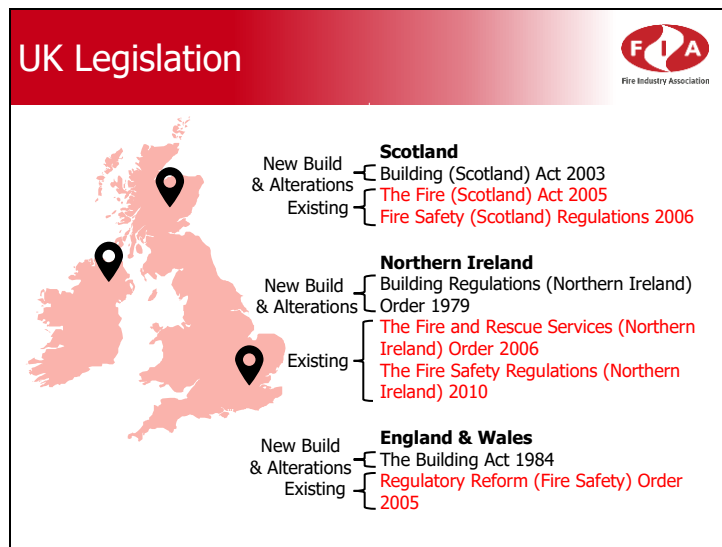




**Fire Industry Association**

**FIA AO Level 2  
Foundation  
in Fire Detection  
& Alarm Systems**

Slide 3



Legislation

UK legislation is split into three areas.

England and Wales, Scotland, & Northern Ireland. Each has its own variation of building regulations These are used when building working is being carried out on a new building, or materially altering a building.

The Building Regulations for each nation are supported by government guidance documents these are:

- The Approved Documents in England and Wales e.g. Fire Safety Approved Document B (ADB)
- The Technical Handbooks in Scotland e.g. Technical Handbook Fire
- The Technical Booklets in Northern Ireland e.g. Technical Booklet E Fire Safety

There are other ways of complying with the requirements of the building regulations such as fire engineering or using advanced guidance in the form of British Standards.


England and Wales, Scotland, & Northern Ireland. Each has its own variation legislation for keeping people safe from fire while at work these are:

- The regulatory Reform (Fire Safety) Order 2005
- The Fire (Scotland) act 2005 in conjunction with Fire Safety (Scotland) Regulations 2006
- The Fire and Rescue Services (Northern Ireland) Order 2006 in conjunction with The Fire Safety Regulations (Northern Ireland) 2010

Learner notes


Slide 4

**Legislation**



key roles

- The Responsible Person (England & Wales)
- Duty Holder (Scotland)
- Appropriate Person (Northern Ireland)
- **The employer and/or building owner**
  - Other persons having control of premises
  - Competent persons to assist with evacuation
  - Competent persons to use fire fighting equipment
  - Competent persons to assist the responsible person to undertake preventive and protective measures



### Legislation

The legislation talks about key roles these are the:

- Responsible Person in England and Wales
- The Duty Holder in Scotland
- The Appropriate Person in Northern Ireland

And they are aimed at the employer but its important to remember that this responsibility can be passed down, for example employing a company to maintain a fire detection and fire alarm system The maintenance company becomes the "responsible person" but only for the fire alarm. This goes all they way down to the competent person doing the activity.

So fail to carry out a maintenance properly and you could be prosecuted.

Even if the building is empty the legislation still applies. So it's the owner of the building that is responsible.

Where there are multiple occupiers of a building e.g. an office building with multiple tenants there is a need for Co-operation and co-ordination between the tenants for their own sections and the landlord for the common areas.

Where a tenant occupies a building or part of a building they are responsible under the legislation to provide general fire safety measures. And these measure should be carried out in co-operation and co-ordination between landlord and the tenant. The fire safety measures of the two organisations should work together and each would be responsible for the measures that they have provided, this maybe part of the tenancy agreement.

For example:


- a) If a landlord has a fire detection and fire alarm system in the common areas. The landlord is responsible for maintaining that system but the tenant might have a system of their own. Which they would maintain.
- b) If the landlord provided a fire detection and alarm system to the entire building. The tenant would not have to maintain the system but they would have to allow access to the landlords maintenance company.


Learner notes



Slide 6

## Fire Scotland Act





- Does **not** cover
- Domestic dwellings
- **Common areas of blocks of flats**
- construction sites,
- ships and hovercraft,
- mines and offshore installations
- premises occupied solely for the purposes of the armed forces of the Crown
- fields, woods or other land forming part of an agricultural or forestry undertaking but which is not inside a building and is situated away from the undertaking's main buildings

### Legislation

The Fire (Scotland) Act 2005 is used in conjunction with the Fire Safety (Scotland) Regulations 2006 following a similar form to the English legislation


The Responsible Person becomes the Duty Holder but the main difference is that common areas of blocks of flats are **not** covered by the Fire Scotland Act


Houses in Multiple Occupation (HMO's) are still covered under the Fire Scotland act

Learner notes

Slide 7

## The Fire and Rescue Services (NI) Order 2006

  
Fire Industry Association



- Does **not** cover
- Domestic dwellings
- **Common areas of blocks of flats**
- construction sites,
- ships and hovercraft,
- mines and offshore installations
- premises occupied solely for the purposes of the armed forces of the Crown
- fields, woods or other land forming part of an agricultural or forestry undertaking but which is not inside a building and is situated away from the undertaking's main buildings

### Legislation

The Fire and Rescue Services (Northern Ireland) Order 2006 is used in conjunction with the Fire Safety (Northern Ireland) Regulations 2010

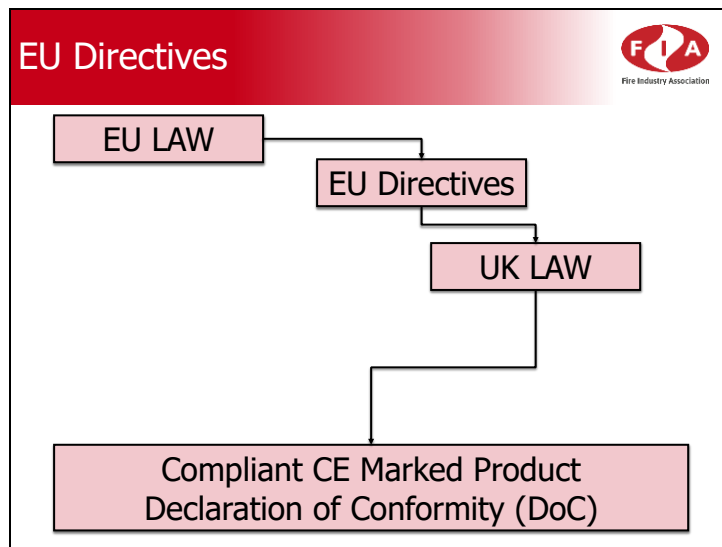
Following a similar form to the Scottish legislation

The Responsible Person becomes the Appropriate Person but the main difference is that common areas of blocks of flats are **not** covered by The Fire and Rescue Services (Northern Ireland) Order 2006

Houses in Multiple Occupation (HMO's) are still covered under the Fire Scotland act

Learner notes

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Legislation

This legislation applies to Construction Products intended for use in fire detection and fire alarm systems installed in and around buildings and for which the applicable system for assessment and verification of constancy of performance is system 1 shall be verified by a notified product certification body

The applicable harmonised product standards for FDAS products such as one of the EN 54 Series provide the performance requirements and test methods to be used during product assessment

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The purpose of EU Directives is to:

**Improve market surveillance rules** to better protect both consumers and professionals from unsafe products, including those imported from outside the EU.

*In particular, this applies to procedures for products which can pose danger to health or the environment;*

**To set clear and transparent rules for the accreditation** of conformity assessment bodies;

**Boosts the quality of and confidence in the conformity assessment** of products through stronger and clearer rules on the requirements for the notification of conformity assessment bodies;

**Clarifies the meaning of CE marking** and enhances its credibility;

**Establishes a common legal framework for industrial products** in the form of a toolbox of measures for use in future legislation.

This includes definitions of terms commonly used in product legislation, and procedures to allow future sectorial legislation to become more consistent and easier to implement.

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**LVD Directive 2006/95/EC**

**The Low Voltage Directive (LVD)**  
In the United Kingdom, the directive is implemented by:

**The Electrical Equipment (Safety) Regulations 1994**

Compliant equipment will be marked with the CE mark & Declaration of Conformity (DoC)

**CE**

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### Legislation

The Low Voltage Directive (LVD) 2006/95/EC is one of the oldest Single Market Directives adopted by the European Union. The Directive provides common broad objectives for safety regulations, so that electrical equipment approved by any EU member country will be acceptable for use in all other EU countries. The Low Voltage Directive does not supply any specific technical standards that must be met, instead relying on IEC technical standards to guide designers to produce safe products. Products that conform to the general principles of the Low Voltage Directive and the relevant particular safety standards are marked with the CE marking to indicate compliance and acceptance throughout the EU. Conformance is asserted by the manufacturer based on its conformity assessment.

The directive covers electrical equipment with a voltage at input or output terminals between 50 and 1000 volts for alternating current (AC) or between 75 and 1500 volts for direct current (DC)

In the United Kingdom, the directive is implemented by The Electrical Equipment (Safety) Regulations 1994

Compliant equipment will be marked with the CE mark

The following are excluded from the scope of the "Low Voltage" Directive:

- Electrical equipment for use in a potentially explosive atmosphere
- Electrical equipment for radiology and medical purposes
- Electrical parts for lifts
- Electricity meters,

Learner notes



Slide 10




## EMC Directive 2014/30/EC

**The EMC Directive** sets the essential protection requirements for electrical and electronic equipment.  
In the United Kingdom, the directive is implemented by:

**The Electromagnetic Compatibility Regulations 2016**

Compliant equipment will be marked with the CE mark & Declaration of Conformity (DoC)




### Legislation

The EMC Directive limits electromagnetic emissions of equipment in order to ensure that, when used as intended, such equipment does not disturb radio and telecommunication as well as other equipment. The Directive also governs the immunity of such equipment to interference and seeks to ensure that this equipment is not disturbed by radio emissions when used as intended. In order to market your electrical device within the member states of the European Union, your product must comply with harmonized standards.

The Directive also governs the immunity of such equipment to interference and seeks to ensure that this equipment is not disturbed by radio emissions when used as intended. In order to market the electrical device within the member states of the European Union, the product must comply with harmonized standards (such as EN 55022 and EN 55024 for Information Technology Equipment).

Learner notes

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## RoHS Directive 2011/65/EU

**Restriction of Hazardous Substances**

Replaced the former RoHS Directive, 2002/95/EU

In the United Kingdom, the directive is implemented by:

**The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012.**

Compliant equipment will be marked with the CE mark & Declaration of Conformity (DoC)



### Legislation

The former RoHS Directive, 2002/95/EU, entered into force in July 2006. The main purpose of the Directive was to restrict

- Lead,
- Cadmium,
- Hexavalent Chromium,
- Mercury and
- Polybrominated Biphenyls (PBB)
- Polybrominated Diphenylethers (PBDE)


in electrical and electronic equipment (EEE).

The reason for restricting these substances is that they may be released into the environment where they pose a threat to human and animal health and the environment, especially when reaching the waste treatment stage. The potential risks are further increased if sub-standard recycling/recovery processes are used.

The updated directive 2011/65/EU (RoHS) is implemented in the UK by The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012.

Learner notes

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## WEEE Directive 2012/19/EU

**The Waste Electrical and Electronic Equipment (WEEE) Directive** was adopted by the EU in 2003.

This is implemented in the UK by:

**The Waste Electrical and Electronic Equipment Regulations 2013**

Require electrical and electronic equipment (EEE) to be marked with a 'crossed out wheeled bin' symbol;  
Compliant equipment will be marked with the CE mark & Declaration of Conformity (DoC)



### Legislation

The Waste Electrical and Electronic Equipment (WEEE) Directive was adopted by the EU in 2003. It aims to reduce the amount of WEEE being disposed in landfills by promoting separate collection, treatment and recycling

- Set targets for the amount of household WEEE to be separately collected;
- Require the UK to establish and maintain a register of EEE producers;
- Makes distributors and retailers responsible for taking back WEEE free of charge...;
- Require all separately collected WEEE to be treated;
- Introduce recycling and recovery targets for various categories of WEEE.

The retailer and distributor have responsibilities they must provide a way for customers to dispose of their old electrical and electronic equipment when sell them a new version of the same item.

FIA Fact file 29 has more info on the WEEE directive

<http://www.fia.uk.com/resourceLibrary/fact-file-29-the--waste-electrical-and-electronic-equipment---weee----update-2.html>



Learner notes

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**ATEX Directive 2014/34/EU** 

ATEX Directive, "ATmospheres EXplosive Directive". Equipment for use in potentially explosive atmospheres  
Implemented in UK Law by:

- **The Dangerous Substances and Explosive Atmospheres Regulations, 2002 (DSEAR)**
- &
- **The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 1996 (EPS)**



### Explosive Environments

To be within the scope of Directive, a product has to be:

- equipment or a protective system,
- a safety device, a controlling device or a regulating device
- A component,

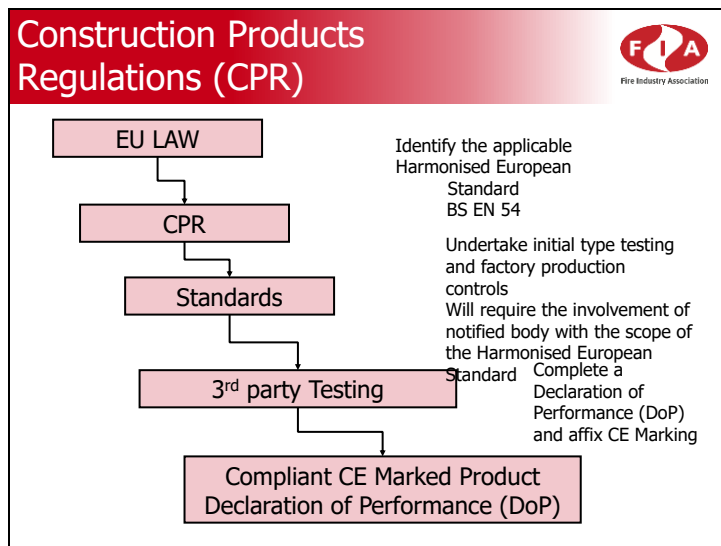
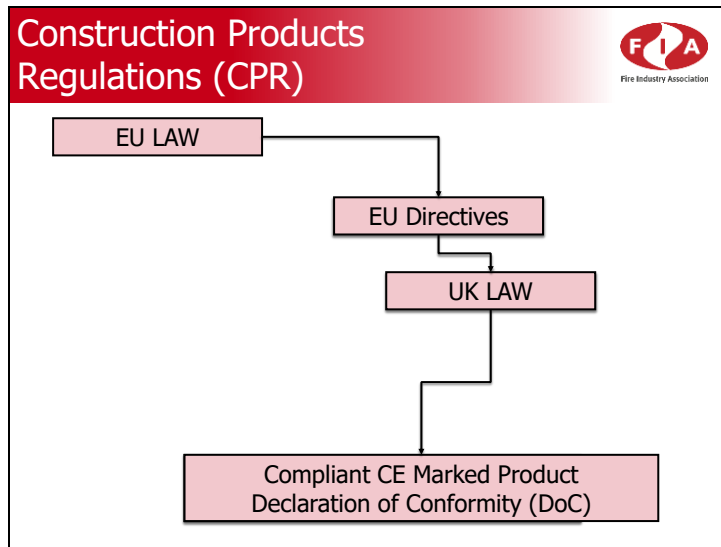
The Dangerous Substances and Explosive Atmospheres Regulations, 2002 (DSEAR) And The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 1996 (EPS) enforce the directive

For equipment to be placed on the market it will need to be CE marked and comply with the European directive

Equipment suitable for use in Explosive Atmospheres will be marked with the EX symbol

Learner notes

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Legislation

The construction products regulations is law direct from the EU it does not require any UK law to implement it.

This legislation applies to Construction Products intended for use in fire detection and fire alarm systems installed in and around buildings and for which the applicable system for assessment and verification of constancy of performance is system 1 shall be verified by a notified product certification body

The applicable harmonised product standards for FDAS products such as one of the EN 54 Series provide the performance requirements and test methods to be used during product assessment

A Notified Body will conduct an evaluation of conformity and issue a Certificate of Constancy of Performance (CoP)


Compliance with the CPR includes a Declaration of Performance (DoP) as a basis for CE marking the product

The DoP is issued by the manufacturer and will contain the complete list of all essential characteristics as defined in the applicable harmonised product standards (See the Annex ZA of each EN)

The CPR allows the declaration of only one essential characteristic. In this case all other essential characteristics shall be declared as "No Performance Determined" (NPD). However, any performance characteristic that is declared as NPD may not be referred to in any form in the product literature. (CPR Article 4.2)

In addition to the DoP that is required for the CPR, a CE Declaration of Conformity is also required to show conformity with any other applicable Directives such as the ATEX, EMC, Low Voltage or R&TTE Directives

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**Construction Products Regulations (CPR)** 

A manufacturer may refrain from drawing up a declaration of performance (Dop) and CE Marking when placing a construction product covered by a harmonised standard on the market where:

- The construction product is individually manufactured or custom-made in a non-series process in response to a specific order, and installed in a single identified construction work, by a manufacturer who is responsible for the safe incorporation of the product into the construction works, (still has to comply with national rules/laws)
- The construction product is manufactured on the construction site for its incorporation in the respective construction works in compliance with the applicable national rules and under the responsibility of those responsible for the safe execution of the construction works designated under the applicable national rules;

### Legislation

A manufacturer may refrain from drawing up a declaration of performance (DoP) and CE Marking when placing a construction product covered by a harmonised standard on the market where:

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The construction product is manufactured on the construction site for its incorporation in the respective construction works in compliance with the applicable national rules and under the responsibility of those responsible for the safe execution of the construction works designated under the applicable national rules;

Learner notes



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**Declaration of Performance (DoP)  
Declaration of Conformity (DoC)**

RoHS Directive, 2002/95/EU DoC  
EMC Directive 2014/30/EC DoC  
Low Voltage Directive 2006/95/EC DoC  
EN 54-7 CPR DoP

Identification number of the product certification body  
1234  
001CPR2013-07-01  
Reference number of the DoP (Declaration of Performance).

Legislation

To place a product on the market it will have to meet the relevant EU Directives and provide a Declaration of Conformity (DoC)

Also, the relevant part of EN 54 will require a Declaration of Performance (DoP) tested by a notified body

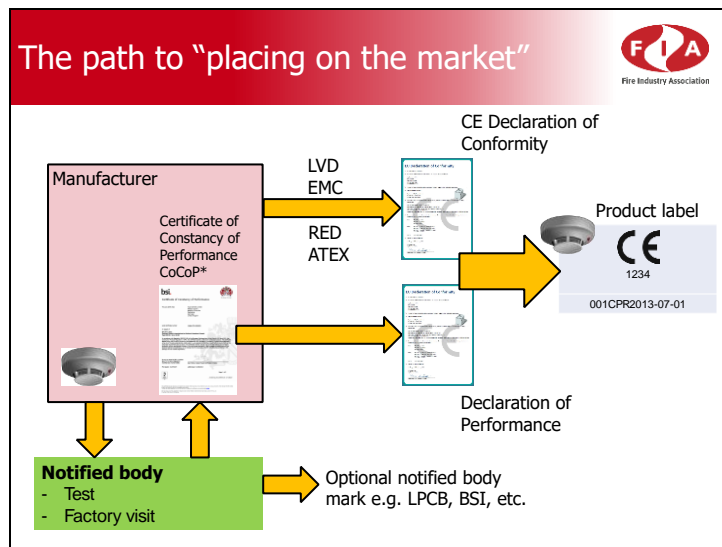
Then a CE mark can be applied and the product can be placed on the market

Notified bodies include:

- BRE
- LPCB
- AFNOR
- CNPP
- BSI
- INTERTEK
- VDS

Learner notes





Legislation

This diagram shows the process to put a CE mark on a harmonized FDAS product and place it on the market.

The manufacturer applies for approval at a notified body. He may use any notified body in Europe approved to test to that standard.

The notified body tests the product and if approved issue a Certificate of Constancy of Performance (CoCoP). They also perform factory visits and the CoCoP is owned by the Notified body and hence they can also withdraw it. The manufacturer may also request an optional private label. E.g. LPCB mark, BSI Kitemark etc. This mark is not required for CPR.

The manufacturer then creates a Declaration of Performance (DoP) based on the CoCoP. They also have to confirm compliance to any other applicable standards. E.g. Low Voltage Directive (LVD), Electromagnetic Compatibility (EMC), Radio Equipment Directive (RED), Explosive Environments (ATEX) etc. The manufacturer confirms compliance by issuing a Declaration of Conformity (DoC). Normally this declaration is supported by third party testing.

The CE label can then be printed on the product label and the product can be placed on the European market.

Learner notes

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### Legislation

The Equality Act 2010 legally protects people from discrimination in the workplace and in wider society.

It replaced previous anti-discrimination laws with a single Act, making the law easier to understand and strengthening protection in some situations. It sets out the different ways in which it's unlawful to treat someone

Before the Act came into force there were several pieces of legislation to cover discrimination, including:

- Sex Discrimination Act 1975
- Race Relations Act 1976
- Disability Discrimination Act 1995

Building regulations have access to and use of buildings guidance in Approved Document M [ADM] (England & Wales) Section 4 of the Technical Handbooks (Scotland) And Technical Booklet R (Northern Ireland)

The fire safety for the building must take into account people with disabilities. The provision of disabled refuges is one way that fire detection and alarm fire alarm systems adapt themselves to disabled persons

Disabled refuges are covered by BS5839-9

The use of VAD's is method of alerting people with impaired hearing to the fact that the fire alarm is operating

Not all disabilities are visible so building owners will need to have policies and procedures to make provisions for such people this will include warning in the case of fire

Learner notes

Types of Contracts



**Traditional**

For traditional procurement there are three main types of contract:

- Lump sum contracts
- Measurement contracts
- Cost reimbursement contracts

**Design and Build**

For design and build procurement there are three main types of contract:

- Package deal or turnkey contract
- Design and build contracts
- Contractor's design for specific elements only



### Working with third Parties

#### 1) Lump sum contracts

where the contract sum is determined before construction work is started. The contractor undertakes a defined amount of work in return for an agreed sum.

Contracts 'with quantities' are priced on the basis of drawings and a firm bill of quantities.

Contracts 'without quantities' are priced on the basis of drawings and another document — usually a specification or work schedules

#### 2) Measurement contracts

where the contract sum is not finalised until after completion, but is assessed on re-measurement to a previously agreed basis.

This type of contract can arise because the work which the contractor undertakes cannot for good reason be measured accurately before tenders are invited.

Design will be reasonably complete and an accurate picture of the quality required will be available to the tenderer.

#### 3) Cost reimbursement contracts

where the sum is arrived at on the basis of prime (actual) costs of labour, plant and materials, to which there is added an amount to cover overheads and profit. Sometimes referred to as a 'cost-plus' or a 'prime cost' contract; the amount or fee added to cover overheads and profit can be a fixed sum, a percentage, or on some other reimbursement basis. Where the full extent of the work is not known or cannot be designed pre-tender, this is a relatively high risk option for the client and only generally acceptable where the circumstances preclude other alternatives or where a partnering ethos is established

#### Design and build

For design and build procurement there are three main types of contract:

##### a) Package deal or turnkey contract

where the client settles on a complete package, usually to some standard specification from a commercial firm. Such arrangements sometimes result in a specially drafted contract, but they will usually be based on the provider's standard terms

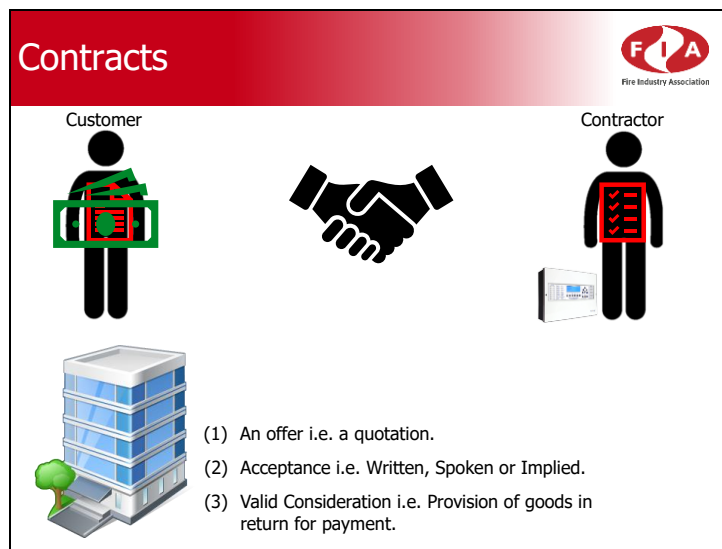
##### b) Design and build contracts

where project documents will be written with the contractor's design obligations relating to the whole of the works in mind. These contracts differ fundamentally from traditional 'work and materials' contracts in that they expressly provide for contractor's design obligations. The wording used in contracts which require a material level of design input from the contractor is often the same as in those which are used for a 'develop and construct' approach.

### c) Contractor's design for specific elements only

Strictly, these are not design and build contracts, but traditional 'work and materials' contracts which include for limited design provision relating to an identified portion of the work.

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Working with third Parties

### Definition of a "Contract"

A voluntary, deliberate and legally binding agreement between two or more competent parties. Contracts are usually written but **may be spoken or implied**, and generally have to do with employment, sale or lease, or tenancy.

A contract does not require legal input to be enforceable.

A contractual relationship is evidenced by

- an offer,
- acceptance of the offer, and a
- valid (legal and valuable) consideration.

### Offer

An expression of willingness to contract on specified terms, made with the intention that it is to be binding once accepted.

### Acceptance

This is final & unqualified expression of ascent to the terms of the offer. Acceptance has no legal effect until it is communicated to the offeror. The method of communication maybe expressed in the T&C's of the offer.

If the offeree attempts to vary the T&C's, it would constitute a counter offer.  
Silence cannot be taken as acceptance in relation to the person receiving the offer.  
An offer maybe revoked before acceptance, but this must be communicated to the offeree.

**Valid Consideration**

Payment by the buyer/ customer is consideration for the sellers/ FD&A Contractors promise to deliver goods/ install the system.

Delivery of the goods/ system or service, is consideration for the buyers/ customers promise to pay.

Each party to a contract acquires rights and duties relative to the rights and duties of the other parties.

However, while all parties may expect a fair benefit from the contract (otherwise courts may set it aside as inequitable) it does not follow that each party will benefit to an equal extent.

It is not necessary to obtain legal advice (e.g. from a solicitor) for a contract to be enforceable

Learner notes

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## Contracts



An "Implied Contract"

A legally enforceable agreement that arises from conduct, from assumed intentions, from some relationship among the immediate parties, or from the application of the legal principle of equity.

For example, **a contract is implied when a party knowingly accepts a benefit from another party** in circumstances where the benefit cannot be considered a gift.  
Therefore, the party accepting the benefit is under a legal obligation to give fair value for the benefit received.

Carrying out the service of a fire alarm system after the initial contract has ended is an Implied Contract.

### Working with third Parties

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Learner notes

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Contracts  
Fire Industry Association

Variations to contracts can be in any form as long as it is written down

- Email
- Site instruction
- Work sheet


As long as it has a signature and an instruction it's a contract  
Terms and conditions are part of the contact

### Working with third Parties

Any site instruction can become part of the contact so it is important to get any site instructions in writing.

The last set terms and conditions sent and acknowledged will be the overriding terms and conditions of the contact. So be careful when accepting new instructions that they don't have new terms and conditions attached

Learner notes

**Contracts used in the fire detection and fire alarm industry** 

- Supply (design) and Commission**
  - Supply the equipment and do the system Design then Commission
- Design only**
  - Only responsible for the Design of the system
- Installation only**
  - Only responsible for the Installation of the system
- Commission only**
  - Only responsible for the Commissioning of the system
- Maintenance only**
  - The most common as Only responsible for the Maintenance of the system
- Verification**
  - Only responsible for the Verification of the system
- Design Install Commission**
  - Full scope of works

### Working with third Parties

There can be a separate contract for each stage of work

Supply and Commission where a company will design the system and supply the materials and others will carry out the installation work.

There are Consultants that only do design work and will just contract for the design. But this might have to have method of extending the contract if further design work is needed during the installation work.

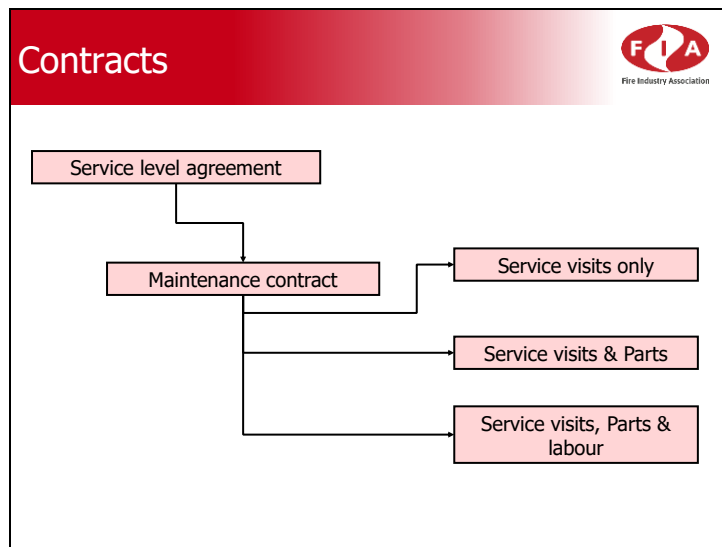
Electrical contractors will often just install the system under an Installation contract

Some System Houses will offer a commissioning contract where they will come and commission the system. This is most common when extending a system.

Learner notes



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### Working with third Parties


Service contracts will contain service level agreements

There may be different levels for different clients

- From only the six monthly and annual service
- The six monthly and annual service plus any parts required for repairs but not associated labour costs for those repairs
- The six monthly and annual service plus any parts required for repairs but and associated labour costs for those repairs

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## Contractual Responsibilities



The contractual responsibilities of the contract are usually set out in the details of the contract i.e. the supply and fitment of a fire detection and fire alarm system and the payment of such.

There might be a Liquidated damages (also referred to as liquidated and ascertained damages) are damages whose amount the parties designate during the formation of a contract for the injured party to collect as compensation upon a specific breach (e.g., late performance)

Attendance times for maintenance and servicing visits  
BS 5839-1 recommends that servicing organisations attend faults within 8hr service contract might detail the response time to be 4hrs  
it now becomes the responsibility of the servicing organisation to meet the contractual terms.

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