



**Science & Technology**  
Facilities Council

## **STFC SHE Codes – Summary**

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# STFC SHE Codes – the ‘easy read’ summary

STFC SHE Code	
<b>1 Lone Working</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>• entry into confined spaces;</li> <li>• handling biological, flammable or toxic materials;</li> <li>• working with asphyxiants or in areas with oxygen depletion systems;</li> <li>• significant manual handling activities;</li> <li>• working “on call”;</li> <li>• work with high pressure systems; or</li> <li>• working in high temperatures or outdoors in extreme weather condition.</li> </ul> <p><b>Roles Affected</b></p> <ul style="list-style-type: none"> <li>• All persons on STFC sites</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• None identified</li> </ul>	<p>The demands of scientific experimentation, and technology development/testing often result in STFC staff and others working alone. Lone working does not always occur in isolated locations. Such work can occur at any time during the working day and can be associated with long or extended working hours or working out of normal working hours including weekend/bank holiday working. This is a natural part of the culture associated with scientific endeavour, cutting edge technology development, operating facilities or delivering 24/7 services.</p> <p>In these circumstances the safety controls, support and communication channels present when working alongside colleagues for example in the event of a fire, equipment failure, illness or injury, may be different or absent and need to be considered. Fatigue is an extra factor to be considered when working long or extended hours, in particular out of normal working hours.</p>

## 2 Safe Movement of Vehicles on STFC Sites

<p><b>Hazards</b></p> <ul style="list-style-type: none"><li>• Movement of vehicles in close proximity to pedestrians.</li></ul> <p><b>Roles Affected</b></p> <ul style="list-style-type: none"><li>• All persons on STFC sites</li></ul> <p><b>Training</b></p> <ul style="list-style-type: none"><li>• None identified</li></ul>	<p>The STFC operates several large sites for which the management of vehicular traffic is an important aspect of site safety, and is committed to preventing incidents involving vehicles and pedestrians on its sites.</p> <p>This code requires that site estates managers produce and maintain a 'site vehicle transport' risk assessments to ensure, where possible, the safe movement of all vehicles and the separation of vehicles and pedestrians. Managers responsible for activities inside buildings involving vehicles, for example fork lift trucks, should also undertake a risk assessment to ensure that pedestrians are not endangered.</p> <p>The code also requires that, where the usual routes for pedestrians or traffic are disrupted by activities such as construction work, safe alternatives must form part of any activity or project risk assessment and that these must be agreed with the relevant manager.</p> <p>The code requires that the Highway Code is adhered to by everyone on STFC sites - pedestrians and car, van, motorbike, or bicycle users.</p>
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## 3 Safe Use of Cryogenic Materials

<p><b>Hazards</b></p> <ul style="list-style-type: none"><li>• Exposure to cold surfaces and materials</li><li>• Asphyxiation, explosion of pressure systems</li><li>• Embrittlement of materials.</li></ul> <p><b>Roles Affected</b></p> <ul style="list-style-type: none"><li>• Staff</li><li>• Contractors</li><li>• Research scientists</li><li>• Persons working in the area.</li></ul>	<p>Many of the safety precautions observed for compressed gases also apply to cryogenic liquids with the addition of extremely low temperatures and vapourisation of the cryogens. Probably the most insidious risk is from asphyxiation since most of the cryogens used are colourless, odourless, and heavier than air and where 1 litre of liquid cryogen can produce hundreds of litres of gas.</p> <p>Many of the large experimental facilities operated by the STFC involve the use of cryogenic materials and therefore can affect many people in the vicinity. A key component of reducing the risks posed by cryogenic materials is through the documented risk assessment process and the requirement for well maintained oxygen depletion systems where they are required. Example calculations for both sudden release and normal evaporation of a cryogen are provided as an aid to determining reduction in oxygen levels. The requirement for good ventilation should also not be overlooked. Adequate information, instruction and training as to the hazards associated with cryogenic materials must be given to those working with such materials and those in the vicinity of such hazards. Documented emergency procedures must be in place in the event of a cryogenic liquid spillage.</p> <p>Although there is no specific safety legislation relating to cryogenic materials many of the risks are addressed through other COSHH, PUWER, DSEAR, Confined Space Regulations and the Pressure Systems (Safety) Regulations</p>
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## 4 Safety and Safe use of Work Equipment

<p><b>Hazards</b></p> <ul style="list-style-type: none"><li>• Physical injury through failure of an item of Work Equipment</li><li>• Loss of time and money through failure.</li></ul> <p><b>Roles Affected</b></p> <ul style="list-style-type: none"><li>• Staff, Visitors, tenants, and those responsible for contractors who may specify, design, manufacture, build, install, use or maintain any item of equipment that is used at work.</li></ul> <p><b>Training</b></p> <ul style="list-style-type: none"><li>• General guidance on the training for all Work Equipment Users.</li><li>• Specific Training requirements for users of specified pieces of work equipment: PPE; Ladders; LEV; Hand Tools; Scaffolding; Abrasive Wheels; Machinery; FLTs and MEWPs.</li></ul>	<p>The work of the STFC involves the specification, design, manufacture, build, installation, use and maintenance of a wide variety of work equipment. Work equipment covers almost any powered (by any means including human) or mechanised item that is used at work – anything that in use presents a physical hazard.</p> <ul style="list-style-type: none"><li>• Includes hand tools, workshop type equipment, access equipment and lifting equipment.</li><li>• Does not include chemicals, cars, vans, or electrical equipment that does not physically do something.</li></ul> <p>The code requires that managers ensure:</p> <ul style="list-style-type: none"><li>• Any Work Equipment is fit for purpose and used for activities and under conditions for which it is suitable.</li><li>• The use of Work Equipment is risk assessed as part of an activity’s risk assessment.</li><li>• Work Equipment meets the relevant Legislative requirements for it (Usually shown by “CE” marking). Work Equipment made in house for STFC use needs to meet the relevant legislative requirements but does not need “CE” marking.</li><li>• Work Equipment needs to be checked on a regular basis, maintained in good working order, and for higher risk equipment maintenance schedules and procedures should be documented.</li><li>• Work Equipment should be examined, inspected and tested with a frequency dependent on the equipment and the conditions it is used under.</li><li>• All persons using Work Equipment are trained and experienced in its use.</li></ul> <p>The code requires that users ensure:</p> <ul style="list-style-type: none"><li>• They are familiar with the equipment and associated risk controls detailed in the risk assessment.</li><li>• Wear PPE as defined in the risk assessment, and store it appropriately when not wearing it.</li><li>• Undertake basic pre-use inspections of Work Equipment.</li></ul> <p>The code does not establish any new roles.</p>
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## 8 Travel on Council Business

<p><b>Hazards</b></p> <ul style="list-style-type: none"><li>• Driving long distances</li><li>• Travel to High Altitude</li></ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"><li>• STFC Professional Drivers</li><li>• Staff visiting JAC or ING</li></ul>	<p>This code is important for managers of staff and staff travelling as part of their work. Travelling, especially driving, is in general the most hazardous activity that staff undertake while working for the STFC. The code requires that consideration is given to undertaking a documented risk assessment for 'unusual' journeys/trips that <b>do not</b> fall within the following examples where template risk assessments exist:</p> <p>Driving in the UK, Conventional Western Europe (CWE) and North America</p> <p>Overseas travel to outside of CWE and North America</p> <p>Specific requirements highlighted include: need for defensive driver training if you drive &gt;3000miles/year on business; banning the use of hands free mobile phones when driving; need for high altitude medicals when visiting sites above 10,000'; and the need to have a breaks every 2.5hours when driving and avoiding driving at the end of long working days (12hours);</p> <p>It does not apply to travel from your home to normal place of work</p>
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## 9 Work at Heights

<p><b>Hazards</b></p> <ul style="list-style-type: none"><li>• Working on roofs</li><li>• Working on any raised platform</li></ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"><li>• Maintenance staff</li><li>• Estates inspection staff</li><li>• Staff in area of work at height</li></ul>	<p>Falls from height, any height, is an easily recognised hazard that can result in serious injury. This code is relevant to anyone working or managing others, including contractors, where falls are possible.</p> <p>Where possible working at height should be avoided eliminating the hazard. Where it can not consideration should be given to undertaking a documented Risk Assessment considering those undertaking the work, the provision of Personal Protection Equipment (PPE) for example harnesses, rescue plans, and importantly those that may be affected by it – passers by.</p> <p>Work on roofs is a particular example of working at height for which special care should be taken – the code introduces for roofs that do not have safety barriers the need to undertake the work under a Permit to Work. The code includes guidance on the use of and working from ladders.</p>
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## 11 Work in Confined Spaces

<p><b>Hazards</b></p> <ul style="list-style-type: none"><li>• Asphyxiation</li><li>• Explosive atmospheres</li></ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"><li>• Maintenance staff</li><li>• Estates inspection staff</li></ul>	<p>A confined space, spaces where getting in and out is a problem and where hazardous or toxic atmospheres can build up, is an easily overlooked hazards. STFC examples could include large sample chambers or detectors, drains, sewers, and tunnels. This code is relevant to all managers who are responsible for activities that take place in confined spaces.</p> <p>Where ever possible it is best to avoid entering such spaces – where it can not - a prior Risk Assessment must be carried out before agreeing a written method statement or system of work. These must consider how a rescue might be undertaken - without endangering rescuers. Because of the nature of this hazard all work in confined spaces must be carried out under a 'Permit to Work' issued by an Authorised Issuer. This equally applies to contractors working for us.</p>
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<b>12 Manual Handling</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>Musculoskeletal injuries from lifting, twisting or repetitive tasks</li> </ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>All staff</li> </ul>	<p>This code is important for <b>everyone</b>, particularly managers of those involved in lifting heavy objects by hand. Bad backs resulting from poor lifting technique, repetitive tasks, or lifting heavy objects are common in the UK's workforce - resulting in lost time and long lasting restrictions to mobility.</p> <p>The code does not require documented Risk Assessments are conducted for every object lifted or moved but encourages managers to review the work that their staff undertake identifying particularly difficult or repetitive lifts. By documenting a manual handling risk assessment for these managers and staff can consider how to eliminate the need to lift or move objects or minimise the risks by using specialist lifting tools/equipment and correct – kinetic lifting techniques.</p>
<b>13 Construction (Design and Management)</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>All hazards associated with construction projects</li> <li>Design of items used in any construction project</li> </ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>Staff involved in building/construction projects</li> <li>Designers of scientific equipment</li> </ul>	<p>Construction is one of the most hazardous activities undertaken and consequently is increasingly the focus of legislative controls. This code is relevant to anyone responsible for managing construction or demolition projects, though not generally to the construction of experimental equipment.</p> <p>This code implements the Construction (Design and Management) [CDM] regulations which define the roles and responsibilities of the 4 key duty holder involved in any construction project: the Client; the Designer; the Principal Contractor (contractors and workers) and the CDM Co-ordinator. Within the STFC staff may fulfil all 4 roles or some may be provided by external specialists. Some CDM projects must be notified to the Health and Safety Executive (HSE) prior to commencement – those lasting more than 30 days or involving more than 500 person days, and those worth more than £300K require the generation of a Site Waste Management Plan (SWMP).</p>
<b>14 Radioactive sealed sources</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>Exposure to ionising radiations</li> </ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>Research scientists</li> <li>Scientific support staff</li> <li>(contractors)</li> </ul>	<p>This code is likely to affect you only if you work with sealed radioisotope sources — sources in which the active radioactive material is completely isolated inside a sealed container (often double-walled). Sealed sources can be used for many purposes, but in STFC are likely to be used mostly for calibrating health physics radiation dose rate monitors or for checking particle counters (e.g. neutron detectors on ISIS).</p> <p>The code addresses all aspects of sealed source management, their: purchase; storage; use; movement and transport; and disposal. All sealed sources must be purchased through the site Radiation Protection Advisor (RPA). At the heart of the code is the appointment of Radiation Protection Supervisors (RPSs), trained people who are made responsible for the safe use and safe keeping of a defined set of sealed radioisotope sources by implementing 'Local Rules' for their management. The whereabouts of all sealed sources at all times must be recorded in radiation accountancy systems such as ISOSTOCK software.</p>

<b>15 Management of Contractors</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>• Staff working with or near contractors</li> <li>• Contractors</li> </ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>• All staff</li> <li>• Contract Supervising Officers</li> </ul>	<p>Contractors undertake much work on behalf of the STFC from specialist equipment engineers through gardeners and catering staff to builders. This code applies to anyone responsible for such staff – <b>Contract Supervising Officers (CSOs)</b>. The STFC, and CSOs, have specific safety responsibilities to the contractors that work for us – most important being that we give them all the information they need to undertake their work safely on our sites.</p> <p>The code outlines how these responsibilities can be exercised by CSOs - reviewing the documented risk assessments contractors undertake for the work they are planning and that their work Method Statements include the controls identified in the risk assessment and the hazards that we know about. Once work commences the CSOs should monitor the progress of work to ensure that contractors following the agreed method statement and that their safety behaviour is acceptable. Documented Risk Assessments and Method Statements are not required for all activities but are increasingly the standard approach to managing contractor safety.</p>
<b>16 Biological Safety</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>• Hazardous substances</li> <li>• Allergens</li> <li>• GMOs</li> </ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>• Research scientists</li> <li>• Scientific support staff</li> <li>• (contractors)</li> </ul>	<p>Bio hazards are a relatively new hazard for the STFC, which like radiation it is generally invisible and can have significant health implications. Relevant to anyone working with bio hazardous materials including Genetically Modified (GM) materials, and human tissues. The code covers the secure handling and disposal of such materials. Sites where biological hazards are present need to:</p> <ul style="list-style-type: none"> <li>• establish Biological Safety ( GM Safety ) Committees to consider biological work planned and their risk assessments; and</li> <li>• seek the advice of a competent Biological Safety Officer for work planned documented in risk assessments</li> </ul> <p>A wide range of detailed advice and guidance in biological material handling, control and disposal is provided.</p>
<b>17 Portable Electrical Equipment</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>• Contact with electricity from faulty equipment or tools</li> </ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>• All staff</li> </ul>	<p>This code is relevant to <b>all STFC staff</b> as it relates to the electrical hazards – electric shocks - that can arise from using poorly maintained mains powered electrical equipment. The STFC has over 60,000 items of portable electrical equipment for which the code defines the process by which portable electrical equipment is tested and marked with a test date by trained staff. Previously referred to as Portable Appliance Testing (PAT) electrical equipment should only be used if it has a valid test date label. Perhaps most important however –always visually inspect electrical equipment prior to using it – “if it doesn’t look right it probably isn’t”. PAT is divided into Schedule B – typically IT equipment tested 4 yearly, and Schedule A equipment most other electrical equipment tested annually.</p>

<b>18 Noise at work</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>• Noise induced hearing loss</li> <li>• Tinnitus</li> </ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>• Staff using heavy machinery</li> <li>• Staff in vicinity of heavy machinery or equipment</li> </ul>	<p>Noise induced hearing loss and ‘ringing in the ears’ (Tinnitus) are common symptoms that arise when someone is exposed to prolonged and loud noise. As a rule of thumb a noise hazard may exist when two people need to raise their voices to hold a normal conversation when 2m apart. This code is relevant to all managers responsible for areas where noise is a hazard to staff, contractors and others.</p> <p>The code establishes the role of a Noise Assessor who will undertake a noise assessment for managers responsible for noisy areas recommending remedial action and appropriate use of Personal Protective Equipment (PPE) as determined by the legally defined Lower and Upper Action Values, 80 and 85 dB(A) respectively. Where staff work in such areas regular hearing tests may be necessary, undertaken by local Occupational Health teams, to identify the early sign of damage to hearing.</p>
<b>19 Work on Buildings</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>• Exposure to electricity (concealed services)</li> <li>• Exposure to asbestos</li> <li>• Incorrect installation (load bearing etc.)</li> </ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>• Maintenance staff</li> <li>• All staff through incorrect installation or disturbance of asbestos</li> </ul>	<p>Relevant to anyone wishing to modify the fabric of the buildings in which they work from drilling holes into walls, through to knocking walls down or new buildings, to re-wiring or plumbing in services. The fabrics of buildings are the responsibility of site estates teams who understand through their experience of the site and site drawings the hazards they contain. Typical examples include - concealed electric cables, water pipes, gas lines, and asbestos through to the load bearing capacity of floors and walls, to fire management equipment – fire escapes, fire doors, alarm systems etc.</p> <p>The code establishes the role of approved “<b>Building Work Co-ordinators</b>” (BWCs) – the only staff permitted to manage work affecting the fabric of the building. BWCs will be competent to understand the hazards in the building and manage work on them, ensure that site drawings are maintained, and that work affecting fire safety is reviewed by SHE Group so that the implications of work undertaken on Fire Risk Assessment is considered.</p>
<b>20 Controlling Flammable and Explosive Gasses and Dusts</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>• Exposure to flammable atmospheres</li> <li>• Exposure to flammable dusts</li> </ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>• Research scientists</li> <li>• Scientific support staff</li> <li>• Persons in area of work</li> </ul>	<p>This code is relevant to anyone using gases or generating dusts which are combustible or could result in an explosion when exposed to sources of ignition. Typical examples include - methane, solvent vapours, natural gas, wood dusts, welding gases etc. The code outlines for simple situations such as handling small quantities of flammable substances, less than 1 litre, and the control of flammable gas cylinders the need to under take a risk assessment and the control measures required. Example risk assessments are included. More complex situations will require the advice of specialist expertise the names of whom can be provided by SHE Group</p>

<b>21 Management of Radioactive Wastes</b>	
<b>Hazards</b> <ul style="list-style-type: none"> <li>• Exposure to ionising radiations</li> </ul> <b>Roles affected</b> <ul style="list-style-type: none"> <li>• Research scientists</li> <li>• Scientific support staff</li> </ul>	<p>Relevant to anyone working with radioactive materials or equipment generating radiation. Addresses radioactive wastes in all forms: solid, liquid and gaseous and cover their storage, control, security and disposal. Most importantly the option to avoid creating radioactive waste is stressed avoiding the need for its time consuming and costly disposal.</p> <p>It defines the roles of Radioactive Waste Consignors, to identify and consign radioactive wastes to the control of a site Radioactive Waste Manager who ensures it is suitably characterised, consolidated, labelled and disposed through Environment Agency approved disposal channels.</p>
<b>22 Working with Lasers</b>	
<b>Hazards</b> <ul style="list-style-type: none"> <li>• Eye damage</li> <li>• Skin damage/burns</li> </ul> <b>Roles affected</b> <ul style="list-style-type: none"> <li>• Research scientists</li> <li>• Scientific support staff</li> </ul>	<p>Lasers, in particular the powerful lasers employed in the STFC – infra-red and ultra-violet - class 3B and 4, and pulsed lasers, can result in thermal and photochemical burns to skin, and eyes in particular, the latter resulting in permanent visual impairment. This code is relevant to managers of staff and staff working with lasers of any type.</p> <p>The code establishes a hierarchy of responsibilities for laser management, these are:</p> <p><b>Overall Laser Responsible Officer (OLRO)</b> – advising LROs and staff on laser safety, investigating laser incidents, controlling changes in laser use; and undertaking laser inspections;</p> <p><b>Laser Responsible Officer (LRO)</b> – appointing and training LNPs to work with lasers, approving and supervising the proposed work of LNPs, and maintaining laser documentation; and</p> <p><b>Laser Nominated Person (LNP)</b> – approved to follow laser standing orders.</p> <p>A range of practical advice is included defining expected standards of laser safety.</p>
<b>23 Managing Risks from Strong Time-Varying Electromagnetic Fields – including RF and Microwave Power Sources</b>	
<b>Hazards</b> <ul style="list-style-type: none"> <li>• Head-ache</li> <li>• Disorientation</li> </ul> <b>Roles affected</b> <ul style="list-style-type: none"> <li>• Research scientists</li> <li>• Scientific support staff</li> </ul>	<p>This code is likely to affect you only if you work with equipment such as radio transmitters, radar sets, or radio-frequency (RF) and/or microwave power systems associated with particle accelerators or RD antennas. The code describes how people are protected from the energy radiated from transmitting aerials and from other high power RF systems. At the heart of the code is the appointment of Electromagnetic Field Protection Advisors (EPAs), experts on particular RF systems and who undertake measurements of EMF and are responsible for ensuring that these RF systems do not present significant hazards to people. The code establishes action values above which documented risk assessments must be undertaken and limit values electric and magnetic field strengths at which Occupation Health assessment is required.</p>

## 25 Safe Use of Display Screen Equipment

<p><b>Hazards</b></p> <ul style="list-style-type: none"><li>• Head-aches</li><li>• Backache</li><li>• Upper limb pain and disorders</li></ul> <p><b>Roles affected</b></p> <p>Virtually all STFC staff, temporary workers and tenants</p> <p><b>Training</b></p>	<p>The widespread use of computers in the STFC means that hazards arising from the incorrect set up of DSE and workstations can apply to virtually everyone.</p> <p>The code requires that SHE Group provide advice to managers and staff, and gives line managers the responsibility for ensuring that all their staff undertake:</p> <ul style="list-style-type: none"><li>• DSE user training – now available on-line; and</li><li>• a DSE Self Assessment of their workstation – also on line in SHE Enterprise – when setting up a new workstation, when the workstation changes significantly or when a problem is suspected.</li></ul>
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## 26 Lifting Equipment

<p><b>Hazards</b></p> <ul style="list-style-type: none"><li>• Injury from badly maintained equipment or from incorrectly slung loads.</li></ul> <p><b>Roles affected</b></p> <p>Any member of staff or visitor in the area of the lift</p> <p><b>Training</b></p>	<p>The failure and/or misuse of lifting equipment has the potential to cause serious personal injury and significant damage to property and the failure of any load-bearing part of any lifting equipment is reportable to the Health and Safety Executive as a Dangerous Occurrence under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (1995) (RIDDOR). The STFC has over 5000 registered items of lifting equipment.</p> <p>All new lifting equipment purchased or designed in house, needs to be tested, provided with a Certificate of Conformity and registered for inspection. Once registered all lifting equipment and lifting accessories (eye bolts, slings etc) need to be regularly inspected by a competent assessor and stored safely to prevent damage.</p> <p>Staff using lifting equipment need to be trained and competent to manage or supervise lifts, and any incidents involving lifting equipment reported to SHE Group.</p>
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<b>27 Receipt and Dispatch of Hazardous Substances</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>• Exposure to hazardous substances.</li> <li>• Fire hazard from incorrectly packaged substances</li> <li>• Environmental damage from leaking containers.</li> </ul> <p><b>Roles affected</b></p> <p>Logistics staff dispatching and receipting packages.</p> <p>Staff or contractors transporting packages for STFC</p> <p><b>Training</b></p>	<p>The nature of work at the STFC involves the movement of hazardous substances, referred to in transport matters as Dangerous Goods. These are substances which can cause harm to people, pose a fire hazard, can be explosive, or chemicals which would pollute the environment if released.</p> <p>The STFC has a responsibility to ensure that any chemicals that leave its sites do so safely. This includes chemicals bought in by third parties as the STFC assumes partial liability for their safe transport when leaving STFC sites. The off site movement of hazardous materials is subject to extensive legislative control requiring accurate transport documentation.</p> <p>This code establishes the role of the Dangerous Goods Safety Advisor (DGSA) to provide advice to managers and staff on packaging requirements and legislative controls for hazardous materials being transported by road, sea or air.</p>
<b>28 Management of Radioactive Open Sources</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>• Exposure to ionising radiation</li> </ul> <p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>• Research scientists</li> <li>• Scientific support staff</li> <li>• Contractors</li> </ul> <p><b>Training</b></p>	<p>Ionising radiation is emitted by a variety of sources and equipment used at the STFC. The STFC places a high importance on the control of this hazard and takes into account the type of radiation, its intensity and potential for exposure when devising control measures.</p> <p>For all STFC sites this code prescribes management arrangements for radioactive open sources — from acquisition, through use and storage, to disposal by STFC. The arrangements include the assignment of specific responsibilities to staff.</p> <p>Radioactive open sources include:</p> <ul style="list-style-type: none"> <li>• radioactive materials which are not classed sealed sources, for example: radioactive liquids; gases; and powders (excluding such materials categorised as waste);</li> </ul> <p>samples of materials, equipment or shielding which initially are not radioactive but which become radioactive through a process carried out by STFC (such as experimental samples for measurement on some neutron beam lines in ISIS);</p>

<b>29 Management of Ionising Radiation at Work</b>	
<p><b>Hazards</b></p> <p>Exposure to ionising radiation</p> <p><b>Roles affected</b></p> <p>Anyone working with ionising radiation:</p> <p>Research Scientist; Scientific support staff; Contractors</p> <p>Anyone entering an area where work with ionising radiation takes place:</p> <p>Cleaners; Maintenance staff and contractors; Visitors</p> <p><b>Training</b></p>	<p>This code is relevant to anyone who works with ionising radiation or anyone who enters an area where work with ionising radiation takes place. The code sets out the principle of keeping personnel doses as low as reasonably practicable and provides a framework for the management of radiation hazards underpinning the related radiation codes for the Management of Radioactive Sealed Sources, Management of Radioactive Waste and Management of Radioactive Open sources (in draft).</p> <p>The code outlines the appointment of Radiation Protection Adviser (RPAs), Radiation Protection Supervisors (RPSs), appointed doctors to provide health surveillance and an approved dosimetry service. It also requires that areas, where work with ionising radiation takes place, are designated and that people who work within those areas are suitably classified. A documented prior risk assessment and local rules are also required for work with ionising radiation.</p> <p>Prior to any new work involving ionising radiation hazards or changes to existing radiation hazards or their controls the advice of the RPA should be sought.</p> <p>If you don't know who your RPA or RPS is - try looking them up in the new STFC SHE Directory.</p>
<b>31 Controlled and Hazardous Waste</b>	
<p><b>Hazard</b></p> <ul style="list-style-type: none"> <li>• Nuisance caused by waste escaping from STFC sites</li> <li>• Exposure to hazardous substances</li> <li>• Damage to the environment through spillage of hazardous material</li> </ul> <p><b>Roles Affected</b></p> <p>Waste Disposal Officers</p> <p>Staff or contractors generating waste</p> <p><b>Training</b></p>	<p>The STFC Environment Policy makes it clear that the disposal of waste should be considered to be an act of last resort and that, in priority order, alternatives such as avoiding the creation or minimising the generation of wastes and re-using or recycling waste should be considered when planning work or projects.</p> <p>The STFC has a 'Duty of Care' to ensure that any waste it generates - Controlled Wastes - is stored safely and securely on any STFC site and that it is disposed of only through licensed disposal routes and carried by licensed waste carriers. Ensuring such is are the duties of the Waste Disposal Officers (WDOs) and Dangerous Goods Safety Advisors (DGSAs).</p> <p>Some STFC wastes are also classified as Hazardous Wastes (or Special Waste in Scotland), for example chemical wastes, and this is subject to more stringent disposal requirements.</p> <p>There are also specific requirement to separate certain types of waste from the general waste: Batteries; Waste Electrical and Electronic Equipment; and Fluorescent Tubes. This code does not address asbestos waste or radioactive waste which are covered by separate codes.</p>

<b>32 Fire and Emergency Management</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>• Fire</li> <li>• Hot Work</li> <li>• Site Emergencies</li> </ul> <p><b>Roles Affected</b></p> <ul style="list-style-type: none"> <li>• All staff, tenants, contractors</li> <li>• Directors</li> <li>• Building Fire Managers</li> <li>• Fire Safety Advisors</li> <li>• Building Wardens</li> <li>• Estates Teams</li> </ul> <p><b>Training</b></p>	<p>Fires and emergencies present a risk to everyone, and the ability to respond effectively and rapidly to them is a major factor in preventing injury and loss.</p> <p>This code addresses at a high level site emergency planning requiring each site documents, tests and routinely reviews the content of emergency plans.</p> <p>The code addresses all aspects of Fire Management at STFC sites: installation and maintenance of fire detection systems; provision of competent advice by Fire Safety Advisors and SHE Group; management of changes to the building fabric; the management of hot work; and most importantly the response expected of everyone in the event of a fire alarm. The code also outline 10 basic rules for fire Safety in the STFC - keeping you and everyone else safe.</p> <p>The code also provides very specific technical guidance for those involved with building construction or renovation work.</p>
<b>33 Pressure and Vacuum systems</b>	
<p><b>Hazards</b></p> <p>Potential explosion or implosion of systems.</p> <p>Loss of time and money through system failure.</p> <p><b>Roles Affected</b></p> <p>Staff designing, building, maintaining or using Pressure or Vacuum systems.</p> <p><b>Training</b></p> <p>No specific training courses identified.</p>	<p>The work of the STFC involves the design, manufacture, maintenance and use of a wide variety of pressure and vacuum systems. This includes systems such as heating plant; cryogen storage dewars; gas cylinders and supply pipelines; vacuum chambers used in experiments and compressors which are used in laboratory/workshop environments and by contractors working for the STFC, through to those systems brought to STFC facilities by facility users.</p> <p>The code requires that:</p> <p>Risk assessments are carried out prior to any pressure or vacuum system being used, maintained or repaired;</p> <p>Designers of such systems to document the safety of their design;</p> <p>Maintenance on high hazard systems is carried out under a permit;</p> <p>Pressure systems with a stored energy of more than 250 bar litres, or pressure and vacuum systems that contain protective devices must be registered with your local SHE Group to ensure they are receive a regular statutory inspection by an independent third party.</p> <p>The code establishes Pressure/Vacuum System Nominated Engineers, to approve designs and major modifications of pressure and vacuum systems, and the role of Pressure System Permit Issuers, to oversee work on high hazard systems</p>

<b>34 Electrical Safety</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>• Electrocutation</li> <li>• Electric fires</li> <li>• Electrical burns</li> </ul> <p><b>Roles Affected</b></p> <p>All staff, contractors, visitors and facility users.</p> <p><b>Training</b></p>	<p>This code establishes a hierarchy of electrical responsible officers: Authorising Engineers (electrical); Authorised Persons (Electrical); Nominated Persons (Electrical); Persons in Charge; and Accompanying Safety Persons to undertake electrical works. Live Electrical working – must be avoided whenever possible and only in exceptional circumstances authorised by an Authorising Engineer (Electrical) undertaken. The use of risk assessment and method statements are defined by the code for electrical work, supported by a range of pro formas for specific electrical works.</p> <p>STFC operations involve the widespread and pervasive use of electricity from low voltage/domestic electrical systems to high voltage distribution systems and scientific equipment. Electrical Safety is subject to extensive regulatory controls and codes of practice and applies to anyone working on STFC sites who specifies, designs, fabricates, procures, installs, tests, works on or near, commissions, operates, modifies, maintains/repairs, inspects, and decommissions electrical and electronic equipment – staff or contractors.</p> <p>This code, differentiates between two general types of electrical equipment with separate and detailed appendices for each:</p> <ul style="list-style-type: none"> <li>• Distribution Electrical Equipment – generally the responsibility of CSD Estates teams but also in some Departments; and</li> <li>• Experimental Electrical Equipment – for example ISIS, CLF, Radiation Test Facilities at DL</li> </ul>
<b>35 Management of Asbestos</b>	
<p><b>Hazards</b></p> <ul style="list-style-type: none"> <li>• Asbestos related chronic conditions</li> </ul> <p><b>Roles affected</b></p> <p>Maintenance staff and contractors.</p> <p>Staff and visitors in area where maintenance work is being carried out</p> <p><b>Training</b></p>	<p>Exposure to respirable, airborne, asbestos fibres can lead to a range of occupational diseases, for example mesothelioma for which there is no effective treatment or cure. Asbestos accounts for more work related deaths in the UK than any other cause - in particular for those in the building or building maintenance trades.</p> <p>The age of STFC sites and facilities is such that asbestos was regularly used during their construction. STFC's policy is the controlled management of known asbestos within buildings and the control of modifications to buildings where asbestos may exist, coupled with safe removal and disposal where this is the safer option.</p> <p>This code establishes site asbestos registers, managed by Estates teams, detailing the location and integrity of known asbestos. All work on the fabric of buildings must include reference to the asbestos register prior to commencement, and asbestos demolition surveys must be undertaken before refurbishment or demolition of areas.</p> <p>On finding asbestos or suspected asbestos containing materials all work must cease, the areas vacated and sealed, and Estates and SHE Group's informed.</p>

**37 COSHH**

<p><b>Hazards</b> Health hazards from chemicals.</p> <p><b>Roles Affected</b> Staff working with hazardous substances or near work involving such chemicals</p> <p><b>Training</b></p>	<p>The work of the STFC involves the manufacture, storage and use of a wide variety of potentially hazardous substances. This includes substances such as cleaning chemicals; dusts; fumes; gases; paints; oils and coatings which are used in office/work environments and by contractors working for the STFC, through to those typically used in chemistry laboratories and research environments including, nano-materials and the unusual and diverse materials brought to STFC facilities by facility users.</p> <p>The code requires that safety assessments are carried out where any use of potentially hazardous substances is proposed. Any such safety assessment should first consider whether a non-hazardous alternative would be suitable.</p> <p>The code establishes COSHH Assessors to assist with the assessment of hazardous substances and to advise on suitable control measures where appropriate..</p>
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<b>38 Control of Legionella</b>	
<p><b>Hazards</b></p> <p>Health hazard from Legionella bacteria</p> <p><b>Roles Affected</b></p> <p>Staff working on or near water systems</p> <p><b>Training</b></p>	<p>Legionella are a range of bacteria widespread in natural fresh water which can, if they proliferate, cause Legionnaires' disease or Legionellosis - potentially fatal forms of pneumonia. In the UK there are between 200 and 300 cases per year of which approximately 30 are fatal.</p> <p>While the ecology of Legionella in water systems is not fully understood, in the laboratory, it will grow optimally in stagnant nutrient rich water in the temperature range 20°C to 45°C (body temperature - 37°C) and pH 6.5-7.5. Water contaminated by Legionella only presents a risk when it is dispersed in air in the form of an aerosol (very fine water droplets / spray) such as that from a shower. Legionnaires disease can be contracted where there are opportunities to inhale infected water droplets.</p> <p>The code establishes STFC standards and arrangements for the management and control of Legionella risks at STFC premises minimising, avoiding or preventing infection.</p>
<b>39 Working with Static Magnetic Fields</b>	
<p><b>Hazards</b></p> <p>Injury from flying objects.</p> <p>Problems with metallic implants or electronic medical devices.</p> <p><b>Roles Affected</b></p> <p>Staff, contractors and users working in the vicinity of magnetic fields.</p> <p><b>Training</b></p>	<p>Static magnetic fields are used in a range of applications across the STFC sites, for example superconducting magnets in NMR machines or permanent magnets in particle accelerators. The code aims to minimise so far as is reasonably practicable, the health and safety risks to staff and other persons who may be affected by static magnetic fields.</p> <p>While the biological affects of strong static magnetic fields are subject to current debate and investigation there are clear hazards associated with such fields arising from their impact on implanted medical devices, specifically magnetic or electronic devices for example pace makers, and their ability to attract magnetisable objects at distance and speed (projectile and crush incidents).</p> <p>This code applies to all static magnetic fields in areas readily accessible to people. The code requires the establishment of documented procedures for work in and control of access to areas where fields greater than 0.2T are present, and the posting of hazard warning signs at the boundary of areas with magnetic fields greater that 0.5mT (5 Gauss).</p>

## 41 Controlling Pollution

<p><b>Hazards</b></p> <ul style="list-style-type: none"><li>• Pollution of controlled water courses</li><li>• Land</li><li>• Site Emergencies</li></ul> <p><b>Roles Affected</b></p> <ul style="list-style-type: none"><li>• All staff, tenants, contractors</li><li>• Directors</li><li>• Estates Teams</li></ul> <p><b>Training</b></p>	<p>This code establishes procedures to ensure discharges to air, land or water comply with Environmental Permitting and other regulations.</p> <p>STFC sites require authorisation to carry out certain operations which may have detrimental effects on the environment. These include: discharging hazardous substances to air; storing, treating, disposing or transporting of other peoples wastes (including that of its tenants); discharging trade waste to public sewers; and nuisance activities for instance: noise; odour; or visual 'pollution', including light pollution.</p> <p>This code encourages the minimisation of liquid or gaseous discharges by explicitly asking that environmental issues are included in the standard risk assessment process identifying controls to reduce hazardous discharges as far as reasonably practicable.</p> <p>The code establishes the assumption that all liquids stored out side of buildings must be stored in bunded areas unless risk assessment determines otherwise. Oil in quantities greater than 200L must be doubly bunded in all circumstances.</p> <p>Where discharge of hazardous materials to air or drain is necessary the STFC Environment Officer/SHE Group should be consulted in advance to see if regulatory authorisation is required.</p> <p>NEVER discharge hazardous waste to surface water drains.</p> <p>All use of Fluorinated Greenhouse Gasses, for example HFCs, PFCs, SF<sub>6</sub>, should be listed in site F-Gas registers managed by Estates teams.</p> <p>All Environmental incidents should be reported in SHE enterprise.</p>
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## SHE Management Processes

<b>5 Incident Reporting and Investigation</b>	
<p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>All staff, users, contractors, tenants and visitors.</li> </ul> <p><b>Training</b></p>	<p>This code describes how to report and investigate SHE incidents – injuries, occupational ill health, near misses, vehicle incidents, fires/false alarms, and environmental incidents. The investigation of incidents to identify their root cause(s) is the most basic means by which we can minimise the potential for incidents to recur – to learn. All SHE incidents that occur on STFC sites – irrespective of who is involved - staff, tenants, visitors, facility users and contractors should be reported. In addition all incidents involving staff when they are travelling on Council business or working at non-STFC sites/laboratories should be reported. Incidents should be reported through SHE enterprise within 2 days of the event being identified. Those without access to SHE enterprise can use the public SHE website.</p>
<b>6 Risk Management</b>	
<p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>All staff, users, contractors, tenants and visitors.</li> </ul> <p><b>Training</b></p>	<p>Good Risk management makes the STFC a safe place to work. Risk management is the term given to everything from mentally assessing a situation before taking action, through to documenting and listing in a structured manner the hazards associated with an activity or task, and then thinking about the controls that are in place or could be put in place to make the activity or task safer.</p> <p>This code outlines the three step approach to be used in STFC for making Risk Assessments. It gives a pro-forma to use for “On the Job” assessment and standard pro formas and guidance for carrying out, documenting and recording risk assessments using SHE Enterprise.</p> <p>Doing a good risk assessment relies on having the right people thinking about the hazards and controls required – this is generally experts or people who undertake the activity regularly. The code includes guidance to help managers assessing the quality of existing Risk Assessments.</p>
<b>7 SHE Improvement Planning</b>	
<p><b>Roles affected</b></p> <ul style="list-style-type: none"> <li>Directors</li> <li>Senior management teams</li> </ul> <p><b>Training</b></p>	<p>There are always limits on our resources and time and planning is fundamental to ensuring that we prioritise and focus on what we want to achieve. This code applies this principle to safety – maintaining or improving safety performance. The code establishes the need for each Department to document a review of its annual SHE performance and set out SMART SHE improvement plans for the coming financial year to maintain or improve Departmental SHE performance. This plan should be communicated to all staff to allow APR objectives to reflect and align to Departmental SHE Improvement plan targets.</p>

## 10 Provision of Safety, Health and Environment (SHE) Training

### Roles affected

- All staff
- Temporary or part-time staff working more than 2 days a week over 3 months

The knowledge and experience – competence - of staff established by training and instruction provide a fundamental basis for ensuring that work is conducted safely.

The code defines a programme of mandatory SHE training for all managers and staff, and prompts managers to consider the 'job specific' SHE training requirements of their staff, in particular during APRs/ASR's, based on the hazards they face in their work. All SHE codes include an appendix that defines the training required, see links in adjacent column.

### Training

## 30 SHE Auditing and Inspection

### Roles affected

- Staff conducting safety tours or SHE audits

Safety tours assess the adequacy of the physical working environment in which staff and others work – tour checklists are provided to assist those undertaking them. Departmental safety tour programmes should visit all locations on at least a 2 year frequency and are generally undertaken by staff within the Department.

### Training

The STFC SHE committee approves the corporate compliance audit programme ensuring all codes are audited every 3 years. The aim of compliance auditing is to consider *"Are we following the codes and can they be improved?"* Compliance audits are conducted by independent trained auditors.

Both tours and audits are recorded in SHE Enterprise through which their recommendations and actions are managed.

## 24 Health Surveillance

### Roles affected

- All staff

Medicals and medical tests are one means by which the onset of occupational ill health or diseases can be identified before it results in permanent harm or disability. A listing of the common hazards for which health surveillance and/or screening medicals need to be implemented via local Occupational Health teams is included.

### Training

## 36 Management and Provision of First Aid

<p><b>Hazards</b> N/A</p> <p><b>Roles affected</b></p> <ul style="list-style-type: none"><li>• Directors</li><li>• First Aiders</li><li>• Managers and Staff</li></ul> <p><b>Training</b></p>	<p>First Aid can save life in the event of heart attacks, and can prevent minor injuries becoming more serious. This code outlines how STFC staff, and others working on STFC sites (including contractors), get access to immediate First Aid if they are injured or taken ill at work.</p> <p>The code describes the process for appointing and training sufficient first aiders and the provision of first aid facilities and equipment, for example first aid boxes, oxygen cylinders and defibrillators, at STFC sites.</p> <p>A summary of actions to take in the event of a medical emergency at STFC sites can be found here and a listing of First Aiders can be found in the SHE Directory.</p>
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