year undergraduate students carry out the risk assessment for all or part of the practical work in their project.

To ensure the University's legal integrity, risk assessments generated by students must be audited and, where necessary, amended by their Academic Supervisor, prior to commencement of work on the project.

In this way, students absorb the requirements of the discipline that they are studying along with the relevant health & safety management that surrounds that discipline.

Whatever mechanism is used, the assessment of the risks involved in such projects must be carried out. In non-academic departments, supervisory or managerial staff should carry out the risk assessment.

Those areas and operations of Schools and Departments that are classified as being of lower risk, e.g., staff offices, reception desks and computer laboratories will require less detailed risk assessments than those areas classified as being of higher risk, e.g., laboratories, plant rooms and workshops, fieldwork.

For lower risk areas the HSE has a simple risk assessment tool for office type areas that can be accessed at: <http://records.hse.gov.uk/connect.ti/officeriskassess/view?objectId=23667>. A copy of the completed risk assessment should be printed off and held in the office that has been assessed.

Copies of all risk assessments for an area or operation should be available in an easily accessible form at the point of use and should also be lodged at a central point

within the School or Department. While it is best to have paper copies at the point of use – these are available immediately (including in a server failure) - the central storage may be as electronic files.

b. Resilience & Safety

Resilience & Safety will give advice and information on Health & Safety issues. Where persons carrying out risk assessments have concerns about the degree of understanding required to carry out a risk assessment or where the risks are sufficiently great that serious injury or death is possible, the advice and assistance of Resilience & Safety should always be sought.

In addition to the assistance and advice from Resilience & Safety referred to above, it may be necessary for additional input from the Occupational Therapy service within the University to determine whether individuals are fit to carry out the work covered by the risk assessment and whether any continuing health surveillance is also required, which can be obtained through referral to HR Occupational Health service.

As stated above, it is anticipated that in most cases the individual carrying out the operation that could give rise to risk will carry out the risk assessment. Where a need is identified for specialised training to allow proper risk assessment in specific areas of hazard, such training may be obtained in conjunction with Resilience & Safety.

c. Equalities Act 2010

Health & Safety Champions and those carrying out risk assessments must bear in mind the requirements of the Equalities Act 2010 to make reasonable adjustments to not discriminate against persons who are covered by the protected characteristics of the Act. Care must be taken to ensure that risk assessments take into account the particular needs of persons covered by the protected characteristics and do not unnecessarily exclude them. In such a case, advice of Resilience & Safety, the Equality and Diversity Coordinator and, where a student is involved Student Services, should be sought.

d. Hazard and Risk

Prior to giving guidance on how to assess risks the following definitions should be established:

Hazard = anything which can cause harm, e.g. chemicals, electricity, heavy loads, naked flames, working from ladders etc.

Risk = the likelihood or chance, high, medium or low, that someone **exposed** to a hazard may be harmed by it.

Therefore **Risk = Hazard x Exposure**

Hazard is intrinsic and is present irrespective of any other factor, e.g. Hydrochloric Acid is both irritating to the mucus membranes and corrosive to the skin whether it is in a bottle stored inside a cabinet, in an open-topped vessel on the bench or sprayed into the atmosphere to form an aerosol: the hazard does not change. However, each of the 3 conditions above gives rise to a different level of risk. When in the

bottle, the risk is non-existent to low; when exposed in the open-topped vessel, low to medium; when sprayed into the atmosphere, high.

e. What Should Be Risk Assessed (and When)

All aspects of a department's operations require to be assessed for risk. This includes the use of equipment (including hand tools) in laboratories and workshops; the use of chemicals (not just those in laboratories but also commonly used chemicals such as cleaners, sterilisers, disinfectants, degreasers, oils, paints and polishes); the use of processes and procedures which could put staff, students and others at risk such as working at height; working in confined spaces, or with exposed electrical conductors (even at relatively low voltages); taking a party on a field trip (town or country), etc.

The requirement to assess risk extends both to novel or one-off procedures and to routine or repeated processes.

The risk assessment must be carried out prior to carrying out the procedure and should be part of the planning of that procedure determining, in part, the method of carrying out the procedure.

If a process has been in operation for any time without being risk assessed then it **must** be assessed as a matter of urgency. It may be that the process or part of it will require to be altered in view of the risks identified by the assessment.

f. Carrying Out the Risk Assessment

This section normally should be applicable to higher risk areas and operations only. Lower risk areas and operations should be addressed through the HSE tool at <http://www.hse.gov.uk/risk/> .

The risk assessment should be carried out in 5 steps:
(Refer also to the HSE guidance "Five Steps to Risk Assessment" at: <http://www.hse.gov.uk/pubns/indg163.pdf>.)

Step 1 - Look for the hazards -

Break the process or procedure into steps and identify the hazards within each of these steps. Remember that only significant hazards need be taken into consideration. Analyse method statements, laboratory protocols and procedures. Refer to manufacturers' instructions or hazard data sheets as well as the experience of personnel who are familiar with the process or procedure. Accident and ill health records can also be used to identify hazard and risk.

NB. Be careful when defining hazards or the significance of the risks arising out of them – in the event of an accident or inspection you may have to justify your decision.

Step 2 - Determine who could be at risk from each of the hazards and how they could be affected.

While it is obvious that those personnel carrying out the process or procedure may be at risk from the hazards identified, other groups must be taken into account, e.g.:

- Those not directly involved in the process or procedure but who may work in or use areas where they may be affected by it.
- Trainees, young workers, children on school placement, work experience and skill-seekers are often liable to overestimate their own capabilities and to underestimate danger in the workplace.
- New and expectant mothers who, because of their condition, may be at greater risk from a process or procedure or who may transmit a hazard to their unborn or new-born child.
- Those who are have an acutely or chronic illness or condition, who are disabled or who suffer from allergies or other congenital condition. (A specific risk assessment may need to be carried out for each individual who falls under this category as each individual's disability or condition may be unique.)
- Those who may visit the process or procedure at times when it is not operating, such as cleaners, contractors and maintenance workers, members of the public, other visitors or people who share the workplace.

The risk assessment must take into account all of the above and the presence of any of these groups may alter the control mechanisms put in place to manage the risk.

The risk assessment must also take into account the effect of the process on property as well as personnel, e.g. activation of smoke detection by fumes, steam, dust etc.; damage to building fabric from impact or vibration. Such concerns must be discussed with both Resilience & Safety and Estates Department.

Departments may not alter the fabric of buildings (e.g. break through walls) or break into building services (water, electricity, drainage etc.) without prior consultation with Estates. "Break into" in this context means connecting into such a service other than by means previously supplied by or through Estates Department (e.g. electrical socket, water tap or drain point). When bringing contractors of any kind into the University, the Contractors' Rules apply and Estates Solutions must be involved at an early stage.

Step 3 - Evaluate the risks and determine control measures.

Consider how likely it is that each hazard could cause harm. The greater the likelihood of harm there is or the greater the degree of harm, the greater the requirement to reduce risk. It is therefore necessary to gauge whether the risk from each operation is high, medium or low (by taking into account the degree of harm possible and the number of people who could be affected if the risk is realised) and control that risk as required; dealing with high risks before medium risks and medium risks before low risks. Break processes into steps to make this task easier.

Prioritise, drawing up an action list to reduce risk.

First, ensure you are complying with current legislation. Refer to relevant University of the West of Scotland's Health, Safety and Wellbeing Policy, Procedures and Guidance Notes on specific hazards for assistance (e.g. The Contractors' Rules, Policy for Access of Children to the University of the West of Scotland, Guidance on the Dangerous Substances and Explosive Atmospheres Regulations, etc.). These documents are available on the University's Resilience and Safety intranet or staff internet sites. Compliance with these documents is required by University Court and should ensure compliance with legislation and consequent reduction of risk. Where

the risk assessment shows that you are not complying with Legislation or Policy, take steps to do so.

Second, if necessary, determine whether you are complying with Health & Safety Executive guidance, British or European Standards and generally accepted Industry or Trade Standards. Compliance with all of the above will go a long way towards reducing risk and complying with the legal requirements.

Finally, the Health & Safety at Work Act 1974 and Regulations made under that Act require that you reduce risks to “as low as reasonably practicable”; if necessary by going beyond the guidance and requirements of the above documents. Determine whether it is reasonably practicable to reduce risk to a lower level through the hierarchy of control methods shown below.

Eliminate – remove the risk by not carrying out the operation or process or using the hazardous material. A decision is made that the risk outweighs the net benefit from the process or procedure. Examples where elimination would be appropriate could be in the use of radioactive sources in an undergraduate laboratory where students could receive significant doses of radiation or in the cessation of cleaning of windows on a building where it is not reasonably practicable to install equipment to prevent falls.

Substitute – replace a hazardous process or material with one which is less hazardous thus reducing the risk. Examples could be the use of light scaffolding rather than ladders for access to lighting, arranging for survey interviews to be carried out in the University rather than in interviewees’ homes or the replacement of a carcinogenic with a non-carcinogenic solvent. It is important to remember that the risk is not removed by this, merely reduced.

Enclose – placing the process or operation inside an enclosure so that the hazard is contained and cannot affect those who might otherwise be exposed. Examples of this are glove boxes for use when dealing with certain micro-organisms or some radioactive materials or interlocked enclosures for laser or x-ray equipment.

Non-interlocked guards around machine tools and other such equipment and perimeter fences around building works are also examples of the enclosure of hazards to reduce risk.

Finally, **Reduction of exposure** to the risk is also achievable by other means such as reducing the frequency or length of time of exposure, the number of personnel exposed, issuing suitable personal protective equipment and providing welfare facilities such as first aid and facilities to wash and remove contamination.

The hierarchy above is in order of preference; with elimination being regarded as most effective followed by substitution, enclosure and reduction of exposure in that order.

The legislation requires that risk be reduced to “as low as reasonably practicable”.

This means that the cost in terms of time, money, effort and inconvenience, of putting in place risk control or reduction measures may be weighed against the quantum of risk reduction achieved by implementing those measures. If the cost outweighs the

quantum of risk reduction then it may be argued that it is not reasonable to implement the control measures.

This does not mean that the risk is left undiminished. Control measures that are more reasonably practicable should then be identified and put in place.

Example

An example of this process could be that an experimental rig contains a machine which emits noise at levels in excess of the action levels given in the Noise at Work Regulations.

The rig has a proposed life of 6 months only. The first control measures examined would be elimination or, failing that, substitution with a quieter model. If the machine is essential for the research project and no quieter alternative can be found, consideration should then be given to enclosing it in a noise reducing containment. It may be felt that, given the cost of such containment and the proposed life of the rig, this is not reasonably practicable. As a last resort, the number of personnel put at risk could be reduced by restricting access to the laboratory and appropriate hearing protection could then be issued to those still at risk.

It must be emphasised that this is not a justification that allows departments to opt for an easy option or the cheapest solution. All such decisions must be justified and are subject to scrutiny by Resilience & Safety and, potentially, the Health & Safety Executive or Local Authority Environmental Health Office.

Ultimately, such decisions may have to be defended in a court of law. Decisions on what is or is not reasonably practicable should therefore be taken on that basis.

Also, if it were decided that the lifespan of the rig were to be extended then a reassessment could decide that the sourcing and fitting of such a noise reducing enclosure had now become reasonably practicable.

Step 4 - Recording the Findings

It is necessary to record the findings or the risk assessment as, without such a record, it is impossible:

- to prove to insurers, inspectors, management etc. that a risk assessment has been carried out
- to distribute, to those who may be at risk, the findings of the risk assessment and the control measures put in place
- for supervisors and management to ensure adherence to the requirements of the control measures, and
- to review the risk assessment and, where necessary, revise it.

Only the significant findings of the risk assessment need be recorded. In practice, this means writing down the significant hazards, the risks arising from them, the persons or groups who may be at risk, the degree of risk arising and the control measures put in place to reduce the risks for each hazard.

Example

For example, in a research installation, the hazard may be “exposed electrical wiring at connections”. The risk could be that “those using the equipment and entering the workplace are liable to injury from exposed electrical connections and possible breakdown of equipment due to faulty wiring”. The control measures could be: “insulation and earthing checked by competent person and found sound. All exposed connectors enclosed behind securely fixed panels.”

The risk assessment must be recorded on the University of West of Scotland risk assessment pro-forma (see appendix 1). The identification and recording of information is important, not the structure of the assessment. However, the information should be presented in an easily understood form. The risk assessment should contain a summary giving an overall picture of risks identified and control measures put in place.

The record of the risk assessment must be made available to all those who may be exposed to the hazard and risk. This can be achieved either by distributing copies of the risk assessment to all of those personnel or by placing the risk assessments in an easily accessible point. It is not however sufficient merely to make them available - instruction, training and supervision must be given to ensure that the risk assessments are read, understood and adhered to. For risk assessments covering hazards where members of the public could be injured, then restriction of access, appropriate signage and, where access is desirable (e.g. open days, school visits etc.), adequate supervision to prevent contact with the hazard will be more reasonably practicable than instruction and training or distribution of copies of the risk assessments.

Step 5 - Review and Revision

Risk assessments should be reviewed and assessed at regular intervals. The interval will depend on the complexity of the operation, the likelihood of change and the degree of risk involved but should be at least annually and certainly at no greater than 2 year intervals.

The assessment should be revised where there are significant changes to the operations assessed, e.g. the introduction or replacement of equipment, materials or substances, introduction of new personnel with a different level of expertise from those they replace or extension of the proposed lifetime of the process or operation.

There is no need to review assessments for equipment or processes that are no longer in use. However, if such equipment or process is brought back into use, then the risk assessment must be reviewed. Review and reassessment should not merely support decisions made previously but should be a fresh assessment of the risk.

g. Freedom Of Information (Scotland) Act

Copies of risk assessments and reviews and revisions may be requested under the above act. The supposition would be that these risk assessments would then be made available to the person requesting them. It is thought unlikely that there would be grounds for exemption of risk assessments from such requests.

h. Generic Risk Assessments

These may be written for groups of similar hazards. Examples of these could be a manual handling risk assessment for Facilities Management Operatives (FMO's) involved in moving all types of office furniture about the campus, or a risk assessment for access to roofs on all buildings of the University. Great care must be taken, however, to ensure that such generic risk assessments are not so broad that they lose their meaning. The generic risk assessment should only cover hazards of a similar type and degree of risk, which are incurred by the same group and which require the same broad control measures. Generic risk assessments must be reviewed and reassessed routinely and must always be reviewed prior to their use being extended to groups or individuals not taken account of in the last assessment.

i. Standard of Care

It should be remembered that risk assessments must be suitable and sufficient and show the exercise of due diligence. This does not mean that they have to be perfect, but that they should show that; a proper and honest assessment was made, those who could be affected were identified, all the obvious significant hazards (taking into account the number of people at risk) were identified and dealt with, the precautions put in place are reasonable and that the residual risk has been reduced to "as low as reasonably practicable". It is not a criminal offence to carry out a risk assessment and not achieve perfection. It **is** a criminal offence not to assess a significant risk!

It is not necessary to remove all risk. The Health & Safety at Work etc. Act 1974 and regulations made under it require that risk be reduced to as "low as reasonably practicable". This implies the acceptance of some residual risk. However, risk assessment and control of risk must be done in a realistic manner, exercising due diligence.

For complex processes, the risk assessment may be broken down into areas of risk, either by individually assessing each phase of a project, (e.g. the delivery phase, the assembly phase, the test phase, the routine use phase, etc.), or by assessing the risks from groups of hazards encountered during all the phases within an operation or process (e.g. the manual handling hazard, the electrical hazard, the chemical hazard, etc.).

When carrying out a risk assessment on a project it may not always be necessary to begin with a blank sheet of paper on each occasion. Some or most of the hazards contained within that project may already have been assessed for risk.

Therefore the risk assessment for a project may contain a generic manual handling risk assessment carried out for various manual handling operations within a department or, alternatively, chemicals used within the process may already have had a COSHH risk assessment carried out on them for a previous similar usage.

It is possible, therefore, that a risk assessment for a process, while it may be quite complex, may consist of a variety of smaller, simpler risk assessments connected together by a cover sheet or contents page.

As already stated above, care must be taken however to ensure that if, e.g. a previously written COSHH risk assessment is "co-opted" into another, larger risk

assessment, this smaller risk assessment is relevant to the operations being carried out.

Example

For example, a risk assessment for the use of 50 millilitres of sulphuric acid in an undergraduate laboratory will not be relevant to the use of 20 litres of sulphuric acid in a quasi-industrial process in a research laboratory. This principle applies not just to COSHH risk assessments but to all generic risk assessments.

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What are the individual hazards?	Who might be harmed and how?	What are you already doing?	Do you need to do anything else to manage this risk?	Risk Level? (see method)	Action by whom?	Action by when?	Done

Any additional information:

Give details of any significant residual risks identified above requiring controls and actions still required to reduce these risks. If no significant residual risks are identified, or if no reasonably practicable controls can be put in place, then this must be noted here.

For further information and to view example risk assessments go to <http://www.hse.gov.uk/risk/casestudies/>

Risk Assessment Method

In order to assess a risk associated to a hazard, two factors need to be considered:-

The possible severity of the outcome

Realistically, what is the worst likely outcome? This method defines three categories of severity:-

- Slightly harmful
- Harmful
- Extremely harmful

The likelihood of the outcome to occur

How likely is it that the severe outcome will occur? Three categories are defined:-

- Highly unlikely
- Unlikely
- Likely

Once those two factors are assessed, the matrix below can be used to determine the level of risk. This information can then be used to prioritise any control measures necessary to eliminate or reduce the risk to an acceptable level.

	Slightly Harmful	Harmful	Extremely Harmful
Likely	MEDIUM RISK	HIGH RISK	HIGH RISK
Unlikely	LOW RISK	MEDIUM RISK	HIGH RISK
Highly Unlikely	LOW RISK	LOW RISK	MEDIUM RISK