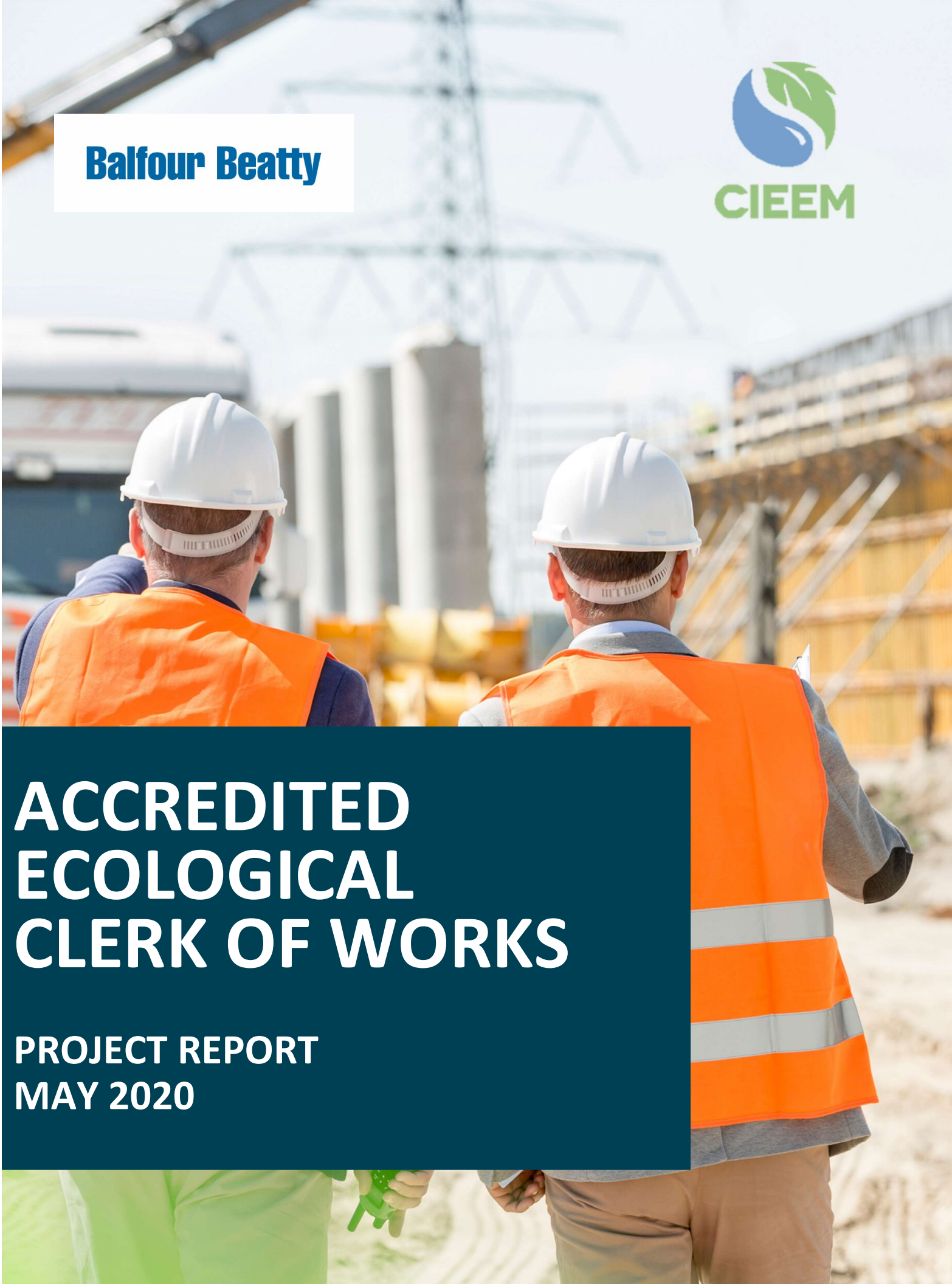


Balfour Beatty

CIEEM

ACCREDITED ECOLOGICAL CLERK OF WORKS

PROJECT REPORT
MAY 2020

Project Summary

Ecological Clerks of Work (ECoWs) perform a critically important role during construction projects, ensuring, as a minimum, compliance with environmental legislation and planning conditions for the protection not only of biodiversity on the site but also clients and contractors.

However, despite the acknowledged importance of the role in project risk management, the role of ECoW is poorly defined and is often allocated to relatively junior ecologists who are ill-prepared for the role. There is no resource or shared understanding for either the construction industry or the ecological profession that clearly sets out the competences of an Ecological Clerk of Works. There is no assessment process to ensure ECoWs are competent to perform the role and there is no register or directory of suitably qualified ECoWs that the construction industry can access.

This project aims to address these issues by clearly defining the ECoW role and the competence requirements, designing a training programme to address the identified needs and providing assessment and accreditation of skills to raise standards of delivery. As a result, the Accredited Ecological Clerk of Works scheme will make a significant difference to this area of construction risk management.

This is an 18-month project covering the period 1st September 2019 – 28th February 2021. This report covers most of the P3 period of 1st March 2020 – 15th May 2020.

Objectives for P3

The priorities for P3 were to finalise the course units and detailed training course programmes for the scheme and to plan the assessment strategy for accreditation. Additionally, we anticipated making significant progress on the content for the associated ECoW Handbook and beginning work on the draft content for the accreditation assessment.

Communication and promotion of the project is ongoing throughout the project lifetime.

Stakeholder Involvement

This project's success is dependent on engagement, primarily through an Advisory Group, with stakeholders who are helping to shape the products that will be developed. The stakeholders have been chosen to represent different perspectives (e.g. ECoW, contractors, clients), different -sized organisations and geographical spread. During this quarter the following stakeholders have been actively engaged in the project:

Alaska Ltd
Association of Ecological and Environmental Clerks of Works
Bear Environmental
Cameron Ecology
CEC Ltd
HS2
Jacobs
Morgan Sindall
Mott MacDonald
Network Rail

P3 Activities

During this quarter the following activities have been undertaken in support of the P3 outputs.

a) One project meeting plus fortnightly teleconference reviews with the sub-contractors.
b) One Advisory Group meeting organised, papers prepared and meeting held (on 5th May 2020).
c) Review of 13 course units and 5 training course programmes, collation of feedback and amendments made.
d) Drafting of ECoW handbook content. All chapters now started and some chapters in final draft form.
e) Review of future activities in the light of Covid-19, to assess likely impacts on project delivery and to plan workarounds.
f) Development of assessment options leading to finalisation of assessment strategy.
g) Initial design of assessment content.

P3 Outputs

The following outputs have been produced as a result of the P3 activities:

1. Thirteen finalised ECoW course units, derived from the 16 Ecological Standards produced in P1 and the draft course units produced in P2. These units set out what an ECoW will need to demonstrate to the assessor as part of the accreditation. Ten of the units are common to both the ECoW and the Principal ECoW role, 3 are specific to the Principal ECoW role (see P2 report).

   Appendix A shows one of these units in full – the others are available if required.

2. Detailed training course programmes for five training courses. These courses are:
   - Introduction to Construction for ECoWs
   - Advanced Communication Skills
   - Health and Safety for ECoWs
   - Recording and Reporting
   - Risk Management for ECoWs

   A detailed course programme for the Health and Safety course is shown in Appendix B as an example (previous examples were given in P2 report).

3. Much of the content for the accredited ECoW handbook (see Appendix C for a sample chapter).
4. A finalised assessment matrix map for the accreditation element of the scheme (see Appendix D).

These outputs are 'almost final' drafts – i.e. they have been subject to revisions and extensive stakeholder feedback but will not be finalised until a later stage in the project as we learn from the pilot.

Communication

Communicating the importance and progress of the project will be pivotal to its success. In this quarter we have kept the project web page up-to-date and we have published project update articles in the March (and forthcoming June) issues of *InPractice*. We have also referenced the project as part of a wider article in *Scottish Construction Now*. During P4 and P5 we plan to hold a series of meetings with key stakeholders: These include:

- Network Rail, Transport for Wales
- Build UK
- Construction Industry Council
- Highways England, Transport Scotland, Transport NI
- Berkeley Homes
- Heads of Planning Services
- National Grid

We would welcome ideas and suggestions from CITB on opportunities for project promotion in the construction industry media and via CITB's own communication channels.

Budget

The project is on target financially.

Costs to date are shown in the table below (figures in brackets are for this quarter).

Cost source	Budget (£)	Actual (£)	Evidence
Balfour Beatty project management costs	3,500 (1,500)	3500	Timesheet
Direct costs (including costs of sub-contractors)	61,500 (20,500)	62,759.43 (but only 61500 invoiced)	Invoices
In kind contribution via volunteers' time	27700 (10,100)	31,101.5 (11,493.75 in this quarter)	Timesheets
TOTAL	**91700**	96,101.5	

Summary

We have made good progress on the agreed outputs for P1, P2 and P3 with all documents in an advanced draft form awaiting either final comments from Advisory Group members and/or the lessons learnt from the pilot scheduled for later in 2020.

We have reviewed the impacts of Covid-19 restrictions on project delivery and are confident that, by delivering accreditation assessor training online and switching to virtual Advisory Group meetings, we can fully complete the project on schedule.

Next Steps

Our priority over the coming period would be to develop the assessment material content and to recruit and train assessors for the pilot, as well as embarking on a series of meetings with key stakeholders to promote the project. However, we have just been informed that the CITB project funding is on hold due to the impacts of Covid-19 so we will await further information from CITB when it is available.

APPENDIX A

CIEEM

LEVEL 4 ECOLOGICAL CLERK OF WORKS

AND

LEVEL 6 PRINCIPAL ECOLOGICAL CLERK OF WORKS ACCREDITATION

The Level 4 CIEEM Accreditation for Ecological Clerk of Works and Level 6 Principal Ecological Clerk of Works have been developed for achievement in a real workplace environment which means you need to be employed to undertake this qualification.

This qualification enables you, the learner, to demonstrate and recognise your skills, knowledge and understanding and to demonstrate your competence in a real workplace environment so you can work as a Principal Ecological Clerk of Works within the construction industry.

You will be assessed against a set of performance and knowledge statements which have been derived from the new CIEEM National Ecological Standards for your occupational area. You will be assessed by an occupationally competent and CIEEM certified assessor whose job is to work with you and help you complete your accreditation.

This accreditation supports the learner to attain enabling, fundamental and transferable practical skills with associated underpinning knowledge.

Unit Number: U/ECoW/Con2-1

Title: Work in accordance with established construction activities, operations and procedures.

This unit assesses an Ecological Clerk of Work (ECoW) and Principal Ecological Clerk of Work (PECoW) candidate's knowledge of how EcIA may be applied in a construction site context.

Assessment guidance for the learning outcomes can be found at the end of the unit.

If multiple units are being attempted at the same time, considerable evidence for this unit could come from assessments from other units in the ECoW accreditation. (See suggested units below):

-
-

Unit Reference: U/ECoW/Con2-1 Unit Title: Work in accordance with established construction activities, operations and procedures. Level: 4		
Learning Outcomes:		**Assessment Criteria:**
The learner will:		**The learner can:**
1.	Understand the various common types, purpose and uses of material and equipment employed in construction	1.1 Describe the various common types, purpose and uses of material and equipment employed in construction including: ▪ materials ▪ equipment ▪ plant ▪ machinery 1.2 Identify how some of these are commonly used to assist with ecological works.

2.	Understand the purpose of common working areas on site	2.1 Describe the purpose of common working areas on site, including: ▪ site office ▪ construction compounds ▪ areas for plant maintenance ▪ areas for fuel and chemical storage ▪ areas for waste handling and storage ▪ assembly areas for components of construction - areas for wet trades e.g. concrete pours/batching - areas for dry trades e.g. steel and timber works ▪ temporary access routes and roads ▪ lay down areas ▪ area for hot works ▪ welfare facilities ▪ other 2.2 Determine the scope, with relevant personnel on site, to relocate one or more of the above in order to reduce or avoid ecological risks or impacts.
3.	Understand the common activities and operations undertaken during various phases of construction sites	3.1 Describe common activities and operations undertaken during various phases of construction or ecological contracting: ▪ site clearance e.g. topsoil stripping and vegetation clearance ▪ site set-up ▪ site investigations e.g. bore holes and drill rigs ▪ groundworks and excavations ▪ drilling and blasting ▪ installation of underground services ▪ rock works ▪ piling ▪ concrete pours and grouting ▪ asphalt works ▪ assembly areas for components of construction ▪ marine works ▪ construction and civil engineering works ▪ environmental management ▪ temporary or permanent silt management ▪ demolition ▪ Contaminated land clean-up/remediation ▪ Asbestos strip-out ▪ final site clearance e.g. removal of site offices/compounds ▪ site remediation ▪ habitat translocation ▪ ecological restoration/creation 3.2 Identify and recommend where alternative means of operation might achieve the same desired construction outcomes but with a lower ecological risk or impact.
4.	Understand the specific H&S requirements associated with sectors of the construction industry that you commonly work within	4.1 Describe the specific H&S requirements associated with sectors of the construction industry that you commonly work within, including: ▪ rail ▪ highways ▪ construction – building and civil engineering ▪ marine (including port operations and off-shore)

		▪ other

Unit Reference: U/ECoW/Con2-1

Unit Title: Work in accordance with established construction activities, operations and procedures.

Level: 4

Learning Outcomes	Assessment Criteria	Assessment guidance

Appendix B

EAC

ECoW Accreditation

Health and Safety for On-site Ecologists Course

Course Aim:

To learn about health and safety responsibilities on construction site.

Course Objectives:

By the end of the course participants will be able to:

- Identify the principles of risk assessment for maintaining and improving health and safety at work
- Describe the importance to safe manual handling in the workplace
- Explain the importance of working safely at height in the workplace
- Recognise the risks to health within a construction environment
- State the importance of working around plant and equipment safely

Introduction

Trainer to introduce themselves, welcome participants and discuss the content for the course including the aims and objectives.

Core content:

1. Health and safety legislation and policy
2. Health and safety issues in the construction/contracting industries
3. Risk assessments and method statements
4. Point of work/dynamic risk assessments
5. Causes and implications of work-related accidents
6. The terminology used in relation to health and safety at work
7. The use and importance of personal protective equipment (PPE)
8. The types of hazard/risk encountered in the workplace associated with:
    - Working in close proximity to commonly encountered construction/contractor operations
    - Working around construction machinery, equipment and heavy plant
    - Safe manual handling
    - Working at height
    - Undertaking internal and external inspection of man-made structures (e.g. confined spaces)
    - Working near open water
    - Working in an outdoor environment with potential contact with wild plants and animals
    - Working in or near excavations
    - Hazardous substances in the workplace
    - Use of drugs and alcohol in the workplace

9. Control measures to minimise hazards/risks relating any of the above.
10. Accident reporting procedures

Part 1 - The Legal Position

Introduce the topic – the legal position.

By the end of this session participants will:

Know the duties of employees under the Health and Safety at Work Act 1974:

- Care of themselves and others.

Know the duties of employers under the Health and Safety at Work Act 1974:

- General duty, specific duties.

Know the implications of breaching the Health and Safety at Work Act 1974 for people at all levels in the workplace:

- Improvement notices, prohibition notices, prosecution.

Know the employer's responsibilities regarding consultation with the workforce:

- HASWA 1974, Sect 2 (6), SRSCR 1977, H&S(CWE)R 1996.

Understand the benefits of consultation:

Understand the role of safety representatives and safety committees.

Background for the trainer

The earliest laws relating to health and safety (H&S) were introduced in the early 1800's as more people became involved in factory work rather than agriculture.

Lots of the legislation that was introduced as Acts of Parliament and Regulations were very prescriptive i.e. the told people exactly what they had to do to comply. The legislation kept growing and in the early 1970's it was realised that certain occupations were not fully covered by the existing legislation.

It was decided that one Act of Parliament was required to act as the foundation for all future H&S legislation and in 1974 the Health and Safety at Work Act was introduced.

The H & S at Work Act is an 'enabling' Act meaning that Regulations can be introduced under it to help regulate working conditions throughout Great Britain, keeping pace with changes in working practices and new initiatives.

Britain has also introduced new Regulations from European directives and this course takes into consideration both forms of Regulations.

This part of the course introduces the H&S at Work Act 1974 and the Management of H&S at Work Regulations 1999, and the duty of employers, employees, self-employed, manufacturers, suppliers and installers.

Slide 1 & 2 – Title slides

Slide 2 – Ask participants what they think would be a good definition for health and Safety? Take some suggestions before showing the definition on the slide.

Slide 3 – Show the Health and Safety Law poster on the slide. Participants should all have seen a copy of the Health and Safety Law displayed in workplaces and site offices – ask participants where their employers sign is located. Briefly discuss the information displayed on the sign.

Slide 4 - Emphasise the key point that health and safety is EVERYONE'S responsibility

Slide 5
How does your employer comply with health and safety legislation?

Activity: Ask Participants to think about and discuss what their own employer currently does about looking after their health and safety.

They must:

- Look after your health, safety and welfare at work
- Provide a safe working environment
- Give you:
  - Information, instruction and training
- Ensure the health and safety of everyone who could be affected by the work
- Make sure you can:
  - Handle, store and transport items safely
  - Get into and out of your workplace safely
  - Carry out work safely
- Give you adequate welfare facilities
- Not endanger others who are not employees

Slide 7
Your employer might manage this by…

- Using health and safety regulations
- Carrying out risk assessments
- Asking others to help
- Involving you and other employees
- Producing a health and safety policy

Briefly describe what the health and safety policy is and how it should be brought to their attention i.e. during training, site inductions etc.

Safety policies

- Written health and safety statement where there are 5 or more employees
- And ensure it is communicated effectively to employees

Safety representatives and committees

- May be appointed as part of the liaison between employees,
- managers and employers

Consultation with employees

- Direct consultation
- Elected representatives

Slide 8
What if your employer does not comply with health and safety law?

- Your employer could be prosecuted
  - This could be an unlimited fine and/or a prison sentence
- You could also be prosecuted for not complying with health and safety law!
- Magistrates court:
  - up to £20,000 fine
- Crown court:
  - unlimited fine
  - up to 2 years imprisonment

Explain to delegates why they might also be prosecuted under health and safety law, i.e. legislation places a duty on them to look after themselves and each other too.

Slide 9
Your rights and your responsibilities

- What you employer must provide
- What you have a right to expect.

What must you do in return?

- Take care of yourself
- Don't do anything that could put you or others in danger
- Co-operate with your employer
- Don't mess about with safety equipment
- Carry out work in the way you have been trained
- Report any hazards
- Don't take unnecessary risks
- Follow the safety rules
- Think before you act

Discuss with participants their duty to look after themselves and each other and to follow the procedures the company has set for them to ensure their health and safety.

Slide 9 & 10 contain the employee duties under Health and Safety at Work Act (HASWA) & The Management of Health and Safety at Work Regulations 1999 (MHSWR) plus a few good practice measures. Discuss these points and list any other good practice measures they could use to help increase safety in their workplace.

Slide 10
What if your employer does not comply with health and safety law?

- The Health and Safety Executive or Local Authority can:
    - Give advice
    - Issue improvement notices
    - Issue prohibition notices

Discuss the role of the Health and Safety Executive (HSE) and how they have responsibility for ensuring companies comply with health and safety legislation. Explain to delegates in simple terms what an improvement notice is and what a prohibition notice is.

An **improvement notice**, as you can probably guess, means there needs to be an **improvement**. It is issued when work has taken place or is taking place, that doesn't comply with health and safety laws. The **notice** will identify a breach in the law, that needs to be addressed.

Health and safety **prohibition notices**. If inspectors believe that your work activities give rise to a risk of serious personal injury, they may issue you with a **prohibition notice**. The **prohibition notice** normally requires you to stop that activity straight away.

Emphasise the key point – your employer cannot sack you or punish you for reporting a health and safety problem.

Part 1b - Workforce consultation

Slide 11 – title slide
Background information:
Workforce consultation is a legal requirement and an important form of workplace communication.

Consultation with the workforce has many benefits to companies which can ultimately lead to:

- better safety performance
- increased safety awareness
- less work-related ill health
- increased profits
- improved workforce morale and
- better understanding of the way the organisation operates as a whole.

Other benefits include:

- Employee involvement in decision making.
- Finding practical solutions to problems.
- Recognition of hazards not noticed by management.
- More willing to accept change.
- Improved workplace morale.
- Better trust.

This module also looks at who the employer has to consult with; the benefits of a safety committee; and what to do if a safety committee doesn't exist.

Slide 12
Key point.

Ask - why consult? Brainstorm the concept of workforce consultation.
Ask - whether workforce consultation is a necessary requirement of every workplace.
Ask - So, who does your employer consult with?

- Trade union representatives
- Employee safety representatives
- Directly with you
- Safety committee

Slide 13
Discuss notes on slide, what is the purpose of a safety committee?

Slide 14
Discuss the benefits to the employee

Slide 15
Discuss the role of the safety representative.

- Investigate potential hazards
- Investigate accidents
- Carry out workplace inspections
- Receive information from enforcement authorities
- Raise general health & safety issues
- Represent the views of employees
- Attend safety committee meetings

TU representatives have more responsibilities than employee safety representatives.

Employee safety representatives do not have the right to investigate accidents, carry out workplace inspections or be on the safety committee unless their employer wants them to.

However, they are still play an extremely important role in safety in the workplace.

Ask: What would workplaces be like without the safety representatives?

Safety Committees discuss:

- Health & safety performance
- Health, safety & welfare issues
- New work issues
- Safety inspections
- Accidents & near misses
- Live issues
- Promotion of health & safety within the company

The benefits safety committees can bring

- You can help make decisions
- Practical solutions can be found
- Better workplace morale
- Better trust

Ask - so, why are some employers reluctant to have one?

Slide 16
No safety committee …

Other methods of consultation:

- Individual consultation
- Suggestion boxes
- Team briefings
- Training sessions
- Notice board information
- Newsletters

Ask – can they identify any advantages or disadvantages with these methods of consultation listed on slide 16.

Part 2 – Risk Management

Slide 17 – Title slide
By the end of this session participants should:

Know the principles of risk management:

- Identify hazards, implement safe systems of work, promote health and safety and develop competence through training and qualifications.

Know what is meant by a hazard and a risk.

Be able to identify basic hazards in a workplace.

Know the Health and Safety Executive's five steps to risk assessment:

- Identify hazards, decide who is at risk and how, evaluate the risks and decide whether existing precautions are adequate, record findings, review and revise when necessary.

Know the hierarchy of risk control measures:

- Elimination, substitution, isolation, reduce exposure, personal protective equipment.

Slide 18
Hazards will always be found within the working environment and therefore it is important that they are identified, removed, or if this is not possible - adequately controlled so that the risks are significantly reduced.

This session will look at the principles of risk management including the employer's responsibilities when it comes to assessing workplace risk. This will show the participants the main steps that should be taken when carrying out a risk assessment.

The session could be introduced by placing the participants into small groups and asking them to come up with their own definitions of 'hazard' and 'risk'.

Slide 19
Discuss the workplace hazards in the slide. Ask participants to identify the potential hazards in their own workplace and discuss how the risk of harm is managed.

Slide 20 & 21
Hazard spotting

The most common types of hazard are:

- Physical hazards:
  - Trailing cables
  - Badly stored materials
  - Fire

- Ergonomic hazards:
  - Poor lifting techniques
  - Poor workstation design

Slide 22
Discuss the contents of the slide - what is the risk?

Slide 23
How does my employer manage risk?

Your employer should:

- Identify health and safety hazards
- Develop safe methods of working
- Develop procedures and policies to help you

Ask the delegates what safe methods of working or safety rules they are currently following in their workplaces.

Your employer should also:

- Provide suitable work equipment
- Develop competence through training and qualifications
- Promote safety throughout the company

Slide 24
Risk assessment

The purpose of a risk assessment is to identify hazards to see how they could cause harm to people and decide if enough has been done to prevent this happening.

Discuss the definition – hazard – harm – prevention / control

Slide 24
How is the risk assessment carried out?

- Step 1: Identify all hazards
- Step 2: Decide who is at risk
- Step 3: Decide how to control the risk
- Step 4: Record the risk assessment
- Step 5: Keep it up to date

Discuss each stage of the risk assessment process with the delegates.

Take the participants through the first three steps using the classroom as your area in question.

1. Remind participants that a hazard is something with the potential to cause harm. Identify the hazards in your current environment.
2. Decide who could be harmed and how.
3. Evaluate the risks and decide on precautions

What is the risk?

- This is the likelihood of that harm happening:
  - The more people exposed to a trailing cable, the more likely the accident

- And how serious it could be:
  - Where the trailing cable is located can affect how severe the injury is

Slide 26
How can my employer control the risk?
In order of effectiveness:

- Get rid of the hazard - elimination
- Try a less risky option - substitution
- Prevent access to the hazard – isolation

This is a hierarchy of control and elimination of hazards is the best course of action. However, it is not always possible to eliminate all hazards, so the next most suitable option on the list would be tried, and so on.

Get the delegates to use for example the case of a trailing wire to test out the above methods for controlling risk. E.g. wire could be removed completely if it is not required, or it could be re-routed.

The wire could also be isolated by the use of a wire covering.

How can my employer control the risk?

- Reduce the number of people exposed to the hazard – reduced exposure
- Use personal protective equipment (as a last resort)

Part 3 - Workplace Accidents

By the end of this session participants will:

Know what is meant by an accident and a near miss.

Know why accidents occur:

- Human error, mechanical failure.

Understand the impact of accidents on individuals and organisations:

- Pain and suffering, possible disability, loss of earnings, effects on family members.
- Delays in production, fall in staff morale, prosecutions, increased insurance premiums.

Understand the need to report accidents and near misses:

- Establish the cause, prevent recurrence, legal requirement.

Know the procedure for reporting accidents and near misses:

- Report to supervisor, complete accident book.

Slide 27 & 28
Title slide & 2018-19 statistics on worker fatalities.
Introduce workplace accidents by asking who has experienced one or witnessed one.

Discuss this event and the effect it had on them in terms of injury or other effects.

Ask if it altered how they approached similar situations on their return to work.

Ask whether they felt they had learnt anything from the accident.

Slide 29
What is an accident?

Ask the participants to come up with their own definitions of what is meant by an accident. Encourage the delegates to criticise one another's definitions.

- An unplanned event that results in injury or damage:
  - Someone falling and breaking a leg (injury)
  - A vehicle skidding on mud and hitting another vehicle (damage)

What is a near miss?

- A similar event to an accident but there is no injury or damage:
  - You slip on a wet floor but do not fall and injure yourself
  - Someone drops a brick off a platform and it just misses you as it hits the ground

See if the participants can give any good examples of near misses, either made up or actual ones they have experienced.

Slide 30
Why do accidents happen?

- Human error:
  - People fooling around
  - People taking unnecessary risks
  - Lack of training or knowledge
  - Not concentrating

- Mechanical error:
  - Damaged equipment
  - Poorly maintained equipment
  - Equipment breakdown

Ask the participants whether mechanical error is responsible for causing more accidents than human error. Probe the delegates for their reasons why.

Human error is the biggest cause.

Slide 31
How an accident could affect you

- Pain & suffering
- Loss of earnings
- Long term disability
- Unable to work again
- Home & social life
- Death

Discuss the importance of preventing accidents in relation to the above points.

For example, how could a permanent disability caused from a fall from height affect the person who fell?

How could it affect their colleagues, friends and family?

How an accident might affect your employer?

- Delays
- Loss of production
- Loss of skilled worker
- Increased insurance premiums
- Prosecution

Ask the participants how the above factors that could affect their employer may in turn affect them.

For example, if the employer was fined over an accident at work, it may ultimately cause the company to go bankrupt, which could then make the workers redundant.

Slide 32
Accident reporting

It is important we report all accidents
and near misses:

- To find out what the cause was
- To prevent similar accidents in the future
- For legal reasons for certain accidents like under the RIDDOR regulations

Discuss with the participants the reasons why reporting accidents is so important. For example if we didn't report accidents, it would be hard to prevent another one from happening.

If you have an accident at work, you should:

- Get first aid treatment
- Report it to your supervisor
- Fill in the accident book
- Near misses must be reported as well

If possible, show participants where first aid supplies are kept, and what the accident book looks like and how it should be filled in.

Ask - do you know …

- Where your nearest first aid box is kept?
- Who your first aiders are?
- Where the accident book is kept?
- How near misses are reported in your company?

Part 4 – Personal, Protective Equipment (PPE)

Know the main types of personal protective equipment and the main hazards they offer protection against: Head, eyes, hearing, respiratory, feet, hands.

Know the principles of provision, maintenance, storage and replacement of personal protective equipment:

- Why and when used, provision, maintenance, storage, replacement.

Slide 33
Introduce the concept of personal protective equipment to the participants by explaining that it comes in many different forms, i.e. clothing such as jackets and gloves as well as equipment like face shields.

Stress that personal protective equipment should be personal and not shared.

Explain that their employer should issue them with PPE only when every other method of reducing a risk has been tried.

All PPE should be supplied free of charge by their employer.

Slide 34
Case study bringing the importance of PPE into real life.

Slide 35
Why you have to wear PPE at work

- Your employer should provide you with PPE if risks can't be controlled in any other way
- PPE only protects the person wearing it
- It only protects if worn correctly
- Sometimes PPE can make it difficult to move around
- PPE should always be considered the last resort

Give reasons as to why PPE must always be the last resort, e.g. restricted movement, not 100% protection etc.

Slide 35
What sort of PPE can protect you?

- Safety headgear – bumps, falling material, hot materials
- Safety footwear – falling objects, puncture, slipping, wet, cold, heat
- Safety gloves – chemicals, cuts and abrasions, heat, cold
- SlideEar plugs/muffs – noise
- Safety goggles/glasses – impact, heat, dust, chemical splashes
- Respirators – fumes, vapours, dusts, fibres, asbestos fibres
- Harnesses and safety lines – working at height
- Dust masks – nuisance dust only
- High visibility clothing – workplace transport

Ask participants if they can think of any more examples of PPE that they might use in their workplace.

What else should your employer do?

- Make sure your PPE is well maintained and safe to use
- Provide you with somewhere to keep it safe
- Make sure you know how to use it properly

Ask participants to give examples of places where they would expect to store PPE, e.g. lockers, pegs, containers and outline the importance of making sure it fits properly.

How you can help

- Wear your PPE correctly
- Check it for signs of damage before you use it
- Keep PPE clean
- Report damaged or lost PPE to your supervisor
- Store it safely to prevent avoidable damage
- Good personal hygiene will reduce the likelihood of getting infections caused by dirty PPE
- Do not use damaged PPE!

Discuss different methods of cleaning and maintaining, e.g. washing, dry cleaning, disinfecting PPE to make sure it remains effective.

Slide 38
Checking your PPE for signs of damage

- Safety headgear – cracked shell, broken harnesses or straps
- Safety footwear – badly worn tread, ripped uppers, leaks
- Safety gloves – distorted shape, ripped, contaminated
- Earplugs/muffs – cracked shell, broken band, contaminated
- Safety goggles/glasses – broken/scratched lenses, broken frames/straps
- Respirators – broken lenses, damaged canisters, broken straps
- Do not use damaged PPE!

Ask the delegates to think of other examples of how PPE might become damaged or ineffective due to poor maintenance.

Part 5 – The Working Environment

By the end of this session participants should:

Know the responsibilities of the employer regarding the provision and maintenance of a safe working environment:

- Heating, lighting, ventilation, temperature, toilet and washing facilities, cleaning and maintenance.
- Know the main methods of preventing materials or persons falling:
- Barriers and edge protection, safe stacking, racking inspection.

Know the main methods of preventing slips, trips and falls:

- Suitable footwear and clothing, housekeeping, safe storage.

Know the main methods of preventing workplace transport accidents:

- One way systems, restrict reversing, segregation, personal protective equipment.

Slide 39
Title slide
An employer has certain responsibilities to ensure their employees safety, health and welfare is cared for.

This session looks at what the employer should do to meet the legal requirements of ensuring the health, safety and welfare of those who are affected by his activities in the workplace.

Slide 40
In the workplace, your employer is responsible for taking care of your:

- Health
- Safety
- Welfare

Discuss with the delegates what health, safety and welfare mean to them.

Employer considerations

- Heating
- Lighting
- Ventilation
- Doors and windows
- Workspace and work area
- Cleaning and maintenance of all areas
- Prevention of accidents
- Providing adequate rest, toilet and washing facilities

Slide 41
Workplace temperature

- Workplace temperatures inside buildings must be reasonable:
    - Ideally 16 ºC minimum for general work
    - 13 ºC minimum for physically hard work

Discuss with the group the types of jobs that would require a minimum 13 ºC as a working temperature.

Slide 42
Provision of drinking water

- This can be done in a number of ways such as:
    - Bottled water
    - Drinking fountain
    - Tap or water cooler
- Water must be clearly identifiable & accessible

Slide 43
Toilet facilities

- Must be adequate, clean, well maintained & have:
    - Toilet rolls
    - Cleaning materials
    - Good water supply
    - Hand washing facilities
- Ideally, separate male and female toilets

Slide 44
Washing facilities

- Must be adequate, clean, well maintained & have:
    - Good water supply
    - Soap & other cleansers
    - Hand drying facilities
    - Cleaning materials

- Should be located near the toilet facilities

Slide 45
Prevention of falls & falling materials

- Barriers and edge protection
- Restricted access to risk areas
- Store materials safely
- Inspect the workplace for hazards

Discuss with the participants the importance of preventing falls and falling materials. Ask the participants for examples of these hazards and appropriate methods of controlling them. For example an excavation in the road would need a cover placed over it to prevent people and vehicles from falling into it.

Slide 46
Prevention of slips, trips and falls

- Keep work areas tidy
- Good housekeeping
- Store materials safely
- Clean up spillages
- Wear suitable footwear and clothing

Slide 47
Reducing workplace transport accidents

- Segregation of vehicles & pedestrians
- Well organised traffic routes
  - One way systems
  - Good surfaces
- Restrict reversing
- Wear high visibility clothing

Slide 48
Good rules for ensuring workplace safety

- DO use gangways where there are vehicles.
- DO obey all safety signs and warning notices.
- DO wear PPE where appropriate.
- DO follow your employer's safety rules.

Good rules for ensuring workplace safety

- DON'T run, walk!
- DON'T take short cuts.
- DON'T use equipment that you're not trained to use.

Part 5b – Reducing Workplace Injuries

By the end of this session participants should:

Know the main causes of workplace injury:

- Manual handling, slips, trips and falls, being struck by moving or falling objects, falls from height, being struck by moving vehicles.

Know how to reduce the risk of workplace injury:

- Safe systems of work, hard and soft control methods.

Slide 49
Title slide

Workplace injuries happen every day and these can vary from small trivial injuries such as paper cuts right through to fatal injuries such as falling from height.

Whatever way you look at workplace injuries, it is vital that people are made aware of them, as essentially their perception of a particular risk will determine how they may act.

This module could begin with a discussion on the importance of preventing workplace accidents.

Slide 50
In 2018-19:

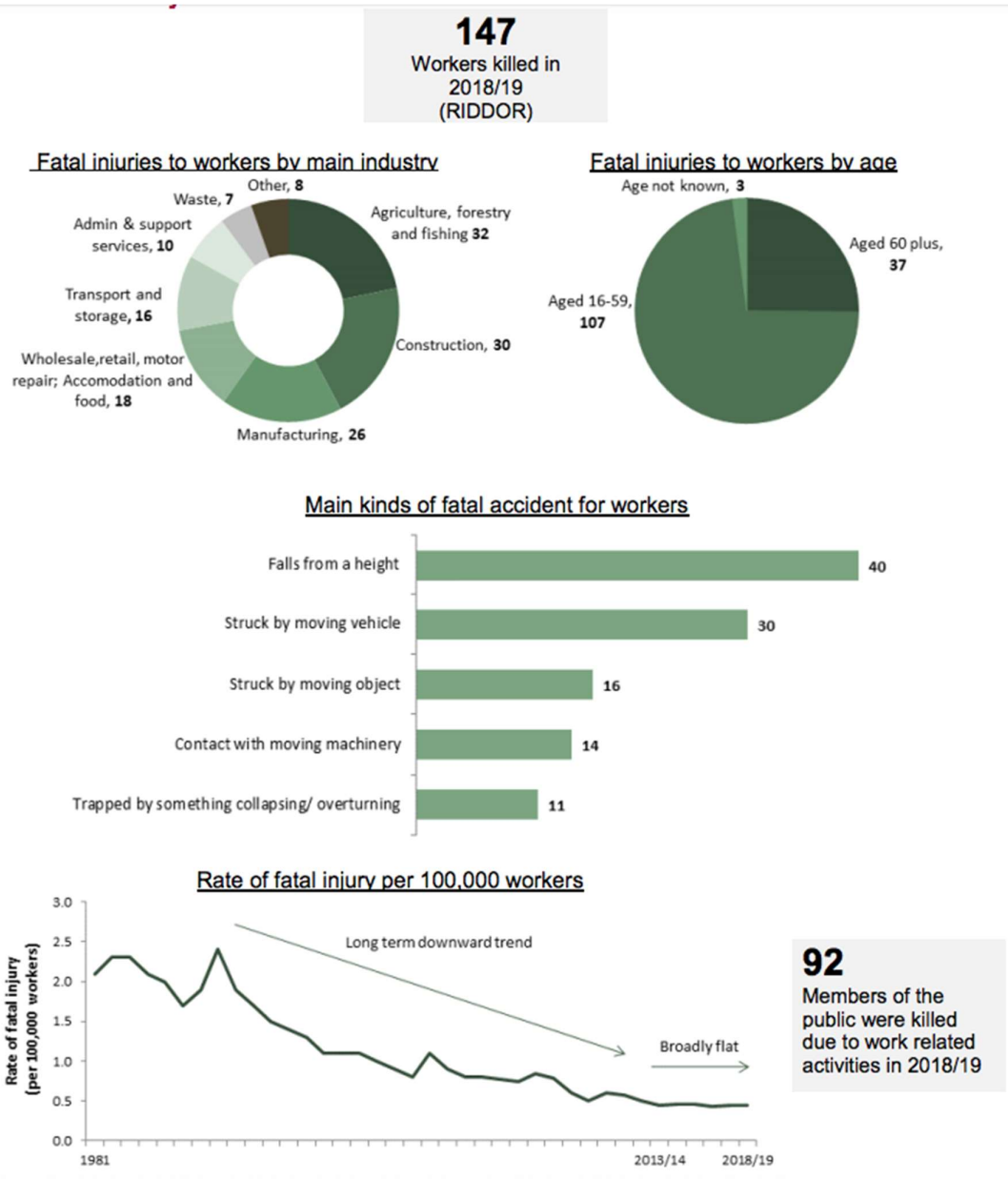
- 69,208 employee non-fatal injuries reported by employers under RIDDOR in 2018/19
- 4.7 million estimated working days lost due to nonfatal workplace injuries according to self-reports from the Labour Force Survey in 2018/19
- 581,000 workers sustained a non-fatal injury according to self-reports from the Labour Force Survey in 2018/19

These figures were provided by the HSE

Discuss the 'unknown' number of people that are injured every year. What could the figure potentially be?

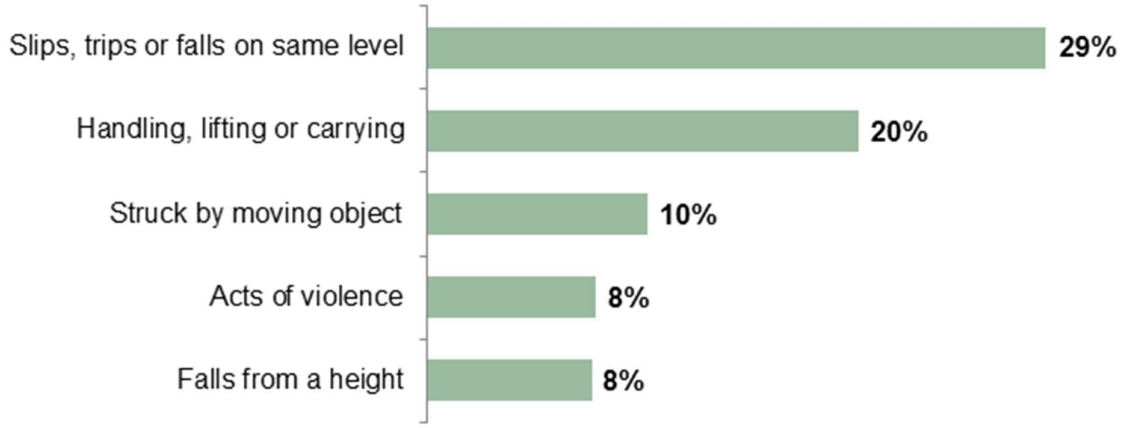
Slide 51

2018-19 HSE figures



Slide 52

The main causes of HSE reportable workplace injury in 2018-19 and the % out of the 69,208 cases reported:



Ask the delegates if they have ever had an injury caused by one of these workplace hazards.

Was it minor or did their employer have to report it?

If anyone has, they could be asked how the accident could have been prevented.

Ask the delegates whether they know what the main causes of accidents in their workplace are. Do they appear on the list from the HSE?

Slide 53
How do employers prevent workplace injuries?

- Identify hazards and how to control them
- Develop safe ways of working
- Record safe way of working

Discuss individual workplace hazards.

Slide 54
Safe Way of Working

Safe way of working:

- Hard control measures
- Soft control measures

Hard Control Measures

- Barriers
- Machine guards
- Safety devices
- Personal protective equipment

Hard or physical controls as they are often called, physically prevent injury so long as they are maintained in a safe condition and people are aware of how to use them effectively and they are not breached.

A secure barrier around an open hole will stop you falling down that hole so long as you do not climb over or through it.

Soft Control Measures

- Warning signs
- Notices
- Posters
- Information
- Instruction
- Training

A sign next to an open hole may warn someone that it is there but will not stop them falling down it, if they ignore, miss or just forget about it.

Soft controls are best used in conjunction with hard controls. E.G. a barrier around a hole and warning signs can be very effective.

Do you know…

- The main hazards associated with your workplace.
- How they are being controlled?
- Who to report hazards you find to?
- Where to read the safe way of working?

Part 5c – Workstations & DSE

By the end of this session participants should:

Know the main health risks associated with workstations and display screen equipment:

- Musculo-skeletal disorders, fatigue and stress, temporary eye strain, headaches.

Know the main duties of employers regarding workstations and display screen equipment:

- Employers: identify users**,** analyse workstations, assess and reduce risks**,** ensure workstations meet minimum requirements**,** plan work to provide breaks or activity changes**,** provide eye tests**,** information, instruction and training.

Know how to reduce the risks associated with workstations and display screen equipment:

- Lighting, glare, noise, leg room, window coverings, software, screen, keyboard, work surface, chair, footrest.

Slide 55
Title slide

Introduce the subject by emphasising that health risks associated with working on poorly set up workstations are usually long term and might not be evident straight away.

Explain to participants that their employers have a duty to ensure their welfare and provide equipment suitable for the job we are doing.

Slide 57
What are the main health risks associated with workstations?

- Temporary pain or permanent injury to the:
  - ☐ Back
  - ☐ Neck
  - ☐ Shoulders
  - ☐ Arms
  - ☐ Wrists

- Knees
- Legs

- Known collectively as musculoskeletal disorders.

Ask delegates if they have ever experienced any of the above symptoms as a result of their workstation layout or activities they perform in their workstation.

Additional health risks associated with DSE?

- Temporary eye strain
- Headaches
- Fatigue & stress

Ask participants if they have ever experienced any of the above symptoms as a result of using DSE.

Slide 57
Employer's Responsibilities

- Assess and reduce the risks in your workstation
- Ensure your workstation is suitable
- Make ergonomic considerations
- Identify DSE 'users'

Explain to participants in simple terms what ergonomics is, i.e. adapting the workstation to suit the individual.

What should your employer do to make sure you can work safely?

- Plan work to ensure you get breaks and activity changes
- Provide eye tests if you are a DSE user
- Give you enough information, instruction and training
- Monitor the arrangements

Discuss with participants the sort of measures their employers currently use to ensure they can work safely.

Slide 58
What can you do to help reduce the health risks?

- Ensure the lighting is good enough to work properly
- Alter the screen angle if glare is a problem
- Let your employer know if noise is affecting you
- Close window coverings to reduce glare
- Make sure you know how to use software properly
- If you can't read all the keys and tilt your keyboard let your employer know
- Don't store things under your desk that restrict your leg movement
- Keep work surfaces clear of clutter
- If you can't adjust your chair, then report it
- If you can't keep your feet flat on the floor, ask for a footrest
- Take breaks away from your desk
- Don't sit in the same position for long periods
- Change your posture regularly
- Don't overstretch for things
- Build in other tasks like filing so you can get up and move around

Discuss each point in the list to ensure participants understand how this can be done and how it can help.

Slide 59

Posture to prevent ill health effects

Picture on slide: Diagram showing how to set up a good workstation

Talk through each of the aspects of setting up a workstation correctly to prevent ill health.

Part 5d - Work Related Ill-health

By the end of this session participants should:

Know the main work-related ill-health effects:

- Asthma, dermatitis, stress, hearing loss, vibration white finger, lung cancer.

Know the causes and effects of work-related stress:

- Causes: the way things are done, amount of work, how you fit in with others, knowing what to do, amount of help and support, coping with change.
- Effects on individuals: emotional, behavioural, ill-health.
- Effects on organisations: absenteeism, motivation, productivity, efficiency.

Know the responsibilities of employers and employees regarding violence and bullying:

- Legal requirement, identify causes, effective policy, complaints procedure, counselling, dealing with bullies.

Slide 60
Title slide

There are many causes of work-related ill health. Examples include dermatitis, asbestosis and permanent hearing loss.

As well as looking at some of the more common causes of work-related ill health this session will also address stress which is increasingly becoming a problem in modern workplaces.

Bullying will also be considered during this session. Although it is not ill health, it can lead to increased stress and lots of other ill health effects.

It is important that the participants realise that the future of health and safety management lies predominantly in preventing work related ill health.

Slide 61
Key points – statistics from HSE

- HSE reports that 1.4 million workers were suffering from work-related ill health (new or long-standing) in 2018/19
- 497,000 workers were suffering from a new case of work-related ill health in 2018/19
- 23.5million working days were lost due to work-related ill health in 2018/19

Slide 62
Common effects & causes

Some of the most common effects and causes of work related ill health include:

- Dermatitis – contact with oil & cement products
- Stress – demands of work
- Asthma – dust & chemical inhalation
- Hearing loss – noise
- Vibration white finger – use of handheld power tools
- Lung cancer – dust & chemical inhalation

Ask the participants if they can think of any other ill health effects and their causes.

Slide 63
Employers Responsibilities

- Ensure that workers health is not being affected by:
  - Noise
  - Asbestos
  - Vibration
  - Stress
- Control health hazards
- Provide health checks

Ask the participants if they have ever been affected by noise, asbestos, vibration, stress, etc at work and what was done to combat the problem.

Slide 64
What can I do at work to help?

- If there is a problem, let your employer know
- Support your friends & colleagues
- Speak to your doctor if you are unwell & tell them what you do at work
- Ask to change jobs if it's making you ill
- Try to solve problems – don't worry!

Discuss the list with the delegates and ask them if they can think of any other things that can be done to help.

Slide 66
What is stress?

Stress is the way people react to pressure at work and other demands placed on them

Ask the participants to discuss the concept of stress. What are their definitions of stress?

What causes stress?

- The way things are done
- How much you have to do
- The amount of control you are given
- How you fit in with others
- How changes affect you
- Knowing what your job is
- The amount of help you get

Discuss and ask the participants if any other factors can cause workplace stress. Can they relate to any of these factors?

Ask - how can stress affect an organisation?

- More people may be absent
- Low morale & poor motivation
- Lower efficiency & productivity

Ask the participants what the possible implications for the employer might be?

Ask - how stress can affect you?

Stress is not an illness but it can lead to health problems, such as:

- Heart attack
- Back pain
- Anxiety & depression
- Other minor illnesses

Discuss with the participants the severity of becoming too stressed at work. Short-term and long-term health problems may arise as a result of stress.

Slide 67
What must your employer do to help reduce stress at work?

- Assess risks to health
- Eliminate or reduce the risk
- Let you know about changes that could affect you

Discuss what other things can the participants think of to help reduce workplace stress?

Does my employer have to prevent violence and bullying?

They have a duty to provide you with a safe place of work & ensure your health, safety & welfare.

Ask the participants why they think the employer has to prevent workplace violence and bullying. Discuss issue if necessary.

Slide 67
Common forms of bullying

- Being sworn or shouted at.
- Being threatened.
- Being ignored by work colleagues.
- Having impossible targets set.

Other forms of bullying that may come up

- Being humiliated in front of staff
- Name calling
- Sexual and racial harassment
- Physical violence

NOTE: Handle discussion with care.

You could ask the participants if anyone has actually experienced bullying and what they did about it.

Remind group that all conversations must remain confidential and within the room.

Slide 68
How does bullying affect people?

Some of these include:

- Increased stress
- Anxiety
- Headaches

- Feeling sick
- Skin rashes
- Sleeplessness
- High blood pressure
- Loss of self-confidence
- Considering suicide

Discuss the list of ill health effects.

Slide 69
What should you do if you are being bullied?

- Don't ignore it
- Let your employer know straight away
- If you feel you can't talk to your employer:
  - Get support from your employee or Trade Union representative
  - Ask a colleague for support
- Try not to retaliate against bullies

Discuss with the group the importance of not ignoring bullying.

Slide 69
Dealing with violence & bullying

Your employer should:

- Have an effective policy to prevent bullying
- Ensure there is a complaints procedure
- Provide access to counselling
- Deal with bullies effectively

Ask the delegates if they think their employers have good systems in place to deal with workplace stress, violence and bullying.

Part 6 – Safety Signs and Signals

Slide 70
Title Slide

Safety signs and signals serve as important methods of communication. The main purpose of these is to make people aware of what can sometimes be potentially dangerous situations by relaying the information needed.

The session could be introduced by asking the participants what safety signs and signals they may have seen before attending this course.

Ask - what types of signs and signals are used in the workplace?

There are two main types:

- Visual
  - Signs
  - Notices
  - Hand signals
- Audible
  - Voice
  - Sirens
  - Bells and alarms

Ask participants if they can think of other examples of visual and audible signs and signals.

There are four main types of safety signs:

- Prohibition
- Warning
- Mandatory
- Safe condition

Explain to participants that these make up the different types of visual signs and remind them that there are other methods of communication within the workplace, e.g. verbal, audible etc.

Slide 71
Prohibition and warning signs

- These are used to stop you doing something that might put you in danger

Slide 72
Prohibition sign examples:

No naked flames and No smoking signs.

Ask participants if they can think of other prohibition signs they have seen around the workplace.

Slide 73
Example warning signs

- These warn you of a hazard or a danger

Slippery surfaces and Toxic warning signs

Ask participants if they can think of other warning signs they have seen around the workplace.

Slide 74

Introduce mandatory and safe condition signs

Slide 75
Mandatory signs

- These signs tell you that you must do something

Examples: wear ear protection and wear safety boots signs.

Ask participants if they can think of other mandatory signs they have seen around the workplace.

Slide 76
Safe condition signs

- These signs give you information on emergency exits, first aid and rescue facilities

Example signs: First Aid and Fire exit route signs

Ask participants if they can think of other safe condition signs they have seen around the workplace.

What to do now

- Make yourself familiar with all the safety signage where you work:

- ☐ Do you know what they all mean?
- ☐ Are they all in places where they can be seen easily?
- ☐ Are all the signs in place to warn you about the hazards that affect you?

Ask participants whether there are any safety signs or signals they have seen but do not understand.

Other visual methods

Danger asbestos sign and man making hand gesture.

Discuss with participants other forms of visual signs.

Audible methods

Fire alarm bell and man on CB radio.

Ask participants to think of other forms of audible signs.

Part 7 – Electrical Safety

By the end of this session participants should:

Know the main hazards associated with electricity:

- Contact with live parts, electrical faults, overloaded circuits, electrical fires and explosions.

Know how to reduce the risks associated with electricity:

- Safe equipment, reduced voltage, residual current devices, safety checks.

Know how to use portable electrical appliances safely:

- Information, instruction and training**,** supervision**,** frequent visual inspection by user**,** use of correct fuses, switch off and unplug before cleaning or adjusting.

Know how to recognise defective electrical equipment:

- Damaged leads, damaged plugs, cracked casing, signs of overheating.

Slide 77
Title slide

Introduce the subject area of electricity by stating that if you have an accident involving electricity, you are 20 times more likely to be killed than if you had any other form of accident.

Also explain that electricity can be the cause of many other types of incidents e.g. it can start fires, explosions, shock people into falling from heights etc.

Slide 78
Key point

Slide 79
What are the main hazards associated with electricity?

- ■ Contact with live parts causing shock and burns
- ■ Fire caused by faults
- ■ Fire or explosion caused by electricity
- ■ Shocks leading to other injuries
- ■ Overloaded electrical sockets
- ■ Arcing

Explain to the participants in more detail how an electrical socket can become overloaded.

Also explain how arcing occurs –electricity 'jumping' a gap between the sources e.g. an overhead power line and another object such as a crane or an excavator that is 'earthed' e.g. touching the ground.

Slide 80
What does your employer have to do to reduce the risk?

- Carry out a risk assessment
- Reduce the risk by:
    - Providing safe equipment
    - Reducing the voltage
    - Provide a residual current device
    - Carry out safety checks
    - Ensure users have had enough information, instruction, training

Explain reduced voltage – 240V can kill, 110V as used on construction sites is unlikely to kill but can still cause a shock, battery operated equipment is lower voltage still and unlikely to cause a shock if used correctly.

Briefly explain how a residual current device works – detects fluctuations in electrical current caused by faults e.g. a bulb blowing or disruption to supply e.g. cutting through a lawn mower cable and trips out when this happens preventing a dangerous shock.

Slide 81
What do fuses do?

- Fuses blow to break an electrical circuit if it becomes overloaded
- Fuses protect equipment, not people
- Only use a fuse of the correct rating
- Never use nails, tin foil or anything similar to replace a fuse

Explain to the participants that electrical appliances cannot work if the circuit is broken.

Emphasise the danger and foolishness of using nails, paper clips etc. as fuses. It will increase the fire risk.

Slide 82
How to use portable electric equipment safely?

- Only use equipment you have been trained to use
- Follow instructions
- Work safely
- Look for faults by carrying out a visual inspection of equipment first

Emphasise the importance of training – the complexity of the equipment will normally be reflected in how long the training will take.

Work safely – switch off and unplug during maintenance and tool changes e.g. drill bits. Use the equipment for what it has been designed to do.

What faults should I look for?

- Damaged cable and leads
- Loose, cracked or damaged plugs
- Damage to casing of equipment
- Exposed electrical wiring
- Scorch or burn marks

If you find any of the above faults – let your supervisor know
DO NOT USE DAMAGED ELECTRICAL
EQUIPMENT

Discuss with the group what danger each of the faults could cause if they are not corrected

Use examples of actual damaged equipment if you have it

Part 8 – Fire Safety

By the end of this session participants should:

Know the most common causes of fire:

- Combination of oxygen, heat and fuel, heat sources, naked flames, friction, electricity, smoking in unauthorised areas, discarded matches and cigarettes, arson.

Know what can be done to reduce the risk of fire:

- Smoking areas, no naked flames near flammable materials, report damaged electrical equipment, keep work areas tidy, waste disposal.

Know the actions to take on discovering a fire:

- Follow company procedures, raise the alarm, leave the building by nearest route, close windows and doors behind you and report to assembly point.

Know the main types of fire extinguisher and what fires they can be used on:

- Water, foam, CO_2, dry powder.

Slide 83
Title slide
Introduce the serious impacts that fire can have by explaining that in 2018-19, over ??? fires were reported in workplaces which killed ??? people.

Emphasise that fire not only ruins and takes lives, but most of the time companies never fully recover from them.

Explain that most fires are caused by human error and in many cases could have been prevented by fairly simple means.

Slide 84
What does a fire require to start and stay alight?

- A heat source – the cause
- Fuel – to feed it
- Oxygen – to keep it burning

The fire triangle

Describe to the participants the significance of the fire triangle and how it describes why fire can't exist without the presence of all the 3 elements; heat, fuel and oxygen.

Slide 84
What are the most common causes of fire?

- Arson
- Discarded matches and cigarettes
- Smoking in unauthorised areas

- Naked flames
- Friction
- Faulty electrical equipment
- Sparks
- Hot surfaces

Discuss the list and ask the group if they can think of any other common causes of fire.

Ask the group to assess the room they're in for potential fire hazards.

How can you help to reduce the risk?

- Only smoke in smoking areas and dispose of smoking materials safely
- Don't use flames near flammable materials
- Report damaged electrical equipment
- Keep all windows closed which are not used for ventilation purposes

Ask the Participants if they can think of any other ways in which to reduce the risk of fire.

How you can help reduce the risk

- Don't leave things like toasters unattended when in use
- Keep work areas tidy and dispose of waste safely

Ask participants to make a list of the types of other precautions they could make to avoid fire around their workplace.

Slide 86
What to do if you discover a fire?

- Firstly, raise the alarm
- Shut doors behind you
- Leave the workplace by the nearest safest route
- Report to the fire assembly point

Discuss with participants the different methods of raising the alarm to alert employees of a fire.

Explain that unless they have received specific fire training, they should not attempt to fight any fires unless it is as a last resort to get out.

This is not to say you should just ignore a smouldering cigarette end in a waste bin. Put it out properly and if necessary, put a small amount of water on it to ensure it is out.

Let the fire warden know if it was you who raised the alarm.

Slide 87
What to do if you hear the fire alarm?

Always follow your company fire procedures

This will generally be:

- Shut doors behind you
- Leave the workplace by the nearest safest route
- Report to the fire assembly point

Discuss the importance of this procedure, and how their reactions to hearing the alarm could mean the difference between life and death.

Explain that shutting doors can help to slow the spread of fire and help to reduce the amount of oxygen the fire needs to burn.

Slide 88
Picture slide: Types of Fire Extinguisher

- Water – red panel – general waste
- Carbon Dioxide – black panel - electrical

Make sure participants know the significance of the different coloured panels. Make sure they understand the dangers of using the wrong fire extinguisher, e.g. water extinguisher on electric fire.

Slide 89
Picture slide: Types of Fire Extinguisher

- Powder – blue panel – liquid and electrical
- Foam – cream panel – liquid

Slide 90
Fire safety signs

Picture slide: Fire exit route, keep clear and fire door keep shut signs

Discuss whether there are any different signs in their workplaces and what they mean.

Slide 91
In the event of a fire

Do you know:

- Where your nearest alarm is?
- How to raise the alarm?
- What your fire alarm sounds like?
- Where your nearest fire exit is?
- Where the assembly area is?

Discuss this and draw up a chart of yes and no responses and compare the result. Let the employer know what responses were given as further fire safety information may need to be given to the staff.

Part 9 – Hazardous Substances

By the end of this session participants should:

Know the main types of hazardous substances:

- Physical, chemical, biological.

Know how hazardous substances can enter and affect the body:

- Inhalation, ingestion, absorption.

Know the duty of employers and employees regarding hazardous substances:

- Risk assessment, control measures, checks, information, instruction and training.

Know the main labels associated with hazardous substances:

- Toxic, corrosive, harmful, irritant, highly flammable, explosive.

Slide 92
Title slide

Introduce hazardous substances by explaining that we can easily be exposed to them without realising. Explain that they can take many forms and can enter our bodies in a variety of ways, which they'll be looking at in this session.

Describe to participants that this session will help them understand ways in which they and their employers can reduce and monitor exposure to hazardous substances and by using signs they can tell others what the dangers of a stored substance are.

Slide 93
Key point - Using chemicals or other hazardous substances at work can put people's health at risk. So the law requires employers to control exposure to hazardous substances to prevent ill-health

Slide 94
What are hazardous substances?

Physical, chemical and biological agents such as:

- Products used in the workplace, like acids and solvents
- Products created by work activities, like welding fumes and wood dust
- Natural substances, like legionella and grain dust

Ask participants to think of examples of hazardous substances in their workplace.

What forms do hazardous substances come in?

- Liquids - **bleach**
- Gases - **Ammonia**
- Vapours - **petrol**
- Mists – **sprayed chemicals**
- Fumes – **solvent**
- Fibres - **asbestos**
- Dusts – **hardwood**
- Solids – **sulphur**
- Micro-organisms - **leptospirosis**

Give a general example of a hazardous substance in each of the forms.

Slide 95
What sort of harm do they cause?

- Skin irritation
- Burns
- Skin disease
- Lung disease
- Cancer
- Infection

Discuss harmful effects and the fact that dermatitis caused by cement based products, a skin disease is one of the most common ill health problems caused by hazardous substances in the construction industry.

And the fact that asbestos related diseases cause an estimated 3,500 deaths each year of people exposed at work to asbestos products.

How do hazardous substances get into the body?

- Absorption - by soaking through the skin (such as liquids)
- Ingestion - by being swallowed (such as foods)

- Inhalation - they can be breathed in (such as gases and fumes)

Ask participants to give examples of events that might lead to hazardous substances entering the body in various ways, e.g. working with lead and then eating sandwiches without washing hands.

Slide 96
How do you know if a substance is hazardous?

Any containers should have warning symbols on them. Some of the most common ones are:

Pictures: Toxic, Corrosive and Harmful to the Environment
Discuss the symbols and effects

Discuss the symbols and effects noting that the same symbol is used for harmful and irritant.

Ask participants if they can think of any examples of substances that might fit into the various categories that they either use at work or know about.

Slide 97
What should your employer do to control hazardous substances?

- Carry out a risk assessment
- Provide and maintain ways of reducing risks

Get delegates to think of ways they would expect their employer to reduce the risk of them being exposed to hazardous substances.

Get them to think about the hierarchy of control measures used in risk assessment; eliminate, substitute, reduce exposure etc…

Also mention that natural agents and substances caused by work operations like creating silica dust by drilling or cutting concrete does not have a label on it, but employers are still required to assess and control the risks effectively.

- Provide health checks to check for exposure to certain substances:
    - Asbestos
    - Lead
    - Cement
- Provide information, instruction and training

Let the participants know that health checks could involve something as simple as a first aider carrying out simple hand checks to look for signs of dermatitis, or a complex group of tests to check lung function and capacity.

Slide 98
What you can do to help

- Make sure you know what substances you are using
- Follow any rules put in place to protect you
- If your equipment is faulty, tell your supervisor
- Use personal protective equipment correctly
- If you feel unwell, tell your supervisor
- Keep your hands clean

Let participants know that it is vital that apply these principles to ensure their continued good health and that if they are ever in doubt about substances being used, they should ask their supervisor.

Slide 99
Good hygiene tips

- Wash your hands with soap / cleanser and water
- Use towels and driers to dry them
- Use barrier creams to give added protection
- If you find any unusual blisters, rashes or other skin problems, report them
- Wash your hands before and after using the toilet
- Wash your hands before eating, drinking or smoking

Ask Participants what else they think would be useful to maintain cleanliness, like barrier creams, de-greasers and moisturisers].

Strongly emphasise just how important good hygiene is, not just at work but in all aspects of life.

Part 10 – Manual Handling

By the end of this session your delegates should:

Know the most common injuries associated with manual handling activities:

- Strains and sprains, back injuries, cuts and abrasions, crush injuries.

Know the main duties of employers and employees regarding manual handling:

- Employers: avoid, assess and reduce the risk.
- Employees: follow safe systems of work, make proper use of safety equipment, co-operate with the employer.

Know the main hazards and risks associated with manual handling:

- Heavy and bulky loads, incorrect lifting techniques, dropping loads, sharp edges.

Know the main methods of reducing the risks associated with manual handling:

- Task, individual capacity, load, environment.

Slide 100
Title slide
Introduce the subject of manual handling by stating that in 2018-19, 498,000 workers were suffering from work-related musculoskeletal disorders (new or longstanding), Labour Force Survey (LFS). 6.9 million working days lost due to work-related musculoskeletal disorders in 2018/19, Labour Force Survey (LFS)

Explain to participants that manual handling injuries are the most common form of workplace injury.

Ask participants if they or anyone they know have ever had any manual handling injuries and how it affected them.

Emphasise the importance of looking after your back and how damage or injury to the back can often result in long term, if not permanent disablement.]

Slide 101
Key point - Almost a third of all workplace injuries are caused by manual handling. Every year, over 300,000 people suffer back injuries as a result of manual handling.

Slide 102
What is manual handling?

It involves moving a load by:

- Lifting
- Lowering
- Carrying
- Pushing
- Pulling

Discuss the meaning of manual handling with the participants. Ask them what manual handling experiences they may have had already. Put participants into groups of two or three. Give each group an empty box and ask them to pretend that the box is a heavy load. Ask the groups to act out how they would move the box safely by the above methods. For example, always keep a load close to your body when carrying it.

Slide 103
It's a huge problem!

Slide 104
Typical manual handling injuries

- Back injuries
- Sprains & strains
- Cuts & abrasions
- Crushed limbs

Ask the participants if anyone has experienced any of the above. If anyone has, ask them what it was like, how they sustained the injury and whether they had to take time off work as a result.

Slide 105
Reducing the risk

Your employer should:

- Avoid manual handling
- Assess risk if it can't be avoided
- Reduce risk of injury

Discuss with the delegates the reasons why employers have to reduce the risk of injury and ways of avoiding manual handling.

Slide 106
Your responsibilities

- Co-operate with your employer
- Follow the safe way of working
- Use equipment provided safely
- Report any hazardous handling activities
- Do not put others at risk

Ask participants if they think the list of responsibilities is acceptable. Do they think they have too many responsibilities?

Slide 107
The main hazards you may face

- The item may be heavy or bulky
- Lifting incorrectly
- Dropping a heavy load onto your feet
- Trapping fingers

- Sharp edges
- Hot, cold or slippery loads

Discuss the list and ask if the participants can think of any other hazards they are likely to face.

Slide
Controlling the hazards – risk assessment

Your employer must consider:

- The task
- The environment
- The load
- The person

Expand on the list with participants:

- Task – does it involve lifting high, low, stooping, carrying long distances etc?
- Environment – does it involve inside, outside, wet, noisy, confined spaces etc?
- Load – Is it heavy, bulky, hot, slippery, sharp etc?
- Person – age, fitness, sex, unusual strength required?

Can the participants expand the list under each heading any further?

Slide 109
Questions to ask yourself before handling loads

- Have you been shown how to lift loads safely?
- Has your employer given you manual handling training?
- Have you got aids such as trolleys, sack barrows and pallet trucks for repetitive lifting?

IF YOU ANSWERED NO TO ANY OF THESE QUESTIONS THEN CONTACT YOUR SUPERVISOR

Discuss the above questions with the participants

Slide 110
Top tips if you have to carry out manual handling tasks

- Only lift what you can safely manage
- Position yourself correctly
- Lift load correctly
- Keep load close to body
- Get help if necessary
- Report injuries immediately

APPENDIX C

Chapter 2

Roles, responsibilities and levels of competence and authority

2.1 Introduction

2.1.1 Making clear distinctions

Achieving clarity over roles and responsibilities is crucial for all those involved in either (a) setting the specification for and/or (b) the procurement of appropriately qualified and experienced ECoWs.

This is because the work that may be asked of an ECoW will vary depending on their client, their specific job remit, the type and scale of project that they are working on and the type and status of the ecological features that they will be working with. It is therefore important that any requirements for an ECoW are matched carefully to the demands of their expected role and responsibilities (see also **Part E Chapter X**).

The following sections in this chapter explore the distinctions between the two main ECoW roles, along with the typical responsibilities associated with each. The competencies (i.e. skills, knowledge and abilities) necessary to perform these roles are also outlined as well as the different levels of authority that may be assigned to them.

2.1.2 Ecological obligations

Throughout this Handbook the term *ecological obligations* is used to refer to all documentary requirements, guidance, standards, specifications and contractual documents that an ECoW may find themselves advising on, implementing and/or monitoring; a summary of these obligations are provided in **Box 2.1**.

Box 2.1

Ecological Obligations

i. Ecological requirements

- statutory and policy requirements, such as legislation and planning policies protecting habitats and species
- requirements set out in protected species licences
- ecological design requirements (*e.g.* as set out in the ES or EcIA)
- relevant aspects of a planning consent (i.e. as set out in planning conditions or planning agreements)

ii. Professional standards and good practice

- professional good practice guidance
- environmental standards (*e.g.* British and International Standards

iii. Design specifications and instructions

- relating to quality of methods, materials and workmanship

iv. Contractual requirements

2.2 Comparing ECoW Roles

A CIEEM Accredited ECoW is likely to perform one of two roles or – in some circumstances - a combination of both.

2.2.1 ECoW Advisors

Advisors have a remit to work alongside contractors providing a broad range of advice on how to implement ecological measures during the construction and/or ecological contracting process; making recommendations on measures required to achieve compliance and desired outcomes where necessary. Advisors can also help identify and remedy potential instances of non-compliance prior to the incident occurring – i.e. spot what would be the equivalent of a '*near miss*' in a health and safety situation.

The involvement of an ECoW Advisor on a project should give comfort to regulators, clients, developers and contractors as the role should encourage pro-active resolution of issues rather than reactive and often less effective action after the event.

2.2.2 ECoW Inspectors

Inspectors have a remit to carry out impartial inspections to monitor site performance across a range of ecological measures. This will normally be achieved through independent monitoring of compliance with one or more statutory obligations, permits, licences, planning consent and contractual requirements and/or design specifications.

Effectiveness in the role will be achieved through rigorous and detailed inspection of methods, materials and workmanship, throughout the construction and/or contracting process, against clearly defined biodiversity outcomes.

Ideally, ECoW Inspectors should not normally, by virtue of their need to remain impartial, be employed by the project client or any contractor(s) to whom they are themselves contracted (for further information see **Part E Chapter X**).

2.3 ECoW Responsibilities

2.3.1 Broad responsibilities

In general terms, the broad responsibilities of an ECoW can be defined under the six functions shown in **Box 2.2**. These broad functions are then outlined further in **Box 2.3** and finally explored in depth in **Parts C and D** of this Handbook.

Box 2.2

Broad ECoW Responsibilities

To Anticipate: identifying potential impacts, risks and problems in advance to prevent them materialising or, where they do materialise, to help resolve them quickly.

To Interpret and Verify: ensuring that all ecological information, designs and specifications are adequate, fit for purpose and are capable of being fully understood by all relevant parties.

To Advise: working alongside contractors providing advice on how to implement ecological mitigation during the construction process.

To Inspect: ensuring operations, procedures, methods, workmanship and materials comply and conform to design and contract standards or requirements relating to ecology.

To Record: making complete a record of works undertaken, recognising the reliance that may be

Box 2.3

Overview of detailed ecological responsibilities

A. Identify ecological features that might be at risk of loss or damage as a result of construction operations, including, as necessary, as part of:

- Pre-construction surveys required to verify the accuracy and reliability of previously recorded ecological data e.g. the extent and composition of habitats on site and the presence and location of protected/sensitive species;
- On-going monitoring during construction to identify and avoid risk to sensitive species/habitats/environmental features.

B. Scrutinise and interpret ecological surveys, reports, designs, specifications, plans and method statements, identifying and explaining the implications of any limitations where relevant and formulating evidence-based recommendations where necessary.

C. Undertake environmental management on site, including to:

- Provide specialist advice and guidance on the design of practical ecological measures required during construction;
- Implement ecological mitigation on construction sites;
- Monitor the effectiveness of ecological measures to ensure desired outcomes are achieved, implementing remedial actions if required;
- Anticipate and manage risks during construction.

D. Examine environmental statements and planning consents to identify recommendations and requirements contained therein that must be carried through into practical delivery on construction sites.

E. Provide advice and encouragement on the measures necessary to achieve compliance with contractual, policy and legislative requirements and with quality management systems and other recognised standards (e.g. ISO and BS).

F. Carry out compliance audits of actions taken to fulfil relevant contractual, permit, licence and/or planning consent requirements.

G. Apply professional codes of conduct and ethics to a construction site.

Box 2.3 continued

I. Conform to general workplace health, safety and welfare on construction sites.

J. Establish effective communication so as to:

- Build positive relationships with construction teams;
- Negotiate and also resolve conflicts as and when they arise;
- Motivate, lead and manage ecological and construction personnel to achieve high standards of environmental performance;
- Challenge and stop activities and behaviours that would result in a breach of contract, permit, licence or planning consent;
- Carry out appropriate recording and reporting to produce clear, concise, factual and accurate records and recommendations concerning ecological mitigation on site.

K. Develop effective working relationships with other professionals in order to generate ideas, solve problems, produce solutions and improve inter-disciplinary understanding and professional collaboration.

L. Provide advice and guidance to achieve high quality outcomes for both biodiversity and clients/contractors on construction sites;

M. Deliver high standards of client or customer care, demonstrating astute commercial awareness and carefully balancing the needs of clients and contractors with environmental considerations;

N. Carry out quality audits/inspections to monitor achievement of necessary quality standards and performance.

O. Explain and adhere to the roles, duties and responsibilities of all relevant parties on construction sites, such as are defined for duty-holders under the Construction, Design and Management Regulations (CDM).

P. Explain and carry out ecological activities to support and enable recognised and established

For any given project, the broad responsibilities and authority associated with either of the two ECoW roles will be directly dependent upon the remit and formal instruction given to the ECoW. This instruction will come from their client and/or as stipulated by the relevant regulator, such as a local planning authority or statutory nature conservation body.

The necessary remit for any particular site should be expressed through the ECoW's job specification; where necessary drawing upon the explicit requirements in a relevant planning consent, site permit or species licence (for further information see **Chapter X**).

2.4 ECoW and Principal ECoW

2.4.1 Two levels of seniority

CIEEM recognises two levels of accredited ECoW: an ECoW and a Principal ECoW. While both levels share many duties on site, they are distinguished by differences in their depth and breadth of skills, knowledge, abilities and experience.

The formal CIEEM accreditation for an ECoW is equivalent to an NVQ or Apprenticeship Level 4, while the Principal ECoW is equivalent to a Level 6.

Both levels are based on the same background training and individuals in either role will have honed their skills with years of practical hands-on experience.

However, although a Principal ECoW may be found working on many types of project, their broader and deeper level of experience is likely to be most valuable on larger and/or more complex schemes.

The main distinction between the two levels is that Principal ECoWs have the ability to employ innovative approaches to ecological mitigation, especially in new or unexpected situations. This is because they have extensive practical experience gained from working in the role across a diverse range of project types and scales. They will have strong leadership and communication skills, as well as the ability to think laterally and find solutions to unexpected problems and circumstances. They will tend to be creative, being able to come up with original and bespoke approaches to their work and any issues that may arise.

2.5 Remit and levels of authority

2.5.1 Levels of authority

EcoWs do not normally have authority to instruct construction work on site in the same way that an architect's traditional Clerk of Works [1] may inspect and direct work to achieve compliance (see **Chapter 1**).

However, under some circumstances (and then only when clearly specified in relevant contract documentation) an ECoW may have a degree of 'delegated' authority on site. However, it is important to understand that such authority is not automatic and is reliant upon the ECoW's documented remit for any given project.

Consequently, the degree of authority assigned to any specific ECoW position will depend on the extent to which that position is able to draw upon their client's powers to:

a) secure compliance through established mechanisms
b) instigate any associated measures of enforcement where compliance is not achieved.

For an ECoW, their client's relevant powers (and the authority that the ECoW may derive from them) are likely to relate to non-compliance (a breach) with one or more of the following:

- wildlife legislation
- planning consent
- protected species licences
- work instructions (re methods/materials/workmanship)
- contractual obligations.

[1] Refer to Institute of Clerk of Works and Construction Inspectorate of Great Britain https://www.icwci.org

In other words, an ECoW may be able to exercise 'delegated' authority if they are given a specific remit within their job specification. Where no such authority is stated, an ECoW is likely to have to rely solely on their powers of persuasion (see **Chapter 12** on Communication).

In addition to two distinct roles (see **Section 2.2**) and two levels of seniority (see **Section 2.4**), CIEEM also recognises that the *level of authority* assigned to any particular ECoW may vary enormously. This may also vary for the same individual ECoW across different projects that they may be involved with.

The level of authority on any given site is likely to be determined, firstly, by who is employing the ECoW and then secondly, whether their client wishes them to perform a simple advisory role (see **Chapters 6, 7 and 9**) or take on the additional responsibilities for inspection to monitor, record and report on compliance with ecological obligations on site (see **Chapter 11**).

Public sector organisations (i.e. those with some form of regulatory function that are supported by statutory powers see **Table 2.1**) may wish to secure an ECoW in an Inspector role. In this role, an ECoW will be on site to monitor and ensure compliance with various ecological obligations that a developer and their contractors are required to meet. At the other end of the spectrum, however, is an ECoW employed by a contractor or sub-contractor wishing to employ them only for the advice they can provide on how ecological mitigation measures may be implemented on site.

In the latter situation, the ECoW may have virtually no authority over how operations are carried out on site, even if they observe actions that they know to be damaging and non-compliant; they can only hope to influence the employer and the workforce, they cannot issue directions nor instruct work to stop.

2.5.2 Means of exercising authority

There are various means by which an ECoW may exercise their authority within a project; these range from:

a) having **no formal status** or weight but being reliant on achieving influence through persuasion and provision of robust advice;

to the other end of the spectrum where the role is supported by:

b) **formal means of enforcement** drawing upon the function and powers of public bodies following breach of wildlife legislation, planning consents or protected species licences.

Table 2.1 illustrates the variation in the levels of authority and the means of enforcement available to support an ECoW in their role on site.

The observed differences in Table 2.1 are dependent upon who the client is and on the specific role assigned to the ECoW. For instance, Table 2.1 shows that an ECoW Inspector working for a public sector client is likely to be able to draw support from the enforcement powers of their client. Whereas an ECoW working for a sub-contractor as part of a wider project is unlikely to be assigned with anything like the same level of authority.

Further information on selecting and appointing an appropriate ECoW - for a particular role and with appropriate and corresponding levels of influence or authority - is provided in **Part E and Chapter X**.

Table 2.1 Levels of authority and means of influence and enforcement potentially available to support the ECoW role

	ECoW's Client	ECoW Role		Means of influence	Mechanism of enforcement			
					Statutory Powers			
					Planning enforcement	SNCO enforcement		Prosecution
						Civil Sanctions	Voluntary Undertakings	
Increasing level of influence and authority to support the ECoW	Local Authority		✓	Statutory power	Stop Notice & Injunctions Breach of Condition Notice	N/A	N/A	✓
	Statutory nature conservation organisation*		✓	Statutory power	Stop Notice & Injunctions	✓	✓	✓
	Public Utility		✓	Contractual	N/A	N/A	N/A	✓
	Public Sector Client		✓	Contractual	✓	N/A	N/A	✓
	Private Sector Client	✓	✓	Contractual	N/A	N/A	✓	
	Principal Contractor	✓		Persuasion (Contractual)	N/A	N/A	✓	

	Contractor	✓		Persuasion (Contractual)	N/A	N/A	✓	
	Sub-contractor	✓		Persuasion	N/A	N/A	✓	

* Relevant SNCOs include: EA, NE, NRW, SNH and SEPA … plus for NI and RofI

NOTE 1: The terms *'Client', Principal Contractor, Contractor and Sub-contractor* as used in Table 2.1 are as defined under the CDM Regulations i.e. as referred to under their responsibilities for health and safety on site.

NOTE 2: Public utilities include water, gas and electricity providers.

NOTE 3: As a last resort, the police obviously have powers of enforcement and prosecution where criminal offences have been committed.

2.6 Working with other ecologists

2.6.1 Ecological designers and contractors

ECoWs rarely work in isolation of other ecological professionals and will usually be part of a wider team and/or be responsible for ecological measures that have been designed and prepared by other ecological specialists. An example would be where an ECoW works closely with specialist ecological surveyors who may be monitoring the condition or status of habitats or species on or adjacent to the site (see **Chapter 7**). Alternatively, an ECoW may be responsible for the implementation of ecological mitigation measures (see **Chapter 9**) that are prescribed in an Ecological Impact Assessment prepared by an offsite-based team (for further information see **Chapter 10**).

2.6.2 Oversight of junior ecologists

Both EcoWs and Principal ECoWs may have supervisory or line management and/or mentoring responsibilities for more junior staff operating on site, who do not yet have any form of ECoW accreditation (see **Box 2.X**).

Box 2.X

Working with junior ecologists on site

CIEEM recognises that junior ecologists and/or those with little previous experience of working on construction and ecological contracting projects have to start somewhere in order to gain experience.

While these individuals are very unlikely to be Accredited ECoWs themselves, they may provide an important support role to either an ECoW or Principal ECoW on a project, being able to undertake simple tasks and operations when under adequate supervision and guidance.

2.7 Appointing an ECoW

2.7.1 Clarity in all relevant documentation

It is essential that the role and responsibilities of an ECoW are clearly described in their appointment agreement and accompanying job specification. The nature and extent of the role will depend in part on the type of procurement path to be followed and on the construction or ecological contracting operations envisaged.

It is also important that all necessary details of the job specification are captured in all relevant contractual documentation that may have some form of 'interaction' with the ECoW's area of work.

Further detailed information is provided in **Part E and Chapter X** to assist those who may be responsible for either:

a) *setting out formal regulatory requirements*[2]
OR
b) in the *selection and procurement*[3] of an appropriately qualified and experienced ECoW.

[2] Regulatory requirements for an ECoW may, for instance, be set by a local planning authority in a planning consent or by a statutory body in a protected species licence.

[3] The selection and procurement of an ECoW is likely to be the responsibility of the project client or one of their contractors and/or sub-contractors. A client may be either a public or a private entity.

Appendix D
ECoW Accreditation Assessment Mapping Matrix

Assessment Method	Unit	Assessment criteria
Documentary evidence (including video, audio, photographs (DE)	U/ECoW/C2-1	4.1, 4.2, 5.1, 6.1, 6.2
	U/ECoW/C1-1	1.3, 2.1, 2.2, 3.1, 7.1, 7.2, 7.3, 9.2
Online scenario with automated questions (OS AOQ)	U/ECoW/C2-1	2.1, 3.1,
	U/ECoW/P1-1	5.1, 5.2, 6.1
Automated online questions (AOQ) Drag and drop DD Mix and match MM Multiple choice MC Select all that apply SA	U/ECoW/C1-1	1.1, 1.2, 1.4, 4.1,4.2,4.3,4.4,5.1,5.2,
	U/ECoW/C2-1	2.2, 5.2, 5.3
	U/ECoW/C3-1(E)	1.1, 1.2, 2.1, 2.2, 2.3, 2.4
	U/ECoW/C3-1(P)	1.1, 1.2, 1.3
	U/ECoW/PC-1	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3
	U/ECoW/P1-1	2.1, 2.2, 6.2, 6.3
	U/ECoW/EM1-1(E)	1.3, 2.4, 3.1, 3.2, 3.3, 3.4, 3.5, 7.1,
	U/ECoW/EM2-1	4.3, 4.4, 5.3, 5.4, 6.1, 6.2, 6.3, 7.1, 7.2
	U/ECoW/P1-1	1.1, 3.1, 3.2 ,3.3, 4.1, 7.1, 7.2, 8.1, 8.2, 8.3
	U/ECoW/P2-1(E)	9.2, 9.3, 9.4
	U/ECoW/S1-1	3.1, 4.1, 4.2
	U/ECoW/Con2-1	1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 4.1
	U/ECoW/Con1-1(E)	1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2
	U/ECoW/Con1-1(P)	1.1, 2.2, 3.1, 3.2, 4.1, 5.1, 5.2, 6.1, 6.2
Evidenced from another unit (EU)	U/ECoW/EM1-1(E)	1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 4.1, 4.2, 4.3, 4.4, 6.1,
	U/ECoW/EM1-1(P)	1.1, 1.2, 1.4, 2.1, 1.4, 2.2, 4.1, 4.3, 4.4
	U/ECoW/EM2-1	5.1, 5.2, 3.5, 4.6, 8.1
	U/ECoW/ P2-1(P)	1.1, 2.1, 2.2, 3.1, 3.2, 3.3, 8.1, 8.2
	U/ECoW/P2-1(E)	1.1, 2.1, 2.2, 3.1, 3.2, 3.3, 5.1, 7.2, 7.3, 8.1, 8.2, 9.1
	U/ECoW/S1-1	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 5.1, 5.2, 5.3, 6.1, 6.2, 6.3, 6.4, 7.1, 7.2
	U/ECoW/A1-1	3.1, 3.2, 3.3

	U/ECoW/C1-1	6.1, 6.2, 6.3, 6.4, 8.1, 8.2, 8.3
Professional discussion (PD)	U/ECoW/EM1-1(E)	2.5, 2.6
	U/ECoW/EM1-1(P)	1.3, 2.4, 2.6, 2.7, 4.2, 4.4, 6.1
	U/ECoW/ P2-1(P)	1.1, 2.2, 5.1, 6.2, 8.3, 9.3
	U/ECoW/P2-1(E)	8.3
	U/ECoW/A1-1	4.1, 4.2

Written assignment (WA)	U/ECoW/EM2-1	2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4, 3.6,
	U/ECoW/A1-1	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5, 5.1, 5.2, 5.3
Case Study (WA CS)	U/ECoW/EM1-1(E)	4.4, 5.1
	U/ECoW/C3-1(E)	2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5
	U/ECoW/C3-1(P)	2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 5.1, 5.2,
	U/ECoW/EM1-1(P)	4.4, 5.1
	U/ECoW/EM2-1	4.1, 4.2,
	U/ECoW/P2-1(E)	4.1, 4.2
	U/ECoW/Con1-1(P)	1.2, 1.3, 2.3, 4.2
Online scenario with professional discussion (OS PD)	U/ECoW/EM2-1	1.1
	U/ECoW/ P2-1(P)	7.1
	U/ECoW/P2-1(E)	6.1, 6.2, 7.1
Assessment Method: Observation (OBS), verified witness Statement (VWS), Professional discussion (PD), Automated online questions (AOQ), Drag and Drop (DD), Multiple Choice (MC), Online scenario (OS), Examination of written answers (EWA), Written assignment (WA), Evidence from another Unit (EU) Case study (CS), Documentary evidence (DE)		