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SHE Training for Technical Managers

STFC SHE Training for Technical Managers

Course Programme: Day 1

** Note that the times given are approximate and will be adjusted to suit programme requirements **

Session Number	Session Title	Time
1	Director's Introduction Course Introductions Aim and Objectives	09:00 to 09:45
2	Motivations for SHE Management UK and STFC H&S performance overview	09:45 to 10:45
	Break	10:45 to 11:00
3	Legal duties and safety management systems (general) STFC's Safety Management System and Policy	11:00 to 12:30
	Lunch	12:30 to 13:30
4	SHE Website and IT Systems Safety code reviews : 1	13:30 to 15:00
	Break	15:00 to 15:15
5	Safety code reviews : 2 Summary of Day 1 Key Learning Points	15:15 to 16:45

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SHE Management for STFC Technical Managers - Day 1

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Introduction

Director introduction

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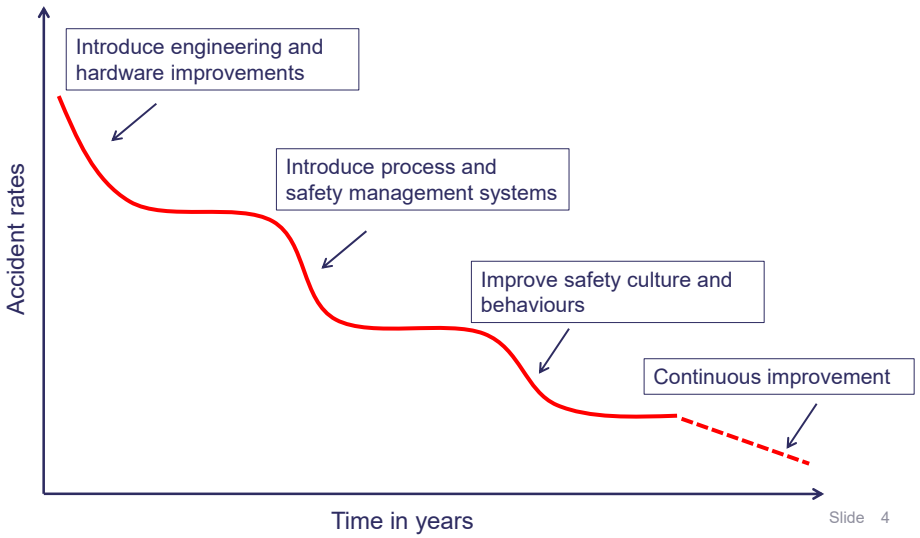
Why improve safety culture?

A model for reducing accident rates



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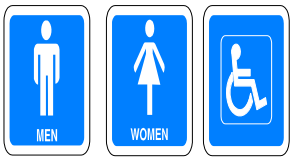
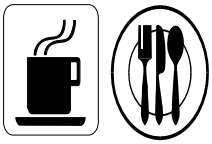
Domestic arrangements





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Definitions

- Technical Managers are defined as members of staff or others with responsibility for:
  - Undertaking practical science and research programmes
  - Managing engineering programmes
  - Managing laboratories
  - Managing workshops or estates

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Course introductions

- Name
- Job description
- Safety management responsibilities
- Any specific safety issues

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Overall aims of the course

- This course is all about:
  - Leading and Managing Health, Safety and the Environment in the STFC
  - STFC SHE Management and IT Systems
  - STFC's Expectations
  - Raising awareness of STFC's health and safety culture
- This course is specific to STFC's systems and requirements

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This Course:

- Is designed to be different!
  - Time will be set aside for individuals to consider the relevance of course material to their own circumstances
  - Action Logs are provided to keep a record of things to be done on return to the workplace
  - Laptops will allow thorough exploration of the on-line SHE resources available to you in STFC during the course
  - Please make use of this opportunity!

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Course ethos

- Participation, discussion and debate are essential and expected
- Courtesy and mutual respect between all course attendees is taken for granted
- Any issues arising which cannot be answered or resolved within the course will be logged and followed up by SHE Group

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Learning outcomes

- Appreciate STFC SHE performance in a UK context
- Recognise the motivations for good SHE management
- Understand the structure of the STFC SHE Management System and its regulatory context
- Understand and apply the SHE risk assessment and control process and how it is implemented in STFC
- Review the management requirements of broad groups of STFC SHE Codes

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Learning outcomes

- Recognise the common structural elements of the codes and the common compliance strategies
- In relation to SHE management, review the concepts of accident causation theory and incident investigation
- Appreciate of safety culture and its importance for exceptional performance
- Understand the important of line management supervision and leadership

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Course assessment

- The course will be assessed in two parts:
  - By submitting a SHE risk assessment to Laura Davies
  - By completing a multiple choice examination on the main elements of the course at the end of the course
- The course pass mark is 70% for both of the above

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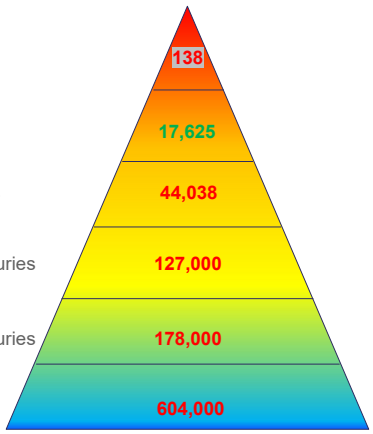
STFC SHE Performance and Motivation for SHE Management

UK injury data 23/24

(HSE and ONS statistics)

- Fatal injuries
- Reported major injuries
- Reported >7 day injuries
- Self reported > 7 day injuries
- Self reported > 3 day injuries
- All self reported injuries



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Overview on injuries in the UK

- Fatalities - Long term downward trend slight increase this year
- Employer Reported injuries - Long term downward trend has levelled off
- Self reported injuries – Slight upward movement this year
- Fatal injury statistics are dominated by:
  - falls from height
  - struck by moving vehicles
- Non fatal statistics are dominated by:
  - Slip, trip and fall (31%)
  - Handling, lifting and carrying (17%)

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Road Casualties GB up to Jun 2024

- In reported road collisions in Great Britain in the year ending June 2024 there were an estimated:
  - 1,607 fatalities, -2% compared to the year ending June 2023
  - 29,540 killed or seriously injured, slight increase compared to the year ending June 2023
  - 128,920 casualties of all severities, -4% compared to the year ending June 2023

Reported road casualties in Great Britain, provisional estimates: year ending June 2024 - GOV.UK (www.gov.uk)

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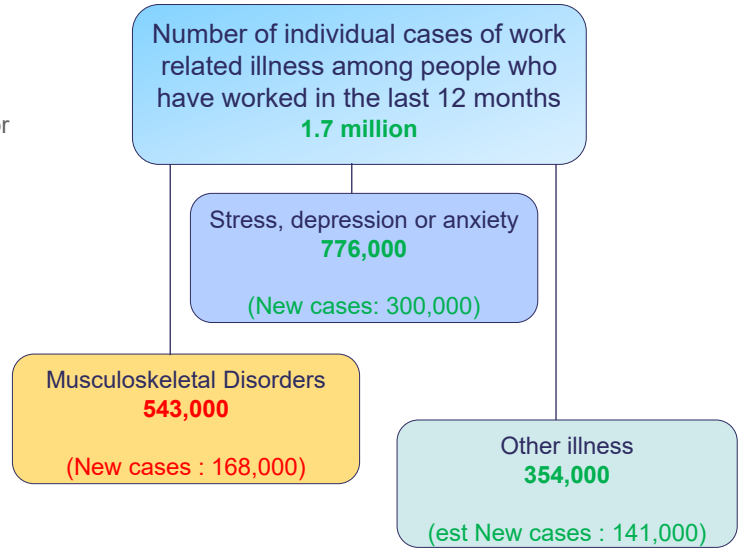
Self reported work related illness (23/24)

Deaths due to work related illness:

- Around 13,000 deaths/year due to past exposure at work primarily to chemicals or dust
- Approx.
  - 4800 asbestos related diseases.
  - 4200 due to Chronic Obstructive Pulmonary Disease
  - 2600 non-asbestos related lung cancers
  - 350 other long latency diseases
- Estimated 20,000 new cases of breathing or lung problems caused or made worse by work each year.

Occupational Lung Disease statistics in Great Britain, 2024 (hse.gov.uk)



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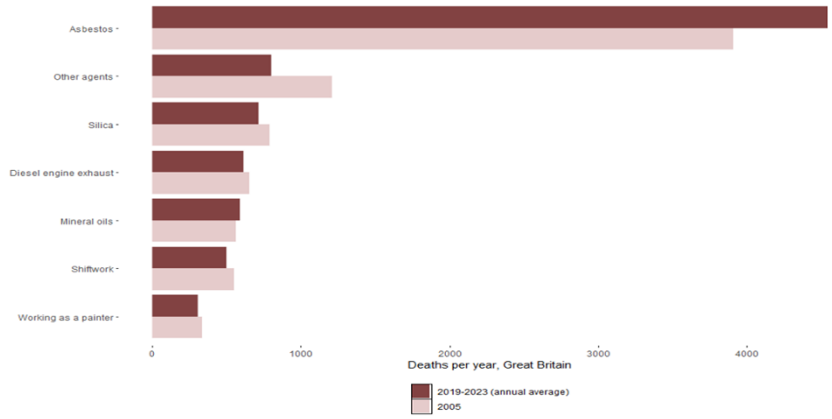
Estimated occupational cancer deaths by cause in Great Britain



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Occupational Cancer statistics in Great Britain, 2024 (hse.gov.uk)

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Annual impact of UK workplace ill health and injury 23/24

Source: Health and safety statistics 2024 (hse.gov.uk)

Working days lost to ill health	29.6 million
Working days lost to injury	4.1 million
Total days lost	**33.7 million**

Average days per case	
All illness and injury	15.5
Ill health	17.7
Stress, depression or anxiety	21.1
Musculoskeletal	14.3
Injury	6.8

Source: Labour Force Survey - Self-reported work-related ill health and workplace injuries: Index of LFS tables

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Motivations for safety management

- We need to – moral and aspirational reasons
- We have to – legal reasons
- We should do – financial reasons
- We want to – reputation

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Moral and aspirational

- The desire to protect anyone from injury, pain, suffering and loss of life due to activity at a workplace stands on its own as a humanitarian goal
- Organisations understand that their staff are their most important asset and that they have a moral obligation to prevent unnecessary suffering and loss of life
- Poor health and safety management will reduce both quality of life for staff and business efficiency

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STFC H&S – our aspiration

- Encourage a culture of safe working, believing all injuries etc. are preventable.....
- Comply with the spirit and letter of health and safety laws.....adopting the accepted best practices of comparable organisations
- Understand SHE performance, communicate and discuss with staff..... and openly drive continuous improvement

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Financial

- The latest HSE estimate of the cost of occupational injury and ill health to the UK economy is for FY22/23:
  - Total : £21.6 billion
  - Ill health : £14.5 billion
  - Injury : £7.1 billion

  - UKRI budget 25/26 = £8.8 billion
  - STFC budget 25/26 = £618 million

Statistics - Costs to Britain of workplace injuries and new cases of work-related ill health (hse.gov.uk)

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Legal

- All UK organisations are required by law to actively manage the risks due to their activities
- Since 1974, responsibility for the development and implementation of systems to comply with the requirements of the law rest firmly with the employer
- Legal requirements extend to individuals as well – we all have a responsibility to keep ourselves and our colleagues safe
- UKRI is the legal entity

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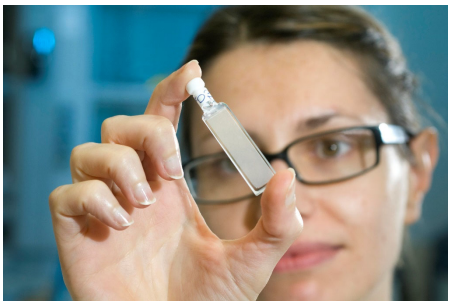
Reputational

- Adverse publicity following a health and safety or environmental incident or audit may cause serious damage to STFC's reputation with all existing and potential stakeholders:
  - Academia
  - The public
  - Funding authorities
  - Partners
  - Customers
  - Employees



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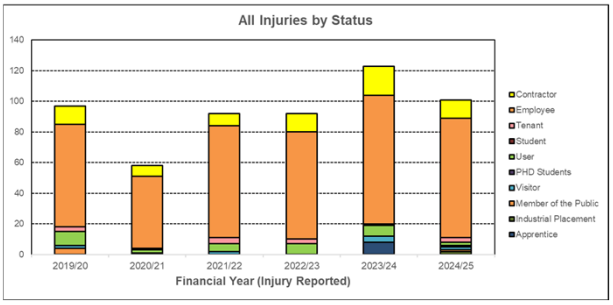
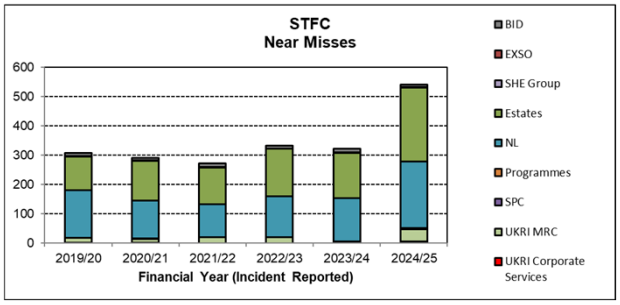
STFC Incident data

Injuries



Near misses (learning opportunities)



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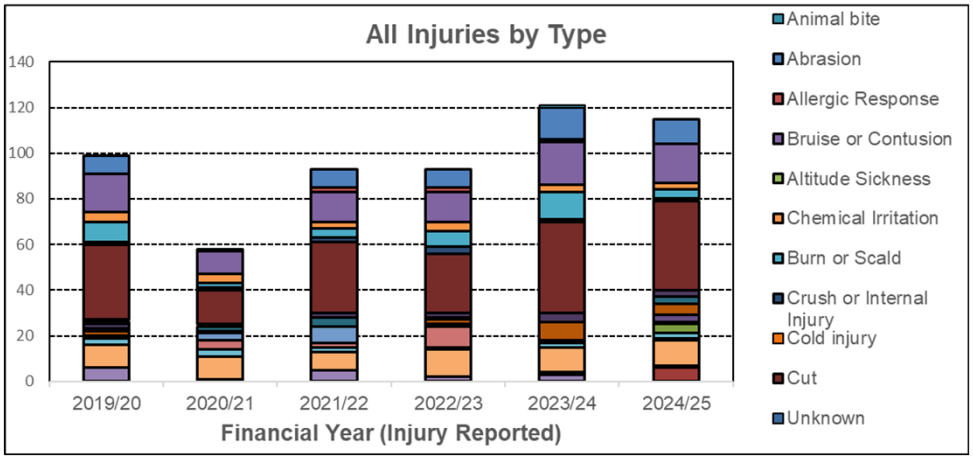
STFC Injury types



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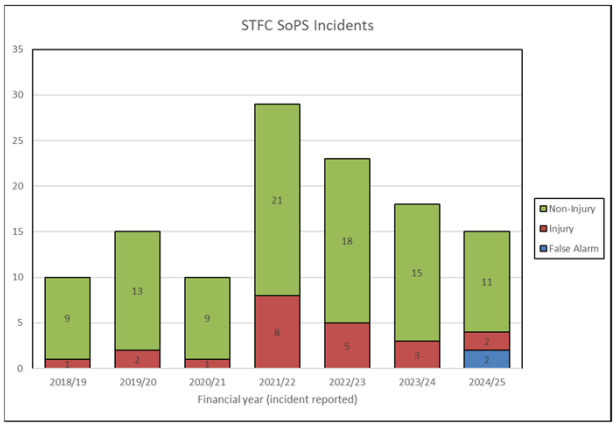
Serious or Potentially Serious Incidents (SoPs)

- Incidents (injuries, near misses, vehicle incidents, fire incidents) that did, or had the reasonable potential to result in significant and permanent harm to staff, contractors, tenants, users, visitors at STFC sites or for staff while travelling and working on Council business away from STFC sites



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Serious or Potentially Serious Incidents (SoPs)

- Injury type for SoPS incidents

Fracture	18
Electric Shock	12
Bruise or contusion	13
Sprain or strain	10
Chemical irritation	7
Burn or scald	7
Cut or laceration	13

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Exercise 1: Incident examples

- A review of some STFC incidents and identification of key management themes which may have caused the accident, and may need addressing

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STFC working days lost by financial year

Cause	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Minor illnesses (e.g. colds, flu, headaches, viral, etc)	4,002	4,098	1,723	3,646	5,076	5,468	6,776
Stress & Mental Ill Health	1,807	2,233	1,874	2,740	2,182	2,630	2,775
Back Pain & Musculoskeletal	1,465	1,403	772	1,468	1,264	2,023	2,078
Covid-19	0	87	350	1,106	1,569	468	248
Total working days lost	**10,112**	**10,435**	**6,867**	**12,673**	**14,707**	**15,764**	**16,199**
Average number of working days lost per staff member each year	4.8	4.8	3.1	4.9	5.8	5.7	5.4

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STFC Occupational Health(OH) Service

The Occupational Health service provides:

- Health screening – ensure staff are fit to perform certain roles, e.g. drive a Fork Lift Truck;
- Health surveillance – staff who work with known hazards, e.g. working in a noise control area, with ionising radiation, or with chemicals which are known skin/lung sensitisers
  - *[See Appendix 1 of SHE Code 24 for more information]*; and
- Advice to line managers managing staff with either: known health conditions, e.g. epilepsy; or a newly emerging health condition which impacts on their ability to fulfil their role, e.g. work related stress, musculoskeletal issues, long Covid, etc. (management referrals).

Occupational Health is managed by SHE Group, in close communication with HR. The service is provided by a contractor (Optima Health) with a staff member based full-time at RAL (R12). All management referrals are processed by HR via a confidential portal direct to Optima Health.

- OH queries for all sites should be directed to: ohc@stfc.ac.uk, x6666
- STFC Contract Manager: laura.davies@stfc.ac.uk

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Optima Health

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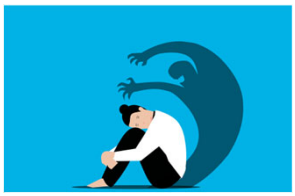
STFC Wellbeing facilities



- STFC has a wide range of Wellbeing facilities available to all staff:
  - Employee Assistance Programme (PAM Wellness)
    - Call 0800 882 4102 24 hrs/day 7days a week
    - Portal and app available, organisational code: UKRI
    - PAM resources on YouTube
    - For more info, contact Mark Britton, UKRI Wellbeing service
  - STFC Benefits Poster
  - Mental Health First Aiders (managed by UKRI Wellbeing)
  - Become a Wellbeing Ally
  - Wellbeing intranet pages
  - Wellbeing Engagement Group
  - Training courses provided by STFC Learning & Development or Occupational Health
  - Equality Diversity and Inclusion (EDI) and other network groups, e.g. disability, racial inclusion, etc.
  - Staff Networks, e.g. Dyslexia and Dyspraxia, Carers, Disability, Multi-faith, Parenting, Pride, Women, etc.
  - Volunteering (2 paid days a year can be applied for)
  - Harassment Advisors
  - Mentoring
  - Trade Unions

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External support for Mental Health	
GP	Samaritans – 116 123
Mind (www.mind.org.uk)	Anxiety UK – 03444 775 774 (24/7self-care Infoline)
CALM – dedicated to men	SANEline – 0300 304 7000 (daily, 16.00-22.00)

Don't forget your SHE Website

(a one-stop shop for guidance on all SHE topics)

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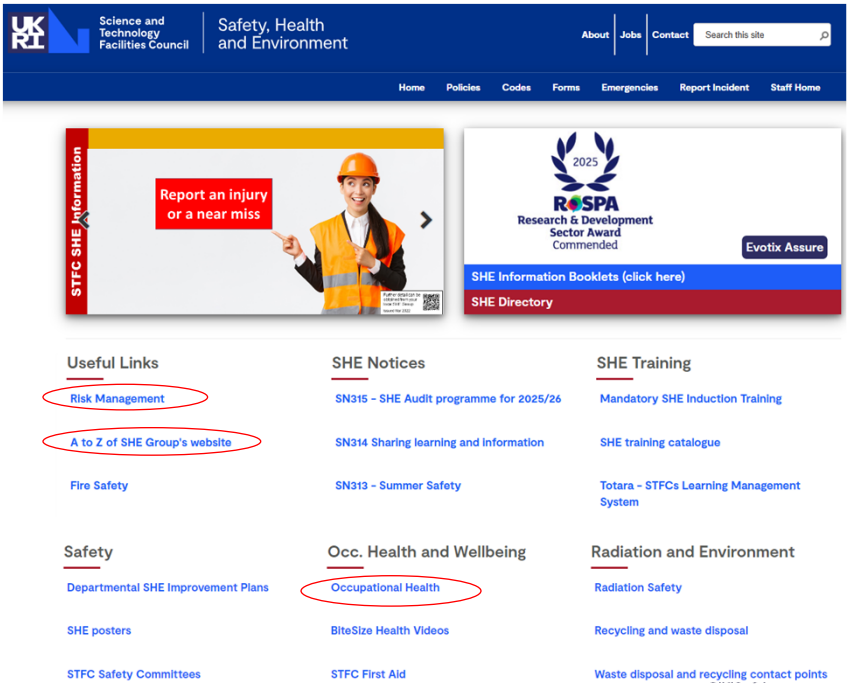
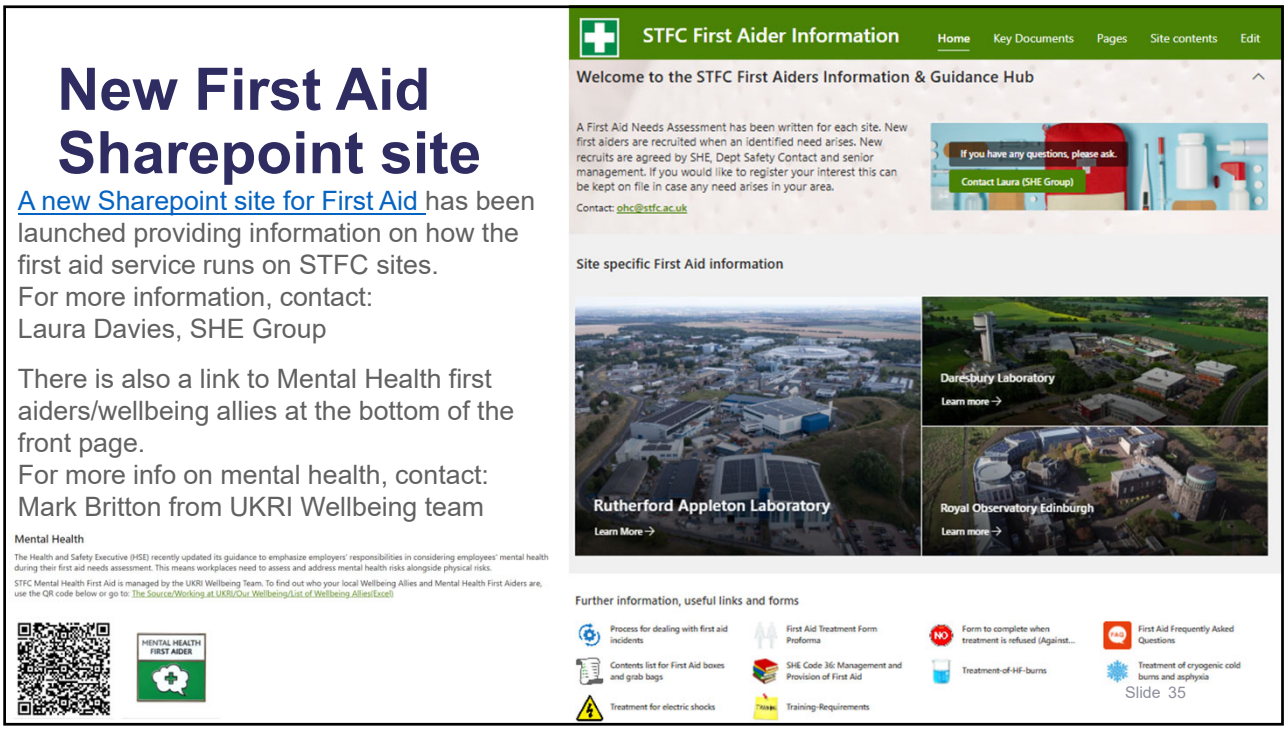


New First Aid Sharepoint site

A new Sharepoint site for First Aid has been launched providing information on how the first aid service runs on STFC sites.
For more information, contact:
Laura Davies, SHE Group

There is also a link to Mental Health first aiders/wellbeing allies at the bottom of the front page.
For more info on mental health, contact:
Mark Britton from UKRI Wellbeing team



Fire Risk Management Sharepoint site (new)

A one stop shop for all fire safety information including fire codes, strategies, building fire risk assessments, fire drill reports, advice notes and more.

Any questions, please contact:
FireSafetyRAL@stfc.ac.uk

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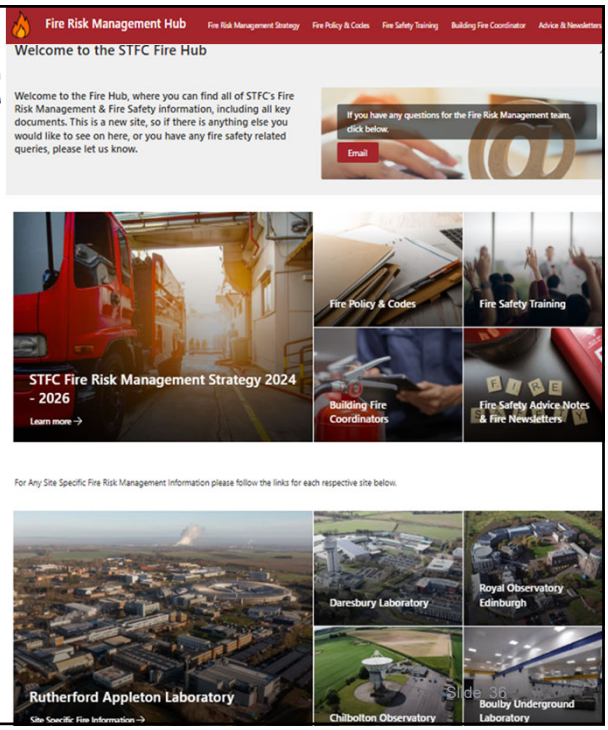
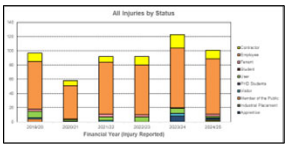
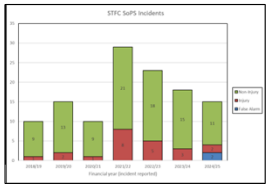


Conclusions for STFC – Improvement?

- No long term improvement in injury rates
  - Injury rates are around UK industrial averages
  - A majority of incidents are “no injury” – opportunities for learning
  - Improvement of SoPS incidents back toward historic rates (high hazard environments are not uncommon in STFC)



- Danger of complacency?
- However, plenty of scope for improvement remains and STFC’s SHE management system is the primary tool to achieve this
- Success in its use will always depend critically on the attitude and commitment of staff and managers at all levels - culture



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Regulatory Framework and the STFC’s Safety Management System

Legal duties and liabilities

- Organisations and individuals in the UK have responsibilities under both Criminal and Civil Law
- The aims of Criminal and Civil Law are different
- The consequences of a breach are different

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Civil law

- Where health and safety at work is involved, an individual or the dependants of an individual can claim compensation under civil law through the “tort” of negligence (also known as “delict” in Scotland)
- Action is brought by one individual or organisation against another individual or organisation
- Cases are heard in:
  - Tribunals, the High Court, or the County Court in England, and
  - the Sheriff Court of First Instance or the Sheriff Principal Court in Scotland
- The consequence of being found liable is an award of compensation or another remedy specified by the Court

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Civil law

- The majority of civil cases will be brought under Common Law which is the legacy of all previous relevant judgements
- In a civil case the claimant must prove the defendant is liable “on the balance of probabilities”
- Insurance is available to cover potential losses under civil law and purchase of cover may be compulsory

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Employer liability insurance

- STFC, as a Non-Departmental Public Body, does not pay Employer Liability Insurance
- STFC meets the costs of claims from the Parliamentary Grant In Aid for its approved programmes

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Negligence

- Under Common Law, employers owe a “duty of care” to their employees. The extent of this duty of care is defined by the Common Law case history
- The duty of care includes:
  - A safe place of work and access to/egress from it
  - A safe system of work
  - Safe appliances and equipment
  - Adequate supervision and instruction
  - Safe and competent fellow workers

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Negligence

- To succeed in a negligence action, the injured party or the claimant must prove on the balance of probability that:
  - There was a duty of care owed (This is automatic for any person affected by the employers activities)
  - The duty was breached
  - The breach led directly to the injury or the loss
- The duty of care in common law requires the employer to “take reasonable care of those that might foreseeably be affected by its acts or omissions”

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Criminal Law

- The aim of criminal law is to deter individuals or organisations from breaking the law and to punish them if they do
- Crimes are committed against the State and it is the State that will bring the prosecution action
- Cases are tried in a Magistrates Court or in the Crown Court in England, and the Summary or Solemn Courts in Scotland
- The consequence of conviction is either fine or imprisonment

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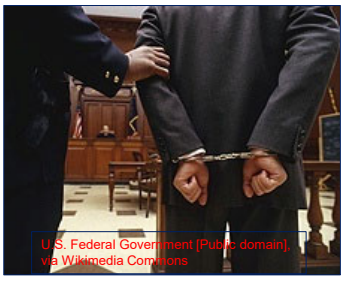
Criminal Law

- The majority of criminal cases will be brought under Statute Law or Regulations enabled by Statute law enacted by Parliament
- In a criminal case the prosecution must prove the defendant is guilty “beyond all reasonable doubt”
- There is no insurance available to cover punishment under criminal



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Civil v Criminal Law

Civil law	Criminal law
• Civil wrong	• Crime
• Compensation	• Punishment
• Individual v organisation	• State v individual / organisation
• Insurance available	• No insurance available
• 'Loss' necessary	• No 'loss' necessary
• Civil Courts	• Criminal Courts
• 'On the balance of probabilities'	• 'Beyond reasonable doubt'

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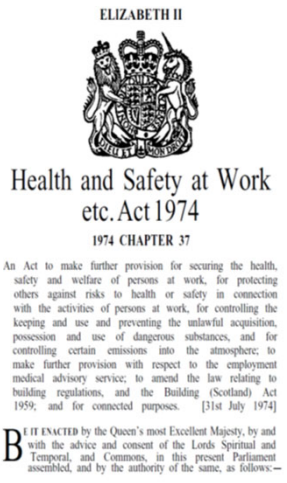
The Health and Safety at Work Act 1974

- The Health and Safety at Work Act 1974 is criminal statute law
- It sets out in general terms the health and safety related duties of all employers, employees, self-employed, suppliers, manufacturers and persons responsible for work premises
- It is also the enabling legislation for the issue of a wide range of regulations dealing with more specific aspects of safety in the work place



ELIZABETH II

Health and Safety at Work etc. Act 1974

1974 CHAPTER 37

An Act to make further provision for securing the health, safety and welfare of persons at work, for protecting others against risks to health or safety in connection with the activities of persons at work, for controlling the keeping and use and preventing the unlawful acquisition, possession and use of dangerous substances, and for controlling certain emissions into the atmosphere; to make further provision with respect to the employment medical advisory service; to amend the law relating to building regulations, and the Building (Scotland) Act 1959; and for connected purposes. [31st July 1974]

BE IT ENACTED by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

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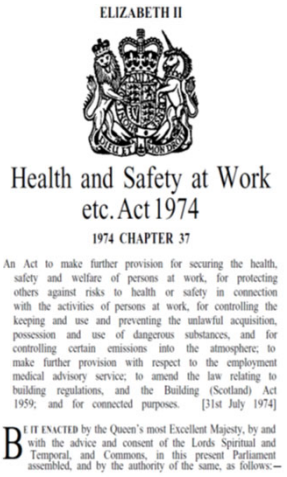
The Health and Safety at Work Act 1974

- Breach may result in prosecution in the criminal courts
- Breach giving rise to prosecution can occur without a specific loss resulting from accident or incident
- Prosecution under Health and Safety Law is carried out either by the Health and Safety Executive or a Local Authority



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The Health and Safety at Work Act 1974

- The Act covers all the following aspects:

Duties of employers to staff	Enabling power for safety regulations
Duties of employers to other persons	Appointment of inspectors
Duties of persons in control of premises	Powers of inspectors
Duties of designers, manufacturers and suppliers	Prohibition and improvement notices
Duties of employees	Offences due to the fault of another person
Intentional or reckless interference	Liability of senior managers – consent, connivance or neglect

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Legal

- Enforcement statistics 23/24

HSE Annual Report and Accounts 2023/24 (publishing.service.gov.uk)

Number of cases prosecuted	248
Number of cases resulting in a conviction	228
Percentage success rate	92%
Number of improvement notices	5,200
Number of prohibition notices	1,800

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Absolute duty

- A strict legal duty usually indicated by “shall” or “shall not” without qualification
- It is not possible for a defendant to argue that it is impracticable, difficult or even impossible to do it, or not to do it
- Example – The Provision and Use of Work Equipment Regulations 1998

4(1) Every employer shall ensure that work equipment is so constructed or adapted as to be suitable for the purpose for which it is used or provided.

5(1) Every employer shall ensure that work equipment is maintained in an efficient state, in efficient working order and in good repair.

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Practicable duty

- Everything possible with known means and resources must be done to achieve the duty
- If there is a way of doing it – it must be done regardless of cost or inconvenience
- Example – The Provision and Use of Work Equipment Regulations 1998

11(1) Every employer shall ensure that measures are taken ….. to prevent access to any dangerous part of machinery or to any rotating stock-bar.....

The measures ..... shall consist of ….. the provision of fixed guards enclosing every dangerous part or rotating stock-bar where and to the extent that it is practicable to do so

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Reasonably practicable duty

- 'Reasonably practicable' is a lesser standard than 'practicable'
- The duty holder must balance the risk against the cost
  - Risk includes consideration of likelihood and severity
  - Cost includes consideration of the money, time and trouble involved in taking the measures needed to avert the risk
  - Risks must be averted unless there is a gross disproportion between the costs and benefits
- Example - The Health and Safety at Work Act 1974 Section 2

2(1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.

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Duties of employer to employee

- Section 2 sets out the most general responsibilities of an employer to their employees
- 2(1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees
- This section, with section 3 on responsibilities to others, is the most widely used in health and safety prosecutions

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Duties of employer to employee

- The general duty in section 2(1) is extended with 5 in section 2(2).
- All these paragraphs contain the qualifier “so far as is reasonably practicable”
  - Provision of safe plant and systems of work
  - Provisions for safe use, handling, storage, and transport of materials and substances
  - The provision of such information, instruction, training and supervision as is necessary
  - A safe place of work with safe access and egress
  - A safe working environment and adequate welfare facilities

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Duties of employer to employee

- Section 2(3) concerns safety policy.
- The employer is required to:
  - Produce a policy statement and write it down (UKRI)
  - Set out the arrangements for carrying out the policy (STFC)
  - Revise and update the policy and arrangements as necessary
  - Bring the policy and arrangements to the attention of all employees

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Duties of employer to others

- Section 3 sets out the general duty to people other than employees
- It shall be the duty of every employer to conduct their undertaking in such a way as to ensure, so far as is reasonably practicable, that persons not in their employment not exposed to risks to their health or safety
- Fundamental duty to look after non-staff/others working in the STFC

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Duties of employees

- Section 7 of the Act states that it shall be the duty of every employee whilst at work:
  - To take reasonable care for the health and safety of themselves and other persons who may be affected by their acts or omissions at work
  - Co-operate with the employer in any measure relating to discharge of their legal safety duty

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Hazards arising from STFC's activities

- Ionising Radiation
- RF – Microwave
- Lasers
- Electrical
- Static magnetic fields
- High pressure systems
- Biological hazards
- Workshop hazards
- Vacuum systems
- High temperature
- Low temperature
- Cryogenic liquids and gases
- Hazardous substances
- Construction site hazards
- Travel
- Lone working

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Matrix management

- Multiple projects originating in a number of STFC ‘Home’ Departments
- Cross departmental projects drawing expertise from across STFC
- Collaborative input from or contribution to Universities and other UK/International R&D establishments leading projects
- Contractors

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The legal requirement for a safety management system

- An explicit legal requirement from the Management of Health and Safety at Work Regulations 1999 :
  - “Every employer shall make and give effect to such arrangements as are appropriate having regard to the nature of his activities and the size of undertaking for the effective planning, organisation, control, monitoring and review of the preventative and protective measures”

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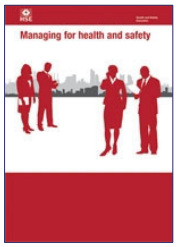
Management system requirements summary



- HSE Managing for Health and Safety HSG65
- Written health and safety 'policy'
- A documented safety management system
- Risk assessment
- Access to competent H&S Advice
- Provision of information on risks and means of protection
- Instruction and training
- Adequate and appropriate supervision
- Consultation

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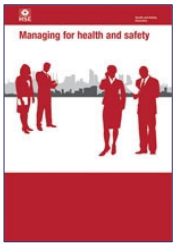
SHE management system PDCA cycle

- **Plan**
  - UKRI Policy and STFC H&S Management Arrangements
  - SHE Improvement planning
- **Do**
  - Risk assessment
  - Assign responsibilities
  - Implementing
  - Training and competence



- **Check**
  - Measuring performance
  - Investigating accidents, incidents and near misses
  - Safety tours
  - SHE auditing
- **Act on findings**
  - Reviewing performance
  - Learning lessons

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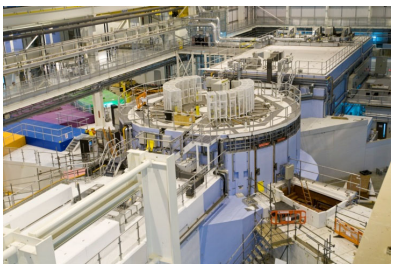
STFC SHE management system

- Complex hazards arising from STFC's activities
- Matrix management
- "having regard to the nature of its activities and the size of its undertaking" .....
- STFC needs a substantial and robust safety management system



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STFC's SHE Management system

- **UKRI Policy and STFC Management Arrangements**
  - Overview and standards, responsibilities and arrangements
- **STFC SHE Codes**
  - A reference library of 41 codes covering all aspects of SHE management at STFC
- **Site and Departmental specific safety arrangements**
  - Department SHE Committees
  - Project and activity specific requirements e.g. safety handbooks, safety instructions, specialist safe systems of work, permit to work systems etc.
- **Line Manager interaction for every individual in the organisation**
  - Risk assessment, training and SHE leadership

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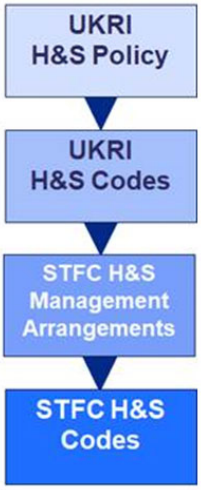
UKRI Health & Safety Policy

- Top level aspirational statement and summary of goals and standards signed off by the CEO
  - SHE management delegations to all UKRI managers – emphasis on SHE management being integral to project and line management
- UKRI have a set of top-level H&S Codes
- STFC has its own H&S Management Arrangements
- STFC SHE codes will remain the primary implementation for STFC SHE management



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Exercise 2: H&S Management arrangements

- Review of structure and content of the STFC H&S Management Arrangements
- Consider the Responsibilities of Managers (Section 3.2) in the context of your own work
- Use the workbook to make notes against each one
  - To what extent is the responsibility discharged?
  - At this stage of the course, what actions do you think are needed on your return to work?

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Departmental safety committees

- Departmental safety committees, involving managers, staff, their safety representatives and H&S advisors/specialists, play an important role in the overall conduct of safety management providing:
- A means for developing and monitoring actions to improve safety and a forum for:
  - Reviewing active and reactive safety performance data
  - Bottom up safety issues to be raised and discussed
  - Consultation on the planning and implementation of the H&S Management Arrangements
  - Establishing and implementing annual Departmental SHE Improvement Plans
  - Reviewing the Departmental SHE Risk Register
- Terms of reference are in the STFC Management Arrangements appendices

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SHE Codes

- Written to be compatible with current legislation
- Contain the definitive information on responsibilities and processes adopted by STFC to ensure compliance with SHE legislation
- Are designed to provide STFC staff with all the information they need without interpreting the legislation themselves – a ‘one stop shop’
- They are Mandatory

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SHE Codes structure

- Standard structure for all STFC SHE Codes covering:
  - Purpose
  - Scope
  - Definitions
  - Responsibilities
  - Appendices with additional information on hazards, guidance, training, safety processes and document retention

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Project/facility/experimental arrangements

- SHE Handbooks
- Health and Safety Committees
- SHE Instructions
- Specialist safe systems of work
- Customised permit to work systems

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Line Manager/Individual interaction

- The Line Manager pulls together the different strands of safety management from:
  - SHE Group
  - Any internal department and division procedures
  - Individual projects
- For individuals interacting with STFC who are not members of staff, the chain of safety responsibility is detailed in Appendix 2 of the STFC H&S Management Arrangements document

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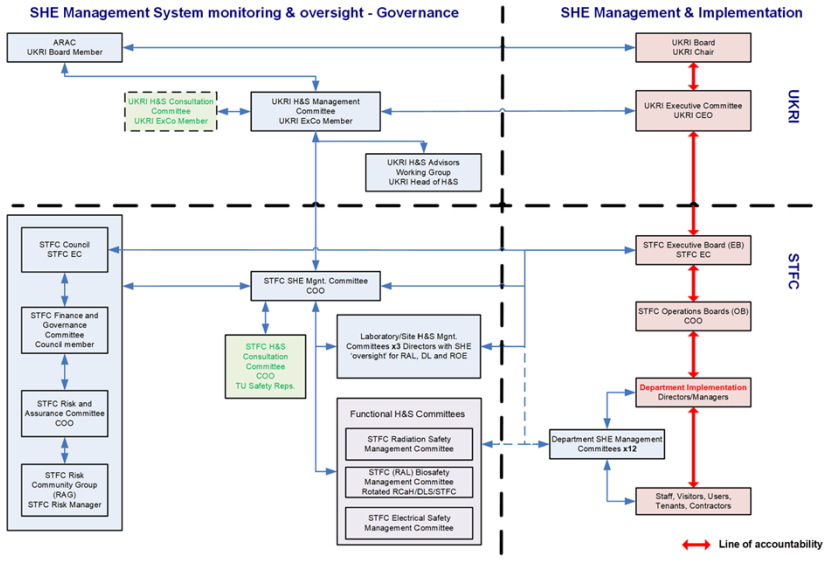
UKRI/STFC SHE Management structure



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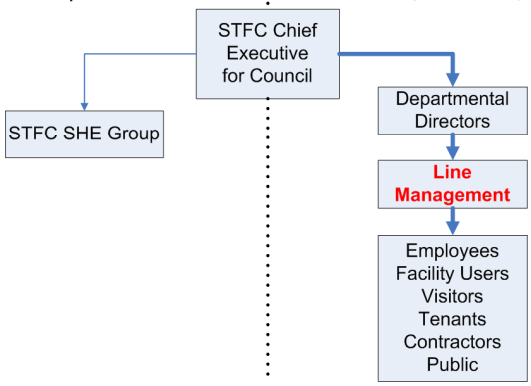
Responsibility for SHE in STFC

SHE Management System
– its design, scope and development

SHE Management
– implementation of the SHE Management System



Performance of the STFC SHE Management System

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Exercise 3: SHE Codes applicability

- Consider up to 5 of your main work activities. Using the pro-forma provided consider which STFC SHE Codes apply to them.
  - To what extent are they implemented?
  - Are there any actions to take away?

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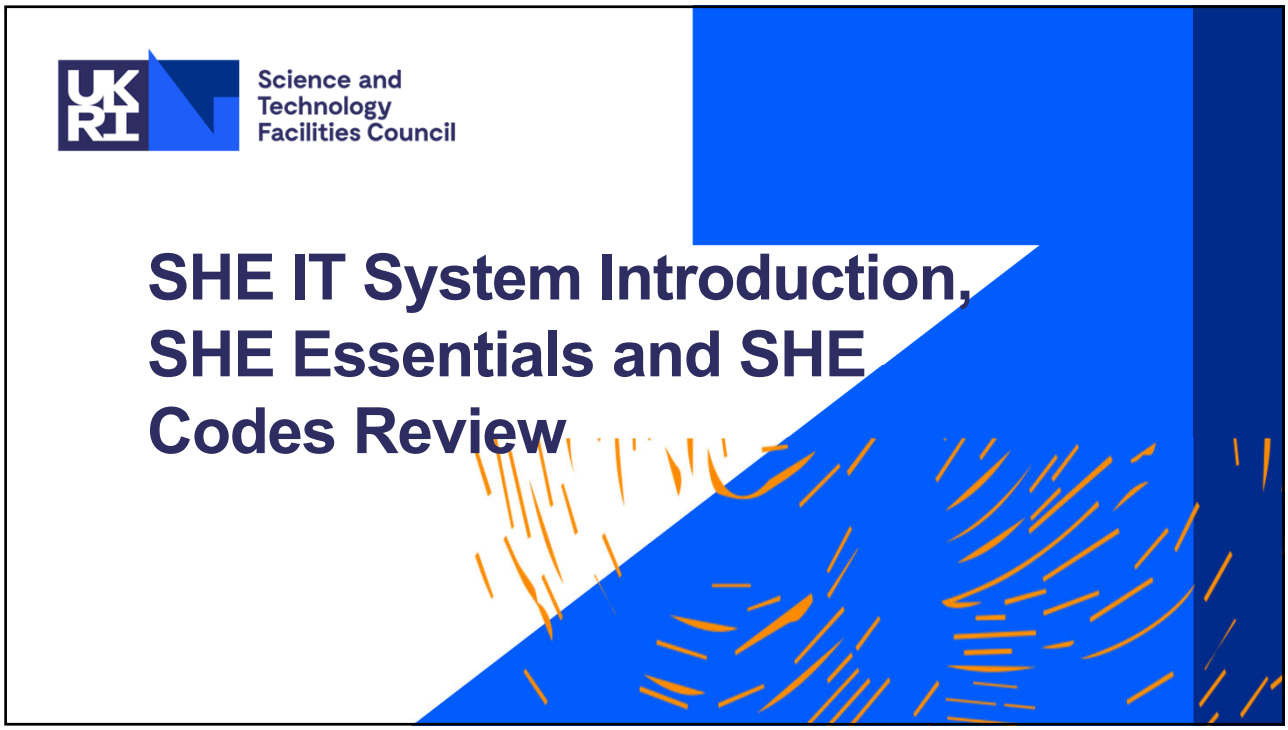

SHE IT familiarisation - Totara

- Totara is now the portal for all STFC on-line training – including all SHE training
- Log in is by your Email address and your Corporate ID password
- Some training requires registration:
  - Contact Josh Davies
- Most training – including Bitesize presentations – has automatic and unlimited registration
- ‘How to’ guides are available from SHE website
- DSE Workstation Assessments – home and work

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totara

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SHE IT familiarisation – Evotix Assure

- Evotix Assure
  - Incident reporting and action management
  - Risk Assessments and action management
  - Safety Tours and action management
  - Audit reports and action management

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STFC SHE Office Essentials

Incident reporting	Always report SHE incidents at all STFC sites or while travelling on Council business. Session on day 2.
SHE training	STFC mandatory training includes SHE Induction, followed by on-line Display Screen Equipment (DSE) training, manual handling training, and fire safety training. Session on day 3.
Fire Safety	Know emergency procedures, exits and muster points. Do not obstruct any fire safety system or exit. Corridors and stairwells and exit routes to be kept clear of combustibles. Minimise storage of combustibles in office areas.
Display Screen Equipment	Most STFC staff are considered 'users' and must do a DSE assessment for each use (2 max. in Totara) updated as required. DSE training for all staff, refreshed every 5 years. Resolve any issues with line managers. If any issues remain, seek advice from SHE Group or OH Team. Goes beyond current legislation as it includes laptops, tablets, phones etc.

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STFC SHE Office Essentials

Travel on Council Business	Bitesize code summary on day 3.
Manual Handling	Mandatory manual handling training for all staff. Code exercise to follow.
Portable Electric Equipment	All portable electrical equipment at STFC sites must be Portable Appliance Tested (PAT) prior to use and have a PAT label giving date of latest test and date of next test (4 yearly tests for most office equipment, yearly for lab. and workshop equipment). All portable electrical equipment should be visually inspected before plugging in.
General Risk Management	Any hazard in an office area not covered by this document may need to be separately risk assessed. Consult manager or SHE group for advice.
Environmental Management	Minimise printing and recycle waste paper and print cartridges. Switch equipment off when not in use and especially overnight. Use Video Conferencing to avoid travel as much as possible. Use public transport to the greatest extent possible. Session on Day 2 and 3

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Exercise 4: SHE code review

- In groups, look at a SHE Code and prepare a 5-minute presentation highlighting the most important information for managers and supervisors
  - Group 1: Manual Handling (SHE Code 12)
  - Group 2: Fire and Emergency Management (SHE Code 32)
  - Group 3: Working at Height (SHE Code 9)

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Thank you

SHE website: https://staff.she.stfc.ac.uk/pages/staff/home.aspx

STFC SHE Training for Technical Managers
Summary of Key Learning Points from Day 1

Motivation for Health and Safety Management and Health and Safety Performance	
1	UK performance is vastly improved over the long term but has levelled off over the past several years
2	The four overall motivators (moral/financial/legal/reputational) remain strong in both UK and STFC
3	STFC seeks to outperform UK average and do more than the minimum necessary for legal compliance.
4	Dry performance statistics can detract attention from the very serious and life changing personal and human consequences of a major incident
5	STFC performance is roughly in line with overall UK trends and trends in comparable organisations
6	STFC current performance clearly shows a wide range of causes for incidents
7	Review of STFC current performance clearly shows the need for a wide range of management responses
8	STFC performance continues to improve slowly but not for SoPS
9	STFC has much to do to continue to improve in H&S and this will require the commitment of management at all levels

Safety Law and Safety Management Systems	
1	H&S Duties arise under both criminal and civil law. Criminal law - prosecution & punishment by the state. Civil law - claims for compensation by individuals against others for negligence
2	There are 3 levels of duty in both criminal and civil law : absolute/practicable/so far as is reasonably practicable
3	H&S at Work Act and all associated regulations are criminal law.
4	Main duties on employer and employee are in sections 2 and 7 of the H&S at Work Act
5	Management Regs also criminal law under 1974 act. Introduce 1) need for Management System with due regard to the nature of activity and 2) obligation to carry out risk assessment which is suitable and sufficient
6	H&S related claims in civil law are mainly associated with negligence
7	The duties of care in civil and criminal law are very similar
8	The four primary components of the STFC Safety Management System and their function. Policy/Codes/Departmental arrangements/Line Management
9	The primary delegation of responsibility to STFC Managers is contained in section 3.2 of the H&S Policy
10	Know about the purpose and structure of STFC SHE Codes
11	Know about the range of codes and review which codes are highest priority for their individual work places

Office Safety, Manual Handling, DSE, Fire and Travel	
1	Use of the SHE Essentials document as a rapid guide and pointer to further information for office safety
2	DSE Mandatory process : self-train/self-assess/see line manager
3	Manual Handling – implement the avoid/assess/reduce strategy
4	Ensure significant handling activities are risk assessed, recorded in the SHE Enterprise database and regularly reviewed
5	Managers are responsible for the work at height avoid/prevent/minimise strategy
6	All work at height must be risk assessed
7	All workers at height must be trained
8	Fire. There are 5 general manager duties under fire safety: Training/PEEPS/DSEAR/Hot Work/Change of building use/Change of building layout

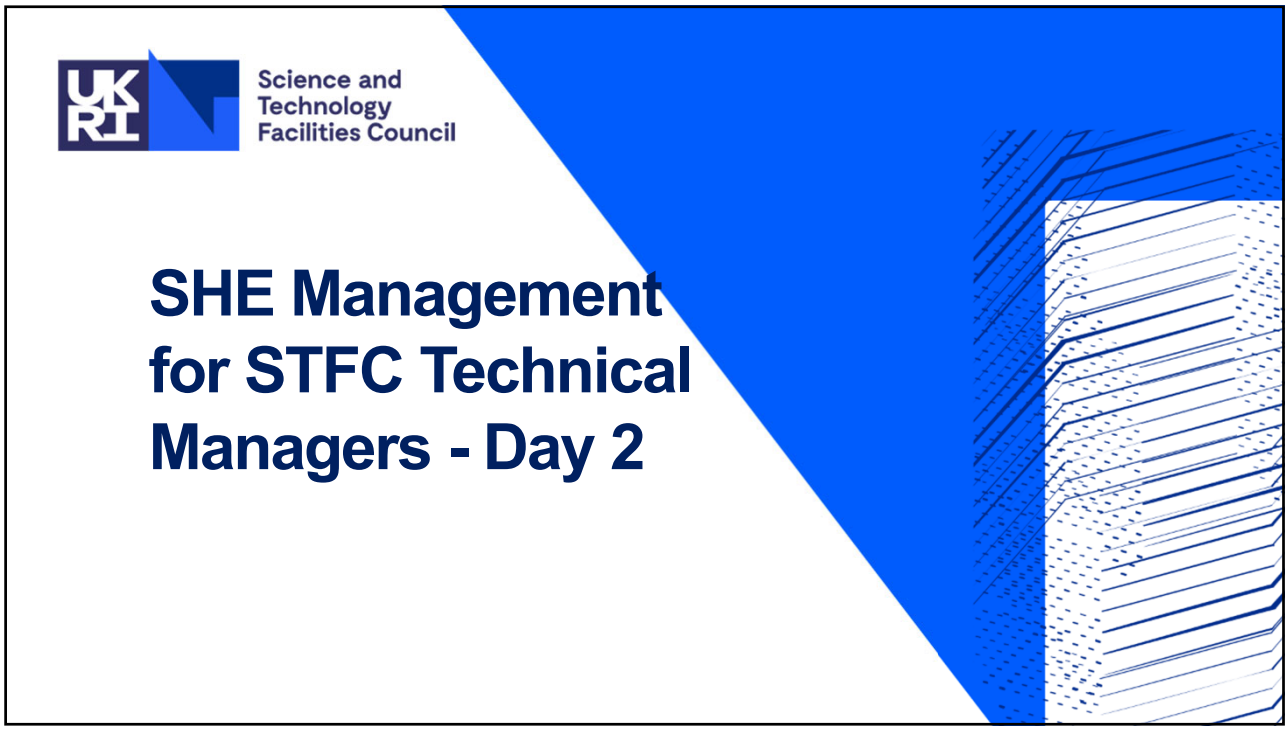
PUWER, Lifting Equipment, COSHH	
1	Under the use of work equipment code 4, the manager is responsible for ensuring that all work equipment is fit for purpose and that its use is risk assessed
2	Under the use of work equipment code 4, the manager is responsible for ensuring that staff using the equipment are adequately trained and supervised
3	Under the use of work equipment code 4, the manager is responsible for ensuring that equipment is properly maintained with records kept
4	Lifting Code : Management, maintenance and use of all lifting equipment is only carried out by appointed persons after specialist training
5	Lifting Code : Managers have a responsibility to co-ordinate with the appointed persons and implement the code
6	Lifting Code : Managers must appoint and train lifting equipment users
7	Lifting Code : Managers must provide suitable storage for lifting equipment
8	COSHH Code : The need for a special type of RA for hazardous substances
9	COSHH Code : The duty in law to use less hazardous substances if possible and to use minimum quantities
10	COSHH Code : All COSHH RAs must be prepared or approved by a suitably trained COSHH assessor
11	COSHH Code : Any Health Surveillance requirement identified as a control measure must be reported to Occupational Health
12	COSHH Code : Any work place monitoring requirement identified as a control measure must be reported to SHE Group
13	COSHH Code : Line managers are responsible for all general communication and administration aspects identified in the code

STFC SHE Training for Technical Managers

Course Programme: Day 2

** Note that the times given are approximate and will be adjusted to suit programme requirements **

Session Number	Session Title	Time
1	Issues and questions from Day 1 Risk Assessment part 1: Nature of risk assessment and STFC's arrangements	09:00 to 10:45
	Break	10:45 to 11:00
2	Risk Assessment part 2: Individual and group review of risk assessments	11:00 to 12:30
	Lunch	12:30 to 13:30
3	Accident causation and investigation and exercise (incl. Break)	13:30 to 16:00
4	Environmental management in STFC	16:00 to 16:45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SHE Management for STFC Technical Managers - Day 2


Science and
Technology
Facilities Council
Risk Assessment

Session objectives

1. Refresh the principles of risk assessment
2. What makes a RA ‘suitable and sufficient’?
3. Good ole horror stories
4. Evotix Assure *live*

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Slide 3

Risk assessment

3(1) Every employer shall make a suitable and sufficient assessment of -
(a) the risks to the health and safety of his employees to which they are exposed whilst they are at work; and
(b) the risks to the health and safety of persons not in his employment arising out of or in connection with the conduct by him of his undertaking,

(2) Every self-employed person shall make a suitable and sufficient assessment of -
(a) the risks to his own health and safety to which he is exposed whilst he is at work; and
(b) the risks to the health and safety of persons not in his employment arising out of or in connection with his undertaking, for the purpose of identifying the measures he needs to take to comply with the requirements and prohibitions imposed upon him by or under the relevant statutory provisions.

(3) Any assessment such as is referred to in paragraph (1) or (2) shall be reviewed by the employer or self-employed person who made it if -
(a) there is reason to suspect that it is no longer valid; or
(b) there has been a significant change in the matters to which it relates; and where as a result of any such review changes to an assessment are required, the employer or self-employed person concerned shall make them.

(4) An employer shall not employ a young person unless he has, in relation to risks to the health and safety of young persons, made or reviewed an assessment in accordance with paragraphs (1) and (5).

(5) In making or reviewing the assessment, an employer who employs or is to employ a young person shall take particular account of -
(a) the inexperience, lack of awareness of risks and immaturity of young persons;
(b) the fitting-out and layout of the workplace and the workstation;
(c) the nature, degree and duration of exposure to physical, biological and chemical agents;
(d) the form, range, and use of work equipment and the way in which it is handled;
(e) the organisation of processes and activities;
(f) the extent of the health and safety training provided or to be provided to young persons; and
(g) risks from agents, processes and work listed in the Annex to Council Directive 94/33/EC(1) on the protection of young people at work

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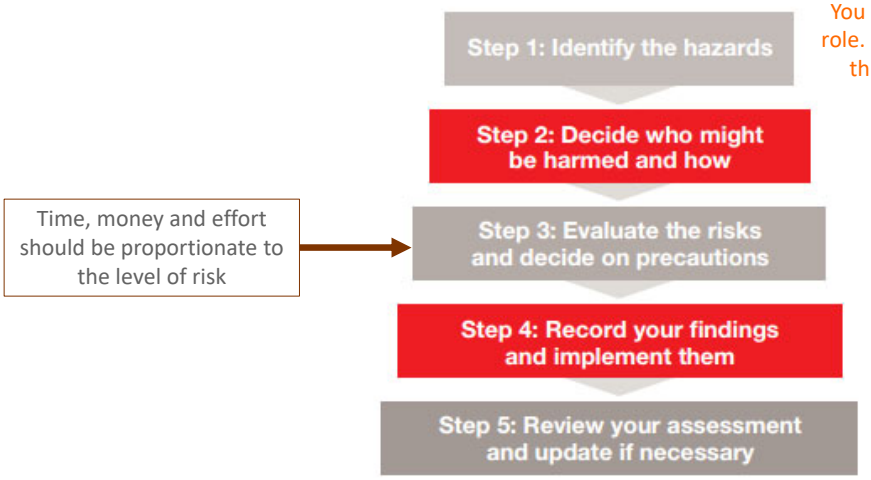
Slide 4

HSE 5 steps to risk assessment



You may see all types of RA in your role. However, all models must meet this criteria to be "suitable and sufficient"

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Slide 5

Different types of risk assessment

This course focuses on activity risk assessments but there are other types:

- Dynamic
- COSHH for chemicals
- DSEAR
- Design
- PEEP
- Machinery
- Personal

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Slide 6

STFC activity Risk assessment proforma

Ref:	Title:
Assessment Date:	Rm/Building/STFC Site:
Main Assessor:	Department:
Assessment Team involved:	Persons or Groups of people exposed:
Activity/Task being assessed (and any other relevant details, e.g. photos or related risk assessments/COSHH assessments etc. and where to find them):	

Step 1 What are the hazards (activities which may cause harm)?	Step 2 Who might be harmed?	How might they be harmed?	Step 3: Existing risk control measures in place?	Level of risk? (see guidance attached)			Further control measures, if necessary?	Step 4: Who will take these actions forward and completed by when?		
Hazard/Task or Situation				H Harm	L Likelihood	R Risk		Action by whom	When	Done
			Eliminate/Substitute: Engineering Controls: Administrative Controls: PPE:							
			Eliminate/Substitute: Engineering Controls: Administrative Controls: PPE:							
			Eliminate/Substitute: Engineering Controls: Administrative Controls: PPE:							

SHE Code 6: Risk Management

A **HAZARD** is anything that has the potential to cause harm. Types:

- **Physical** safety hazards such as working with electricity or working from ladders
- **Health** hazards such as working with hazardous chemicals, biological agents or allergenic materials. There are also, psychosocial hazards that could lead to work-related mental ill-health issues such as stress, anxiety or depression; or activities where staff may be subject to violence or aggression (e.g. front line, customer or public facing staff)
- **Environmental** hazards such as activities leading to harmful emissions to atmosphere or contamination of our waste water systems

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Slide 8

Definitions - Hazard

- A hazard is any activity or object that has the potential to cause harm to people or the environment.
- Examples:
  - Working at height
  - Manual handling
  - Working with syringes
  - Driving a fork lift truck
  - Operating 3D printer
  - Use of mains electricity to power 'x' equipment
  - Working with liquid nitrogen
  - Working 'out of hours'
  - Working from home

Clue: A hazard never sounds painful!

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You will need to research your hazards to identify all significant hazards. You can use: observation of activity; operator consultation; websites, e.g. HSE; Manufacturer's instructions; internal/external experts; incidents/near misses; etc.

How to address other/untrained people in RA

STFC Risk Assessment template

Ref:	Title:
Assessment Date:	Rm/Building/STFC Site:
Main Assessor:	Department:
Assessment Team involved:	Persons or Groups of people exposed:
Activity/Task being assessed (and any other relevant details, e.g. photos or related risk assessments/COSHH assessments etc. and where to find them):	

Step 1 What are the hazards (activities which may cause harm)? Hazard/Task or Situation	Step 2 Who might be harmed?	How might they be harmed?	Step 3: Existing risk control measures in place?	Level of risk? (see guidance attached) H Harm	L Likelihood	R Risk	Further control measures, if necessary?	Step 4: Who will take these actions forward and completed by when? Action by whom	When	Done
Please dedicate one row to any 'other/untrained' people present in the area. *(Thereafter these groups and their control measures do not need to be reiterated for other relevant hazards.)* ***[Please delete this row if it is not relevant. If relevant, alter text where necessary and add level of risk]***	*E.g. Contractors, visitors, students, security guards, cleaners, etc. present in the area.*	*They are likely to be un-trained and may not appreciate the full range of hazards present.*	**EXAMPLE**: (Do not delete category if it does not apply, add 'N/A' as it demonstrates consideration of this element.) **Eliminate/Substitute**: N/A **Engineering Controls:** *Access control prevents untrained people entering the area.* **Administrative Controls:** *Visitors are accompanied at all times by a competent person. Security and cleaners have their own risk assessment which states no equipment to be touched.* **PPE:** N/A							

Definitions

- Harm (saying ‘injured’ is not sufficient)
  - How the hazard could cause injury. In order to be specific, detail the pathway to the body, e.g:
    - skin contact causing burns
    - hit by projectile after explosion
    - asphyxiation after inhaling nitrogen
    - cut by sharp object
    - absorbed through skin, etc.

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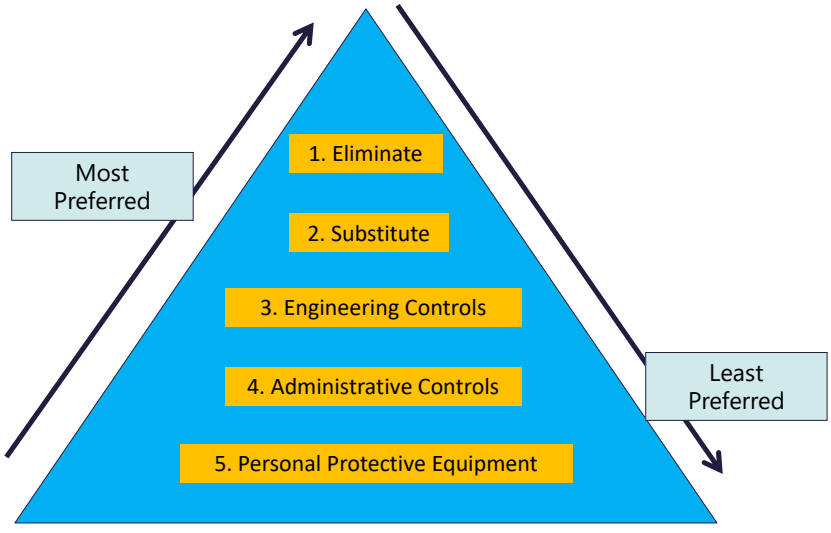
Slide 11

Hierarchy of control measures



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Slide 12

Language to describe control measures

A risk assessment is a statement of fact.

Think in black and white.

- Risk assessments are a factual account of what is in place to protect safety. Avoid use of words and phrases such as:
  - Where possible staff will be provided with….
  - On site training will have to be provided
  - PPE such as safety shoes should be available
  - Training will be reviewed monthly/quarterly/annually

It either is or it isn't

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Slide 13

Risk calculation

Ref:			Title:							
Assessment Date:			Rm/Building/STFC Site:							
Main Assessor:			Department:							
Assessment Team involved:			Persons or Groups of people exposed:							
Activity/Task being assessed (and any other relevant details, e.g. photos or related risk assessments/COSHH assessments etc. and where to find them):										
Step 1 What are the hazards (activities which may cause harm)? Hazard/Task or Situation	Step 2 Who might be harmed?	How might they be harmed?	Step 3: Existing risk control measures in place?	Level of risk? (see guidance attached) H Harm	L Likelihood	R Risk	Further control measures, if necessary?	Step 4: Who will take these actions forward and completed by when? Action by whom	When	Done
			Eliminate/Substitute: Engineering Controls: Administrative Controls: PPE:							
			Eliminate/Substitute: Engineering Controls: Administrative Controls: PPE:							
			Eliminate/Substitute: Engineering Controls: Administrative Controls: PPE:							

Priority matrix

Risk is a function of both the harm and likelihood of a specific hazard being realised.

		If control measures are not adhered to potential harm is likely to be:				
Harm	Major	Fatality	High	High	V High	V High
	High	Fatality or life changing injuries or serious health effects	Med	Med	High	V High
	Moderate	Time off work, e.g. broken bones, stress or musculoskeletal injury	Low	Med	Med	Med
	Slight	Minor injury which may or may not require First-aid treatment	Low	Low	Low	Low
			Very Unlikely	**Unlikely**	**Likely**	**Very Likely**
			Conceivable but difficult to realise. Would require a combination of several failures	Can be envisaged but is unlikely. Never previously happened in STFC	Can be anticipated to happen. Has previously been known to happen in STFC	Can be anticipated to happen. Has previously been known to happen on site
			Likelihood			

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Definition of levels of risk

Where:

Low Risk	No additional controls are necessary unless they can be implemented at very low cost (in terms of time, money and effort) or there is a mandatory requirement within legislation. Actions to further reduce these risks can be assigned low priority.
Medium Risk	Consideration should be given as to whether the risks can be lowered, where applicable, to a low risk level, but the costs of additional risk reduction measures should be take into account. The risk reduction measures should be implemented within a defined time period.
High Risk	The controls put in place are critical and it is imperative that they are monitored by a line manager (or equivalent) on a regular basis to ensure they are in place. Risk reduction measures should be contemplated as per the hierarchy and favour engineering controls over administrative controls and PPE. Additional controls may require extra resources and these would be justifiable.
Very High Risk	Additional control measures **must** be implemented to reduce the risk, regardless of cost, or a decision taken to terminate the activity until the risk level can be reduced.

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Monitoring and reviewing risk assessments

STFC policy is to review RAs every 2 years maximum. Sooner if there is an incident, e.g. near-miss or injury, a material change or if main assessor leaves STFC.

Develop an ongoing strategy, between reviews, to monitor your risks, e.g. meetings or key points in projects. Ask yourself, are any updates to the risk assessment necessary?

Distribution List:	Signed:	Date:
Alan Brown, Line Manager		
Susan Thompson, Engineer		
Step 5 Review Date: 07/06/2023	▪ Review your assessment to make sure you are still improving, or at least not sliding back. ▪ If there is a significant change in your workplace, remember to check your risk assessment and where necessary, amend it.	

You can have the most wonderful risk assessments and policies in place but if they are not monitored and reviewed then they are worthless"

District Judge Taylor, Bristol Magistrates' Court, July 2018

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Action management

Ref:			Title:								
Assessment Date:			Rm/Building/STFC Site:								
Main Assessor:			Department:								
Assessment Team involved:			Persons or Groups of people exposed:								
Activity/Task being assessed (and any other relevant details, e.g. photos or related risk assessments/COSHH assessments etc. and where to find them):											
Step 1 What are the hazards (activities which may cause harm)? Hazard/Task or Situation	Step 2 Who might be harmed?	How might they be harmed?	Step 3: Existing risk control measures in place?	Level of risk? (see guidance attached) H Harm	L Likelihood	R Risk	Further control measures, if necessary?	Step 4: Who will take these actions forward and completed by when? Action by whom	When	Done
			Eliminate/Substitute: Engineering Controls: Administrative Controls: PPE:							
			Eliminate/Substitute: Engineering Controls: Administrative Controls: PPE:							
			Eliminate/Substitute: Engineering Controls: Administrative Controls: PPE:							

STFC Risk assessment proforma

- Further actions (added to Evotix Assure when adding RA, separate tab)

STFC RISK ASSESSMENT PRO-FORMA

Ref:	Description: **Use of the Test cryostat**
Assessment Date: **25 September 2019**	Location/Site: **UK ATC South Building Laboratory**
Assessor: **Neil Campbell**	Department: **UK ATC**
Assessment Team:: **Mark Cliffe (Lab Supervisor)**	Persons Exposed: **Technicians, Lab users (STFC staff and staff of tenant companies), Cleaning staff, Visitors**
Activity/Task: • **Test Setup and breakdown operations** • **Operating the cryostat under vacuum and at low temperatures** • **Warming up and refilling the cryostat to atmospheric pressure** **A Risk Assessment for both general use of this lab area and a building fire risk assessment are held in the SHE database (Ref 1704 / UKATC 019 and Ref 1648/UKATC 094)**	

Step 1 What are the hazards?	Step 2 Who might be harmed and how?	What are you already doing? (see guidance attached)	What is the level of risk? (see guidance attached)			Step 3: What further action is necessary?	Step 4: How will you put the Assessment into action?		
Hazard/Task or Situation			H Harm	L Likelihood	R Risk		Action by whom	By when	Done
Use of Nitrogen gas for backfilling (venting)	**Technician / Lab users / Cleaning staff / visitors** Fainting, unconsciousness or death resulting from low oxygen levels due to a build-up of nitrogen gas.	**Eliminate/Substitute**: N/A **Engineering Controls**: Given the volume of the lab the volume and flow rate of nitrogen gas should not be sufficient to cause a significant hazard according to the calculation given in SC03 Appendix 3. **Administrative Controls**: Backfilling is carried out only by trained and competent persons. A portable oxygen monitor is available for use. During these operations, lab access is controlled to prevent cleaners/visitors from entering **PPE**: N/A	High	Very unlikely	Medium	An oxygen monitor and alarm should be permanently fitted in this area.	M Cliffe	31 Oct 2019	

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Common questions

- When should I perform a generic risk assessment for a room with mixed use and when do I do a specific risk assessment for an activity?

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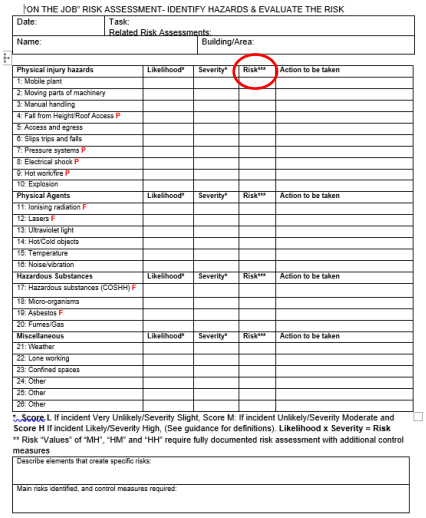
On the job risk assessment

- For use when
  - The task is a change or an addition to an existing planned activity
  - A generic risk assessment needs to be adapted for a specific activity
- Before starting the job, the assessor is required to STOP and THINK, can make use of a simple pro-forma designed to guide and record the risk assessment process
- Part of this process is to check that a fully documented risk assessment is not required. If the work is deemed 'high risk' such as work at height, then work will require to stop until a full documented RA is written and signed off



'ON THE JOB' RISK ASSESSMENT- IDENTIFY HAZARDS & EVALUATE THE RISK

Date:	Task: Related Risk Assessments:
Name:	Building/Area:

Physical injury hazards	Likelihood*	Severity*	Risk**	Action to be taken
1: Mobile plant				
2: Moving parts of machinery				
3: Manual handling				
4: Fall from Height/Roof Access P				
5: Access and egress				
6: Slips trips and falls				
7: Pressure systems P				
8: Electrical shock P				
9: Hot work/fire P				
10: Explosion				
Physical Agents	**Likelihood***	**Severity***	**Risk****	**Action to be taken**
11: Ionising radiation F				
12: Lasers F				
13: Ultraviolet light				
14: Hot/Cold objects				
15: Temperature				
16: Noise/vibration				
Hazardous Substances	**Likelihood***	**Severity***	**Risk****	**Action to be taken**
17: Hazardous substances (COSHH) F				
18: Micro-organisms				
19: Asbestos F				
20: Fumes/Gas				
Miscellaneous	**Likelihood***	**Severity***	**Risk****	**Action to be taken**
21: Weather				
22: Lone working				
23: Confined spaces				
24: Other				
25: Other				
26: Other				

* Score L If incident Very Unlikely/Severity Slight, Score M: If incident Unlikely/Severity Moderate and Score H If incident Likely/Severity High, (See guidance for definitions). **Likelihood x Severity = Risk**
** Risk "Values" of "MH", "HM" and "HH" require fully documented risk assessment with additional control measures

Describe elements that create specific risks:
Main risks identified, and control measures required:

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Slide 21

HSE Guidance – is my RA suitable and sufficient

- Have you included the 5 steps to RA?
- Does risk assessment policy match what happens in reality?
- Do you involve the workforce in the development of the RA?
  - Asking for their views
  - Seeking their suggestions
  - Communicating RA to them once complete
- Have control measures for the highest risks been incorporated into a regular monitoring scheme?
- Should the implementation of control measures take time, have interim measures been put in place to minimise the risk?

New Appendix to the Code – Appendix 6 "Aide Memoire for the production of a "suitable and sufficient" RA

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Imagine this live risk assessment is for your mechanical workshop. Are you happy?

Generic Risk Assessment – [redacted]

Hazard	Who might be harmed	Existing Controls
Working at heights	Engineering Staff	All relevant staff trained in the use of access equipment and barrier requirement for working at heights and on roofs as detailed in and in compliance with STFC Safety Code No 9. Where appropriate PPE is provided and must be used.
Installation & Maintenance Works	All employees	All work is to be carried out in compliance with STFC Safety Codes: No2, No 3, No 4, No 9, No 12, No 15, No 18, No 26, No 33 No 35, No 37, No 38, No 41 and The RTF Safety Handbook & Project Handbooks. Where appropriate PPE is provided.
Dust Generation by drilling.	All employees and contractors	Use of hoover with HEPA filter whilst drilling or use drill extraction attachment that contains a HEPA filter. When drilling a suitable facemask must be worn. All residual dust around the drill site will also be removed. Disposal of dust must also be carefully managed with dust being placed in plastic bags before disposal.
Manual Handling	All employees and others involved in moving heavy and or awkward loads.	Staff trained in manual handling. Mechanical means to be used wherever possible (by trained operatives only). Where appropriate PPE is provided.

Better example performed by STFC staff

Ref: 4058	Title: NQCC R129 Power Tools Activity Risk Assessment
Assessment Date: 24/05/2024	Rm/Building/STFC Site: RAL / R129 Goods In Areas & Lab Spaces
Main Assessor: Joe Bloggs	Department: NQCC - STFC
Assessment Team involved: Jane Brown, Daniel Smith.	Persons or Groups of people exposed: NQCC Operations Staff, bystanders
Activity/Task being assessed (and any other relevant details, e.g. photos or related risk assessments/COSHH assessments etc. and where to find them): Safe use of power tools. Any fire risks are covered by the building fire risk assessment held by SHE Group.	

Step 1 What are the hazards	Step 2 Who might be harmed?	How might they be harmed?	Step 3: Existing risk control measures in place?	H Harm	L Likelihood	R Risk	Further control measures, if necessary?	Action by whom	When	Done
Debris & Sharp Edges on tool edges	Operators, staff & bystanders	Cuts, abrasions & other injuries from sharp tool edges or flying debris during operation. Entanglement.	**Eliminate/Substitute:** N/A **Engineering Controls:** Regular tool maintenance. Remove damaged tools from use. **Administrative Controls:** Manage loose clothing and hair to prevent entanglement and remove or tuck away loose items like passes on lanyards when operating hand power tools. **PPE:** Safety glasses/goggles (EN 166). Safety shoes (EN20345). Handling gloves (EN 388). **Relevant SHE Code is No 4.**	M	L	M		N/A	N/A	N/A

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Manual Handling of boxes and items in the area. Weight can vary from 1-2 Kgs up to 20 Kgs.	Operators, staff & bystanders	Back injuries or other musculoskeletal disorder from incorrectly lifting or moving heavy equipment, materials etc.	**Eliminate/Substitute:** N/A **Engineering Controls:** Where possible, use mechanical lifting/moving equipment. **Administrative Controls:** Analyse the Task, Individual, Load and Environment. Lifting over short distances, 5m max. Anyone with back problems has a personal RA. Any loads of offset centre of gravity, lift with heaviest side closes to the body. No obstacles in the environment. Staff to have undertaken mandatory safe manual handling operations training. **PPE:** Safety Shoes (EN20345). Handling gloves (EN 388). **Relevant SHE Code is No 12.**	M	U	M		N/A	N/A	N/A
Working at Height Height of 2m. Ladders assessed as best tool for the job as access only is required.	Operators, staff & bystanders	Injuries due to falls from height.	**Eliminate/Substitute**: N/A **Engineering Controls:** After pre-use checks, remove any damaged/faulty equipment from use. **Administrative Controls:** Use equipment in accordance with operator manual. Ladders and step ladders shall be used by trained, competent and authorised staff only. Ladders and step ladders to be used for access only. Staff to have undertaken SC0409 training for Ladder Users. Class 1 or EN131 professional ladders only. All pre-use checks to be completed prior to use. Cordon off area from nearby staff and bystanders. **PPE:** Safety Shoes (EN20345). **Relevant SHE Code is No 4.**	M	U	M		N/A	N/A	N/A
Lone working	Operators.	Risk of accidents without immediate assistance or supervision.	**Eliminate/Substitute:** Lone working is prohibited without prior authorisation from senior line manager. **Engineering Controls:** N/A **Administrative Controls:** Conduct specific risk assessment for solo tasks. Check-in system for lone workers. Provide training on emergency procedures and emergency contact details. **PPE:** N/A Relevant SHE Code is No 1.	M	VU	L		N/A	N/A	N/A

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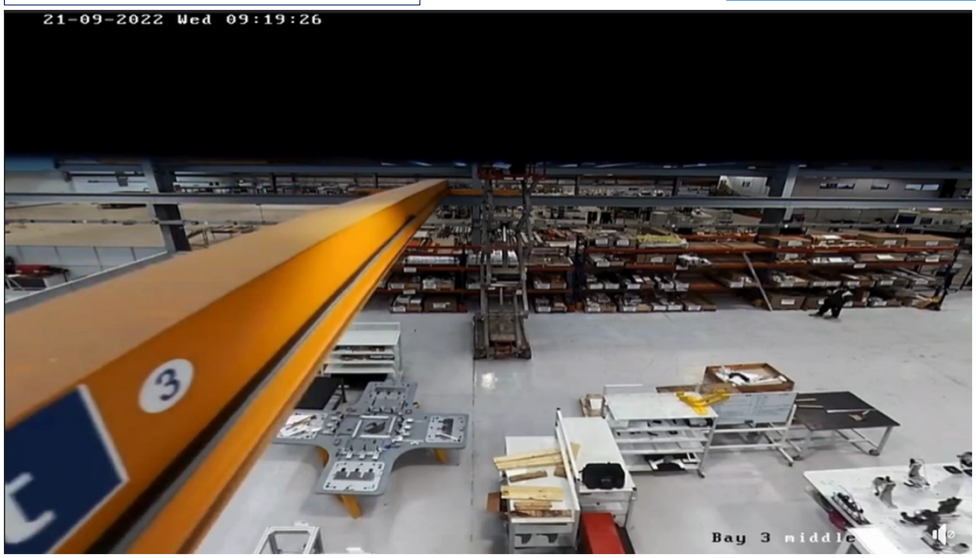
Firms fined for electrician's 35ft fall at Coventry manufacturers - BBC News

Both contractor and company where this took place were prosecuted and fined



£100 padlock would have prevented this contractor from being harmed

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Scaffold tower collapse caught on car dashcam | Construction Enquirer News

Scaffolding Collapse into Oncoming Traffic, Buckingham UK (youtube.com)

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Method Statements (complex projects or working with contractors) "RAMS"

1. Task description
2. Known hazards
3. Responsible people
4. How projects will be monitored
5. Structure of tasks
6. Environmental issues
7. Permits
8. Competency of workers
9. Deliveries
10. Emergency Arrangements

See Appendix 7 of Code 6 for info on Method Statements and Safe Systems of Work

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2016 Regime change: a new penalty landscape

- In their first 6 months, the guidelines resulted in as many penalties of £1m or more as there were in the previous 20 years

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BBC Sign in Home News Sport Weather iPlayer

NEWS

Home | Election 2024 | InDepth | Israel-Gaza war | Cost of Living | War in Ukraine | Climate | UK | World

Scotland | Scotland Politics | Scotland Business | Edinburgh, Fife & East | Glasgow & West | Highlands & Alba | Local News

Ineos fined £430,000 after worker badly burned in accident

The worker, 47, was attempting to clear a sump that contained a caustic solution. However, he fell into the sump due to inadequate grating and sustained severe burn injuries. The sump had needed emptying as its contents had reached the high-level design threshold the day before.

- No risk assessment had taken place for this activity.
- There was also no safe system of work produced.
- The grating was not secured and there were no barriers in place to prevent a fall into the sump.

Any risk assessment performed would have identified that the key risk was falling into the caustic solution and that current control measures were severely lacking!

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Dyson fined £1.2m after 1.5-tonne machine falls on factory worker

Wiltshire employee's head and chest were injured in 2019, in incident that HSE said 'could have been fatal'

The technology company Dyson has been fined more than £1m after one of its employees was injured when a giant milling machine fell on top of him.

Dyson was ordered to pay £1.2m at Swindon magistrates court for failing to properly train its staff in handling the kit. The firm pleaded guilty to breaching health and safety laws.

He was moving a computer-assisted milling machine with the help of a colleague when the incident happened.

They lifted it up with a five-tonne jack, and were replacing some wheels with wooden blocks when it fell.

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The Guardian
Newspaper of the year

The Health and Safety Executive said that it struck the man, injuring his head and chest.

Its investigators found that Dyson had not provided "suitable and sufficient information, instruction and training" to its staff. It had also not put systems in place to ensure that the machine was moved safely.

The man escaped being crushed only because the machine landed on two toolboxes and the handle of another machine.

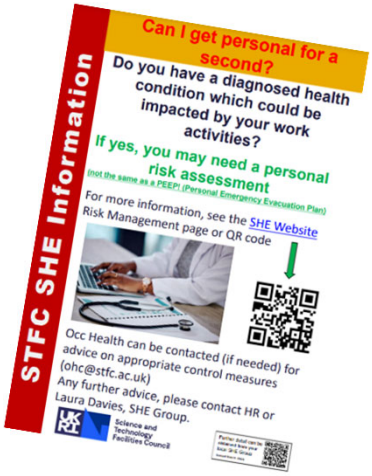
"This incident could have been fatal," said James Hole, a Health and Safety Executive (HSE) inspector. "Those in control of work have a duty to assess the risks, devise safe methods of working and to provide the necessary information, instruction and training to their workforce.

"Had a suitable safe system of work been in place, this incident and the related injuries could have been prevented."

Slide 31

Personal Risk Assessment

If a line manager becomes aware that one of their direct reports has a medical condition which could be impacted on by their work activities, e.g. epilepsy, severe allergy, eye condition, heart disease, etc. then the manager will need to carry out a personal risk assessment with the person.
This could come from a discussion about time off for hospital appointments or a first aid incident on site. As soon as the line manager is aware, they have a legal duty of care to the direct report. The risk assessment demonstrates this duty of care has been fulfilled.



You can find the proforma on the SHE website under 'Forms'.
If you need medical advice, you can refer them to Occupational Health.

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Lord Justice William Davis said:

“We accept that the staircase did not present a risk for almost all members of staff at the store. In our judgement that is not the point.

"It created a material risk to the health and safety of Matthew Gunn.”

Conclusion: STFC needs to assess the risks to staff where their health condition makes them more prone to injury.

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Matthew Gunn death: Morrisons supermarket fined £3.5m

17 March 2023

FAMILY HANDOUT

Matthew Gunn suffered fatal head injuries in a fall from a staircase at Morrisons supermarket in Tewkesbury in 2014

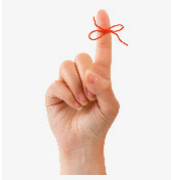
By Rhiannon Yhnell
BBC News

Supermarket retailer Morrisons has been fined £3.5m for failing to prevent the death of a store worker with epilepsy.

Thoughts to leave you with….

Common problems with risk assessments:

- Confusing hazard (potential) with outcome. Nothing painful in 1st column!
- Failure to consult staff on preparation of RA or brief them on completion.
- Not taking into consideration everyone potentially impacted by the activity.
- Relying on a “generic” risk assessment when a “specific” one is needed.
- Failure to complete the risk calculation correctly.
- Insufficient information for high-risk activities. Level of detail should be proportionate to the risk.
- Failure to take account of individuals’ requirements.
- Lack of clarity on responsibilities – especially in matrixed projects.



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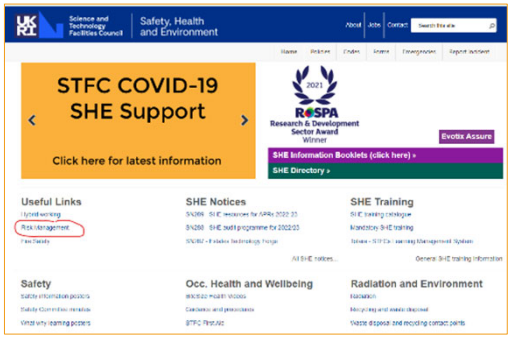
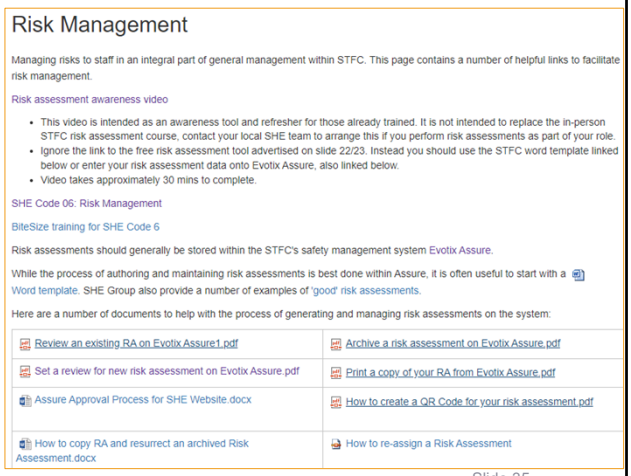
Dedicated risk assessment page



Please bookmark the SHE website on your PC/laptop, it's a one stop shop for all SHE related topics:

https://staff.she.stfc.ac.uk/pages/staff/home.aspx



Risk Management

Managing risks to staff in an integral part of general management within STFC. This page contains a number of helpful links to facilitate risk management.

Risk assessment awareness video

- This video is intended as an awareness tool and refresher for those already trained. It is not intended to replace the in-person STFC risk assessment course, contact your local SHE team to arrange this if you perform risk assessments as part of your role.
- Ignore the link to the free risk assessment tool advertised on slide 22/23. Instead you should use the STFC word template linked below or enter your risk assessment data onto Evotix Assure, also linked below.
- Video takes approximately 30 mins to complete.

SHE Code 06: Risk Management

BiteSize training for SHE Code 6

Risk assessments should generally be stored within the STFC's safety management system Evotix Assure.

While the process of authoring and maintaining risk assessments is best done within Assure, it is often useful to start with a Word template. SHE Group also provide a number of examples of 'good' risk assessments.

Here are a number of documents to help with the process of generating and managing risk assessments on the system:

Review an existing RA on Evotix Assure1.pdf	Archive a risk assessment on Evotix Assure.pdf
Set a review for new risk assessment on Evotix Assure.pdf	Print a copy of your RA from Evotix Assure.pdf
Assure Approval Process for SHE Website.docx	How to create a QR Code for your risk assessment.pdf
How to copy RA and resurrect an archived Risk Assessment.docx	How to re-assign a Risk Assessment

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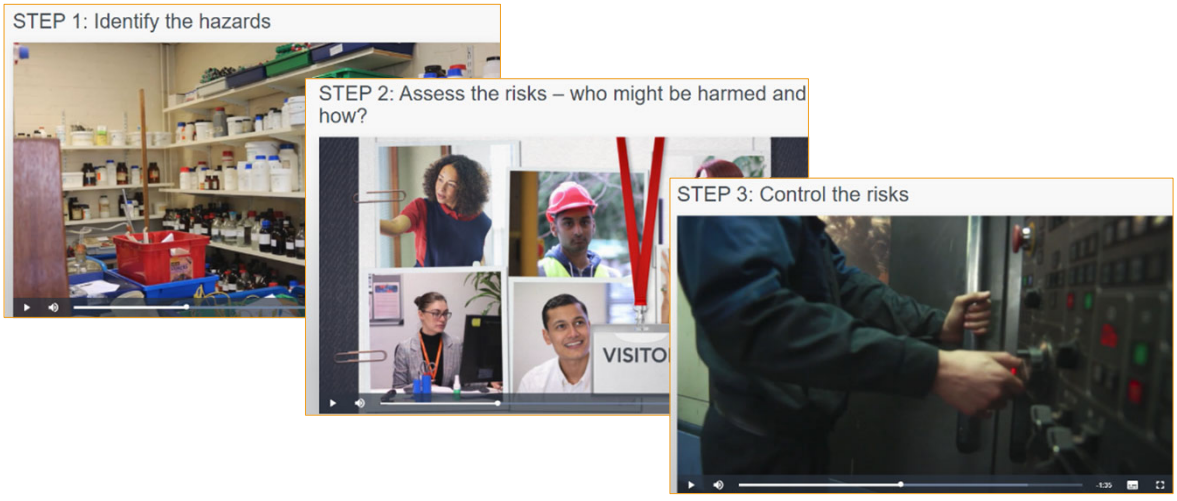
Risk assessment awareness



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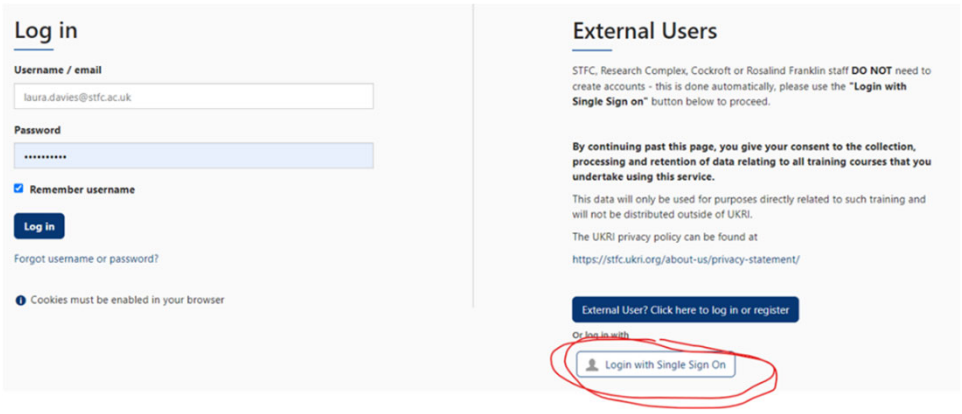
Logging onto Totara



Clicking on 'Single Sign On' will take you direct to your course when you follow a link

Having problems?
Ensure your VPN is connected.

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Evotix Assure Demo

- Risk Assessment

ASSURE

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Risk assessment practical

- Develop a risk assessment and submit to Laura Davies within 2 weeks
- The risk assessment can be:
  - One developed for your own workplace
  - One of the examples in the course materials:
    - Building inspection using a MEWP
    - Construction of a ‘lead castle’ for an experiment

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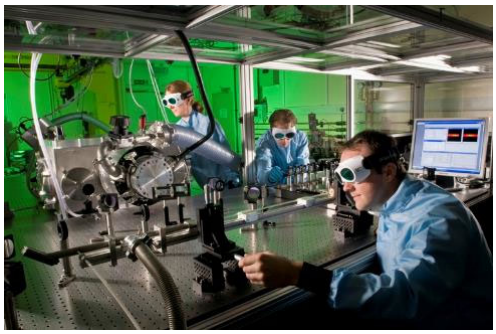
Exercise 5: Risk assessment review

- Consider the adequacy of RA coverage in your work areas.
- Consider the standard of RAs relevant to your area given the content of this morning’s sessions
- Prepare a 5 minute presentation for the Chairman of your Departmental Safety Committee summarising your findings and making recommendations for actions



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SHE Code 5
SHE Accident Causation and Accident Investigation

Why investigate accidents?

- Its the Law, the Management of Health and Safety at Work Regulations, Section 5 under 'Monitoring
    - ..... (b) includes adequately investigating the immediate and underlying causes of incidents and accidents to ensure that remedial action is taken, lessons are learnt and longer term objectives are introduced
- Its STFC H&S Management Arrangements, Section 3 : Principle H&S responsibilities of managers includes:
    - Investigating injuries, incidents and near misses in their areas of responsibility to determine root causes and identify and introduce measures to reduce the likelihood of an incident's recurrence

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Reasons to investigate incidents

- Prevent future incidents and accidents
- Demonstrate concern
- Identify weaknesses in management systems
- Prevent business losses
- Collate data and establish trends
- Identify costs
- Defend claims for compensation and criminal prosecution

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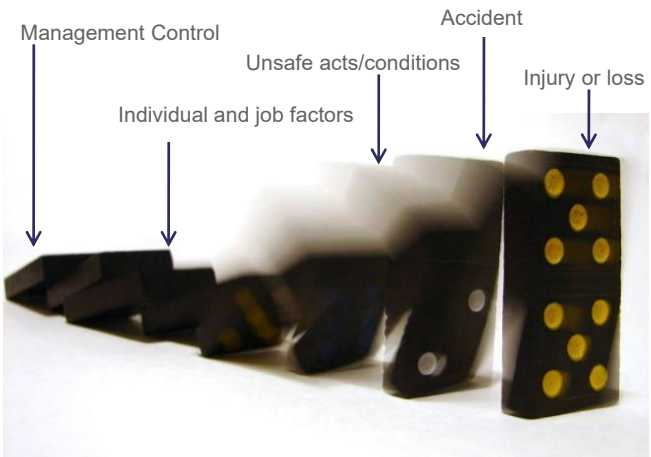
Accident Causation

- Domino Theory



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Immediate causes

- Equipment Design
- Working environment
- Inspection and maintenance
- Risk perception
- Motivation
- Pressure
- Fatigue
- Compliance
- Competence

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Organisational causes

- Management/supervision
- Communications
- Recruitment/selection
- Training
- Planning
- Procedures
- Incident management and feedback

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Corporate influences

- Research budgets
- Research timescales
- Ownership and control
- Safety management system
- Procurement

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External influences

- Political environment
- Customers
- Public perception
- Economic factors
- Global research drivers
- University agendas
- Tenant business plans

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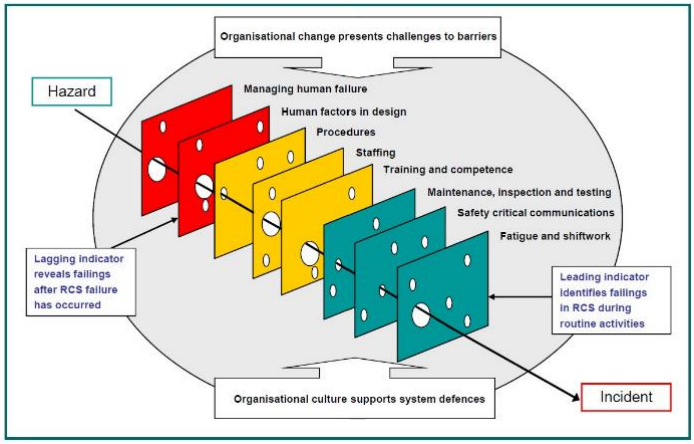
Reason's accident causation model

- Also referred to as the "Swiss Cheese Model"



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- Energy Institute Briefing No 17: Human Factors aimed at the on-shore and off-shore chemical and fuel process industry, 2011

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Conclusion

- Avoid blame!
- All accidents whether major or minor are caused, there is no such thing as an accidental accident!!
- Very few accidents, particularly in large organisations and involving complex technologies are associated with a single cause
- The causes of accidents are usually complex and interactive

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Human error: Active failures

- Have an immediate consequence
- Are usually made by front-line people such as drivers, control room and machine operators
- Immediately precede, and are the direct cause, of the accident

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Human error : Latent failures

- Those aspects of the organisation which can immediately predispose active failures
- Common examples of latent failures include:
  - Poor design of plant and equipment
  - Maintenance schedules not followed
  - Ineffective training
  - Inadequate supervision
  - Ineffective communications
  - Uncertainties in roles and responsibilities.

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Human error : Latent failures

- Latent failures are important to accident prevention because:
  - If they are not resolved, the probability of repeat accidents remains high regardless of what other action is taken
  - As one latent failure often influences several potential errors, removing latent failures can be a very cost-effective route to accident prevention

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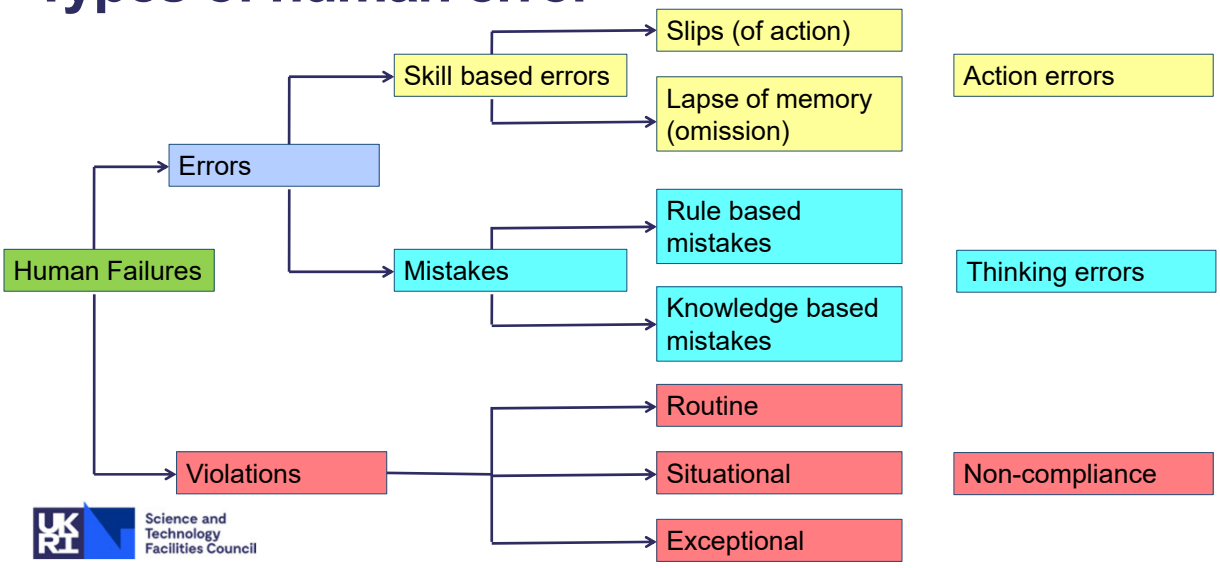
Types of human error



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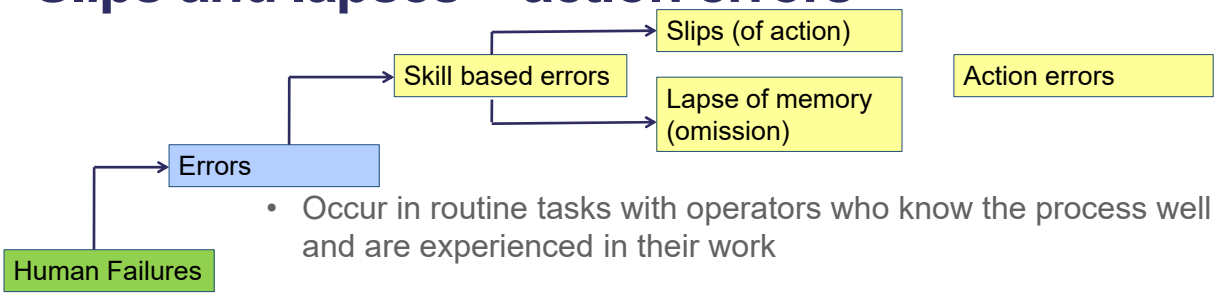
Slide 54

Slips and lapses – action errors



- Occur in routine tasks with operators who know the process well and are experienced in their work
- Action errors which occur whilst the task is being carried out
- Often involve missing a step out of a sequence or getting steps in the wrong order and frequently arise from a lapse of attention
- Typical examples: Driving - operating the wrong control through a lapse in attention or accidentally selecting the wrong gear

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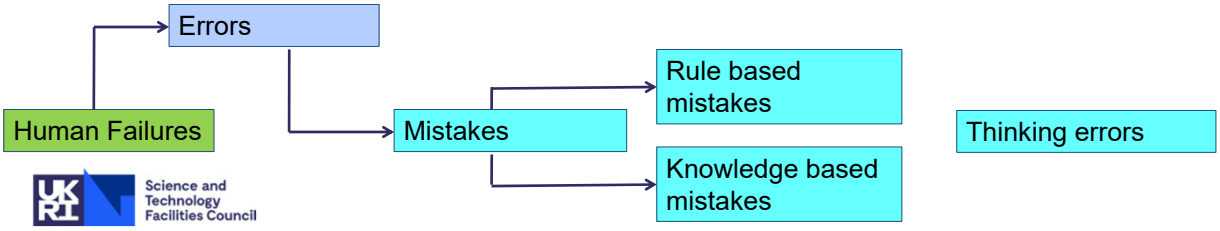
Slide 55

Mistakes – thinking errors

- Inadvertent errors that occur when the elements of a task are being considered by the operator
- Decisions that are subsequently found to be wrong, although at the time the operator would have believed them to be correct



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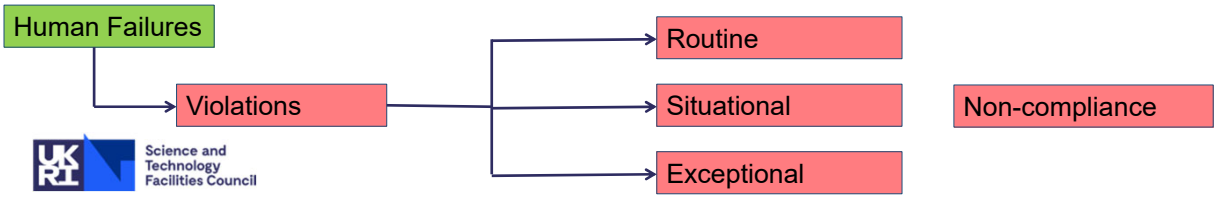
Violations – non-compliances

- Deliberate deviations from the rules which are deemed necessary for the safe operation of equipment
- Violations are seldom wilful acts of sabotage or vandalism
- The majority stem from a genuine desire to perform work satisfactorily given the constraints and expectations that exist



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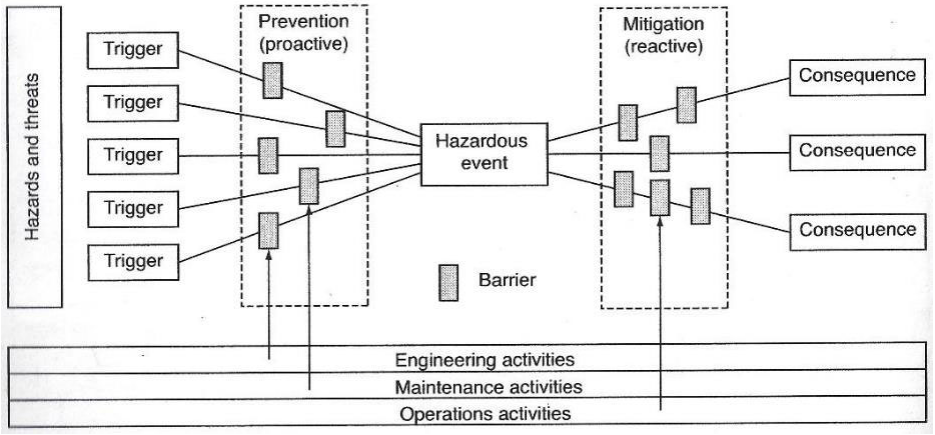
Bow-tie diagram

- Another analysis device which distinguishes between factors influencing the outcome before and after the actual accident



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SHE Code 5 - Incident Reporting and Investigation

- Safety Code 5 defines the processes to be used for the reporting and investigation of incidents and the responsibilities of individuals and managers
- To satisfy the legal duty under the Management of Health and Safety at Work Regulations and Reporting of Injuries Regulations (RIDDOR) and others
- Apart from legal duty, it is widely recognised that analysis of incidents and potential incidents provides essential information in the process of continually improving safety performance and safety management systems

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Slide 59

Immediate response on witnessing an incident

- Raise the alarm and call for assistance immediately
- As appropriate, providing it is safe for you to do so and in priority order:
  - Assist in taking care of casualties
  - Take action to prevent further casualties
  - Take action to prevent further damage
  - Prevent access to the area
  - Inform Line Management
  - Gather information including photographs
- Report the incident on Evotix Assure

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All staff: What to report

- All the following must be reported by any person involved in or witnessing any incident from the following list:
  - Accident (Incident with actual injury or damage to property)
  - Near Miss (Incident or circumstance that may have resulted in an accident)
  - Includes hazardous condition dangerous occurrence or failure of a safe system of work
  - Occupational Ill Health (Work related abnormal condition or disorder)
  - Environmental Incident (Actual or potential damage to the environment)
  - Fire (including smoke, sparks and false alarms)
  - Vehicle Incidents
  - Radiation incidents

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All staff: How and when to report

- Use Evotix Assure, the STFC online incident reporting database
- Alternatively use the portal on the SHE website or send an email to the SHE group
- Inform the Line Manager/Contract Supervisor/Employer of any person involved in the incident
- Report serious incidents or emergencies at the earliest opportunity and always in less than 12 hours
- Report all other incidents within 2 days

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All staff: Investigation

- Co-operate with STFC management or external agencies in any investigation to identify root causes and prevent recurrence
- Note that apart from a number of specific circumstances below, STFC encourages a no blame culture and does not include disciplinary action as a response to an incident report:
  - Repeated occurrence despite re-training and mentorship
  - Malicious intent
  - Action far from acceptable practice
  - Deliberate unauthorised over riding or tampering with safety interlocks
  - Non reporting of a significant event and attempt to conceal

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Responsibilities of managers and supervisors

- Ensure that any incident in an area for which they are responsible is reported through Evotix Assure
- Using the guidance in appendix 4, conduct a local investigation of the incident within two weeks of the incident occurring
- Where SHE Group classifies an incident as Serious or Potentially Serious (SoPS), management must complete a SoPS Investigation Report (See appendix 6)
- Note: SHE Group will determine the severity of an incident and if is reportable to HSE under RIDDOR

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Responsibilities of managers and supervisors

- Ensure that all actions arising from incident investigations are implemented in a timely manner
- Note that Head of SHE Group will decide if an incident requires an STFC formal investigation rather than a Departmental local investigation
- As appropriate inform relatives of staff and the employers of visitors, tenants or contractors
- Discuss the causes of the incident and the learning derived from it with any STFC employee involved

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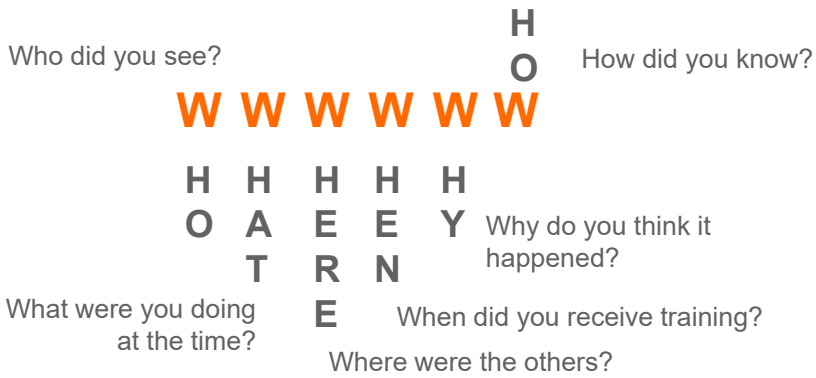
Effective Questioning

- Ask the right questions



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Exercise 6: Accident investigation

- Accident investigation case study

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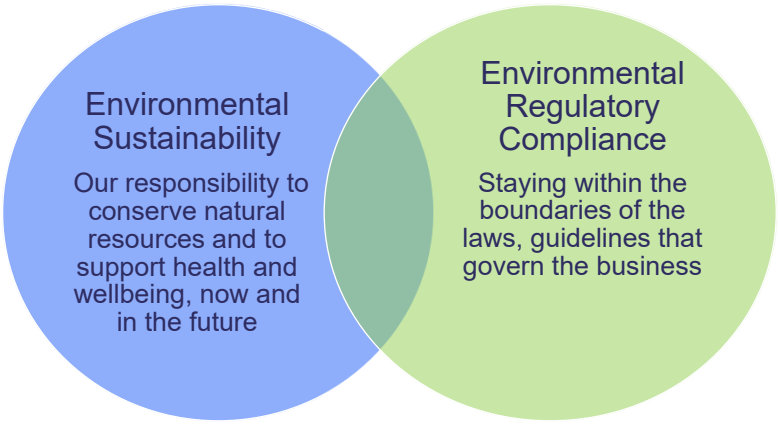
Environmental Management and Sustainability (Part 1)

Environmental compliance & sustainability

What's the difference ?



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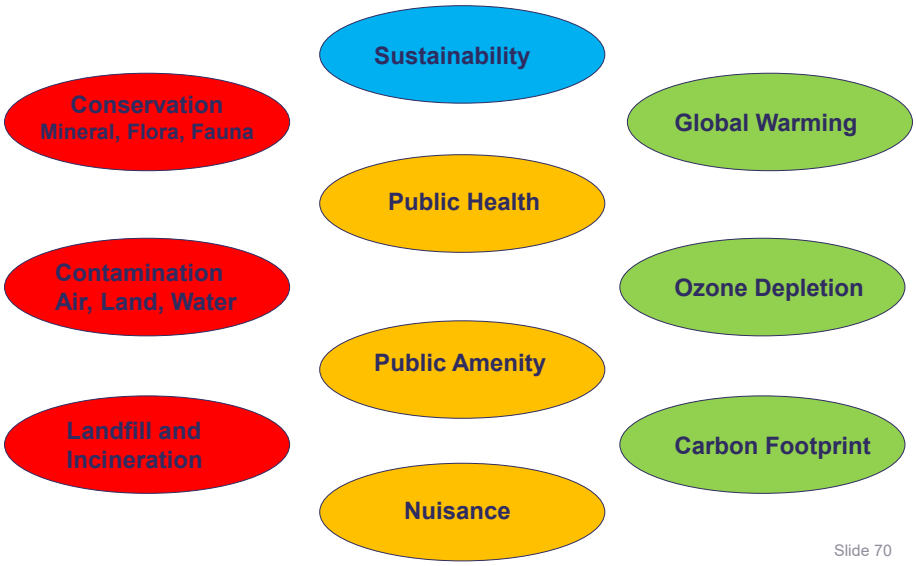
What are the issues to worry about?



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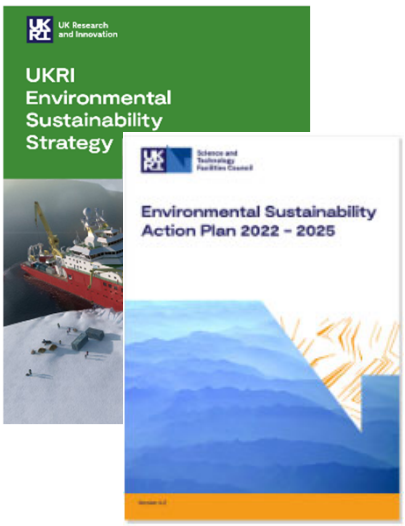
Timeline to a sustainability plan

- The UKRI Environmental Sustainability Strategy was launched in May 2020 and set out the ambition of 'embedding sustainability in everything we do' and achieving net zero carbon by 2040
- STFC's action plan was launched in 2021 and updated in 2022. It aims to deliver key outcomes in:
  - Leadership, Staff Empowerment, Physical Environment, Science Delivery, Collaboration and Procurement.



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The 2024/2025 figures

Solar panels on all sites generated **3,552,254** kWh of electricity

We emitted a total of **34,669** tonnes of CO_2
This equates to the emissions of ~233,823 flights between Heathrow and Edinburgh

We consumed **129,137,967*** kWh of electricity
= to **47,829** average UK homes
*total electricity from the grid, onsite solar and gas-powered CHP (combined heat and power plant)

Waste and Recycling

We produced **696** tonnes of waste
= weight of 58 double decker buses

Water Usage

We consumed **141,139** m^3
This equates to **~ 56** Olympic-sized swimming pools
30-40% of this water was linked to cooling experiments

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The challenge

- Big science requires vast resources
- Quantifying the positive impact of enabled research (as part of any carbon calculation) is significantly challenging
- Sustainable technical solutions may be a long way from realisation (still only conceptual) and may require a global collaborative approach
- Significant funding could be required to investigate, develop and implement sustainable solutions
- **Embedding environmental sustainability thinking in every aspect of our work is a major culture change for us ALL**

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Green laboratory

- Waste management & Water usage
- Net Zero by 2040 will profoundly impact how a science lab works
  - Do we know the carbon footprint of common Laboratory equipment: freezers, refrigerators, water baths, fume hoods, furnaces, X-ray sets, autoclaves etc.
  - Extensive use of single use plastics to prevent contamination, assure H&S etc.
  - Water usage, cleaning and sterilising
  - Disposal, scrapping of redundant equipment
  - Microscale chemistry techniques, hazardous chemical substitution
  - Hazardous waste management: handling, packaging, storage and disposal, & clinical and radioactive waste management …

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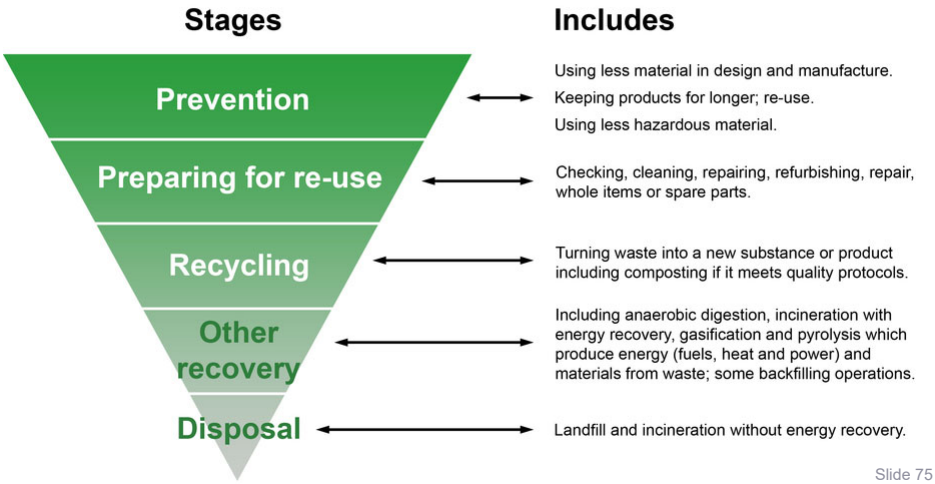
Waste management hierarchy

- It's everyone's duty to follow the hierarchy



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Motivators for good environmental control

- Potential for legal sanction arising from non-compliance with environmental legislation
- Government greening commitments:
  - Mitigating climate change: working towards net zero by 2050
  - Minimising waste and promoting resource efficiency
  - Reducing water use
  - Procuring sustainable products and services
  - Nature recovery – making space for thriving plants and wildlife
  - Adapting to climate change
  - Reducing environmental impacts from Information Communication Technology (ICT) and digital
- Savings arising from reduced resource costs and reduced waste
- Financial consequences of 'the polluter pays' principle
- Major moral and reputational image consequences in both directions

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Thank you – Any questions

SHE website: https://staff.she.stfc.ac.uk/pages/staff/home.aspx

STFC SHE Training for Technical Managers

Summary of Key Learning Points from Day 2

Risk Assessment part 1	
1	Risk assessment is the central pillar of any safety management system
2	Risk assessment is an inclusive exercise involving people affected and people who can advise on account of their expertise and experience
3	Risk assessment should take account of anyone who might be affected and especially those particularly at risk
4	Consider all aspects of the risk taking account of People/Equipment/Material/Environment (PEME)
5	Use a hierarchy of controls and consider all types of control: Technical/Procedural/Behavioural
6	Persons carrying out risk assessment must be competent to do so.
7	Understand the meaning of the terms “significant” and “suitable and sufficient” in the context of risk assessment
8	Appreciate the types of problem that can arise in preparing risk assessments

Risk Assessment part 2	
1	The existence of the different levels of RA provided in the STFC SHE Code –on the job and documented.
2	An appreciation of when the different levels are to be used
3	Understand how to use the risk calculation matrix required for on the job and documented risk assessments
4	How to use the corporate risk database in SHE Assure
5	It is necessary to reflect on one’s own experience and competence to complete a risk assessment
6	Understand that the quality of STFC RAs was criticised at the last external audit and that there has been and is a drive for improvement. There is an RA check sheet in the code appendices
7	Understand the need to stand back and review the overall arrangement for risk assessments in a given area/for a given activity and to consider if the mix of generic and specific assessments is correct
8	Understand the critical importance of consultation prior to and during the assessment and of briefing on completion
9	Be alert to the existence of specialist arrangements for RA in some Departments with high risks and complex arrangements
10	Be alert to the possible need for advanced risk analysis techniques such as HAZOP for high risk or complex installations.
11	Practical demonstration of capability to undertake a risk assessment

Accident Causation	
1	There is a large breadth of possible accident causes across a range of categories including immediate causes, organisational causes, external influences and corporate influences
2	The definitions of and differences between active causes and latent failures
3	There are different types of human failure and methods for classifying them
4	STFC provides comprehensive instruction on how to conduct accident investigation in SHE Code 5
5	Why-Why analysis has been adopted as a powerful tool in the identification of root causes
6	STFC's encouragement of a no-blame culture and the exceptions to this

The Environment	
1	STFC has an Environmental Policy committing to improvement of its environmental impact and to compliance with environmental legislation
2	All STFC managers have a duty to review their activities and to consider how any direct or indirect effects on the environment might be reduced
3	STFC has a an Environmental Management System of similar structure to the Health and Safety Management system and this is built round a policy and arrangements document, SHE Codes, Environment committees and line manager/individual interaction.
4	Any activity involving radioactive substances must be discussed with Radioactive Waste Adviser.
5	STFC's approach set out in the codes is to require a manager to take advice from an expert in setting up their environmental management arrangement. This may then require training and appointment of local specialists to discharge the code duties
6	All staff should be aware of the STFC Environment Essentials document for first level advice on their responsibilities and for direction on where to find more information
7	All staff must understand and make use of the waste disposal hierarchy.
8	STFC is legally responsible for waste produced by its activities – from generation through to final recycling or disposal off-site
9	Where appropriate, environmental management instructions are included in all the STFC SHE Codes
10	As a public sector body, STFC is required to report its environmental performance. Annual summaries of initiatives are available to staff on the SHE website

STFC SHE Training for Technical Managers

Course Programme: Day 3

** Note that the times given are approximate and will be adjusted to suit programme requirements **

Session Number	Session Title	Time
1	Issues and questions from Day 2 Review of environmental Codes Safety training and Training Needs Analysis	09:00 to 10:45
	Break	10:45 to 11:00
2	Audit, inspection, and improvement plans Contractors	11:00 to 12:45
	Lunch	12:45 to 13:30
3	Safety culture, leadership and supervision Course conclusion	13:30 to 15:15
	Break	15:15 to 15:30
4	Issues and questions from all 3 days Course assessment	15:30 to 16:45

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SHE Management for STFC Technical Managers - Day 3

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Environmental Management and Sustainability (Part 2)

Environmental Essentials

- A single page summary, accessible from the SHE website, summarising the basic responsibilities of all members of staff and pointing to location of further information
- They currently focus on legislative compliance – not sustainability
- Guidance given under 4 main headings:
  - Environmental management – what can you do?
  - Disposing of waste
  - Controlling pollution to air, land and water
  - Environmental risk management

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Slide 3

Relevant SHE Codes

- The following codes are directly relevant to environmental management:
  - SHE Code 21: Management of radioactive waste
  - SHE Code 27: Receipt and dispatch of hazardous substances
  - SHE Code 31: Controlled and hazardous wastes
  - SHE Code 41: Controlling pollution to air land and water

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Slide 4

SHE Code 21 - The Management of Radioactive Waste

- This code contains a large quantity of technical information on how compliance with a number of overlapping regulations is achieved through the appointment of specially trained staff, such as:
  - RPA - Radiation Protection Adviser
  - RWA - Radioactive Waste Adviser
  - RWM - Radioactive Waste Manager
  - RMC - Radioactive Material Consignor
- If staff are required to deal with or are planning to deal with any radioactive substance, they must contact the RWA to discuss the application of the Code

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Exercise 7: Environmental SHE Code review

- In groups, look at a single code and prepare a 5 minute presentation highlighting the most important information for managers and supervisors
- Group 1: Receipt & Dispatch of Hazardous Substances (SHE Code 27)
- Group 2: Controlled and Hazardous Waste (SHE Code 31)
- Group 3: Controlling Pollution to Air, Water and Land (SHE Code 41)

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Other related SHE Codes

- The following codes may be relevant to environmental management:
  - SHE Code 16: Biological Safety
  - SHE Code 35: Asbestos
  - SHE Code 37: CoSHH
- The need for an environmental risk assessment should be considered for all work activities
- Note that Environmental Management is incorporated into ALL codes as necessary, e.g. SHE Code 6 Risk Management explicitly includes assessment of environmental hazards

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Slide 7

So what can you do to contribute?

Think:

- Before disposing of waste – is it the correct waste stream?
- Before disposing of washings down the sink - are you aware of the Trade Effluent Permit conditions?
- Before you leave for the weekend/holiday – are all non-essential electrical items switched off?
- Do you know how to dispose of hazardous waste?
- Do you know how to report an environmental incident?
- Do you know who to speak to get advice?

Question?

Can you think of anything else you can do to contribute?

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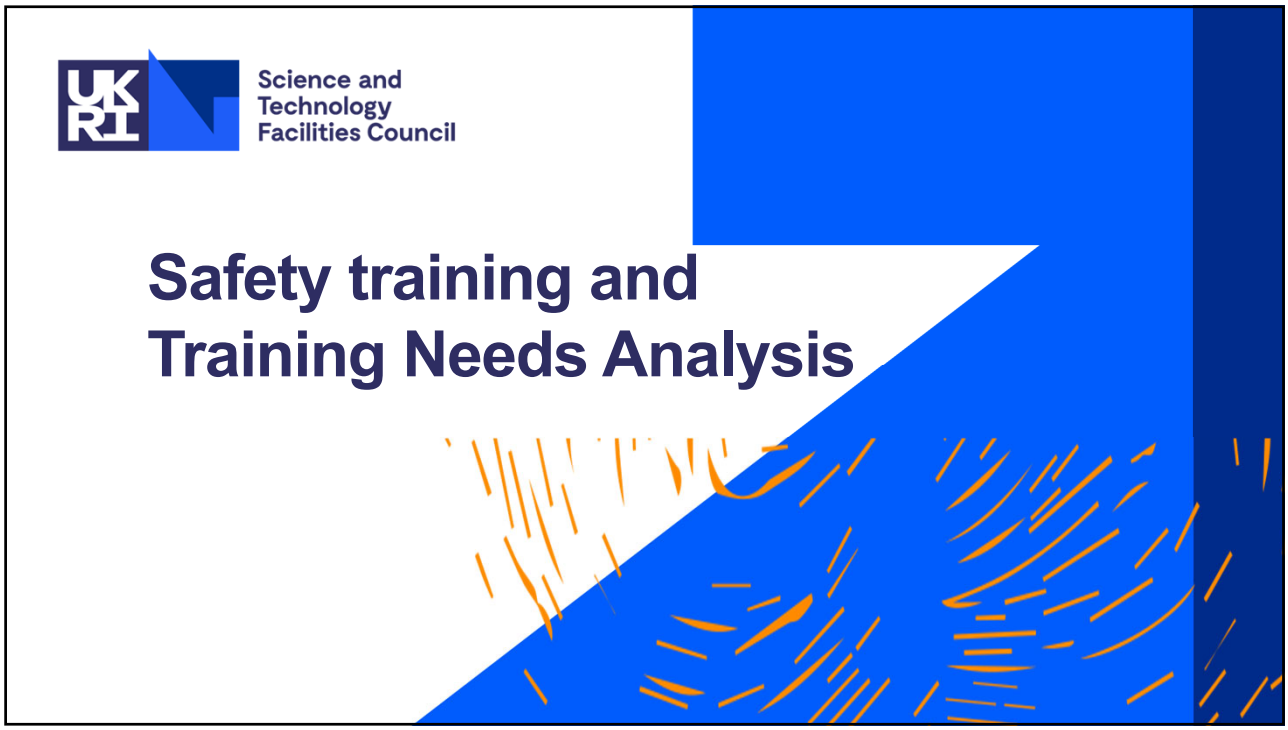

Introduction

- The provision of information, instruction and training is a core legal requirement of the Health & Safety at Work Act and many safety regulations introduced under it
- Training is linked to the competence needed by any employee to do the work required
- Dealing with training is a core Management Responsibility in the STFC H&S Management Arrangements
- *"If you do nothing else, ensuring your staff are effectively trained is perhaps THE most important action a manager can undertake to assure their safety"*

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Scope

- SHE training needs to be considered for all personnel including:
  - STFC employees and tenants
  - Temporary staff including agency staff
  - Short and long term visitors
  - Facility Users
  - Sandwich and vacation students
- Any personnel in the above categories working at STFC sites on average for more than 2 days a week for 3 months require the same level of mandatory SHE training as STFC employees

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Mandatory SHE training

- Induction training:
  - Mandatory induction session on joining STFC which is delivered on first arrival followed by a suite of 3 mandatory training courses for all staff, all refreshed 5 yearly:
    - Fire Safety
    - DSE training and self-assessment
    - Safe Manual Handling
- Plus an additional 3 mandatory training courses for all staff within 6 months, all are available on-line and no automatic refreshment required:
  - STFC Health and Safety Management Arrangements bite size
  - Electrical Safety Essentials
  - Asbestos Essentials

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Mandatory SHE training

- Is followed up by location/activity specific training as set out in the HR Induction Check Sheet
- Management training :
  - Training on appointment to a first managerial role in STFC with SHE responsibility for others
    - **SHE Management for Non-Technical (Office based) Managers** (1/2 day course, refreshed 5 yearly); or
    - **STFC SHE Training for Technical Managers** (3 days, refreshed 5 yearly with 1 day course) - this course

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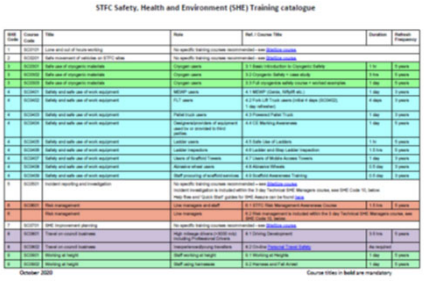
Job or hazard specific SHE training

- Role/project related training identified by Line Management for staff through a training needs analysis conducted on appointment, and reviewed annually through APR or more frequently when required
- Requires proactive management/staff to request this training - SHE Group proactively manage initial mandatory training and refresher training
- See every SHE Code!
- Collated in **STFC SHE Training Catalogue**
  - Find this on the website


STFC Safety, Health and Environment (SHE) Training catalogue

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Slide 14

Staff, facility users, visitors and tenants

- Are required to attend all training and associated refresher training identified by their manager
- Utilise and apply SHE training at all times
- Raise any perceived shortfall in SHE training with their manager at the earliest opportunity
- Ensure that all visitors for whom they are responsible are aware of:
  - The H&S hazards to which they could be exposed
  - Local safety control measures
  - Relevant emergency procedures

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Line manager & supervisor responsibilities

- For New Starters:
  - Consider the competence, experience and personal qualities of staff at selection and again at deployment
  - Ensure STFC SHE induction is delivered to new starters **before** they start work duties
  - Ensure that a **local workplace safety induction** is delivered to new starters before they start work duties: see appendix 2, and HR induction checklist
  - Pay particular attention to young and inexperienced staff

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Line manager & supervisor responsibilities

- For All staff:
  - Complete a Training Needs Analysis (TNA) within 4 weeks of the appointment or change of duties
  - Review the TNA annually or following any significant change in duties
  - Make full use of the STFC SHE Training Catalogue and if appropriate contact SHE Group for advice
  - Consider the need for local ‘On the Job’ training by existing expert staff for specialist activities or equipment specific training provided by manufacturers

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Line manager & supervisor responsibilities

- SHE training administration:
  - Ensure all staff complete agreed SHE training in a timely manner
  - Training organised or delivered by SHE Group will be recorded and filed by SHE Group
  - Training provided locally at Department level or lower, including On the Job training, must be recorded locally.
  - Training records should include proof of attendance and completion by signature

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Slide 18

Line manager & supervisor responsibilities

- Training Needs Analysis (TNA):

Step	Person	Action
1	Employee and Line Manager	Jointly complete a risk assessment identifying hazards and risks of the proposed work or role The pro-forma in SHE Code 06 should be used to structure this assessment
2	Line Manager	Identify and document required SHE training by referring to: • Relevant SHE Code or SHE Training Catalogue or • Specialist / equipment specific training required
3	Line Manager	Record these in individuals APR 'Learning and Development' log
4	Employee and Line Manager	Ensure training in the SHE Catalogue is booked through SHE Group Other job related training is organised by line management
5	Employer and Line Manager	Ensure training is completed, recorded and reviewed for effectiveness In the case of significant hazards, training must be completed prior to starting the work

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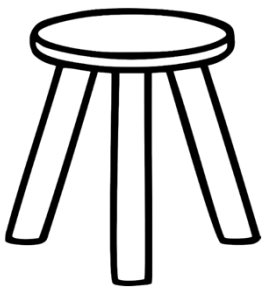
SHE Competence

- The SHE Group follow a simple competence model (consistent with the existing HR/SBS recruitment model):
  - **Knowledge/training**
  - **Skills/Experience**
  - **Attitude/Behaviours**

Competence



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Exercise 8: SHE Code 8 bite size

- Use the laptops to complete the bite size introduction to SHE Code 08 : Travel on Council Business
- In reported road collisions in Great Britain in the year ending June 2024 there were an estimated:
  - 1,607 fatalities, -2% compared to the year ending June 2023
  - 29,540 killed or seriously injured, slight increase compared to the year ending June 2023
  - 128,920 casualties of all severities, -4% compared to the year ending June 2023

Reported road casualties in Great Britain, provisional estimates: year ending June 2024 - GOV.UK (www.gov.uk)

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SHE Code 30 SHE Auditing and Inspection

SHE Audit and inspection strategy

- The code sets out three distinct audit and inspection activities:
  - A programme of Departmental led location/activity inspections (SHE Tours) on a 2 year cycle
  - A programme of STFC SHE Code **Compliance Audits** undertaken on a 5 year cycle
  - An externally led independent **System Audit** of the effectiveness of the STFC SHE management system as a whole undertaken every 5 years

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Departmental SHE tour programmes

- SHE tour programmes are organised by departmental management and approved and overseen by Departmental SHE Committees
- Appendix 4 provides guidance and supporting pro formas
- As a minimum all geographic areas must be covered at least every two years depending on circumstances, staff and incidents

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Departmental SHE tour programmes

- SHE Tours must be carried out by suitably trained staff and where possible inspectors should operate outside their own work areas (a SHE Tour training course is available on-line)
- The SHE Tours schedule should be communicated to the areas affected in advance
- Actions identified by SHE Tours must be recorded in the Evotix Assure system
- SHE Tours should include safety representatives, SHE Group, and local management

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SHE Compliance audits

- The underlying question in these audits is:
  - "Are we following the SHE codes and **can they be improved**?"
- The priority for audits will be based on:
  - SHE performance measures such as incidents and near misses
  - Planned changes to work programmes
  - Results of previous audits and
  - Changes in SHE management system or new legislation

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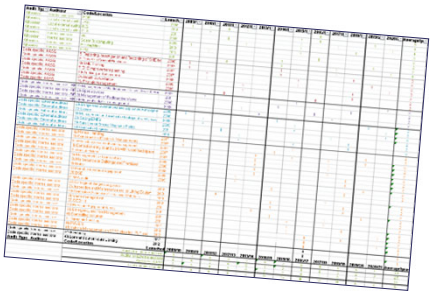
SHE Compliance audits

- Audit programme approved by & undertaken on behalf of the STFC SHE Committee
- The programme is managed by the SHE Group and communicated in advance
- Audits may be code specific or, for low hazard profile Departments, address all relevant codes
- Appendix 2 provides guidance



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STFC SHE system audit

- The remit of this audit is :
  - "To assess whether the STFC SHE Management System meets STFC needs and legal requirements and whether it identifies opportunities for improvement"
- Audit carried out every 5 years by independent external consultants and based on compliance with HSE safety management model HSG65
- Audit will be organised by SHE Group and will report to the STFC SHE Management Committee
- Appendix 3 provides further details

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Managers and supervisors responsibilities

- Co-operate fully with the inspection or audit team by providing full information and access as required
- Remember the inspector/auditor has been instructed to find opportunities to improve any aspect of SHE management or operation
- Consider the findings of SHE audits and inspections and act in a timely manner on any non-conformances or recommendations. If any such recommendation is not accepted, the basis for this decision should be recorded in writing

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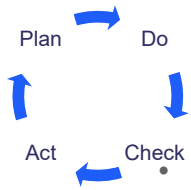
SHE Code 7 - Safety, Health and Environment Improvement Planning

SHE management system PDCA cycle

- **Plan**
  - UKRI Policy and STFC H&S Management Arrangements
  - SHE Improvement planning
- **Do**
  - Risk assessment
  - Assign responsibilities
  - Implementing
  - Training and competence



- **Act on findings**
  - Reviewing performance
  - Learning lessons
- **Check**
  - Measuring performance
  - Investigating accidents, incidents and near misses
  - Safety tours
  - SHE audits

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Performance monitoring : Lagging or reactive indicators

- These indicators tell you how you are doing by looking at what has happened
  - “driving your car by looking in the rear view mirror”
- Many of these indicators will be derived from STFC’s Incident investigation and reporting system (SHE Code 5) or from SHE audit and inspection activities (SHE Code 30)
- Helpful as a retrospective measure of output performance

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Lagging or reactive indicators

Numbers of injuries categorised by severity	Number of RIDDOR reportable injuries
Numbers of reported instances of occupational ill health	Numbers of environmental incidents
Number of attendances at occupational health centres	Numbers of breaches of environmental consents
Lost time due to injuries or occupational ill health	Volumes of waste
Costs of civil claims	Power and water consumption

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Performance monitoring : Leading or active indicators

- These indicators attempt to measure the effectiveness of the key SHE controls an organisation has before an incident occurs
- They are often the result of measurement, inspection or audit of the workplace
- Some of these will be derived from SHE Group databases and others from within Departments, Projects or Groups

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Leading or active indicators

Proportion of risk assessments reviewed within 2 years	Failures rates of registered equipment items
Numbers of risk assessment actions completed as scheduled	Numbers of near misses closed out and fed back
Safety Tours and SHE Code audits completed as scheduled	Completion rates for mandatory SHE training
Numbers of safety tours and audit completed as scheduled	Completion rate for SHE refresher training
Emergency exercises and fire drills completed as scheduled	Completion rate for actions arising from emergency exercises and fire drills

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Project specific performance indicators

- Departments managing higher risk activities may need to establish performance indicators tailored to their specific needs

BN 4: Maintenance	
Leading indicators	**Lagging indicators**
Maintenance backlog (percentage of equipment not maintained against prioritised targets). Percentage of maintenance jobs not checked (that require to be checked). Relative percentage of reactive (corrective) versus proactive (planned) maintenance. Timescale for closure of work orders, against targets. Number or percentage of equipment inspections/tests undertaken against target schedule.	Number of loss control reports/ reported failures, including key component failures, attributable to lack of maintenance. Total number of critical system breakdowns. Percentage of reported maintenance errors/number of tasks requiring re-work. Number of times issues reported with equipment that has been maintained or repaired (i.e. maintenance incorrectly performed leading to latent defects/maintenance induced failure).

BN 7: Training and competence	
Leading indicators	**Lagging indicators**
Presence of a formal competence management system. Number or percentage of employees trained per period as compared with schedule. Percentage training records complete/up-to-date. Number or percentage of safety critical staff assessed to be competent in their roles (based on competency assessment programme / use of simulator re-assessment). Number or percentage of staff satisfactorily completing refresher training as compared with schedule (this is not the same as competence; also, the number of non-attendees may indicate staffing pressures).	Percentage of candidates failed after training and assessment. Shortage of required skills and experience for specific tasks. Workmanship problems in maintenance. 'Mission failures' during operations. Feedback on staff competence from third-party body (based on annual audits).

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- Energy Institute Briefing No 17: Human Factors aimed at the on-shore and off-shore chemical and fuel process industry, 2011

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STFC Health and safety objectives 25/26

1	**Improve Mental Health and Wellbeing:** Departments to nominate and train a minimum of 10% Wellbeing Allies in accordance with department numbers.
2	**Improve COSHH compliance:** Controlling exposure to respiratory hazards. 1. 100% of users of Local Exhaust Ventilation to complete the online training on LEV Systems on Totara. 2. Line Managers to identify all COSHH assessments where RPE is required as an additional control to supplement other control measures, specifying RPE in terms of protection factor and type of filtration required. - 100% of relevant line managers to read the guidance of the selection use and maintenance of RPE (SHE Sharepoint) - 100% of relevant line managers and RPE users to complete training on RPE face fit testing (as identified) - 100% of relevant line managers to confirm that 100% of RPE users have been face fit tested (as identified).
3	**Improve Contractor Management:** SC15 is being reviewed by SHE Group to evaluate its effectiveness. The review would benefit greatly from departments reviewing practices within their area of operation and providing commentary on what works and what needs improvement. 1. 100% of departments who manage contractors review the text of SHE Code 15 (and/or use Appendix 6) and submit comments to SHE Group e.g. a marked up version. 2. 100% of departments that use contractors to carry out training needs analysis (Appendix 2 of SC10) to correctly identify staff who manage contractors. 3. 100% of staff who are identified as managing contractors, to undertake relevant training and ongoing coaching, and provide formal CSO appointment and registration on the SHE Directory.
4	**Risk Assessment:** 1. 100% of moderate and SoPS rated incidents to result in a review of relevant risk assessments, e.g. activity, COSHH, etc. and these reviews to be documented on the risk assessment form or review section of Evotix Assure. 2. 75% of staff who are line managers to have (in date) in-person risk assessment awareness training (valid for 5yrs). Note: staff who have completed the 3-day SHE Tech Managers course have satisfied this objective.
5	**Tenants, Users, Visitors:** 1. 100% of Tenants, Users and (unescorted) Visitors to have completed the relevant site inductions 2. 75% of staff who manage tenants to complete the SHE 3-day Technical Managers or half day Non-Technical Managers course depending on the hazard profile of their Dept.

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Departmental SHE improvement plan

- Reviews the SHE performance of the previous financial year – incidents; safety tours; SHE audits etc.
- Reviews progress against objectives/actions agreed for the previous year
- Reviews how Department can contribute to the annual STFC H&S and Environmental objectives
- Sets out SMART objectives/actions for the coming financial year committing the resource necessary to complete them

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SHE Code 15 Management of Contractors

Legal basics

- Health and Safety at Work Act
- Section 3 “It shall be the duty of every employer to conduct his undertaking in such a way as to ensure, so far as is reasonably practicable, that persons not in his employment who may be affected thereby are not thereby exposed to risks to their health or safety.”
- Fundamental duty to look after non-staff/others working in your department and STFC

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Legal basics

- Management of Health and Safety at Work Regulations 1999
  - Reg. 3: Absolute duty on the employer to carry out risk assessment – with specific reference to persons involved in work but not in direct employment
  - Reg. 8: Everyone – staff/non-staff – to be made aware of procedures for serious and imminent danger
  - Reg. 11: Co-operation and co-ordination on safety where there are two or more employers in a shared workplace – this is also a key parts of other legislation!
  - Reg. 12: Provision of comprehensible information to other persons working in the host organisation and their employer
  - Reg. 15: Duties for temporary workers – fixed term contracts, agencies and agency workers

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HSE Guidance in INDG 368 (rev 1)

- Host organisations must:
  - Identify/specify the job and the associated safety issues
  - Select a suitable contractor with sufficient competence
  - Assess the risks – consulting those involved:
    - To the contractor from host activity & to the host staff from contractor activity
  - Host and contractor produce Risk Assessment and Method Statement proportional to the hazards and risks identified
  - Co-operate and co-ordinate with the contractor i.e. work out arrangements in advance
  - Provide information, instruction and training to both host staff and contractors including special arrangements and emergency procedures
  - Manage and supervise the work
  - Review safety arrangements for the contract when complete

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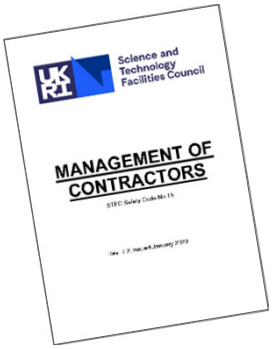
STFC's strategy

- To be world class in what we do and comply with all aspects of legislation through the provisions of STFC Code 15: Management of Contractors including provision of training to those involved (which is based on INDG 368)
- Contractor management is no exception and is achieved by setting out clear responsibilities for:
  - Staff Letting Contracts (SLC)
  - The Contract Supervising Officer (CSO)
  - The Contractor



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Summary of SHE Code 15 requirements

- When employing a contractor STFC is obliged to:
  - SLC must consider safety at the planning stage and ensure contractor competency at the selection stage
  - SLC and CSO must undertake full assessment of risks and controls in both directions prior to work starting
  - SLC and CSO must agree the supervision arrangements prior to work starting
  - SLC and CSO must confirm competency of contractors before work starts
  - CSO must deliver training and induction as necessary
  - CSO must ensure adequate monitoring throughout the project
  - SLC must ensure review performance and feedback to procurement

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Motivations for safety management

A “Life Changing Experience” :

Hindsight : The Ken Woodward Story

Lattitude Productions Ltd

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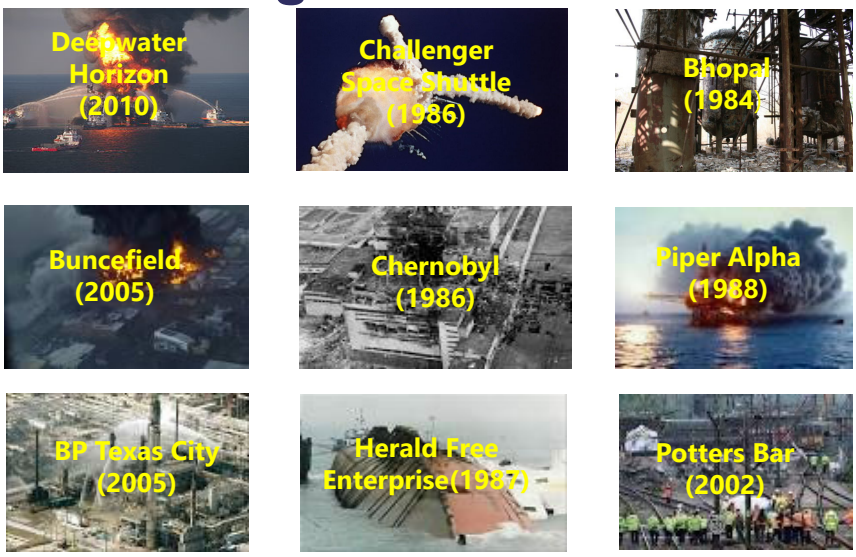
Safety culture failings



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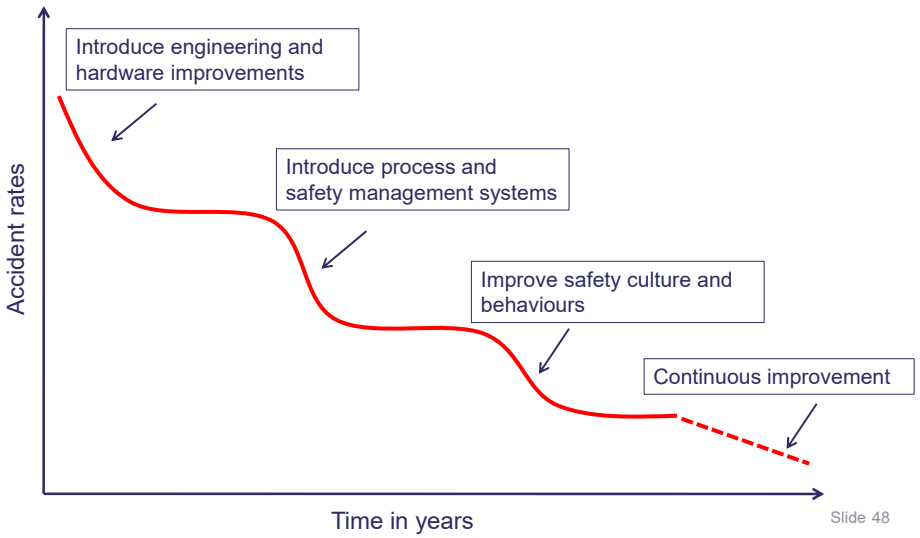
Why improve safety culture?

A model for reducing accident rates



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Definition of safety culture

- A widely adopted definition is:

"The product of individual and group values, attitudes, perceptions, competencies and patterns of behaviour that can determine the commitment to, and the style and proficiency of an organisation's health and safety management system"

(From UK Health &Safety Council Advisory Committee for the Safety of Nuclear Installations 1993)

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Components of a safety culture

Psychological Aspects	Behavioural Aspects	Situational Aspects
"How people feel"	"What people do"	"What the organisation has"
The "safety climate" of the organisation which is concerned with individual and group values, attitudes and perceptions	Safety related actions and behaviours	Policies, procedures, regulation, organisational structures and the management systems

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Safety culture factors

Poor safety culture	Strong safety culture
No management commitment	Total management commitment
Evasion (of the rules)	Compliance (with the rules)
Safety as an 'add-on'	Fully integrated safety
Blame culture	No-blame culture and accountability
Reactive	Proactive
Revolutionary	Evolutionary
Auditors as enemies	Auditors as friends
Safety as a hindrance	Safety as a help
Safety as a cost centre	Safety as a means of saving money
Safety as a single-point responsibility	Safety as a line or multi-point responsibility
No or cursory risk assessment	High quality/proportional risk assessment

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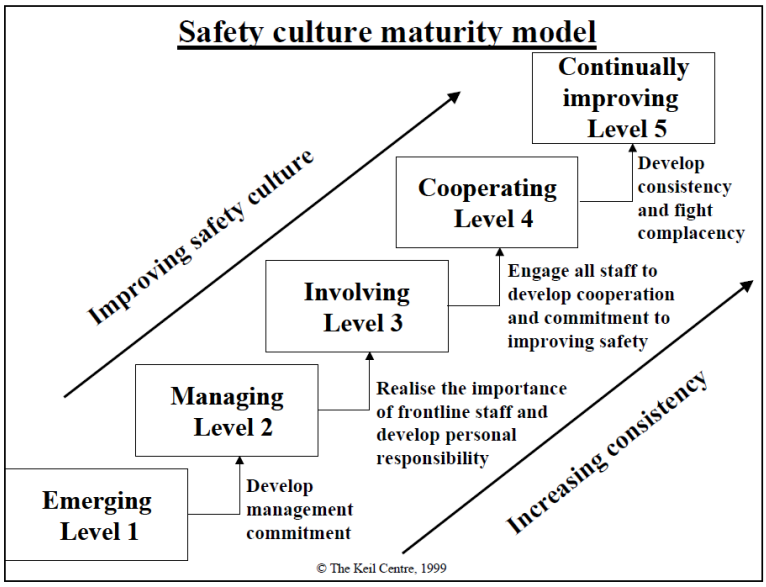
Fleming's safety culture maturity model



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Measurement of safety culture - climate

- The following “elements” are typical of the management and organisational characteristics used to measure safety culture
- This climate measurement is normally carried out by questionnaire to all staff

Management commitment and visibility	Participation
Communication	Shared perceptions about safety
Productivity versus safety	Trust
Learning organisation	Industrial relations and job satisfaction
Safety resources	Training

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STFC’s Culture survey and results

- STFC has conducted a questionnaire based safety culture assessment based on the Fleming model
- The survey was first carried out in 2010, 2014, 2018 and again in 2023
- The measurement elements were modified to match specific STFC concerns

H&S Codes and Instructions	Communications	Environment
Incident reporting	Management commitment	Personal Commitment
Personal perception of safety in STFC	Rule breaking/Risk Taking	Training Competence

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STFC climate survey results

Row Labels	2010	2014	2018	2023
Health and Safety Codes and Instructions	67%	68%	70%	69%
Communications	72%	73%	73%	71%
Environment 2023 (focus on env. compliance)				72%
Environment (2010-2018)	69%	70%	69%	
Incident Reporting		75%	77%	76%
Management Commitment	79%	81%	83%	83%
Personal Commitment	79%	79%	80%	80%
Personal Perception of Safety Within STFC	82%	83%	85%	84%
Risk Assessment			74%	74%
Rule Breaking / Risk Perception	77%	76%	77%	77%
Training Competence	77%	80%	80%	79%
Average overall rating	**75%**	**76%**	**77%**	**76%**

Overall Response Rates	2010	2014	2018	2023
Number of people who submitted a response	866	925	879	1273
Response rate (compared to no. of staff)	44%	45%	40%	41%

Department	2010	2014	2018	2023
ASTeC	75%	75%	77%	78%
Business and Innovation	74%	75%	76%	79%
CLF	76%	78%	78%	79%
Corporate Services	77%	77%	79%	79%
DI			71%	72%
Estates			81%	77%
Finance	74%	71%	76%	78%
ISIS	76%	76%	78%	77%
NQCC				77%
PPD	77%	78%	80%	80%
Programmes	72%	73%	73%	72%
RAL Space	75%	77%	76%	77%
Scientific Computing	77%	77%	75%	77%
Strategy, Performance and Comms	76%	77%	77%	73%
Technology (incl. UKATC)	74%	77%	79%	77%
Other (incl. RC@H and CEO/COO)	78%	78%	79%	77%

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STFC climate survey: Key findings

- The consistency in scores with performance remaining strong shows an embedded safety culture – even with staff turnover
- With significantly increased staff numbers, STFC has a strong SHE culture and either recruit's people who fit well into this culture or have a strong established SHE culture that new starters follow.
- STFC is currently at Level Four : Co-operating on the Fleming safety culture maturity model

Most staff consider H&S to be important from both moral and economic point of view
Managers and staff recognise the wide range of accident causes and the likelihood that management decisions will be involved
Staff accept responsibility for their own H&S and that of others
The importance of all employees feeling valued and treated is recognised
Organisation puts significant effort into pro-active accident prevention
Safety performance is actively monitored using all data available
Non-work accidents are also monitored and a healthy lifestyle is promoted

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STFC Culture survey: Recommendations

- Continue action to improve ease of use of SHE Codes and Instructions
- Raise profile of environmental management and increase communication
- Improve close out of actions arising from incidents/near misses, RAs, safety tours and SHE audits
- Maintain strong emphasis on SHE training programmes
- Continue to integrate SHE management system into all aspects of STFC activity
- Continue with visible leadership of SHE issues from the top

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STFC SHE communication survey

- The SHE culture survey was also used to identify preferences, issues and suggestions for improving SHE communication through the following channels:
  - STFC Executive Chair's staff forum/webinar
  - Departmental meetings
  - Line manager team cascade
  - Departmental intranet/newsletters
  - Department Safety Contacts (DSCs)
  - SHE website
  - SHE committees
  - SHE Group
  - STFC Source
  - In Brief
  - STFC Yammer
  - Site noticeboards
  - Site TV displays

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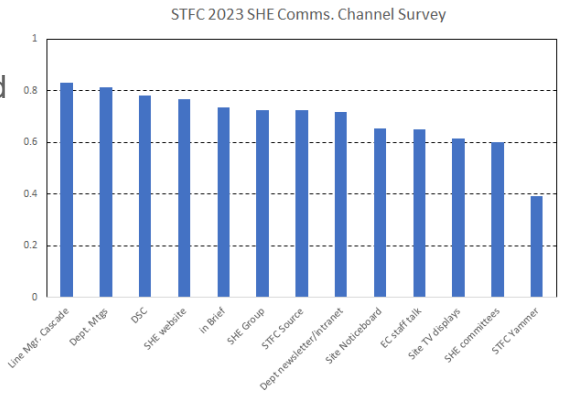
STFC SHE communication survey

- The survey highlighted staff preference for SHE information to be 'pushed' to them by line management – so it can be filtered and focussed on what matters locally though the following channels:
  - Line managers
  - Dept meetings
  - Department SHE Contacts (DSCs)
- In terms of frequency of use, the survey found that the SHE website was the most frequently used source of SHE information.



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STFC SHE communication survey

- From the free text comments, the key expectations of staff were:
  - Communication through email, newsletters, texts, webinars, and In Brief updates
  - Making use of DSCs to send information
  - Communicating SHE information through line management
  - Breaking down SHE information into smaller, concise pieces
  - Clear and non-complicated wording in communication
  - Making SHE website (and SHE info on Source) easier to navigate
  - Regular safety bulletins and updates
  - Disseminating important information through offline communication platforms, e.g. posters, TVs, EC staff talk, etc.
  - Providing customised training based on job categories
  - Feedback provided on actions taken after creation of an incident report

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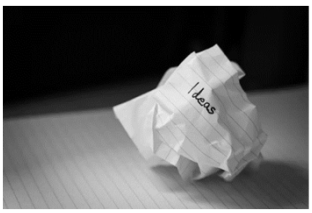
STFC SHE communication survey



- As a result of the survey, SHE Group is currently working on:
  - Providing a regular stream of SHE items to the Exec chair forum
  - Having an in person launch for new SHE Codes or major updates
  - Making SHE training course feedback available to staff
  - Re-marketing the SHE website, staff to register areas of interest and specific news pushed to them
  - Links from Dept intranet sites to SHE website
  - Making SHE committees, minutes, and quarterly reports more available to all staff
  - Supporting line managers so they can cascade relevant info
  - Using SHE Directory to push relevant info to the correct staff
  - Piloting at DL the use of new TV screens in Depts for relevant SHE info
  - Evotix Assure – providing video mini tutorials to assist staff

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Exercise 9: Improving safety culture

- Look at the HSE Human factors and safety culture table
- Consider how the listed activities and behaviours might apply to your own management role
- Can you identify action you can take?
- Can you identify actions STFC can take to help?

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Guidance on supervision

- Supervision is covered within HSG65 safety management model:
  - Emphasis on matching the level of supervision to the competence of the work team
  - Emphasis on the opportunity for the supervisor to inform and educate
  - Emphasis on the execution of judgement on how to proceed with a task and when it is necessary to call for expert advice and guidance

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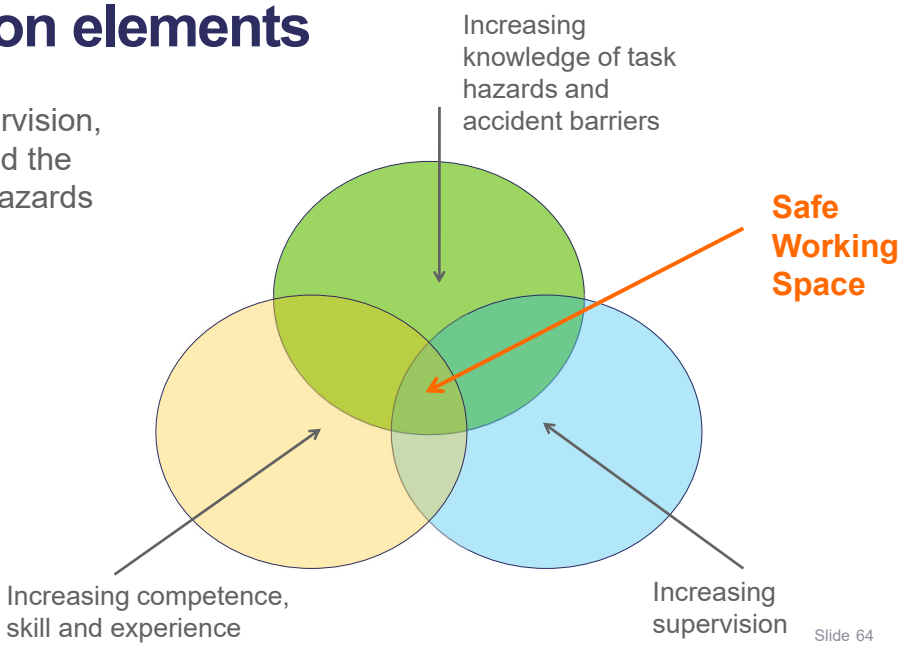
Supervision elements

- Balancing supervision, competence and the knowledge of hazards



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Felt leadership

- Originally developed by DuPont
- Provides concept for leadership
- Health and safety focussed
- *Felt leadership is the name given to a style of leadership in which management wants employees to feel that their supervisors respect them and are deeply invested in their well-being. Felt leadership is about showing, not telling.*

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Felt leadership

- Leadership that is both visible to employees and also ‘felt’ to be genuine
- The principles of ‘felt’ leadership add value to a safety management systems by:
  - Inspiring people with a clear vision of what success looks like
  - Leaders setting a clear and unambiguous example
  - Empowering people to think and act safely whilst maintaining accountability
  - Using praise wherever possible to re-enforce safe and healthy behaviours
  - Coaching rather than telling

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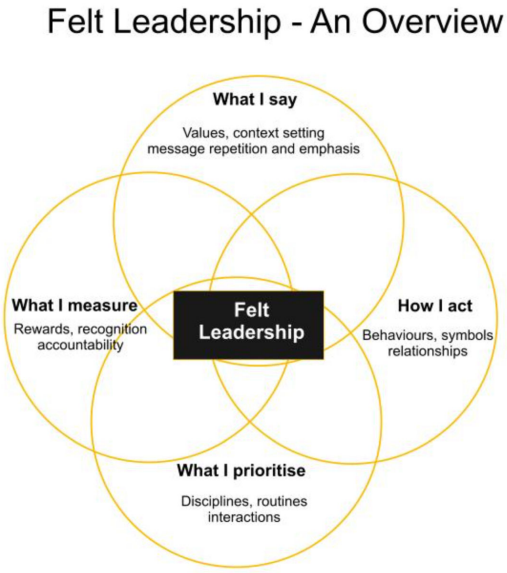
Leadership in practice



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Leadership in practice

- Understand the research and what people are doing
- Anticipate operational risks and change
- Discuss hazards and take action
- Be alert for unsafe conditions - look for upcoming accidents
- Inspect often - audit intelligently
- Take effective corrective actions - immediate and effective
- Investigate incidents (accidents) - five why's!
- Maintain discipline - just culture
- Know your people - capabilities, motivations and preferences
- Recognise, praise and reward good health and safety practices
- Make safety part of the 'day job'
- Set a good example - what shadow do you cast?

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Exercise 10: Leading SHE

- Based on the Felt leadership model, look at:
  - What I say
  - How I act – what I do
  - What I prioritise
  - What I measure
  - What sort of shadow I cast
  - Where I need help

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Line Managers Action Summary

Common elements of SHE hazard codes

- All STFC SHE Codes are underpinned by a requirement for competence
  - This includes “actively” knowing the hazards
  - And understanding individual limitation
- Take specialist advice
  - The specialist may be a code appointment (SHE Directory)
  - If not look internally/externally as necessary
- Get trained
  - Requirements specified in the codes
  - Courses listed in SHE training catalogue

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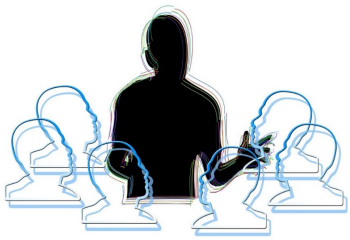
Common line manager responsibilities

- The line manager is always responsible for the production of the risk assessment - with input from their staff and external experts as necessary
- The line manager is responsible for implementation of risk assessment controls and their staff are required to adopt them and to co-operate in implementing them
- Always recognise that the line manager is responsible for the safety administration related to the hazard – training, maintenance, record keeping etc. Your staff are required to co-operate and assist



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Assurance

Do you undertake periodic SHE reviews of the activities for which you are responsible:

- Do you know what's happening on your "patch"?
- For hazardous equipment and materials, do you know "what you've got"?

- As part of this review, have you:
  - Considered the applicability of the SHE Code library and the compliance of your activities with the latest versions?
  - Reviewed the latest H&S Management Arrangements document, particularly:
    - Sections 3.2 and 3.3 on delegated responsibilities to all staff and all line managers?
    - Guidance to all Line, Area and Project Managers in App 2?

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Risk assessments

- Have you reviewed the risk assessments for your personal activities and discussed them with your line manager?

- Have you reviewed the risk assessments for the activities of your staff:
  - Were they involved in their preparation?
  - Are all fields of the proforma filled out correctly?
  - Are all staff aware of the control measures and are they followed?

- Have you considered the mix of generic and specific RAs?
  - Have the different categories of people who might be affected been considered?

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Risk assessments

- Are the control measures resulting from the risk assessments reasonable and are the residual risks low?
- Are the details in the risk assessments proportional to the severity of the risks?
- Are you familiar with the RA processes in SHE Code 6 Risk Management:
  - Documented RA using the STFC proforma
  - On The Job RA
  - Formal techniques: e.g. HAZOP, safety case, etc.
- Have you considered the risk assessment training requirements for yourself and your staff?

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Training and Supervision

- Have you and your line manager agreed a SHE related Training Needs Analysis (TNA) for yourself, and have you conducted a SHE related TNA for all your staff?
- Given the outcome of the TNA, the competence of the individual, and any special requirements of the individual, is the supervision of the individual adequate?
  - E.g. young or inexperienced people
- Are any of your staff involved in matrix management arrangements – contributing to a multi department project for example?
  - If yes, is there clarity and agreement between the different managers on who is responsible for what with regard to SHE training and supervision?

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SHE Performance improvement

- Encourage reporting
- Support incident investigation
- Support SHE tours and SHE Code audits
- Take account of STFC Corporate SHE objectives and any actions arising from the Departmental Improvement Plan
- Recognise and reward good SHE management

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Thank you

SHE website: https://staff.she.stfc.ac.uk/pages/staff/home.aspx

STFC SHE Training for Technical Managers

Summary of Key Learning Points from Day 3

The Environment	
1	There is no separate environmental risk assessment pro-forma. All staff/managers should make use of the Code 6 risk assessment template for carrying out environmental risk assessments

Training	
1	All staff are required to take mandatory safety training which is split between Corporate and Departmental requirements
2	Corporate training is split between an induction training programme and safety management training at an appropriate level

Travel	
1	STFC's policy on travel is to minimise the need to drive to the greatest possible extent through use of technology and public transport
2	All staff driving for more than 3000 miles a year on STFC business must attend a defensive driving training course
3	Staff must comply with the daily driving limits set out in the code
4	STFC's policy requires the driver's mobile phone to be switched off in a car with the engine running
5	Foreign travel plans should be risk assessed

Performance Monitoring and Improvement	
1	There are 3 strands to STFC performance monitoring: Departmental inspections, SHE Code compliance audits and external safety management system audit
2	Managers are required to co-operate fully with inspection teams and participate if necessary.
3	Managers are required to complete safety tour actions in a timely manner
4	Departmental SHE Improvement plans must be published annually taking account of the Corporate Improvement plan and any Departmental specific leading and lagging indicators
5	Managers are required to implement the requirements of the Departmental SHE Improvement plan

Contractor Management	
1	A competent Contract Supervising Officer must be appointed for any contract let by STFC
2	All contractors must be assessed for competence prior to the letting of a contract
3	All contract work must be carried out in accordance with a risk assessment, a method statement and supervision arrangements agreed in advance
4	There is a mandatory 1 day training course for Contract Supervising Officers
5	Line managers are responsible for keeping records of contractors in their areas of responsibility and for ensuring that the requirements of the code are fulfilled
6	STFC and the contractor are obliged to exchange information on risks due to either party which may affect the other

Safety Culture, supervision, competence and leadership	
1	In an organisation with good engineering and hardware control and relatively sophisticated safety management systems, improvement of safety culture is essential to sustain a reduction in accident rates
2	Safety culture is a broad concept with many possible ways of characterisation
3	Many large accident enquiries highlight safety culture deficiencies as major contributing factors
4	Understand methods of measuring safety culture
5	Know about the findings of the safety culture surveys carried out in STFC
6	Understand the task/individual/group dimensions of leadership, the importance of consultation and the value of seeking help and advice
7	Understand what competence is and the need for balance with supervision and task knowledge
8	Reflect on how improvement of safety culture might be enabled by individual style as leader and personal behaviours
9	Understand the concepts of leadership in health and safety and how this can be improved

STFC SHE

Training for Technical Managers Course

Supplementary Information

STFC Office SHE Essentials

A short and simple SHE guide for staff and their managers who work in offices. It also applies to agency or other individuals that work in STFC offices with us. The SHE codes contain additional detail and guidance and can be found here.

Code	Summary
Incident reporting	Always report SHE incidents, whether they occur at STFC sites or while travelling on Council business. Incidents that should be reported: injuries; near misses (including hazardous conditions and failures of safe systems of work); vehicle incidents; radiation incidents; environmental incidents. Report incidents in Evotix Assure.
SHE training	There are four elements of STFC mandatory SHE training each refreshed 5 yearly. They are: the SHE Induction (site specific and generally taken on your first day(s)); followed by on-line Display Screen Equipment (DSE) training; manual handling training (available on-line but preferably delivered through tutor led courses); and finally Fire safety. SO based staff complete the UKRI Polaris House (PH) Site induction on Day 1, the SHE PH Induction (refresher), followed by UKRI DSE Agile training (administered by the UKRI H&S team) and PH Annual Fire training (available in Oracle). Managers of office based staff should attend a general ½ day SHE Management for Non-Technical Manager's course. All courses should be booked through SHE Group.
Fire Safety	Fire safety training ensures you know your site's emergency arrangements - telephone number and alarm sounders etc. Make sure you know how to get out of your building if there is a fire – there should be more than one route – and where your emergency muster point is. Do not clutter offices with large volumes of combustible material, and do not obstruct emergency exits, fire detectors, fire call points or emergency lighting. Corridors and stairwells are escape routes and should be kept clear of obstacles and flammable materials at all times.
Display Screen equipment	Non-SO staff: following completion of a DSE risk assessment discuss and address any issues with your line manager (SHE SC25 - Display screen equipment (DSE) refers). SO staff: following completion of DSE Agile the data is analysed and if there are any recommendations identified or additional advice required this will be communicated to the share with their line manager and implement any agreed actions. Eye tests are available if you need glasses for DSE use. Ensure that your workstation is set up correctly and that you take regular screen breaks.
Travel on Council business	Driving is probably the most hazardous activity any STFC employee undertakes at work. Managers are still responsible for staff while they are travelling on Council business. The health and safety controls required when staff travel are detailed here - in the UK and overseas. If you drive greater than 3000 miles/year on Council business you should attend a defensive driver training course which should be booked through SHE Group.
Manual handling	Your job should not normally require much lifting and carrying. Following completion of manual handling training, recognise where manual handling hazards exist and use safe lifting techniques. Manual handling remains a cause of many STFC injuries.
Portable electrical equipment	All portable electrical equipment used on STFC sites must be Portable Appliance Tested (PAT) prior to use. Check that any electrical equipment looks safe prior to plugging it in, as you would at home. Typical office equipment: PCs; Monitors; Printers, fans etc should be tested 4 yearly and have a PAT testing label indicating when it was and needs re-testing.

Code	Summary
Lone working	Lone Working is permitted for standard office working or IT use. Staff working out of normal office hours should ensure site security are aware that you are working out of hours and are alone.
General risk management	This document summarises the typical hazards encountered by individuals working in offices. There may be others that managers need to consider - if this is the case a risk assessment might be needed. If in doubt consult your local SHE Group for advice.
Environmental management	The environmental impact of general office work can be minimised in several ways: only print when it is really necessary and ensure waste paper along with printer cartridges etc. are recycled; minimise electricity use by ensuring that lights, monitors, printers are switched off when not needed – especially overnight; try not to have the heating on and windows open at the same time; and use Video Conferencing to avoid travel and if you need to travel use public transport to minimise your carbon footprint where possible.

Environmental Essentials

A short and simple guide on Environmental matters for all managers and staff – what you need to know about environmental management in the STFC. It also applies to contractors, agency or other individuals that work on STFC sites with us. SHE codes contain additional detail and guidance and can be found on the SHE Group website.

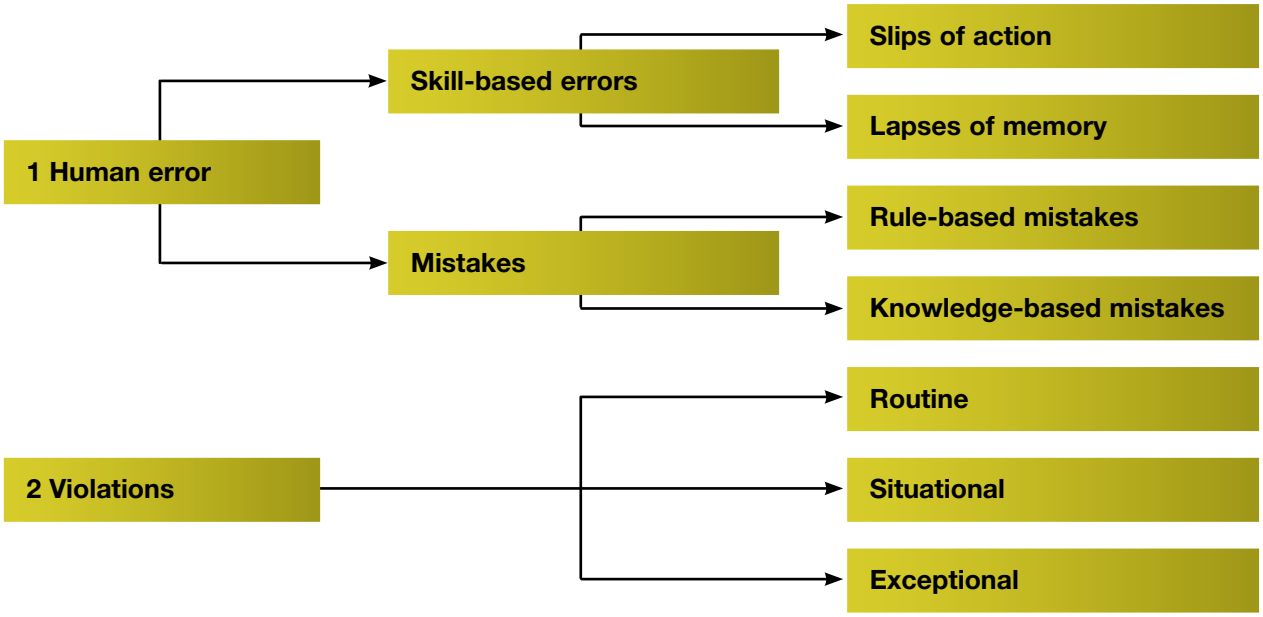
To see in more detail what legislative requirements STFC works to view our Environmental Legal Register.

Code	Summary
Environmental Management - what you can do	Through its **Environment Policy**, STFC is committed to ensuring high standards of environmental management and the minimisation, within the constraints set by our scientific programme, of its environmental impact. You can help to achieve this by considering the waste hierarchy: Eliminate, Reduce, Re-Use and Recycle when using any resource. For example: • **Reducing** energy consumption by turning off lights, computer monitors and printers, or turning the thermostat on your radiator down a little. • **Reducing** the amount of waste we send to landfill by **Recycling** items such as printer cartridges and paper etc. • Using video conferencing facilities to **Eliminate** the need to travel.
Disposing of waste. (**Controlled and Hazardous waste code**)	STFC has a duty to store its waste securely and dispose of its waste safely and legally: • Use the **correct disposal** route for wastes such as hazardous chemicals, broken glass, electronic equipment etc. • Store any waste securely prior to disposal. • If you store any liquid waste outside a building it should be in a bund ('tray'). • Disposal of radioactive waste should be discussed with your site **Radioactive Waste Advisor** before disposal. • If you need to move waste around or between STFC sites obtain advice from the **SHE group**.
Controlling Pollution to Air, Land and Water	STFC is required to control what we discharge to local sewers, local waterways or the atmosphere. If you need to discharge significant volumes of any chemical down a sink or drain or to atmosphere you should check with the **local SHE Group** that we have **authorisation** to do this.
Environmental Risk Management	Environmental issues and hazards should be included and considered alongside general Health and Safety hazards in undertaking a **SHE Risk Assessment**. Additional environmental issues which should be considered in any assessment include: • What to do in the event of a spill; • Check for relevant discharge authorisations (see above) if you need to vent gases to air or discharge any liquid to a drain; • Maintain equipment to minimise any of these discharges; and • Should stored liquids be bunded?

Understanding human failure

There are two main types of human failure:

- **Human error** is an *unintentional* action or decision.
- **Violations** are *intentional* failures – *deliberately* doing the wrong thing.



Human error

There are three types of human error: slips and lapses (skill-based errors), and mistakes. These types of human error can happen to even the most experienced and well-trained person.

Slips and lapses

Slips and lapses occur in very familiar tasks which we can carry out without much conscious attention, eg driving a vehicle. These tasks are very vulnerable to slips and lapses when our attention is diverted even for a moment.

Slips

('Whoops') '*Not doing what you're meant to do*'.

Examples of slips include:

- performing an action too soon in a procedure, or leaving it too late, eg not putting your ear defenders on before starting the drill;
- omitting a step or series of steps from a task, eg forgetting to switch the kettle on while making a cup of tea;
- carrying out an action with too much or too little strength, eg over-torquing a bolt;
- performing an action in the wrong direction, eg a MEWP operator pushing the joystick to the left instead of the right;
- doing the right thing but on the wrong object, eg selecting the wrong size nail for the job; and
- carrying out the wrong check but on the right item, eg checking a dial but for the wrong value.

Lapses

'*Forgetting to do something, or losing your place midway through a task.*'

Examples of lapses include:

- forgetting to nail down a joist;
- taking your mask off to talk to a colleague and then forgetting to put it back on;
- failing to secure scaffolding because of an interruption; and
- forgetting to remove a radiator before removing the wallpaper.

Download this sheet from the *Leadership and worker involvement toolkit* > Seven steps > Step 2 > Further tools

Slips and lapses occur when:
- the task is very familiar and requires little thought;
- people confuse two similar tasks;
- tasks are too complicated and long-winded;
- the main part is done but the finer details are missed;
- steps in a procedure don't follow naturally; and
- there are distractions and interruptions.

How to reduce slips and lapses:
- make all workers aware that slips and lapses do happen;
- use checklists to help confirm that all actions have been completed;
- include in your procedures the setting out of equipment, site layout and methods of work to ensure there is a logical sequence;
- make sure checks are in place for complicated tasks; and
- try to ensure distractions and interruptions are minimised, eg mobile phone policy.

Remember, simply adding more training will not eliminate slips and lapses. Effective procedures are required.

Ask yourself: 'How can I make sure my workers understand that they are vulnerable to slips and lapses?'

Mistakes

Mistakes are decision-making failures. The two main types of mistake are rule-based mistakes and knowledge-based mistakes. They arise when we do the wrong thing, believing it to be right.

Examples of mistakes include:

- making a poor judgement when overtaking, leaving insufficient room to complete the manoeuvre in the face of oncoming traffic; and
- an operator misinterpreting the sound of a machine breakdown and failing to switch off immediately.

Why do mistakes occur?
- Doing too many things at the same time.
- Doing too many complex tasks at once.
- Time pressures.

Factors which contribute to people making mistakes
- The work environment – eg too hot, too cold, poor lighting, restricted workspace, noise.
- Extreme task demands – eg high workloads, boring and repetitive jobs, jobs that require a lot of concentration, too many distractions.
- Social issues – eg peer pressure, conflicting attitudes to health and safety, conflicting attitudes of workers on how to complete work, too few workers.
- Individual stressors – eg drugs and alcohol, lack of sleep, family problems, ill health.
- Equipment problems – eg inaccurate or confusing instructions and procedures.
- Organisational issues – eg failing to understand where mistakes can occur and implement controls, such as training and monitoring.

How you can reduce mistakes
- To avoid rule-based mistakes, increase worker situational awareness of high-risk tasks on site and provide procedures for predictable non-routine, high-risk tasks.
- To avoid knowledge-based mistakes, ensure proper supervision for inexperienced workers and provide job aids and diagrams to explain procedures.

Ask yourself: 'How can I reduce the likelihood of mistakes occurring on this site?'

Violations

These are intentional failures – 'deliberately doing the wrong thing'. The violation of health and safety rules or procedures is one of the biggest causes of accidents and injuries at work.

Workplace rules are broken for many different reasons:

- 'I felt I had no choice' – (intentional due to the situation or rules).
- 'I didn't care about the consequences' – (intentional violations).

Typical violations include:

- scaffolders not clipping on their harnesses above 4 m;
- dumper drivers not wearing seat belts;
- MEWP operators not carrying out pre-use checks;
- a site manager allowing untrained drivers to operate plant;
- a tradesman starting work on a new site without reporting to the site manager or receiving a site induction; and
- a worker thinking a rule is unsafe and taking off their safety goggles to improve visibility.

Typical causes of violations include:

- workers thinking rules don't apply to them;
- being under time pressure;
- not having enough workers to do the work;
- not having the right equipment;
- a lack of understanding of why the rule is in place;
- perceptions that rules are too strict or unnecessary – ie the perceived benefits outweigh the perceived penalties;
- wanting to take the easy option;
- perception that they won't get caught; and
- peer pressure.

How you can reduce violations

- You can increase the chances of spotting violations by increasing routine monitoring.
- Make sure rules and procedures are relevant and practical. Are procedures hard to read or out of date?.
- Explain to workers the reasons behind any rules and procedures and their relevance.
- Ask the workforce to get involved in changes to rules to increase their acceptance.
- Improve the working environment. Is the environment unpleasant (eg dust, fumes, extreme heat or cold)? Have workers got enough space to work in without discomfort or difficulty completing the task?
- Provide workers with appropriate supervision.
- Improve planning for all jobs to ensure the necessary resources (workers, equipment and time) are allocated.
- Encourage the reporting of any problems (such as job pressures) through open communication.
- Provide training for abnormal and emergency situations.
- Always think about the possibility of violations when carrying out risk assessments.
- Try to reduce time pressures on workers to act quickly in unusual situations.
- Assess the use of personal protective clothes and equipment (PPE). Have workers got the right equipment to do the job? Is the PPE difficult to use or uncomfortable?

Ask yourself: 'Is there any work activity on your site where rule breaking has become the norm?'

The *Leadership and worker involvement toolkit* is aimed particularly at small and medium sized businesses and is designed to help improve your health and safety and bring additional benefits to your business performance and productivity. See: www.hse.gov.uk/construction/lwit/

Developed by the construction industry's Leadership and Worker Engagement Forum. Hosted by HSE 03/12

STFC SHE Training for Technical Managers

Fleming's Model – from HSE Offshore Technology Report 2000/049

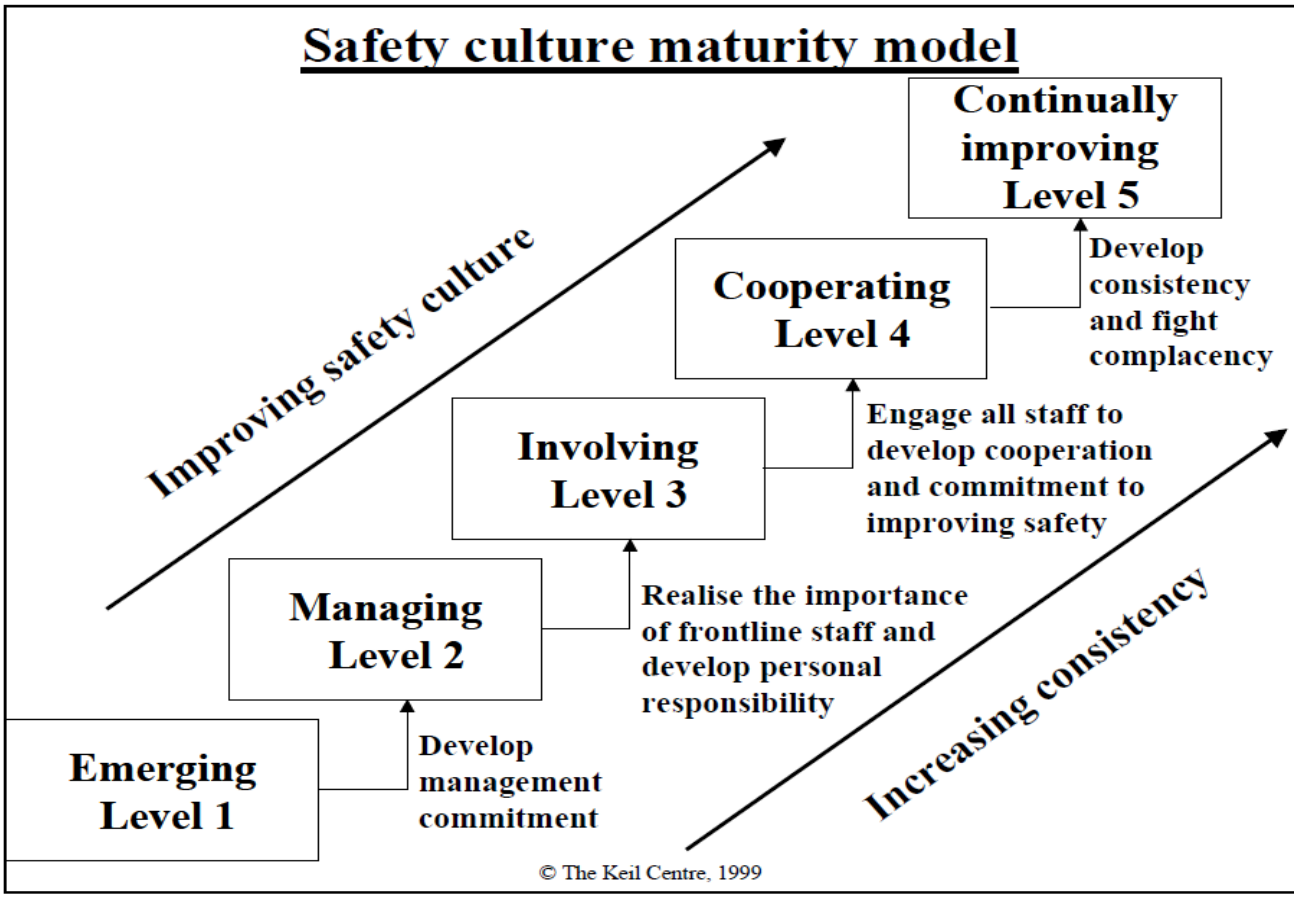


Figure 1: Draft safety culture maturity model

4.1.1. Level One: Emerging

Safety is defined in terms of technical and procedural solutions and compliance with regulations. Safety is not seen as a key business risk and the safety department is perceived to have primary responsibility for safety. Many accidents are seen as unavoidable and as part of the job. Most frontline staff are uninterested in safety and may only use safety as the basis for other arguments, such as changes in shift systems.

4.1.2. Level Two: Managing

The organisation's accident rate is average for its industrial sector but they tend to have more serious accidents than average. Safety is seen as a business risk and management time and effort is put into accident prevention. Safety is solely defined in terms of adherence to rules and procedures and engineering controls. Accidents are seen as preventable. Managers perceive that the majority of accidents are solely caused by the unsafe behaviour of front-line staff. Safety performance is measured in terms of lagging indicators such as LTI and safety incentives are based on reduced LTI rates. Senior managers are reactive in their involvement in health and safety (i.e. they use punishment when accident rates increase).

4.1.3. Level Three: Involving

Accident rates are relatively low, but they have reached a plateau. The organisation is convinced that the involvement of the frontline employee in health and safety is critical, if future improvements are going to be achieved. Managers recognise that a wide range of factors cause accidents and the root causes often originate from management decisions. A significant proportion of frontline employees are willing to work with management to improve health and safety. The majority of staff accept personal responsibility for their own health and safety. Safety performance is actively monitored and the data is used effectively.

4.1.4. Level Four: Cooperating

The majority of staff in the organisation are convinced that health and safety is important from both a moral and economic point of view. Managers and frontline staff recognise that a wide range of factors cause accidents and the root causes are likely to come back to management decisions. Frontline staff accept personal responsibility for their own and others health and safety. The importance of all employees feeling valued and treated fairly is recognised. The organisation puts significant effort into proactive measures to prevent accidents. Safety performance is actively monitored using all data available. Non-work accidents are also monitored and a healthy lifestyle is promoted.

4.1.5. Level Five Continuous improvement

The prevention of all injuries or harm to employees (both at work and at home) is a core company value. The organisation has had a sustained period (years) without a recordable accident or high potential incident, but there is no feeling of complacency. They live with the paranoia that their next accident is just around the corner. The organisation uses a range of indicators to monitor performance but it is not performance-driven, as it has confidence in its safety processes. The organisation is constantly striving to be better and find better ways of improving hazard control mechanisms. All employees share the belief that health and safety is a critical aspect of their job and accept that the prevention of non-work injuries is important. The company invests considerable effort in promoting health and safety at home.

Leadership: *Inspires and motivates others by providing a clear SHE vision, sense of purpose and direction in a way that people understand and buy in to.*			**A** **Reactive SHE Leadership behaviours of managers**		**B** **Proactive SHE Leadership behaviours of managers**		**How is STFC Doing?** **A . . . . . .B**
1	Excellent communications relating to safety	1.1	In general, waits for the SHE hazards to arise before addressing them.		Discussion and planning, as appropriate, of SHE issues at all stages of a project or activity from inception to implementation		
		1.2	SHE matters discussed if raised by team members during team meetings.		Proactively brings SHE information to the attention of the team using all available resources such as What Why Learning & SHE information posters or BiteSize on-line SHE training ……. As necessary and in formal meetings		
2	Creates a positive environment for talking about safety and dealing with practical safety issues	2.1	Indifferent to STFC SHE Management System/SHE Codes. Little ownership of them and their implementation.		Promotes and makes good use of STFC SHE Management system/SHE Codes encouraging staff to employ the systems and report where they are not practical or being followed.		
		2.2	Establishes budgets on the technical/scientific/direct project costs leaving funding for SHE aspects as an afterthought 'scrapped' out of remaining funds.		Safety requirements form an integral part of the budgeting process		
		2.3	Expect staff to adapt to the existing culture. Neutral or hostile to new influences.		Takes particular care to ensure new starter induction addresses relevant SHE matters (SHE culture and norms are frequently established on day 1 for new starters). Believes new starters create an opportunity for introduction of new thinking.		
3	Is visible to their staff – walks the talk and provides a positive role model by demonstrating the organisation's values	3.1	Is involved in the SHE tour process only as a recipient of actions, seeing only the work they create.		Take part in safety tours, at least one/year, to demonstrate their value of SHE matters and their standards for laboratories, workshops, offices etc.		
		3.2	Office/meeting 'jockey' only visiting workplaces when there is a problem, SHE or otherwise, leaves staff concerned when they appear in workshop/laboratory.		Takes time to get out of the office and visit all area of their Department/Division with no agenda other than talking staff, including SHE matters – MBWA! (Management By Wandering About)		
		3.3	Doesn't report SHE incidents or demonstrate that they value incident reporting.		Reports SHE incidents, near misses to demonstrate their value as the learning opportunities for others.		

Leadership: *Inspires and motivates others by providing a clear SHE vision, sense of purpose and direction in a way that people understand and buy in to.*			**A** **Reactive SHE Leadership behaviours of managers**		**B** **Proactive SHE Leadership behaviours of managers**		**How is STFC Doing?** **A . . . . . .B**
4	Motivates others by projecting energy and enthusiasm, and adapts their style of motivation to the individual	4.1	Sees the problems of undertaking experiments, construction, projects safely as someone else's business		Takes time to get involved in helping staff and others solving challenging SHE problems imaginatively.		
5	Is always approachable and accessible to their staff. Shows interest in others and finds time to talk, even when busy	5.1	Re-directs discussion of SHE matters to others.		Never turn anyone away when they want to talk about SHE matters, have the conversation, understand the problem and act, or agree when discussion will take place.		
6	Provides genuine personal recognition and praise to their staff at all levels, as often as is required to motivate each individual	6.1	No mention of the contributions made by staff to the SHE performance of teams/Department during APRs.		Employs APR process to actively recognise good SHE management, SHE contributions recognised through excellence marking and/or team bonuses.		
		6.2	Departmental/'all hands' meetings exclusively discuss and recognise "outputs" – experiments undertaken, buildings refurbished, equipment constructed, cost targets achieved.		Public recognition of staff SHE successes/contributions to Departmental performance at Director's staff meetings.		