

IMPORTANT FIRE DEFINITIONS AND TERMS

ABSOLUTE - these requirements must be met. Many of the requirements within the Regulatory (Fire Reform) Order are absolute. The duty to appoint a responsible person is absolute.

ACCIDENT - An uncontrolled, unplanned random and unexpected event which could result in loss, harm, damage or injury. Near miss and incident are names given to accidents which did not result in injury but had the potential to do so.

ACTIVE FIRE PROTECTION - Fire water systems comprising hydrants, fire equipment boxes and fixed monitors are common features that installed in larger facilities. Fixed water spray systems are proven to be effective for certain applications, such as removing heat from a hot-oil pump fire thus protecting nearby equipment. Dry chemical extinguishers are used for quick extinguishment of small fires. Other agents such as foam, steam and carbon dioxide are also used to provide extinguishment capability.

ALARM RECEIVING CENTRES (ARCS) - ARCs provide reassurance to employers and buildings owners that fire alarms are monitored 24 hours a day, 365 days a year. Activation signals are sent to a monitoring centre, where they are filtered for false activations that are neither crime related or caused by genuine intrusions or fires.

ALTERNATIVE ESCAPE ROUTE - Escape routes sufficiently separated by either direction and space, or by fire-resisting construction to ensure that one is still available, irrespective of the location of a fire.

ALTERATION NOTICES - These notices may be served on the responsible person if the Fire Authority believes that the premises constitute a serious risk or if the risk would occur if the building use changes. This notice will state who the enforcing authority is and what the issue is that constitutes a fire risk. Once served the responsible person must investigate the issues and then consult with the Authority before making any changes.

APPROVED CODES OF PRACTICE - These are issued by the Health & Safety Executive and are derived from specific Regulations or Acts. They give more details and are easier to understand than the regulations themselves but are not legally binding. I.e. ACOP associated with the Dangerous Substances Explosive Atmospheres Regulations. These regulations has an ACOPS on implementing the regulations.

APPROVED DOCUMENT B - Guidance issued by Government in support of the fire safety aspects of the building regulations.

ASSEMBLY POINT - A place, away from the premises, in which people gather after having evacuated from a building and at which they are in no immediate danger from the effects of a fire.

AUTOMATIC FIRE DETECTION (AFD) AND AUTOMATIC FIRE ALARM (AFA) SYSTEMS - These can provide an early warning in the event of a fire, saving lives and limiting property damage. However they can trigger in a number of occasions leading to false alarms.

BACK DRAUGHT - This is an explosion that occurs when oxygen is suddenly admitted to a confined area that is very hot and filled with combustible vapors. A backdraught is where limited ventilation can lead to a fire in a compartment producing fire gases containing significant proportions of partial combustion products and unburnt pyrolysis products. If

these accumulate, the admission of air when an opening is made to the compartment can lead to a sudden deflagration. This deflagration moving through the compartment and out of the opening is a backdraught. The force of a backdraught has the potential to damage building elements resulting in an unstable structure.

BOILING POINT - Temperature at which a liquid changes to a gas at normal atmospheric pressure.

BOILING LIQUID EXPANDING VAPOUR EXPLOSIONS (BLEVES) - This occurs when a pressure vessel containing flammable liquefied gas becomes exposed to fire. This can either weaken the vessel or build up the pressure, both situations may cause a BLEVE.

CATALYST - A substance that initiates or accelerates a chemical reaction without itself being affected by the reaction.

PLACE OF COMPARATIVE SAFETY - A place of safety may be outdoors, protected lobby, protected corridor or staircase. The distance people have to travel to a comparative place of safety depends on:

- The degree of fire risk
- Their mobility
- Familiarity
- Speed of exit.

COMBUSTIBLE - Capable of being burnt or consumed by fire, fit for burning, burnable

COMPARTMENTATION - Compartmentalisation is one of the best ways of minimising the spread of fire. It gives people time to evacuate and may also reduce the extent of damage from the fire. Dividing a work area up into smaller sections will prevent or reduce the amount of fire spread. Compartments need to be separated from those next door by doors or floors to limit the growth and spread of fire. It can limit the fire damage allowing potentially the business to carry on operating if only part of the building or site is damaged.

COMPARTMENT WALL AND/OR FLOOR - A fire-resisting wall or floor that separates one fire compartment from another.

COMPRESSED GAS - Substance that is a gas at normal pressure and room temperature but is held in a pressurised container resulting in it becoming a liquid.

CONFINED SPACE - Anywhere by virtue of its position has a specified hazard – such as free flowing solid, lack of oxygen, extremes of temperature, flowing liquid etc. i.e. sewer, well, grain silo.

COOLING - If the rate at which heat is generated by combustion is less than the rate at which it is dissipated through various agencies, the combustion cannot persist. In applying this principle of fire extinction the first step is to accelerate the speed with which heat is removed from the fire, thus reducing the temperature of the burning mass and, as a consequence, the rate at which heat is produced.

CLASS A FIRE - A fire involving solid materials, usually of an organic matter e.g. wood

CLASS B FIRE - A fire involving flammable liquids.

CLASS C FIRE - A fire involving gases

CLASS D FIRE - A fire involving metals

CLASS F FIRE - A fire involving cooking fats and oils

CLASS 1 COVERINGS SURFACE SPREAD OF FLAME - Acceptable in all rooms but not acceptable on escape routes such as stairways, corridors, entrance halls. Timber, hardboard, block board, particleboard (chipboard), heavy flock wallpapers, thermosetting plastics that have been flame-retardant treated to achieve a Class 1 standard.

CLASS 3 COVERINGS - Acceptable in small rooms (not exceeding 30 m²) and on parts of the walls of other rooms if the total area of those parts does not exceed an area equivalent to one half of the floor area, subject to a maximum of 60m². Not acceptable on escape routes such as stairways, corridors, entrance halls or in rooms other than as specified above. Timber, hardboard, block board, particleboard (chipboard), and some heavy flock wallpapers, thermosetting plastics (expanded polystyrene wall and ceiling linings).

COMBUSTION - A chemical reaction = fire

COMBUSTION STAGES - There are a number of unique stages in a fire, including induction & ignition, fire growth, steady state and finally decay.

CONDUCTION - This is the method of fire spread by which heat travels from one surface to another causing the fire to spread further. The steel girders of a building once heated can mean the fire and heat spread around the whole building.

CONVECTION - One of the four methods of fire spread. Heated air moves upwards where possible. If there is an open lift shaft or other space the warm air will rise causing the fire to spread. The flow of fluid or gas from hot areas to cooler areas. The heated air is less dense, and rises, while cooler air descends.

CRITICAL TEMPERATURE - this is used when testing structural beams and other materials to test when they start to degrade and fail.

DANGEROUS OCCURRENCE - An accident that did not cause injury but had high potential for risk and is reportable under RIDDOR. E.g. failure of breathing apparatus used by fire service.

DANGEROUS SUBSTANCE - A *dangerous substance* is any natural or artificial substance which is explosive, extremely flammable, highly flammable or flammable, including liquids, vapours, gases, dust; and equipment that might leak or generate a dangerous substance.

DEAD END - Area from which escape is possible in one direction only

DEGRADED SYSTEMS PLANNING - There are a variety of systems implemented to ensure that the risks of fire are reduced, however if these systems degrade or become faulty the safety of employees, others and the building could be adversely effected. This could include fire alarms, sensors, emergency lighting and sprinkler systems.

DEFLAGRATION - This is subsonic combustion propagating through heat transfer, hot burning materials heat up the next cold item and the fire continues. Heating of a substance until it burns away completely. Most fire are of this nature. Propagating reactions in which the energy transfer from the reaction zone to the unreacted zone is accomplished through ordinary transport processes such as heat and mass transfer.

DETONATION / EXPLOSION – Reaction releases a lot of energy in a short period of time leading to an explosion. Leads to a shock and pressure wave. This type of explosion does not need oxygen to be present. Propagating reactions in which energy is transferred from the reaction zone to the unreacted zone on a reactive shock wave. The velocity of the shock wave always exceeds sonic velocity in the reactant

DUST - Solid particles which are air borne.

EARTHING - The metal parts of electrical appliances are bonded or connected to earth, if they become live the earth connection is low resistance and will allow the electricity to flow through it protecting any person at risk. The leakage to earth should cause a trip device or RCD to trip and stop current flowing.

EMERGENCY LIGHTING - Lighting provided for use within a building when the electric supply to the normal lighting fails.

EMERGENCY VOICE COMMUNICATION (EVC) - An emergency voice communication (EVC) system allows firefighters and others to communicate with one another during emergency situations. The system also allows communication with disabled persons and refuge areas.

ENDOTHERMIC REACTIONS - These are reactions that absorb heat rather than generate it.

ENFORCING AUTHORITY - The Fire and Rescue Authority or any other authority specified in Article 25 of the Regulatory Reform (Fire Safety) Order 2005.

ENFORCEMENT NOTICES - Where a Fire Authority is of the opinion that any fire related legal duty is breached e.g. the duty to provide the means of escape, carry out a risk assessment or the means for fighting fire.

EXTINGUISHING MEDIA - Substance contained in a fire extinguisher which causes extinction of a fire.

EVACUATION LIFT - A lift that may be used for the evacuation of people with disabilities, or others, in a fire.

EXOTHERMIC REACTIONS - Exothermic reactions are reactions that result in the release of heat and energy. As the temperature increases, as does the pressure, this is why they can lead to fires and explosions.

FALSE ALARMS - An alarm sensor is triggered but there is no fire or heat.

FINAL EXIT - An exit from a building where people can continue to disperse in safety and where they are no longer in danger from fire and/or smoke.

FIRE COMPARTMENT - A building, or part of a building, constructed to prevent the spread of fire to or from another part of the same building or an adjoining building.

FIRE DETECTION EQUIPMENT - Equipment designed to detect a fire automatically either by detecting smoke, heat, flame, combustion products or a combination of these

FIRE DOOR - A self-closing door made of fire-resistant material that can prevent the spread of fire. Fire doors are provided to control smoke and to protect the means of

escape. They are also used for compartmentalisation and the protection of special risk areas. It is essential that the fire door selected is suitable for its location and of sufficient size. The resistance of fire doors is determined using the test described in the British Standard BS476-22 or BS EN 1634-1.

FIRE DRENCHER SYSTEMS - Drencher systems are different from sprinklers in that they are designed to protect a building from damage by exposure to fire in adjacent premises. They are placed on roofs and over windows and external openings of a building. Drencher systems are a type of water or foam spray system.

FIRE DRILL - A process used to test the effectiveness of a workplace evacuation procedure and training by undertaking an observed practice evacuation of the workplace.

FIRE FIGHTING EQUIPMENT - Equipment designed to control or extinguish a fire, including portable fire extinguishers, sprinkler systems etc.

FIRE INSTRUCTIONS - A notice informing people of the action they should take on either hearing a fire alarm or discovering a fire.

FIRE LOG BOOK - A simple fire safety log book assists the responsible person in co-ordinating and maintaining a fire safety record keeping system. This fire safety logbook will also enable building owners, managers and other responsible persons to demonstrate their commitment to fire safety legislation, which in turn will support any business continuity plan.

FIRE LOAD - In simple terms fire loading is a measurement used by fire-fighters and other fire safety professionals to determine the potential severity of a fire in a given space. It describes the amount of combustible material in a building or confined space and the amount of heat this can generate. The more flammable materials there are present in a space, the higher the fire load and therefore the faster a fire will spread, increasing the potential impact of the fire.

FIRE MARSHALL / WARDEN - A person trained to assist during an evacuation of a workplace by, for example, ushering people out of a building or checking that designated areas are clear of people

FIRE RESISTANCE - The ability of a component or construction of a building to satisfy, for a stated period of time, some or all of the appropriate criteria of relevant standards. (Generally described as 30 minutes fire-resisting or 60 minutes fire-resisting) See BS EN 1363-1, BS 476-7 and associated standards for further information.

FIRE-RESISTING DAMPERS (MECHANICAL OR INTUMESCENT) - Dampers restrict the flow of heat or smoke through the duct, they can be manual, mechanical or intumescent where they activate when a certain amount of heat is detected. The mechanical ones have a thermal sensor which activates them if a certain temperature is detected.

FIRE STOPPING - A seal provided to close an imperfection of fit or design tolerance between elements of components, to restrict the passage of fire and smoke.

FIRE SPREAD - The development and travel of a fire across a surface or area.

FIRE TRIANGLE - A model used to describe the three items needed for a fire to burn, namely fuel, heat and oxygen.

FIRE PRECAUTIONS - Measures aimed at preventing or at least minimising the risks to

persons and property in the event of a fire.

FIRE PREVENTION - Measures behind preventing the outbreak of fire and reducing fire risk: - Examples: No Smoking, cleaning, good housekeeping, safe storage & electrical testing.

FIRE POINT - The lowest temperature at which the heat from the combustion of a burning vapour is capable of producing sufficient vapour to enable combustion to continue after removal of the ignition source.

FIRE PROTECTION - Features within a building to detect, extinguish, contain fire, or allow people to be evacuated safely. Examples: Fire extinguishers, warning signs, emergency lighting, fire doors & fire exits.

FIRE AND RESCUE SERVICES ACT 2004 - This is the act which gives the fire authority the power to investigate and deal with fires.

FIRE WARNING EQUIPMENT - Equipment designed to warn people of the threat of fire by providing an audible or visual alarm.

"FIXED TEMPERATURE" (FT) - heat detectors respond when the heat level reaches a fixed pre-set value. These detectors are used where high ambient temperatures exist or where sudden changes in temperature can occur e.g. kitchens, boiler rooms & foundries etc. A fixed temperature trigger point should be selected which is most suitable for the situation in question.

FLAME ARRESTORS - These devices are designed in such a way as to allow venting of process gases or vessel vapours to atmosphere, without the risk of ignition flash back. They may be made from solid high thermal conductive material or more often are liquid (water) cooled.

FLAMMABLE LIQUID - A liquid with a flashpoint of 55°C or below.

FLAMMABLE LIMITS - If we dilute a mixture with more oxygen/air there comes a point where there is **insufficient fuel to sustain combustion**. This is known as the **lower flammable limit (LFL)**. There is also an **upper flammable limit (UFL)** where there is **too much fuel for combustion to occur**.

FLAMMABLE ZONES - Where flammable materials which are likely to produce a flammable atmosphere are produced, handled, stored etc., each of the locations will be classed as a "flammable zone" and graded according to the potential danger i.e. the degree of risk of ignition. The zones are not related to the type of flammable atmosphere but to the probability of a flammable atmosphere existing. There are 3 flammable zones: 0, 1,2 or 20,21,22.

FLASH POINT - The temperature at which, under certain conditions, a liquid gives off sufficient flammable vapour to produce a flash on application of an ignition source. The minimum temperature at which ignitable vapour will ignite.

FLASHOVER - Sudden transition from a localized fire to the ignition of all exposed flammable surfaces within an enclosure.

FUEL - Material burned or used on a source of heat or power.

GAS - Completely elastic fluid which does not become liquid or solid at ordinary

temperatures.

GENERAL VENTILATION - This is the natural ventilation of a workroom, can be via a window or fan.

HAZARD - "A condition that has the potential to cause harm" e.g. overheating electrical appliance

HEAT TRANSMISSION - Conveyance or passage of heat through a solid, liquid or gaseous medium.

HORIZONTAL PHASED EVACUATION - may be used in hospitals and care homes where the floors may be divided into a number of fire resisting compartments and the occupants are moved from the compartment involved in fire to the adjacent compartment and if necessary moved again.

HUMAN ERROR - Types of human characteristics which can lead to accidents.

HUMAN FACTORS - These personal factors which may increase the likelihood of an individual having an accident in the work environment. Perception, motivation, attitudes, personality, interaction, mental capabilities and physical capabilities are the main human factors. With organisational and job factors also being linked to human behaviour

IGNITION - The process of initiating combustion or catching fire.

IMPROVEMENT NOTICE - A statutory notice that is issued by an authorising body such as Health and Safety Executive (HSE), Environmental Health Officer (EHO) or Fire Officer on discovery of a breach of statute. It states that an offence has been committed, what action needs to be taken, the reason for the action and the time deadline by which it must be taken.

INCIDENT - An accident that did not cause injury. (Near Miss)

INERTING DUST OR INERTING - This method of avoiding forming explosive dust clouds is used successfully in coal mines. A layer of rock dust in the working area is entrained by the blast wave and, as it forms an incombustible atmosphere, it extinguishes the flame. This means of inertion is not usually available due to the contamination of product that it causes.

IGNITION TEMPERATURE (IGNITION POINT) - The minimum temperature at which a fuel/vapour/air mixture will burn after ignition. This will depend on temperature composition mixture, pressure and nature of ignition source.

INSPECTION - A comprehensive look around the workplace, looking at hazards associated with the workplace, work practices and equipment. The aim is to identify hazards and take remedial action.

INTUMESCENT STRIPS - Used with wooden doors, the strip can be fitted into the door frame or the door itself. This swells with heat, expanding to fill the gaps and reduce the spread of fumes, smoke etc. They must be protected from vandalism and damage or else they will not work correctly when they are needed.

INTRINSICALLY SAFE - This is where equipment is designed not to cause a fire or explosion if used in a flammable atmosphere. They are designed to run on low energy and should not generate heat sufficient to ignite a flammable atmosphere. "E Ex Ia" is the highest standard as it can cope with two faults and should still guarantee safety in a

flammable atmosphere.

ISOLATION - The disconnection and separation of electrical equipment from every source of energy. The isolation method will normally be in the form of a padlock with locks the system off.

LINEAR HEAT DETECTORS - are suitable for ducting and areas where access is difficult. It is a coaxial cable constructed with a copper coated steel central conductor, an inner insulation (dielectric), a tinned copper braid layer and PVC overall protective sheath. The cable may be installed in Hazardous Areas where intrinsically safe equipment is required.

LIQUIFIED PETROLEUM GAS (LPG) - consists of commercial Butane, Propane or a mixture of the two. Major hazards are fire and explosion, though asphyxiation is also a danger in low lying areas due to LPG being heavier than air.

LOCAL EXHAUST VENTILATION - This is a form of hazard control which aims to capture the air borne contaminate before it reaches the work room air or the breathing zone of the worker.

LOCK-OFF - A system whereby controls such as switches or valves can be physically and intrinsically locked in the 'OFF' position as part of SAFE SYSTEM of work.

LOWER EXPLOSIVE LIMIT - UPPER EXPLOSIVE LIMIT - This is where the concentration of the vapour will support fire and burning. If the concentration is too high/low then fire will not be able to start or sustain itself. An increase in temperature increases the flammability range by decreasing the lower and increasing the upper limit.

MANUAL CALL POINTS - Manual call points are the square "break glass" appliances commonly located around work and other premises. Generally, no point in a building should be further than 30m from a call point, although this distance should be reduced where there are specific fire hazards.

MATERIAL CHANGE - An alteration to the premises, process or service which significantly affects the level of risk to people from fire in those premises.

MEANS OF ESCAPE - The structural means whereby a safe route is maintained for persons from any point of the building to a place of safety. Structural means whereby (in the event of fire) a safe route or routes are provided for persons to travel from any point in a building to a place of safety.

NOMINATED PERSON - Every organisation with a building or site must nominate one person to have overall responsibility for fire safety on site or within the business. (Regulatory Fire Reform Order).

OPENING AND VOIDS - Holes or breaks in fire resisting construction, or hidden spaces within building structures (such as false ceilings, lift shafts, spaces behind wall panelling etc.) through which smoke and fire may spread

OXIDISING AGENTS - Oxidisers are substances which react with other materials, this may be at room temperature or with the application of heat. The resulting reactions mean the substance gains electrons from other chemicals.

PASSIVE FIRE PROTECTION - Careful use of fire resistant materials, such as fireproofing, fire rated cable and heat resistant wiring, can help to prevent a fire from

spreading and limit its damage. Typically, fireproofing is provided for critical structures, vessel and column skirts and supports, exposed pipe-rack columns and control wirings and power cables necessary for safe plant shutdown.

PERCEPTION - This is the way different individuals see things. Their perception is very much based on their past experiences of life and their knowledge of certain situations. Perception is not always how things really are but how they are seen.

PERMIT TO WORK - A formal written document used when the risk level is high. It must be authorised at the beginning, during and once the work has been completed. This should outline the precautions, the method of work, the people, emergency arrangements and all aspects of the job. Used for hot work which could present a risk of fire.

PERSONAL EMERGENCY EVACUATION PLANS (PEEPS) - The aim of these plans is to help those who cannot get out of a building unaided during an emergency evacuation e.g. due to mobility problems. A questionnaire may be used to assess the needs of those with disabilities, the needs will vary depending on the severity of disability and where they are based within a building among other factors.

PHASED EVACUATION - A system of evacuation in which different parts of the premises are evacuated in a controlled sequence of phases, those parts of the premises expected to be at greatest risk being evacuated first.

PRACTICABLE - This is a legal term which means that an improvement must be carried out if technologically possible regardless of cost, time, trouble or inconvenience.

PROGRESSIVE HORIZONTAL EVACUATION - is the principle and process of moving patients and staff from the area of fire origin, which is compromised from a fire safety point of view, through a fire-resistant barrier, to a safe area on the same level. In the short-term, this will protect the occupancy from the effects of fire.

PROHIBITION NOTICES - The Fire Authority may serve a prohibition or restriction notice in any case where the risk of fire is serious. The notice must:

- State that the Fire Authority is unhappy with the fire risk present and specify the matters which, in their opinion, give rise to that risk.
- Direct that the use of the premises (or part of premises) is prohibited or remedied.

PROTECTED ROUTE - An escape route which is adequately protected from the rest of the building by a fire-resisting construction.

PYROPHORIC MATERIALS - Some chemicals react with the air, the moisture and oxidation occurs so quickly that ignition is caused. Oxidisation of hydrogen sulphide is highly exothermic. Purging the air of oxygen will stop this as will keeping surfaces wet.

"RATE OF RISE" (RR) - heat detectors respond to an abnormally rapid temperature rise although many also incorporate an upper fixed temperature setting. The detectors usually rely on lasers or infra-red heat. This type of detector is more sensitive than a simple fixed temperature heat detector and as such is the choice for applications in which reliable performance and early warning are critical but where the environment makes smoke detection impracticable.

REFUGE - A place of reasonable safety in which a disabled person and others who may need assistance may rest or wait for assistance before reaching a place of total safety. It should lead directly to a fire-resisting escape route.

REGULATIONS - These are legally binding and usually tackle one aspect of health and safety i.e. dangerous substances.

RELATIVE DENSITY - the density of vapour relevant to air (e.g. heavier than air gasses tend to lie low to the ground as opposed to ones lighter than air which rise).

RESPONSIBLE PERSON - The 'responsible person' is designed by article 3 of the Order as:

- In relation to a workplace, the employer, if the workplace is to any extent under his control.
- The person who has control of the premises (as occupier or otherwise) in connection with the carrying on by him of a trade, business or other undertaking (for profit or not)
- The owner, where the person in control of the premises does not have control in connection with the carrying on by that person of a trade, business or other undertaking.

RIDDOR - Reporting of Injuries Diseases and Dangerous Occurrences Regulations 2013.

RISK - Likelihood that a hazard will cause harm under defined conditions. Likelihood X Severity. "The likelihood of harm from the hazard being realised and the severity of the possible injury" e.g. the risk of fire starting from overheating electrical equipment and the severity of the event if it were to occur.

REQUIRED SAFE AGGRESS TIME (RSET) & AVAILABLE SAFE EGRESS TIME

(ASET) - When smoke control and alarm systems are designed they take into account the Available Safe Egress Time (ASET), this is the amount of time that elapses between fire ignition and the development of untenable conditions preventing escape. The Required Safe Egress Time (RSET) is the amount of time (also measured from fire ignition) that required for occupants to evacuate a building or space and reach the building exterior or a protected exit enclosure. RSET is the sum of the alarm time, the evacuation delay time (sometimes called the pre-movement time), and the movement time.

SMOTHERING - If the oxygen content of the atmosphere in the immediate neighbourhood of burning material can be sufficiently reduced combustion will cease. The general procedure in methods of this type is to prevent or impede the access of fresh air to the seat of the fire, and allow the combustion to reduce the oxygen contact in the confined atmosphere until it extinguishes itself.

SO FAR AS IS REASONABLE PRACTICABLE - A legal term in quoted in common law and initially introduced into statute law with the Health & Safety At Work Act, it allows the employer to weigh up the cost of taking action with the risks involved in the workplace or process.

SPONTANEOUS IGNITION - Liquid may ignite spontaneously if heated when out in contact with the air.

SPONTANEOUS COMBUSTION - material reacts with the air to produce an exothermic reaction i.e. produce their own heat and will ignite spontaneously without any heat source e.g. oil soaked rags, carbon, coal, fertilisers and oils can all produce their own heat.

STAGED FIRE ALARMS - A fire warning which can be given in two or more stages for different purposes within a given area (i.e. notifying staff, stand-by to evacuate, full evacuation).

STARVATION - The extinction of fire by starvation is applied in three ways:

- by removing combustible material from the neighbourhood of the fire, e.g. turning off the gas.
- by removing the fire from the neighbourhood of combustible material as, for instance, pulling apart a burning haystack or a thatched roof.
- by sub-dividing the burning material, when the smaller fires produced may be left to burn out or to be extinguished more easily by other means.

TEMPERATURE - The measure of heat.

TRAVEL DISTANCES - The actual distance to be travelled by a person from any point within the floor area to the nearest storey exit, having regard to the layout of walls, partitions and fittings.

VAPOUR DENSITY - the weight of a unit volume of gas or vapour compared to (divided by) the weight of an equal volume of air (or, sometimes, hydrogen).

VENTING - Consideration should be given to venting of gas under normal or abnormal conditions. Planned venting of flammable gases such as methane, hydrogen will need flame arrestor devices to prevent flash back into the process. Venting to prevent over pressurisation will need to be designed for the foreseeable capacity to keep the reactor within its over pressurisation design specification

ZONE 0 - A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour or mist is present continuously or for long periods or frequently.

ZONE 1 - A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour or mist is likely to occur in normal operation occasionally.

ZONE 2 - A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.