



GTC / SP Energy Networks

---



**ICP / IDNO  
Safety Seminar  
24/03/2021**

# Agenda

---

Time	Topic	Speaker
09.30 – 09.40	Opening Comments	David Overman / Jim Denholm / Stuart Walker
09.40 – 10.20	General HSE	SPEN Jim Denholm / GTC David Overman
10.20 – 11.00	CDM	SPEN Jim Denholm / Stuart Walker
11.00 – 11.20	Comfort Break	
11.20 – 12.05	Case Studies/ ICP Feedback	SPEN jim Denholm / GTC David Overman
12.05 – 12.30	Q&A and Closing Comments	SPEN Stuart Walker / GTC David Overman / Jim Denholm

## Safety Contact – Hydrogen Safety

HSE are currently publicising Safe Net Zero campaign, with the next event focussing on Hydrogen safety – signalling how hydrogen is considered a major part of the UK decarbonising its fuel sources ahead of 2050.

Working with our stakeholders, we are aware of site across SPM identified as hydrogen refuelling stations for transport vehicles, as well as hydrogen production & storage facilities.

Hydrogen can be a hazardous / flammable substance, so the more we understand about the characteristics of this the better we can service these facilities.

Going forward the CDM requirements for these type of connections will need to be considered. In particular the earthing arrangement requirements for these. If we consider current building regulations for conventional diesel & petrol forecourts requiring a TT earthing system due to the hazards associated with any inadvertent electrical spark – these are the types of considerations needing to be made for hydrogen related.



## Action 4 ICP/IDNO Interface

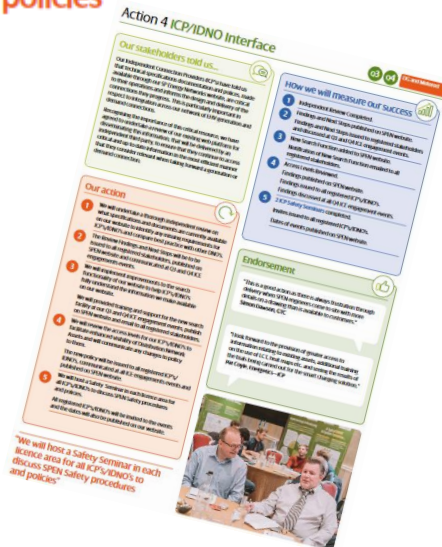
The first priority will be to ensure that registered ICP/IDNO's, communicated at all ICE engagements events and published on SPEN website.

5

We will host a Safety Seminar in each licence area for all ICP's/IDNO's to discuss SPEN Safety procedures and policies.

All registered ICP's/IDNO's will be invited to the events and the dates will also be published on our website.

**"We will host a Safety Seminar in each licence area for all ICP's/IDNO's to discuss SPEN Safety procedures and policies"**



Making Connections  
Our Major Connections  
Engagement Strategy,  
Workplan and  
Performance Outputs

Executive on Connections Engagement (ICE)  
Ofgem Submission  
May 2020



## Our Connections Engagement in 2019/20

Over  
**4,000**  
Customers given the opportunity to engage

Over  
**210**  
Organisations given the opportunity to engage

**9**  
Conferences delivered in 2019/20

Over  
**180**  
Partnership Meetings held

**3,000**  
Direct Correspondence on specific actions delivered

**460,000**  
Engagement Reach across 13 Agricultural Shows

Members of  
**11** Local Government Strategic Boards

**8.3/10**  
Monthly Customer Satisfaction Score as at March 2020

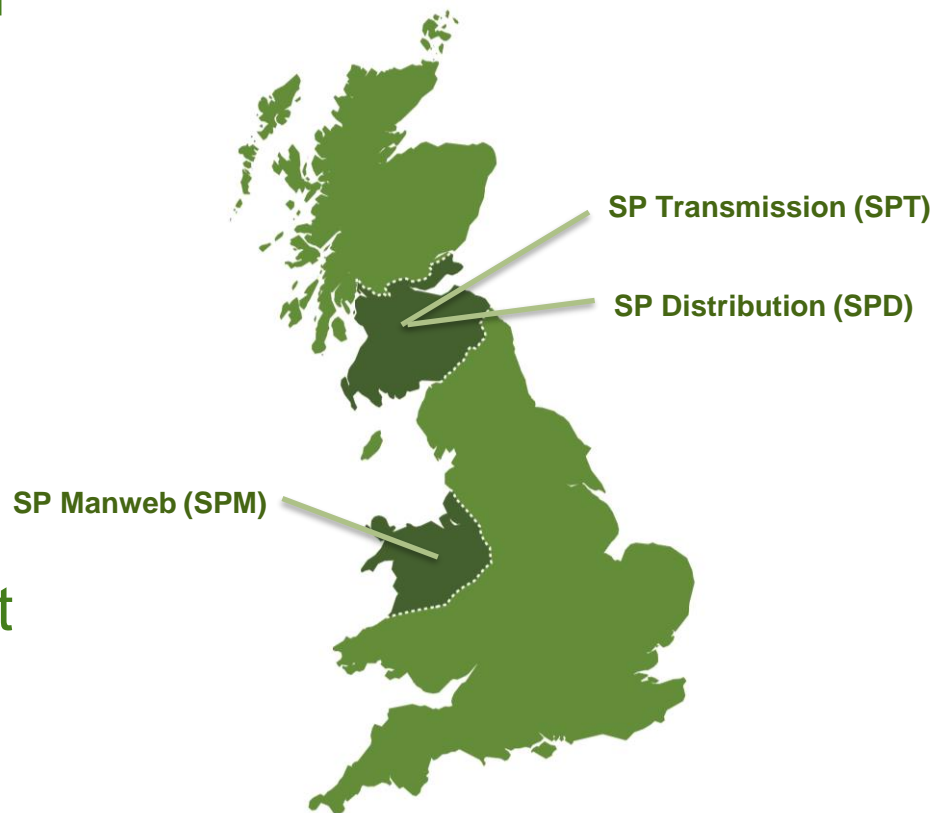
**14**  
Workshops and Panels delivered in 2019/20

## SP Energy Networks Overview

---

SP Energy Networks own and operate the electricity transmission and distribution network in the South of Scotland and the distribution network in Cheshire, Merseyside and North Wales.

As the network operator we maintain and repair the electrical equipment and network assets that transport electricity to around 3.5 million homes and business.



SP Energy Networks owns and maintains three UK networks

## A Regulated Business

---

We operate in a regulated environment where our regulator Ofgem sets targets covering a 8 year period.

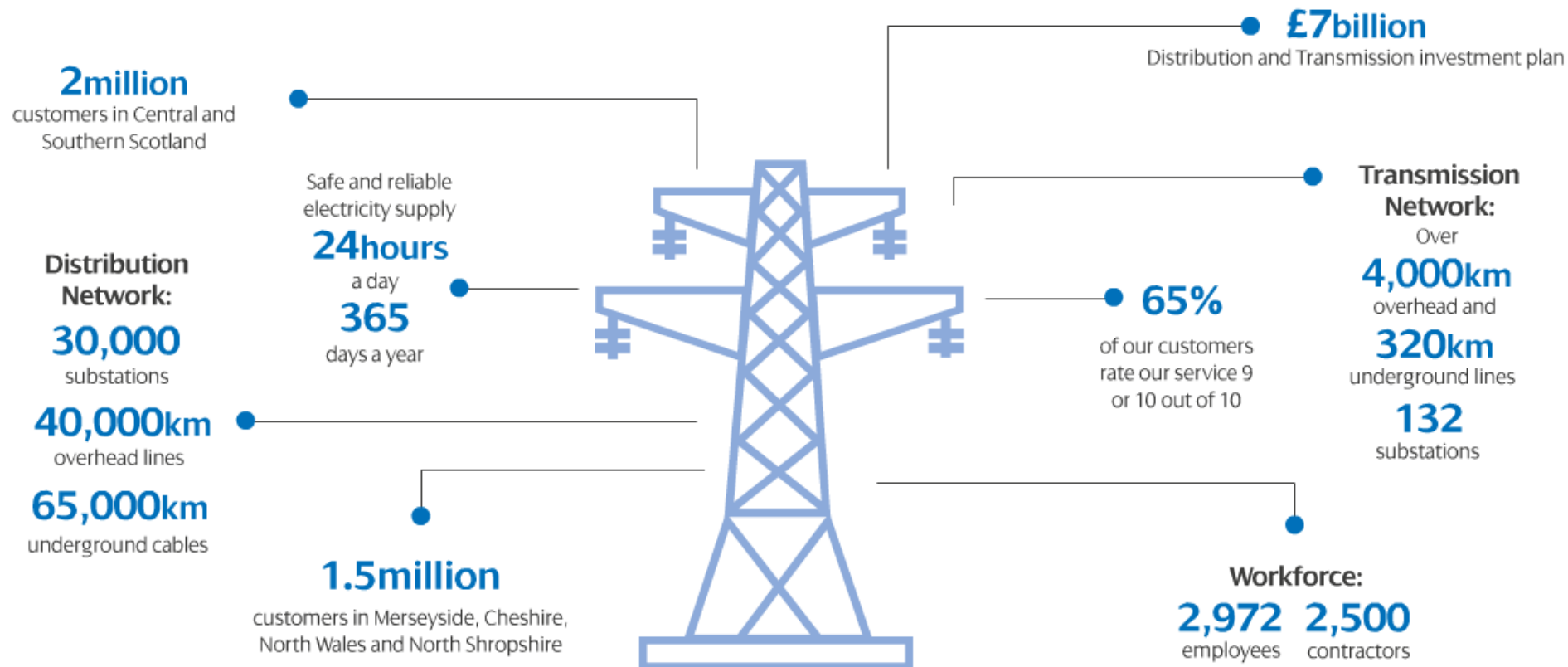
Our key drivers are:

- Health & safety of our employees, contractors and the public
- Maintaining security of supply
- Improving customer service
- Delivering capital investment to modernise the network and connect new customers
- Delivery of the Energy Policy



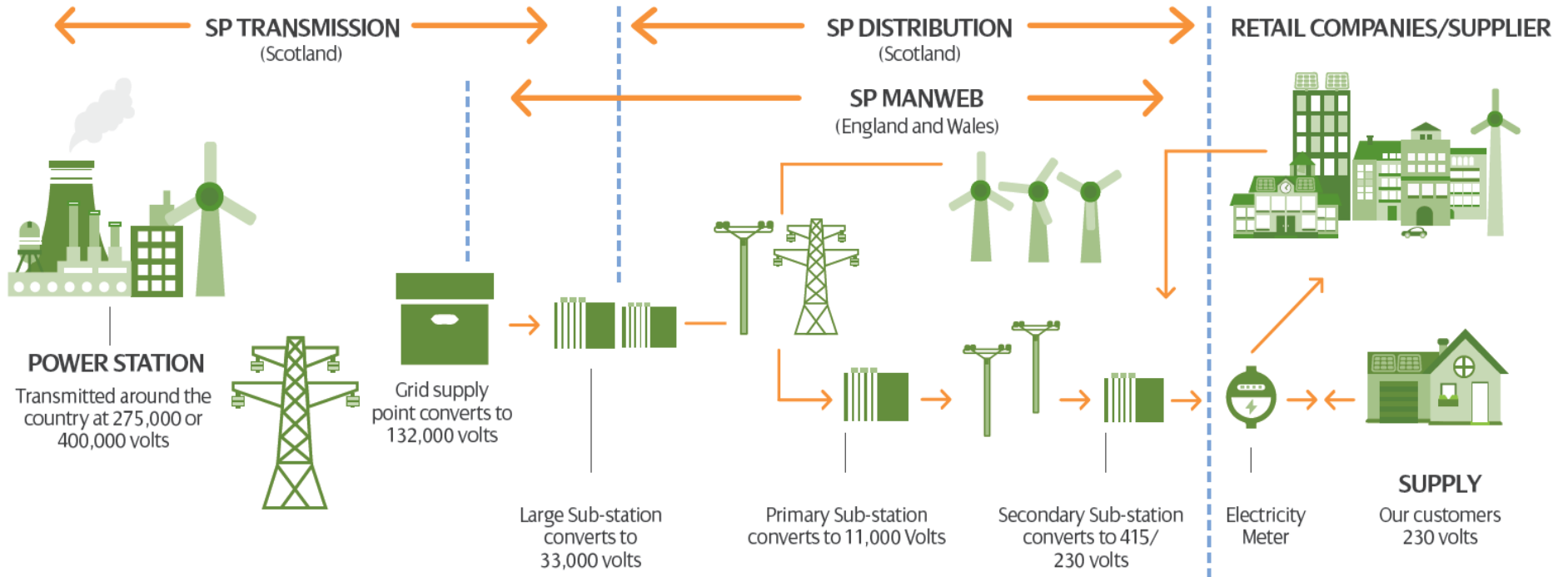
Beaulieu Denny Substation

# 24 hours a day, 365 days a year, to 3.5 million customers





# Through a network of substations, overhead lines and underground cables



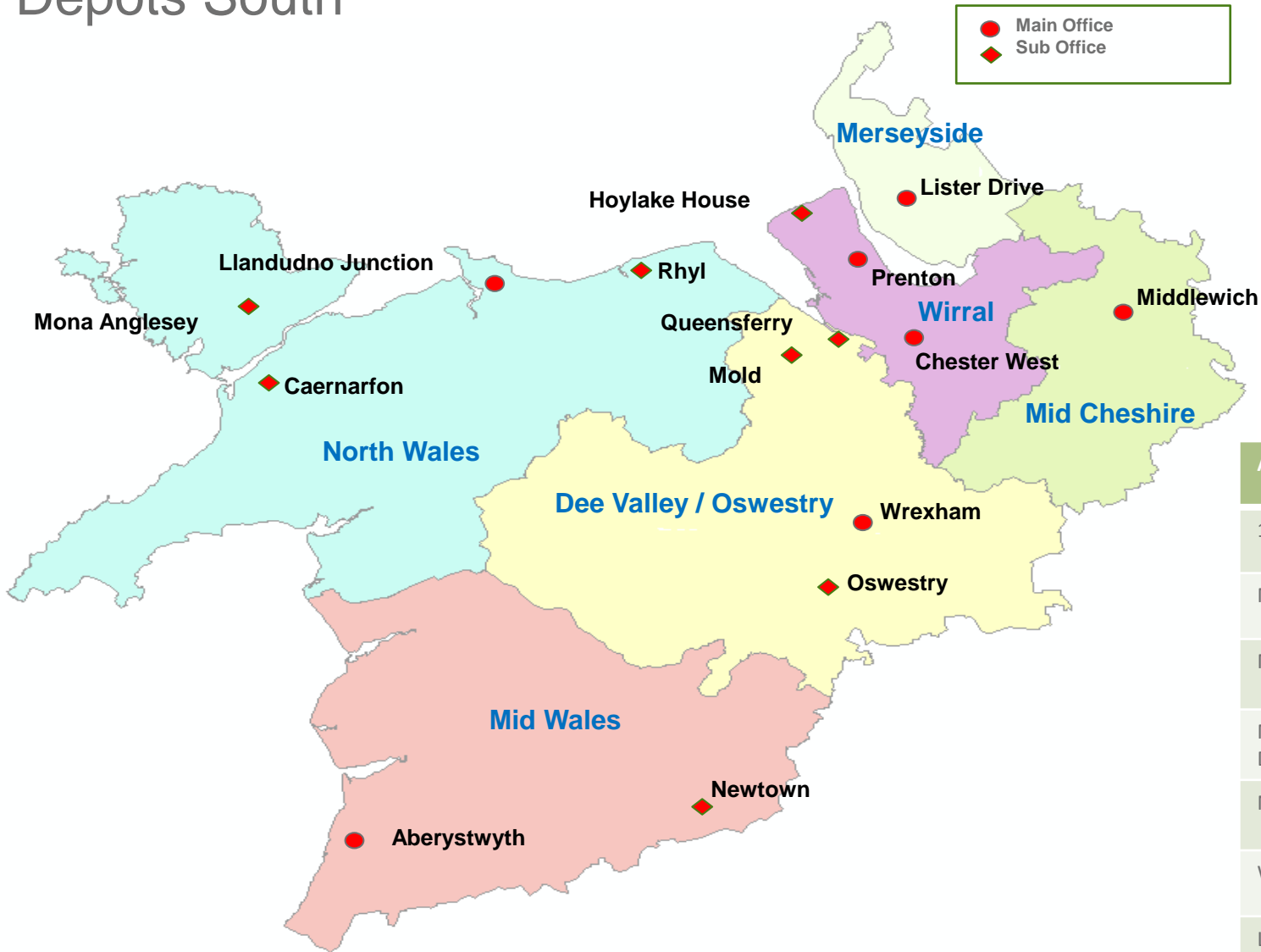


# Depots North



Area	Manager
Ayrshire & Clyde South	Angus Campbell
Central & Fife	Ross Galbraith
Dumfries	Aileen Rourke
Edinburgh & Borders	David Climie
Glasgow	Alistair Menzies
Lanarkshire	Iain Steele
Licenced Programmes	Sharon Nulty

# Depots South

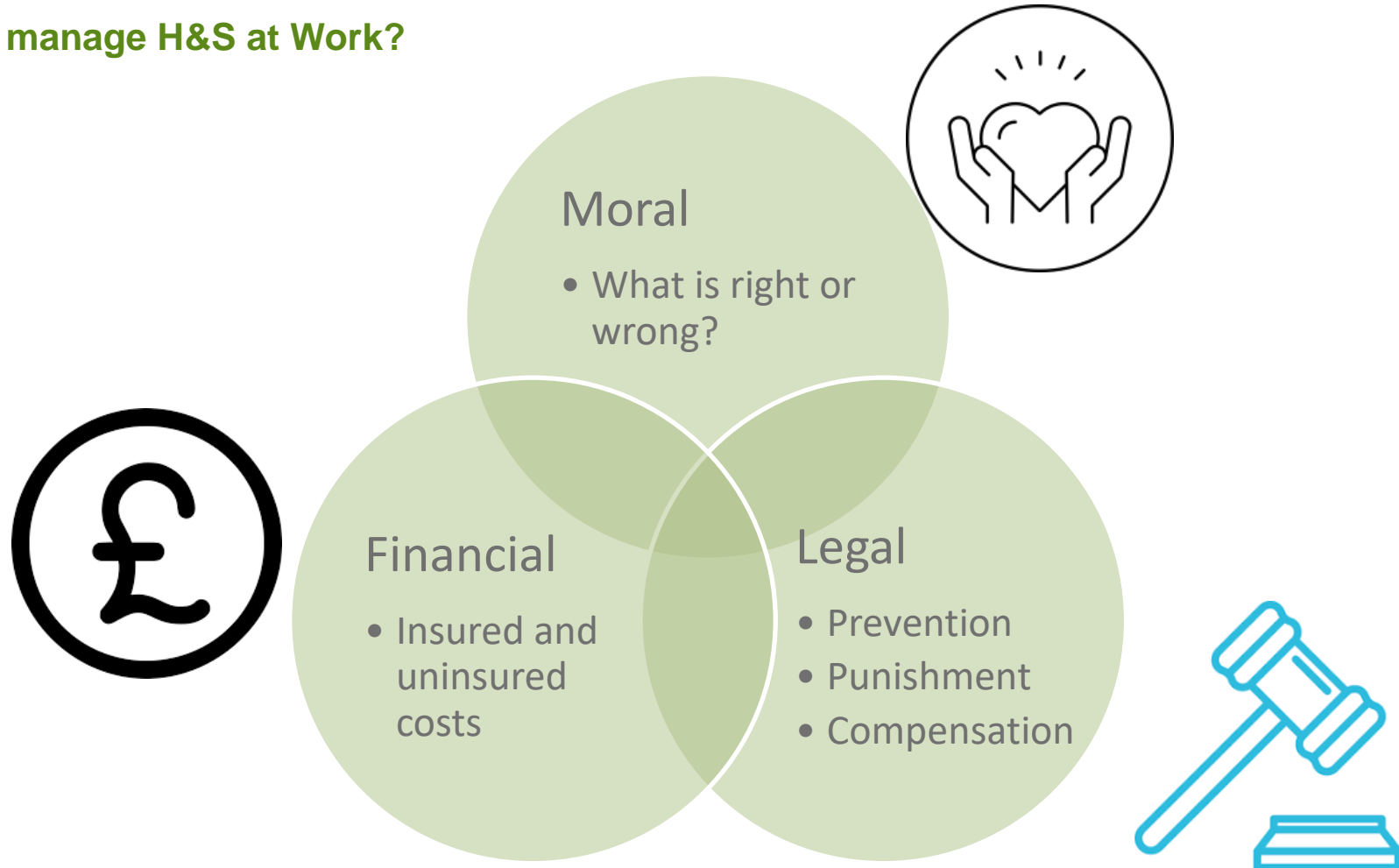


Area	Manager
132kV	Alan Jones
Mid Cheshire	Jane Wilkie
Merseyside	Andy Churchman
Mid Wales and Dee Valley	Sean P Griffiths
North Wales	Jonathan Hughes
Wirral	Tom Walsh
Licensed Programmes	Helen Gaier

# **General Health and Safety**

**Jim Denholm**

## Why manage H&S at Work?



# Moral

- Morals are the codes of conduct, or rules of behaviour imposed by a society regarding what is right and wrong.
- For people to be killed, or seriously injured, or to suffer as a consequence of work is clearly wrong.
- Although, in the UK there are generally good standards of workplace health and safety, a lot of harm is still caused each year,
- The Health and safety Executive (HSE) publishes annual statistics of reported cases of workplace injury and illness. These show that the numbers of cases of occupational illness is significantly higher than the numbers of injuries.



## Key facts

 **1.4 million**

Work-related ill health cases (new or long-standing) in 2018/19

Source: Estimates based on self-reports from the Labour Force Survey, people who worked in the last 12 months

 **0.6 million**

Work-related stress, depression or anxiety cases (new or long-standing) in 2018/19

Source: Estimates based on self-reports from the Labour Force Survey, people who worked in the last 12 months

 **0.5 million**

Work-related musculoskeletal disorder cases (new or long-standing) in 2018/19

Source: Estimates based on self-reports from the Labour Force Survey, people who worked in the last 12 months

 **9.8 billion**

Annual costs of new cases of work-related ill health in 2017/18, excluding long latency illness such as cancer

Source: Estimates based on HSE Costs to Britain Model

 **0.6 million**

Workers sustaining a non-fatal injury in 2018/19

Source: Estimates based on self-reports from the Labour Force Survey

 **69,208**

Non-fatal injuries to employees reported by employers in 2018/19

Source: RIDDOR

 **147**

Fatal injuries to workers in 2018/19

Source: RIDDOR

 **5.2 billion**

Annual costs of workplace injury in 2017/18

Source: Estimates based on HSE Costs to Britain Model

 **28.2 million**

Working days lost due to work-related ill health and non-fatal workplace injuries in 2018/19

Source: Estimates based on self-reports from the Labour Force Survey

 **12,000**

Lung disease deaths each year estimated to be linked to past exposures at work

Source: Counts from death certificates and estimates from epidemiological information

 **2,526**

Mesothelioma deaths in 2017, with a similar number of lung cancer deaths linked to past exposures to asbestos

Source: Counts from death certificates and estimates from epidemiological information

 **15.0 billion**

Annual costs of work-related injury and new cases of ill health in 2017/18, excluding long latency illness such as cancer

Source: Estimates based on HSE Costs to Britain Model

**£15.0 billion**

Annual costs of work-related injury and new cases of ill health in 2016/17, excluding long latency illness such as cancer

**£9.7 billion**

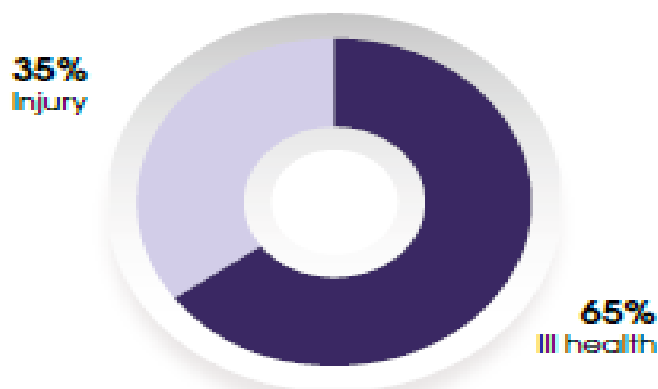
Annual costs of new cases of work-related ill health in 2016/17, excluding long latency illness such as cancer

**£5.2 billion**

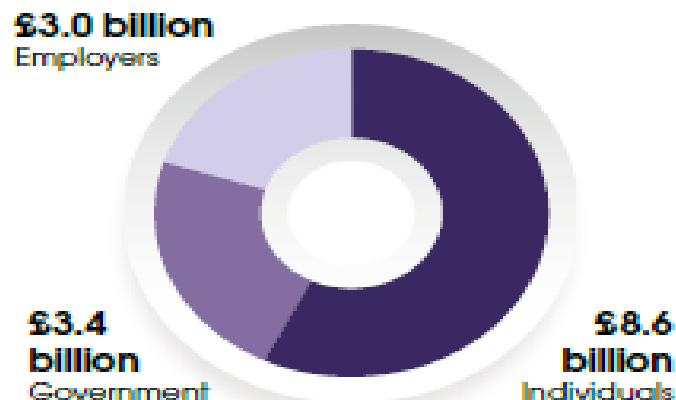
Annual costs of workplace injury in 2016/17

Estimates based on Labour Force Survey and RIDDOR for 2015/16-2017/18, and HSE Costs to Britain Model

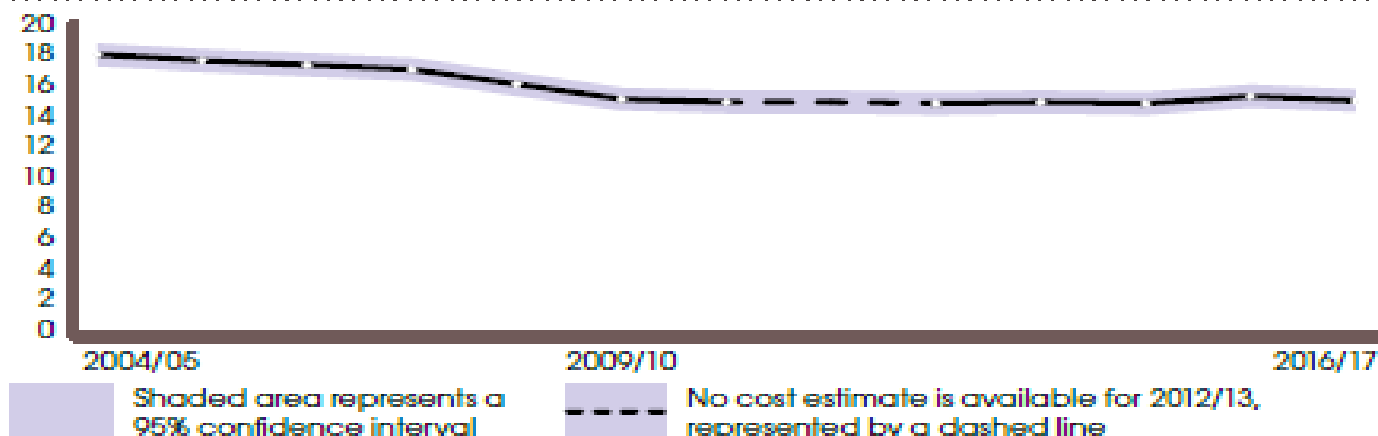
Costs to Britain of workplace injury and new cases of work-related ill health in 2016/17 by:  
 – type of incident



– cost bearer



Costs to Britain of workplace injury and new cases of work-related ill health (£ billion, 2016 prices)



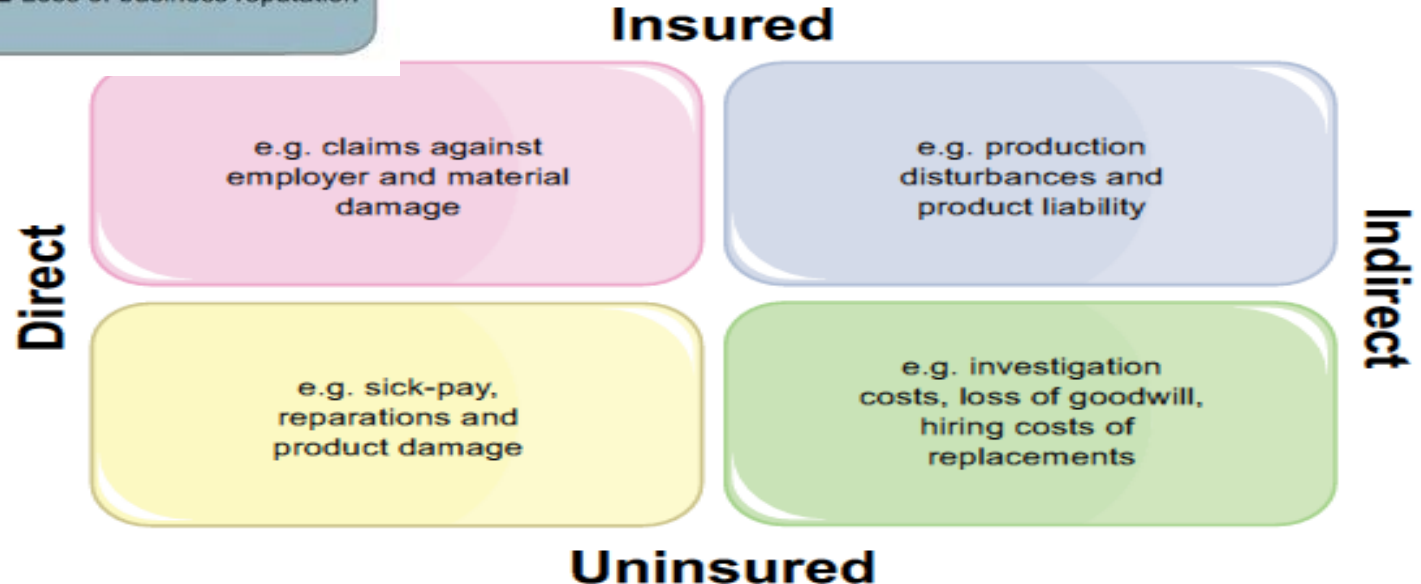




## Insured and uninsured costs

HSE Guidance on the real costs of accidents at work indicates that the uninsured costs of an accident may be 10 times the insurance premiums paid.

These uninsured costs come straight off the companies balance statement and may put a company into the “red” and have a “fatal” impact on the success of the company.



## There are two systems of law that influence the management of health and safety.

- The **criminal law** establishes a set of rules for acceptable behaviour. In the workplace the main duties are covered by
  - the Health and Safety at Work Act 1974 and
  - the Management of Health and Safety at Work Regulations 1999
- If the necessary standards are not met the enforcement agencies (HSE) may take preventative action through prohibition notices and improvement notices, and / or punitive action to prosecute offenders for breaking the rules
- The **civil law** allows an injured person to sue a third party for compensation or loss if the injury was caused through the third party's negligence. Civil action may also obtain an injunction to stop a continuation or recurrence of harmful behaviour.

# Health and Safety at Work etc. Act 1974

---

## Key Objectives

1. Securing the health, safety and welfare of people at work.
2. Protecting people other than those at work against risks to their health and safety arising out of work activities.

HASAWA applies to all types of work activity and situations and imposes duties on everyone concerned with work and workplace activities, including employers, the self-employed and employees, manufactures, designers and suppliers, and people in control of premises.

Duties are imposed on individuals and employing organisations, be they corporations, companies, charities, or government departments, and are intended to encourage employers and employees to take a wide ranging view of their roles and responsibilities.

# The Management of Health and Safety at Work Regulations 1999

---

## Key Objectives

1. Introduced in 1992 to implement the requirements of the European Framework Directive. The original 1992 regulations were replaced in 1999.
2. It Introduced the general requirement for risk assessment into the UK. Where other more specific legislation requires risk assessment (for example: Control of Substances Hazardous to Health Regulations CoSHH) complying with the specific requirement will also fulfil the general requirement

The regulations were supported by an Approved Code of Practice (ACoP) and guidance, although the ACoP (L21) was withdrawn in 2013



# Safety is at the forefront of everything we do

Safety is at the core of everything we do, embedded right throughout our business

Reducing safety risk to the public and our workforce – far beyond legal requirements



Demonstration stands at agricultural fairs, illustrating the dangers of cable strikes and metal theft and providing information on how to work safely around overhead lines.

- Educating the public on electrical safety
- Reducing harm for our workforce
- Compliance with health and safety law
- Modernising cables in high rise and tenement flats
- Eradicating low hanging overhead lines
- Combating metal theft
- Ensuring substations are adequately secured

# Managing H&S in Our Business

---

## Our Health and Safety Essentials

Accredited ISO 45001 certification

## H&S Team

- Operational Compliance Engineers, Health and Safety Professionals, Public Safety Consultant, Occupational Hygienist
- 10 point H&S Operating Plan
- Occupational Hygiene Plan



Health and Safety Management System Database (EHS 360)

## Communications

- Weekly business wide safety calls
- Regular business wide H&S stand downs
- Expresses (Safety, Health, Document, Technical, POI)

## Energy Networks Association

- Sharing best practices and information on incidents and asset management
- Supporting campaigns eg Powering Improvement

## Employee engagement

- Safety Reps Charter
- Health Safety Advisory Committees

## Contractor Safety Forums

# Our Health & Safety Essentials

---

## The 5 Health & Safety Essentials – part of our DNA



### **We follow our processes, rules and procedures**

Health and safety rules are based on our experience and legal requirements – compliance with them is everyone's responsibility. It makes sense to follow them and don't be afraid to challenge unsafe practices. No one should get injured following safe procedures.



### **We promote health and wellbeing, in and outside work**

Know the health risks we may be exposed to at work and ensure that we are aware of the controls in place that help protect us. Don't ever come to work under the influence of drugs and alcohol. Health behaviours help us stay fit for life and fit for work.



### **We only undertake work we are competent to do**

Know the risks, know your limits and maintain your competence. Take responsibility before you start work – make sure you are able to do it safely. Only undertake work you are authorised to do.



### **We look out for each other and work as a team**

We will always look out for each other and work towards the same objective – going home safely. Understand your own responsibilities within the team and listen to each other's concerns. Silence is consent – always constructively challenge unsafe behaviours and decisions.



### **We think before we act, assess and control the risks**

Take 5 before you act – be aware of your situation and surroundings. Assess and understand risks, implement and comply with controls. If it looks or feels unsafe it probably is!





**Safety and Authorisations**



David Overman – Electricity Networks Director



**BUUK**  
infrastructure



Multi-utility infrastructure for low rise housing developments.



District energy and low carbon heating solutions.



Electricity and fibre for inner-city residential and high rise developments and more complex solutions for





+4000

Connections per Week

80%

Repeat Business

25







Years in Business

## About GTC

**We are the chosen utility partner for housebuilders and developers across the UK, delivering leading multi-utility infrastructure solutions to all types of new-build developments.**

GTC delivers a combination of low-carbon and conventional technologies. We construct, own, and operate multi-utility networks for new-build housing and mixed-use developments. GTC offers an innovative, customer-focused approach, and a single-supplier solution. **Find out more about our multi-utility services.**

## Services for House Builders

-  Heat
-  Electricity
-  Gigabit Fibre
-  Water
-  Wastewater
-  Gas



# Working on live equipment

Health and Safety  
Executive

The Electricity at Work Regulations 1989

## Work on or near live conductors

14. No person shall be engaged in any work activity on or so near any live conductor (other than one suitably covered with insulating material so as to prevent danger) that danger may arise unless—

- (a) it is unreasonable in all the circumstances for it to be dead; and
- (b) it is reasonable in all the circumstances for him to be at work on or near it while it is live; and
- (c) suitable precautions (including where necessary the provision of suitable protective equipment) are taken to prevent injury.

Regulation 14 – allows (I)DNO and ICPs to work live but....



## Regulation 16 Persons to be competent to prevent danger and injury

*No person shall be engaged in any work activity where technical knowledge or experience is necessary to prevent **danger** or, where appropriate, **injury**, unless he possesses such knowledge or experience, or is under such degree of supervision as may be appropriate having regard to the nature of the work.*

### Technical knowledge or experience

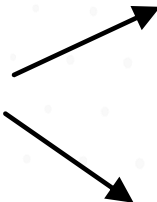
239 The scope of 'technical knowledge or experience' should include:

- (a) adequate knowledge of electricity;
- (b) adequate experience of the electrical work being carried out;
- (c) adequate understanding of the system to be worked on and practical experience of that class of system;
- (d) understanding of the hazards which may arise during the work and the precautions which need to be taken;
- (e) the ability to recognise at all times whether it is safe for work to continue.

Defence

29. In any proceedings for an offence consisting of a contravention of regulations 4(4), 5, 8, 9, 10, 11, 12, 13, 14, 15, 16 or 25, it shall be a defence for any person to prove that he took all reasonable steps and exercised all due diligence to avoid the commission of that offence.

Our responsibility to judge this.  
HSE will take a view on this as well



All reasonable steps?



## Defence – reasonable steps

What is reasonable?

- Training records
- CV of past experience
- Technical knowledge (C&G minimum
- Safety training
- First Aid training
- Authorisation Certificate
- Permission to start work



## Incidents generally fall into these camps.

### Common issues

- Exceeding authorisation
- Supervision is poor/neglected
- Use of inappropriate tools and equipment
- Lack of appropriate PPE
- Job instruction not clear
- Not following rules and procedures/cutting corners
- Risk assessments not completed/thought through.



*UKPN Speak up safety video*

Do you know that your staff are working safely?



**David Overman**

---

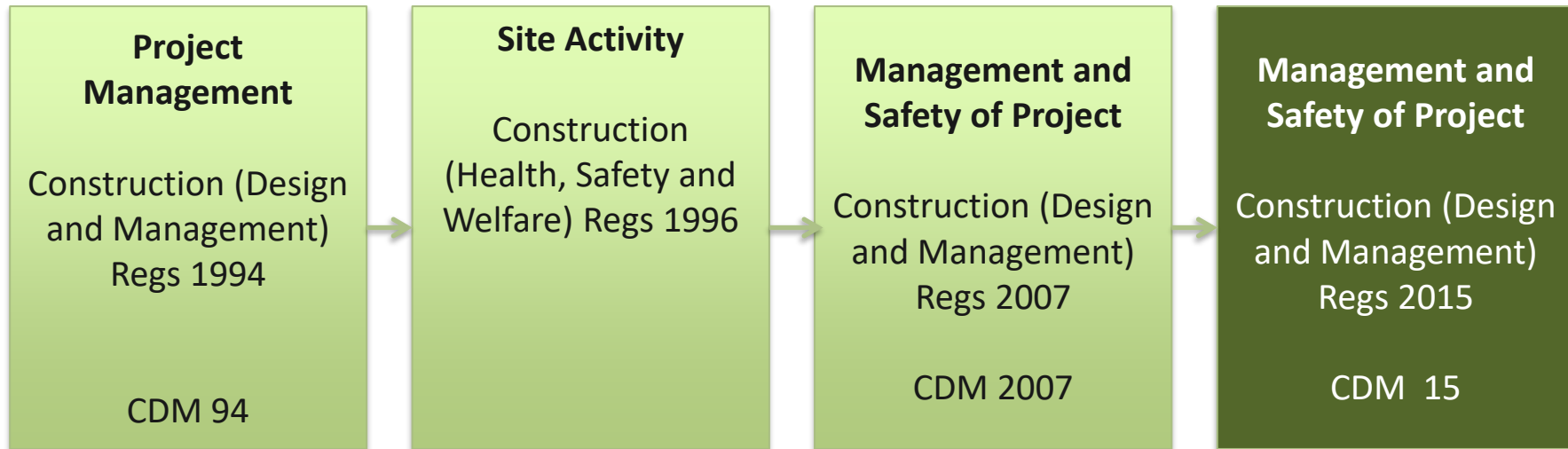
Questions?



# CDM - Construction Design Management

Jim Denholm

# Development of construction legislation



## Associated Legislation:

Health & Safety At Work etc. Act 1974  
Management of Health & Safety at Work Regulations 1999  
Control of Substances Hazardous to Health 2006  
Control of Asbestos Regulations 2012  
Work at Height Regulations 2005  
Lifting Operations and Lifting Equipment Regulations 1998

Etc.

## Managing Contractors / Construction Work

The **Construction (Design and Management) Regulations 2015**, also known as the **CDM Regulations** or **CDM 2015**, came into force on 6 April 2015. They are regulations governing the way *construction work* of all sizes and types are planned in the UK.

The aim of **CDM 2015** is simply to improve the overall **health, safety and welfare** of those working in *construction work*.

**These regulations offer a very broad definition of what construction work is.**

Everyone involved in *construction work*, including home maintenance and improvement works, has responsibilities for health and safety.



*“The purpose of CDM 2015 is to maintain and improve worker protection “ -*

Health & Safety Executive (HSE) - June 2014

**CDM 2015 applies to all SPEN field work (faults/maintenance and construction!)**

# Managing Contractors / CDM

---

## Minimum standards for contract partners

### Electrical Authorisations

- Anyone required to work on or near the network will be given training and an authorisation

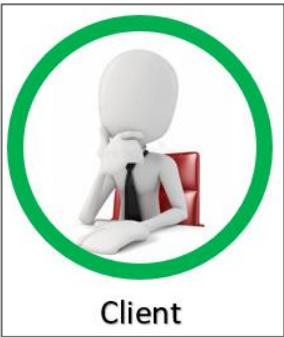
### Active Monitoring

- Over and above your own active monitoring the SP Energy Networks Health and Safety Team shall carry out worksite monitoring and Operational Compliance audits on anyone with an electrical authorisation.

### Contractor Safety Forms

- Regular scheduled meetings to share best practice on health and safety issues

# The Key CDM 2015 Duty Holders – which one are you?



Client

Commercial clients – Organisations or individuals for whom a construction project is carried out that is done as part of a business.



Principal Designer

Principal designers - Designers appointed by the client in projects involving more than one contractor. They can be an organisation or an individual with sufficient knowledge, experience and ability to carry out the role.

Designers - Organisations or individuals who as part of a business, prepare or modify designs for a building, product or system relating to construction work.



Designer

Contractors – Those who carry out the actual construction work, contractors can be an individual or a company.



Principal Contractor

Principal contractors – Contractors appointed by the client to coordinate the construction phase of a project where it involves more than one contractor.



Contractor



Worker

Workers – Those working for or under the control of contractors on a construction site

## What does CDM 2015 say/require?

CDM 2015 applies to all building and *construction work*. This includes new build, demolition, refurbishment, extensions, conversions, repair and maintenance.

Depending on the size of the job it may need to be notified to the HSE.

CDM 2015 has two categories of *construction work or projects*:

- *Notifiable projects* (if the project is large enough it needs to be notified to the HSE) e.g.
  - if it lasts longer than 30 working days and has more than 20 workers working simultaneously at any point in the project; or
  - If it exceeds 500 person days
- *Non notifiable projects*:
  - The day Job

**Workers** are the people who work for or are under the control of **contractors** on a construction site. They must:

- Be consulted about matters which affect their health, safety and welfare;
- Take care of their own health and safety and others who may be affected by their actions;
- Report anything they see which is likely to endanger either their own or others' health and safety;
- Co-operate with their employer, fellow workers, contractors and other Duty holders;



**Contractor**

On 3<sup>rd</sup> party construction sites SP Energy Networks staff will be considered as **contractors**.



## What you should expect when working on a construction site

The **Principal Contractor (PC)** must ensure every site worker is given a suitable site induction. The induction should be site specific and highlight any particular risks and control measures that those working on the project need to know about. The following issues should be included:

- who is carrying out the **CDM 2015** duty holder roles;
- senior management commitment to health and safety;
- outline of the project;
- first-aid arrangements;
- accident and incident reporting arrangements;
- arrangements for briefing workers on an ongoing basis, eg toolbox talks;
- arrangements for consulting the workforce on health and safety matters;
- individual worker's responsibility for health and safety.



There should be a sign in/out book that you must complete.

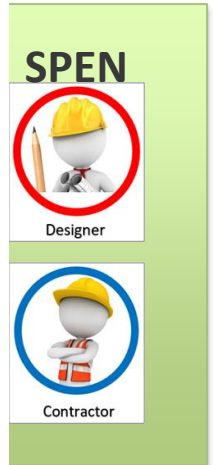
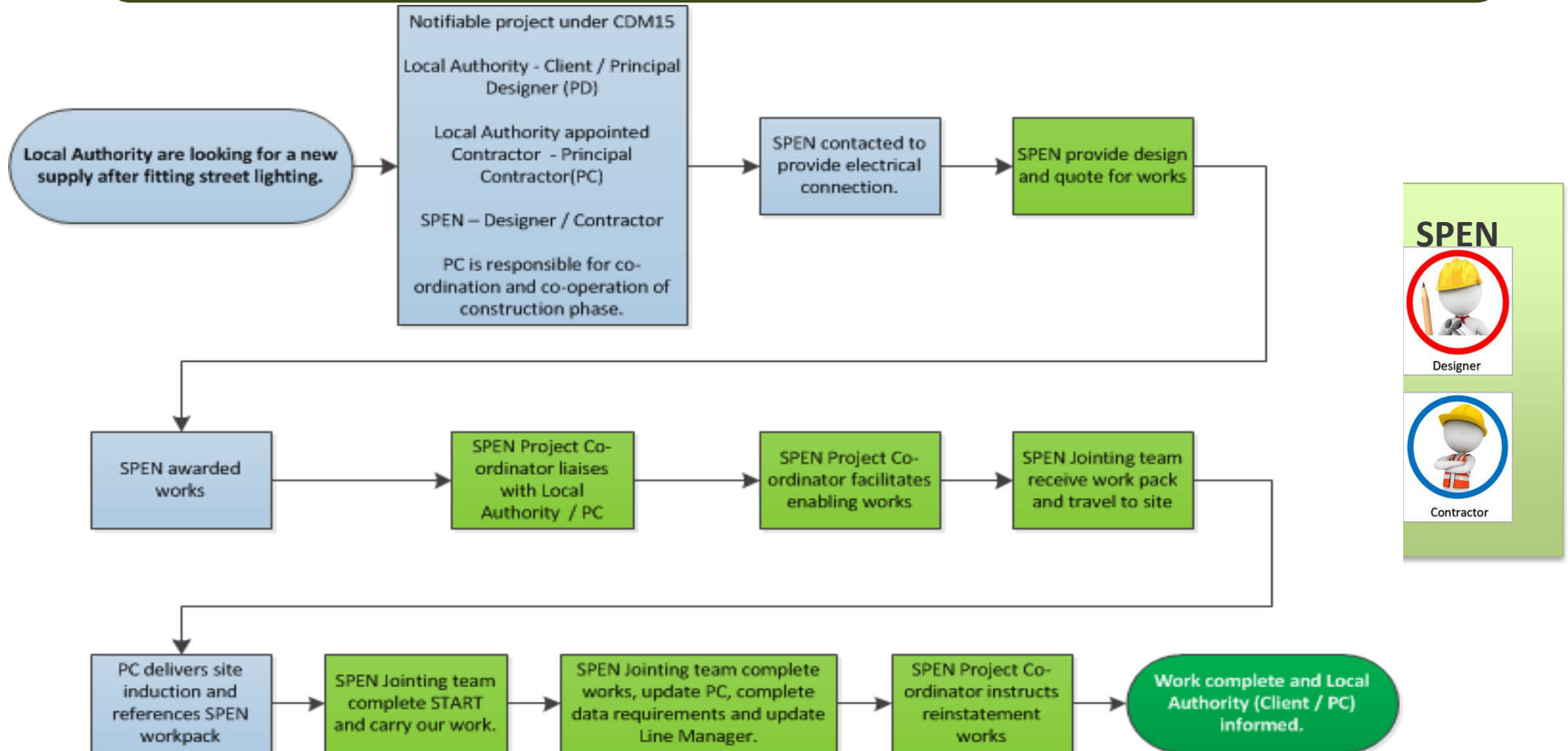
**If you do not receive this information then challenge!**



## Example - SPEN provide new supply to a street lighting pillar

We may be required to provide a new supply to a street lighting pillar- how do we comply with CDM2015?

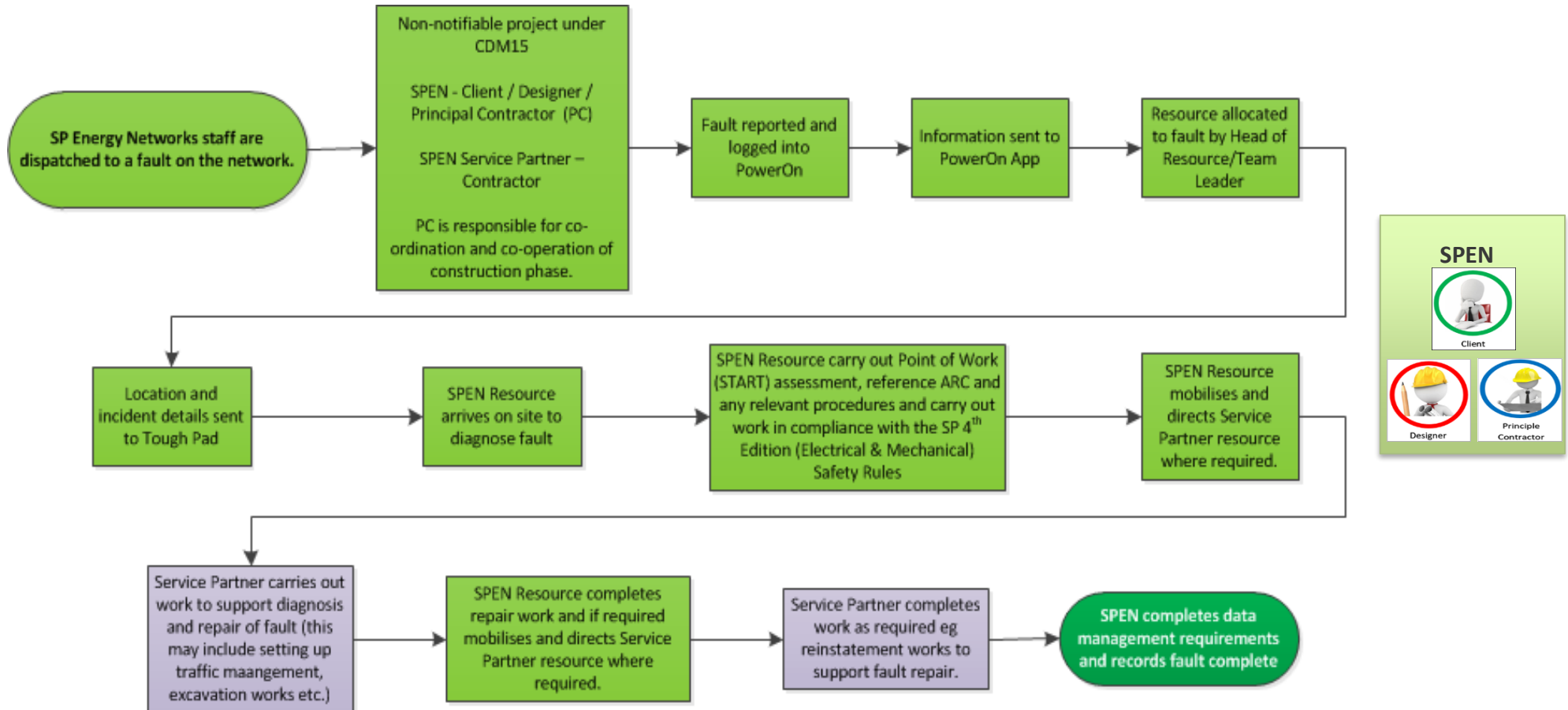
The job would most likely be classed as a **notifiable** construction project.



# Example - SPEN respond to a fault

We may be required to respond to a fault - how do we comply with CDM2015?

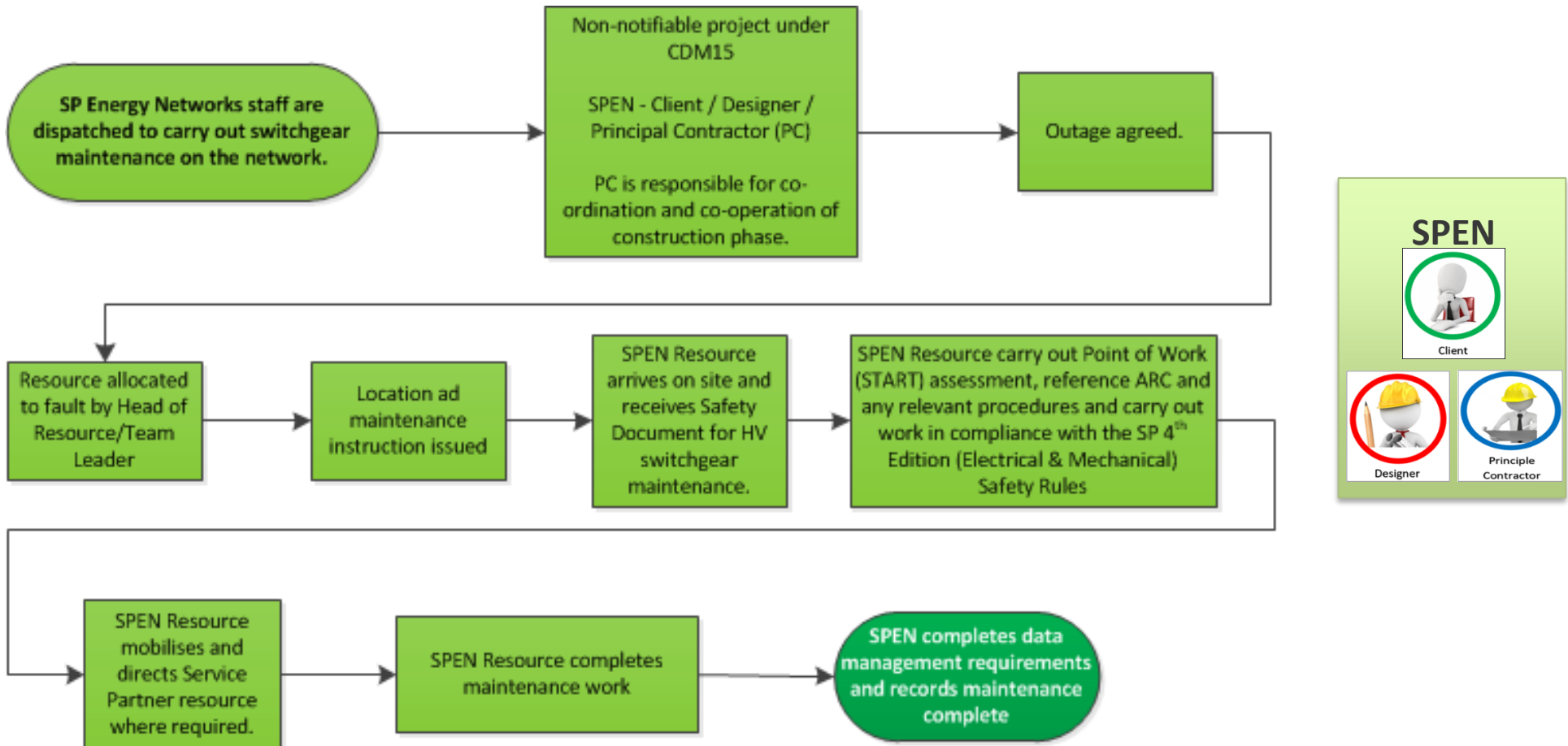
The job would most likely be classed as a *non-notifiable* construction project.



# Example - SPEN carry out planned switchgear maintenance

We carry out planned switchgear maintenance - how do we comply with CDM2015?

The job would most likely be classed as a *non-notifiable* construction project.

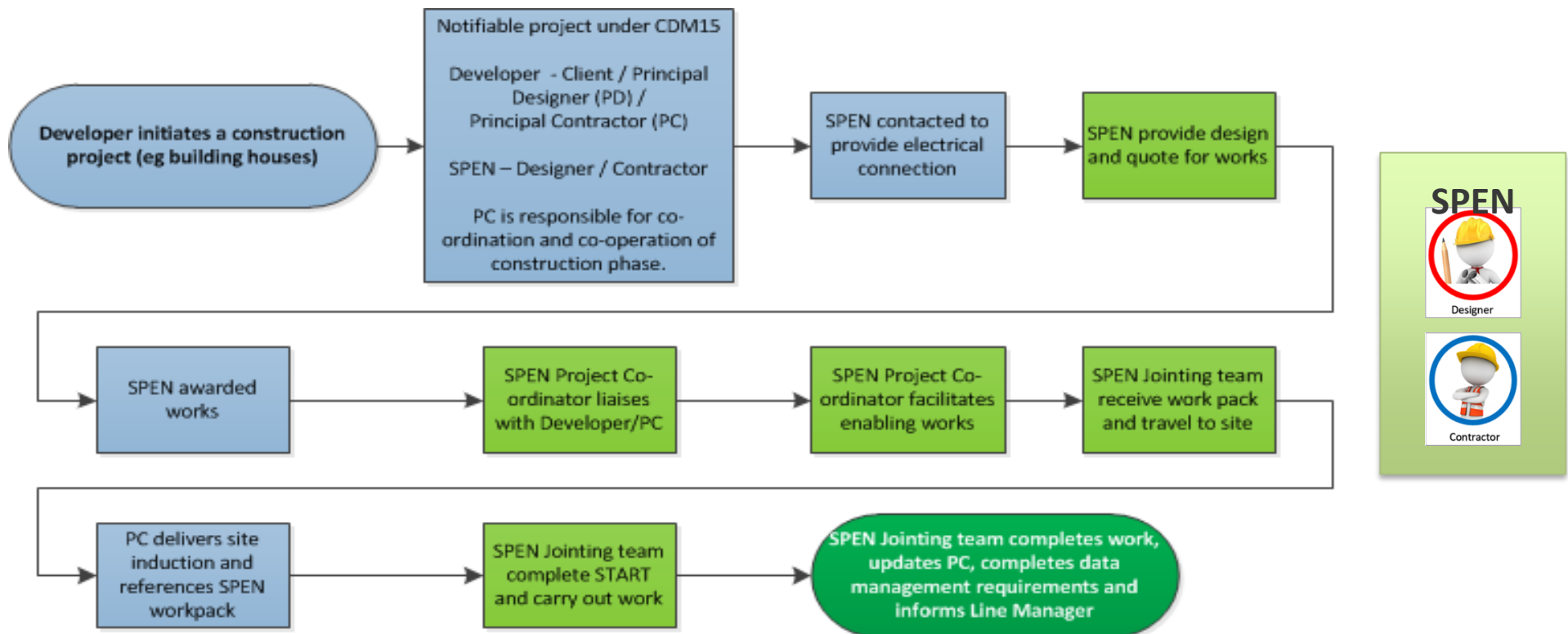


## Example - SPEN attending 3<sup>rd</sup> party construction project

We may be required to carry out connection works on a construction site - how do we comply with CDM2015?

The job would most likely be classed as a **notifiable** construction project.

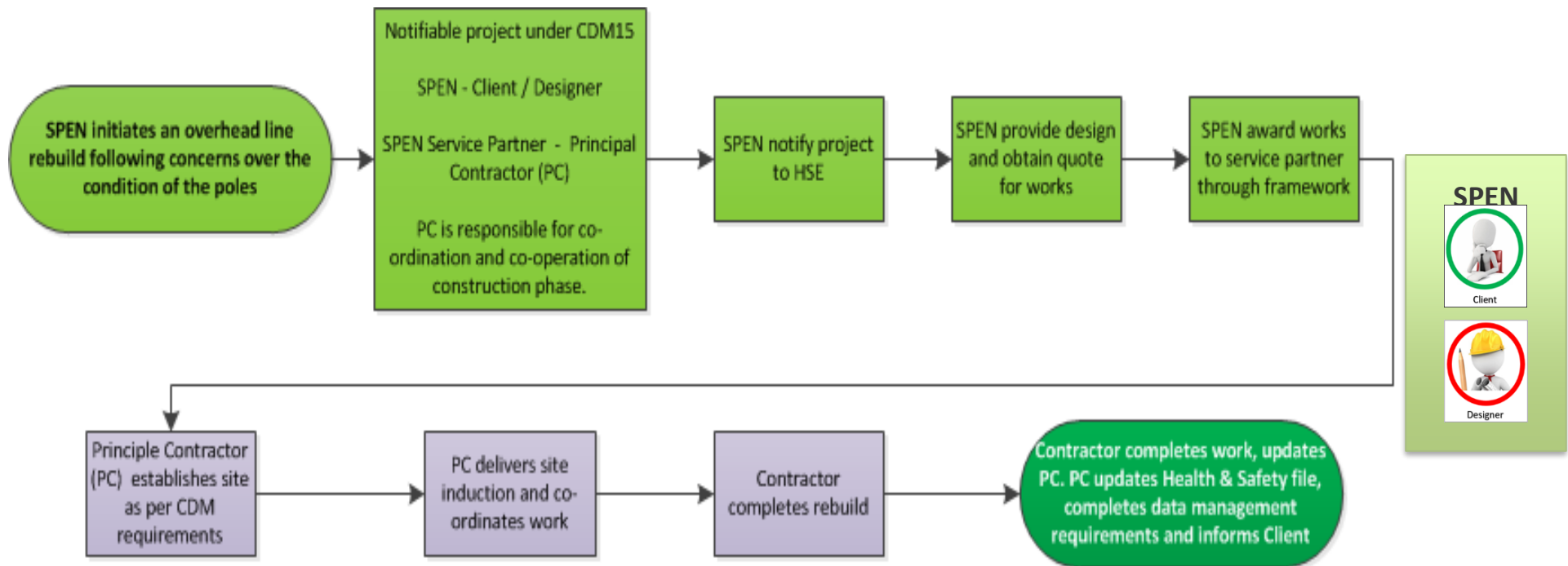
Developer likely to be the **Client**, **Principal Designer** (where more than one **Designer** is involved) and **Principal Contractor** (where more than one **contractor** on site). SP Energy Networks would be considered as a **Designer** and **Contractor** for the works that we are engaged to carry out.



## Example - SPEN carry out overhead line rebuild

We may be required to carry out a 20km overhead line rebuild across country- how do we comply with **CDM2015**?

The job would most likely be classed as a **notifiable** construction project.





# What happens if it goes wrong?

Compliance with the **Construction (Design and Management) Regulations 2015**, also known as **CDM Regulations** or **CDM 2015** is a legal requirement.

The **Principal Contractor** would normally be responsible for investigating incidents that have occurred on the *construction project*.

The HSE may investigate any serious incidents reported under RIDDOR by the **Principal Contractor**.

The HSE will look to ensure that all dutyholders have fulfilled their roles as required by **CDM 2015**

Examples of recent prosecutions (**to be added**).....





**ICP Safety Seminar**

23/03/2021

---

# **Comfort Break**

**10.30 – 11.00**

# **Case Studies / ICP / IDNO Feedback**

**Stuart Walker**

# SPEN Case Study 1 – Dumfries Pole Storage

**R** News ▸ Scottish News ▸ Police Scotland

## Firm fined £160k after boy crushed by telegraph pole in Dumfries horror tragedy

Keiran, 12, was pronounced dead at the scene from asphyxiation after being unable to breathe under the weight of the 275kg pole.





# SPEN Case Study 1 – Dumfries Pole Storage



# Play Video

# Play Video

# Questions?





GTC / SP Energy Networks

---



**ICP / IDNO  
Safety Seminar  
24/03/2021**