

A History of Health and Safety

I thought I would start by telling you about a couple of H&S myths -

1. HSE ban school children wearing ties

Few parents would see wearing ties at school as a safety issue. Millions of children have been wearing ties as part of their uniform for years without any problems. Simple precautions such as removing the tie during laboratory work or around machinery make sense. But if the concern is really about children fighting, while clip-on ties may help, the real issue is discipline. So HSE doesn't ban school ties - it's up to schools to make their own decisions about uniforms

2. HSE ban bunting

There are no regulations banning people from hanging bunting at weddings and village fetes or flying flags for sporting events. HSE encourages people to have a bit of common sense about their attitudes to risk, not to make everything risk-free. There won't be an army of inspectors cutting down bunting or insisting flags are lowered. HSE exists to prevent people being killed or seriously injured at work, not to stop people celebrating in style.

And that's part of the problem with H&S nowadays – there are too many myths that give it a bad name but I hope we'll see from this talk that it's something that has changed lives for the better over the last couple of hundred years.

Surprisingly, the first publication to reference H&S was published in Germany in 1556. It was called *De Re Metallica* – Latin for *On the Nature of Metals and Minerals*. It was written by Georg Bauer, whose pen name was the latinised Georgius Agricola and it catalogued the state of the art of mining, refining and smelting metals.

It set out the dangers of mining to its workers but mostly dismissed them noting that most deaths and injuries are caused by carelessness. (This is a theme that we'll see a lot during this tale). The book remained the authoritative text on mining for 180 years after its publication. It was also an important chemistry text for the period and is significant in the history of chemistry.

Here in the UK H&S law has been over 200 years in the making. Its origins lie in political responses to social problems arising from the upheaval of the Industrial Revolution and the inadequacies of earlier Elizabethan Poor Laws.

It's a big subject so I thought a good way to follow the history of Health and Safety would be to look at key laws – why they came about and the impact they had.

The UK's very first piece of Health and Safety Legislation on record was called the Health and Morals of Apprentices Act 1802. Two key requirements under this law were that :

- Children should work no longer than a 12 hour working day
- All workplaces should be hosed down and ventilated at least twice a year

The Factories Act of 1831 extended the limitation of the working day to 12 hours for all those under 18. Interestingly, it also stated that Justices of the Peace who were the brothers of mill owners were now debarred from hearing Factory Act cases

The first Factory Inspectors were appointed by King William IV in 1833. Their main duty was protecting children from injury and overwork. Four inspectors were appointed on a salary of £250 a year.

The daunting scale of the first Inspectors' tasks soon became apparent. Travelling in those days mainly on horseback or by carriage, their territories included the whole of Ireland as well as Scotland, England and Wales. Theirs was a lonely, demanding job, with many nights spent away from home and family and within three years Robert Rickards, who had been given responsibility for practically the whole of the North of England and Scotland, died from overwork.

As an aside, 60 years later, in 1893 the first women factory inspector were appointed. Alexander Redgrave, was the the Chief Inspector of Factories had opposed to the idea of women inspectors, saying in his 1879 annual report:

I doubt very much whether the office of factory inspector is one suitable for women... The general and multifarious duties of an inspector of factories would really be incompatible with the gentle and home-loving character of a woman...

After several years of campaigning by the Women's Protective and Provident League, the London Women's Trades Council and others and amid growing support in Parliament, the first "Lady Inspectors", May Abraham and Mary Paterson were appointed in 1893. They were based in London and Glasgow respectively and earned an annual salary of £200. Remember that 60 years earlier the male inspectors were paid £250 a year!

Much of their early work involved investigating women's hours of employment and enforcing the Truck Acts. I'd not heard of this but the rise of manufacturing industry saw many company owners cashing in on their workers by paying them in full or in part with tokens, rather than actual cash. These tokens were only exchangeable for goods at the company store, often at highly inflated prices. The Truck Act of 1831 made this practice illegal in many trades, and the law was extended to cover nearly all manual workers in 1887.

In 1837 a landmark case, which concerned some falling mutton, resulted in employers having a duty of care to their employees.

On 30 May 1835, Charles Priestley, a servant of butcher Thomas Fowler of Market Deeping in Lincolnshire, was ordered to take a load of mutton to market. The meat was placed in a wagon driven by William Beeton, another of Fowler's employees. Priestley was to accompany the cart only as far as Buckden, some twenty miles from Peterborough, where he was to sell some of the meat. Beeton would then continue on to London to sell the rest.

The four-horse team could not move the wagon and "jibbed," meaning that they stopped in their tracks and would not move forward. Beeton turned to Fowler and told him "he ought to be ashamed of himself for sending such a dangerous load." Fowler responded by calling Beeton "a damned fool for saying anything of the sort." Following this ominous start, the wagon embarked on its journey, having been given a shove by some of Fowler's other employees.

As they neared Peterborough, Beeton and Priestley heard a cracking noise as the cart rolled over some stones so they had the wagon inspected by Gideon Lucas, owner of the King's Head Inn. This inspection was conducted by lantern light because they had left Market Deeping at nine thirty at night but it revealed nothing amiss with the cart. Nevertheless, when they were about a mile south of Peterborough, the wagon's front axle cracked along a third of its length and gave way, overturning the vehicle.

Beeton was pulled ahead of the cart's collapse by the horses, escaping substantial harm. Priestley was less fortunate: some four hundredweight worth of mutton fell on him, resulting in a broken thigh, a dislocated shoulder, and various other injuries.

As was customary after such accidents, Priestley was taken to the closest pub, in this case the King's Head Inn (the one they'd just left). Lying "in a very precarious state," Priestley remained at the inn for *nineteen weeks*, during the course of which he was treated by two surgeons.

Exactly what happened during this convalescence period is unclear, but the total cost of Priestley's care and treatment was a hefty £50 and this was paid by his father.

Once he'd recovered Charles sued his master for compensation relating to his accident. His lawsuit was founded on the principle of a master's vicarious liability for his servant's negligence.

In the judgement, the relation of master and servant implied a common-law duty - on the part of the master, to cause the servant to be safely and securely carried.

The jury awarded Charles £100 after deliberating for less than half an hour and DUTY OF CARE became established. That's something we'll hear more about later.

It took a long time and many tragedies for proper legislation to protect mine workers.

The Coal Mines Act of 1842 prohibited women and children from working in underground mines and allowed for the appointment of a Coal Mines inspector.

This act came about because the public had become aware of conditions in the country's collieries in 1838 after an accident at a colliery near Barnsley when a stream overflowed into the ventilation shaft after violent thunderstorms and caused the death of 26 children; 11 girls

aged from 8 to 16 and 15 boys between 9 and 12 years of age. The disaster came to the attention of Queen Victoria who ordered an inquiry.

Lord Ashley headed the royal commission of inquiry which investigated the conditions of workers especially children in the coal mines. Commissioners visited collieries and mining communities gathering information - sometimes against the mine owners' wishes. The report, illustrated by engraved illustrations and the personal accounts of mineworkers, was published in May 1842.

Victorian society was shocked to discover that children, as young as five or six worked as *trappers*, opening and shutting ventilation doors down the mine before becoming *hurriers* pushing & pulling coal tubs and wagons.

Lord Ashley deliberately appealed to Victorian prudery, focusing on girls and women wearing trousers and working bare breasted in the presence of boys and men which "made girls unsuitable for marriage and unfit to be mothers". Such an affront to Victorian morality ensured the bill was passed.

The Factories Act of 1844 required the safeguarding of mill gearing and prohibited the cleaning of machinery in motion (usually done by children because they were small enough to get inside the machine).

By 1878 good progress was being made and the Factory and Workshop Act of that year consolidated all previous acts and applied the factory code to all trades. No child under the age of 10 was to be employed and children aged 10–14 years could only be employed for half days. Women were prohibited from working more than 56 hours in a week.

The Employers' Liability Act of 1880 gave workers protection for accidents caused by the negligence of managers and it also provided a way for workers to seek compensation when it was demonstrated that the injury was caused by a fellow employee.

This particular act had its origins in the tale of the mutton because one of poor Charles Priestley's arguments was that when the butcher Fowler had directed him to accompany the mutton to market in the wagon, Fowler was under a duty "to use due and proper care that said van should be in a proper state of repair" and "not be overloaded".

More mining.

The Coal Mines Act of 1911 – which was sponsored by Winston Churchill - required mine owners to make provision for rescuing workers.

In 1906 a major explosion at a colliery in northern France, caused the deaths of more than 1,000 miners. The subsequent report blamed the accidental ignition of flammable gases exacerbated by coal dust in the air. Concerned that a similar disaster might happen in British collieries, a Royal Commission was formed.

Sure enough, on 9 April 1908 at Norton Hill Collieries in the West Country, an explosion approximately 1,500 feet underground killed 10 men and boys. As there were no mine rescue teams at that time, the manager and volunteers searched for survivors for 10 days.

This act made it the duty of all coal owners, to whom the regulations applied, to make adequate provision for the establishment of rescue work in mines, and for the maintenance of rescue apparatus.

Here's an act that you might not necessarily associate with Health and Safety – The Motor Car Act of 1903.

Driver licences were first introduced in Britain by this act as a means of identifying vehicles and their drivers because of growing concerns about road traffic accidents.

On 12th February 1898 Henry Lindfield of Brighton, gained the distinction of being the first driver killed as a consequence of a road crash. Although he only sustained injuries to his leg, the shock sustained by the subsequent amputation of the limb was enough to kill him.

Trial and error ruled the day. Learning was never required to be accompanied by training. And, although the number of vehicles was very few, constant crashes still managed to kill and maim drivers, passengers and any innocent passers-by who were usually too amazed to get out of their way. It never occurred to new drivers that there was any skill involved in road procedure. Their cars were big and noisy. Surely cyclists, pedestrians and others could easily hear them coming and should keep out of their way

Mr Toad, of Wind in the Willows fame and driver extra-ordinaire, was certainly based on genuine examples of new car owners and was in no way a figment of Kenneth Grahame's imagination.

All motor vehicles had to be registered, display registration marks and be licensed annually at a cost of 20 shillings (£1); the fee for the first driving licence, which was obtained over the counter at Post Offices, was 5 shillings (25p); and failure to sign your driving licence with your 'ordinary signature' could lead to a fine of up to £5.

Competency tests were introduced by the Motor Vehicles Regulations 1935 applicable to all drivers who started driving after 1st April 1934. Competency tests were suspended in 1939 for seven years due to the Second World War and in 1956 for one year due to the Suez Crisis.

So, another example of Health and Safety improving – or saving – people's lives, and the start of progress in this area. My own view is that the 2 most significant car related laws were the wearing of seat belts and drink drive legislation although Dudley Moore once said that the best car safety device is a rear view mirror with a police car in it.

On 8 October 1957 – a Tuesday - the core of a reactor at Windscale (now Sellafield) caught fire, releasing radioactive contamination into the surrounding area. It was, and still is, the UK's worst nuclear event. The fire burned for three days and there was a release of radioactive contamination that spread across the UK and Europe.

Operators were unsure what to do about the fire because there was no safety plan so they “made it up as they went along”.

First they tried to blow the flames out by running the fans at maximum speed, but this fed the flames.

Next, the operators tried to extinguish the fire using carbon dioxide. The reactors on the site had just received a delivery of 25 tonnes of liquid carbon dioxide but there were problems getting it to the fire in useful quantities. The fire was so hot that it stripped the oxygen from what carbon dioxide could be applied so that didn't work either.

On the morning of the Friday, when the fire was at its worst, eleven tons of uranium were ablaze. Temperatures were becoming extreme (one thermocouple registered 1,300 °C) and the biological shield around the stricken reactor was now in severe danger of collapse. Faced with this crisis, it was decided to use water.

This was risky, as molten metal oxidises in contact with water, stripping oxygen from the water molecules and leaving free hydrogen, which could mix with incoming air and explode, tearing open the weakened containment. Faced with a lack of other options, the operators decided to go ahead with the plan.

About a dozen fire hoses were hauled to the face of the reactor; their nozzles were cut off and the lines were tied to scaffolding poles and fed into fuel channels about a metre above the heart of the fire. This was also unsuccessful in extinguishing the fire, requiring further measures to be taken.

Eventually someone thought of shutting off all the cooling and ventilating air entering the reactor and this did the trick.

No one was evacuated from the surrounding area, but there was a worry that milk might be dangerously contaminated. Milk from about 500 km² of nearby countryside was diluted and destroyed for about a month

The subsequent investigation recommended a body should be set up with responsibility for licensing future civil reactors. This led to the 1959 Nuclear Installations Act which resulted in today's safety standards which are far more demanding than for any other industry, and require nuclear installations to have proper safety plans in place.

It also led to the British Safety Council being founded and led by James Tye. I'd never heard of James Tye but he was something of a charismatic character. Bow-tied, perky and totally unimpressed by authority.

If the Queen was photographed riding a horse without a safety hat, then she duly received a much-publicised thwack from his tongue.

He chided the Princess Royal for allowing her son Peter to sit on the front passenger seat of a car without a seat-belt, and the Prince of Wales for letting Prince Harry sit behind the steering wheel of his Land Rover whilst driving through his Sandringham estate.

Tye campaigned against unsafe working practices, paving the way to the Health and Safety at Work Act, 1974. He served on 12 government committees, compiled reports on everything from safety at work and on the roads, in fairgrounds and on holidays, through to first aid, risk

management, asbestos, product liability, safety training, life jackets, vehicle recall procedures and flammable nightwear. His report on seat-belts was a powerful influence towards change in the law and massive saving of life on the roads.

So, it's no surprise that in 1987 he was named World Safety Person of the Year by the World Safety Organisation.

One last mention of a mining disaster, and one that I'm sure we can all recall - the Aberfan disaster of 1966.

This was the catastrophic collapse of a colliery spoil tip in the Welsh village of Aberfan that killed 116 children and 28 adults on Friday, 21 October 1966. The collapse was caused by the build-up of water in a rock and shale tip, which suddenly slid downhill in the form of slurry.

More than 1.4 million cubic feet of debris covered a section of the village in minutes. The classrooms at Pantglas Junior School were immediately inundated.

The official inquiry blamed the National Coal Board for extreme negligence, and its chairman, Lord Robens, for making misleading statements. When word of the disaster reached him, Robens didn't immediately go to the scene but went ahead with his investiture as Chancellor of the University of Surrey.

He didn't travel to the village until the Saturday evening. NCB officers covered up for him when they were contacted by the Secretary of State for Wales, and falsely claimed that he was personally directing relief work when he wasn't there.

The NCB as an organisation was not prosecuted – it wasn't until the passage of the Corporate Manslaughter and Corporate Homicide Act of 2007 that it was possible for an organisation to be found guilty of corporate manslaughter as a result of serious management failures resulting in a gross breach of a duty of care.

Nine senior NCB staff were named as having some degree of responsibility for the accident and the tribunal report was scathing in its criticism of evidence given by the principal NCB witnesses.

Witnesses to Tribunals of Inquiry were immune from prosecution at that time, and no NCB staff were demoted, sacked or prosecuted as a consequence of the Aberfan disaster or for the evidence that they had given to the inquiry (one notably unsatisfactory witness had even been promoted by the time Parliament debated the Davies Report).

Lord Robens and all of the NCB board members retained their positions.

However, Parliament passed new legislation regarding public safety in relation to mines and quarries to remedy the absence of laws and regulations governing mine and quarry waste tips and spoil heaps - The Mines and Quarries (Tips) Act 1969. This Act was an extension of the earlier Mines and Quarries Act 1954 which didn't mention tips. This had meant that the Aberfan disaster wasn't required to be formally reported to HM Inspectorate of Mines and Quarries because it did not take place on colliery property and no mine workers had been injured or killed; something that the National Coal Board used in their defence.

We can see that up to now changes to the law were largely reactive to disasters but health and safety legislation was put on a different footing with the passage of the Health and Safety at Work Act of 1974. I'm sure that most of you have heard of this as it's generally regarded as a key milestone.

It established a catch all general duty on employers to conduct their undertakings in such a way as to ensure, so far as is reasonably practicable, the health, safety and welfare of persons at work; and also people who weren't in their employment but were connected to it.

It also introduced a new system based on goal-setting regulations, supported by guidance and codes of practice. For the first time employers and employees were to be consulted and engaged in the process of designing a modern health and safety system.

The Act addressed the recommendations of a committee that had been set up in 1969 by Barbara Castle to look at modernising UK health and safety legislation.

The committee was chaired by Lord Robens, the ex NCB Chairman.

In 1969 the Asbestos Regulations required employers to provide local exhaust, masks and respirators; and keep premises clean when working with asbestos although diseases like mesothelioma can take a long time to show (typically asbestos exposure and the onset of cancer are generally separated by about 40 years) so this is one law that has taken a while to be truly effective.

On the evening of Friday 1 June 1974 a massive explosion destroyed a large part of the Nypro (UK) Ltd plant at Flixborough, near Scunthorpe, killing 28 people and injuring 36.

A chemical pipe ruptured, leaking 400 tonnes of cyclohexane into the air, forming a huge vapour cloud. (Cyclohexane is a colourless, flammable liquid with a distinctive detergent like odor, a bit like cleaning products which it is sometimes used in)

On coming into contact with an ignition source, the cloud exploded, completely destroying the plant. Around 1,800 buildings within a mile radius of the site were damaged.

The casualty figures could have been much higher, if the explosion had occurred on a weekday, when the main office area would have been occupied.

The disaster involved (and may well have been caused by) a hasty modification. There was no on-site senior manager with mechanical engineering expertise (virtually all the plant management had chemical engineering qualifications); mechanical engineering issues with the modification were overlooked by the managers who approved it, nor was the severity of the potential consequences of its failure appreciated.

Flixborough led to a widespread public outcry over process plant safety. Together with the passage of the Health and Safety at Work Act in the same year it led to a more systematic approach to process safety in UK process industries, and to explicit UK government regulation of plant processing or storing large inventories of hazardous materials

On 1 January 1975 the Health and Safety Executive was formed under the leadership of John Locke. HSE's remit was to enforce health and safety legislation in all workplaces, except those regulated by local authorities.

In 1977 the Safety Representatives and Safety Committees Regulations established the right of a trade union to appoint safety reps from among the workforce.

This legislation had rightly recognised that those who create risks can help manage them, and management who realise this go a long way to creating a safer work environment.

In 1981 Health and Safety (First Aid) Regulations stipulated that employers must provide equipment for administering first aid to employees if they are injured or become ill at work – something that everyone takes for granted nowadays. I'm sure that there will be a first aid box and a trained first aider in this building.

The Abbeystead disaster occurred on the evening of 23 May 1984 when a methane gas explosion destroyed a waterworks' valve house at Abbeystead, Lancashire, England.

A group of 44 visitors was inside the underground building at the time attending a public presentation by North West Water Authority to demonstrate the operations of the station.

Eight were killed instantly by the explosion, and the others were severely injured.

The explosion also caused the concrete roof to fall down on to the group, destroying the steel mesh floor and throwing some of the victims into the water chambers below which rapidly filled with river water.

Another eight people subsequently died of their injuries in hospital. An 11-year-old boy and his mother were among the dead.

The official inquiry into the disaster concluded that the methane had seeped from coal deposits 4,000 feet below ground and had built up in an empty pipeline. The gas was then ejected into the valve house by the sudden pressure of water as the pumps were switched on.

The cause of ignition has never been determined.

In March 1987, at Lancaster High Court, Binnie & Partners who were the building's designers were found to be 55 per cent liable in negligence for failing to exercise "reasonable care" in assessing the risk of methane.

North West Water Authority was found to be 30 per cent to blame for failing to ensure the plant was safe for visitors and employees by testing for methane and Nuttall's Ltd., who constructed the works, were found 15 per cent liable for failing to carry out systematic tests for methane.

All three appealed, and ultimately Binnie & Partners were found solely liable. Leave to appeal to the House of Lords was refused.

These prosecutions were made against the framework of the Health and Safety at Work Act so we can see that, although a terrible tragedy had occurred, there was now a law that could be used to get justice.

In February 1989 most of the injured survivors and relatives of those who died accepted out-of-court settlements from Binnie & Partners.

A few words about three fire related tragedies that led to improved safety law in that area now.

The Bradford City stadium fire occurred during an English League Third Division fixture between Bradford City and Lincoln City on Saturday, 11 May 1985, killing 56 and injuring at least 265.

The Valley Parade stadium, long-established home to Bradford City Football Club, was known for its antiquated design and facilities, including the wooden roof of the main stand. Warnings had been given about a major build-up of litter just below the seats. The stand had been officially condemned and was due for demolition.

The match against Lincoln City had started in a celebratory atmosphere, with the home-team receiving the Football League Third Division trophy. At 3.40 p.m., a small fire was reported by TV commentator John Helm, but in less than four minutes, in windy conditions, it had engulfed the whole stand, trapping some people in their seats. In the panic that ensued, fleeing crowds had to break down locked exits to escape, and many were burnt to death at the turnstiles, which were also locked.

The inquiry into the disaster, chaired by Sir Oliver Popplewell, led to the introduction of new legislation to improve safety at the UK's football grounds such as the banning of new wooden grandstands at all UK sports grounds, the immediate closure of other wooden stands deemed unsafe and the banning of smoking in other wooden stands.

The Popplewell Inquiry found that the club had been warned about the fire risk that the rubbish accumulating under the stand had posed. The stand had already been condemned, and the demolition teams were due to start work two days later.

However, as there was no real precedent, most Bradfordians accepted that the fire was a terrible piece of misfortune. A discarded cigarette and a dilapidated wooden stand, which had survived because the club did not have the money to replace it, were considered to have conspired to cause the worst disaster in the history of the Football League.

On 18 November 1987, at approximately 19:30, a fire broke out at King's Cross St Pancras tube station, a major interchange on the London Underground. As well as the mainline railway stations above ground and subsurface platforms for the Metropolitan lines,^[a] there were platforms deeper underground for the Northern, Piccadilly, and Victoria lines. The fire started on a wooden escalator serving the Piccadilly line and, at 19:45, erupted in a flashover into the underground ticket hall, killing 31 people and injuring 100.

A public inquiry was conducted from February to June 1988. The investigators reproduced the fire and determined that the fire had started due to a lit match being dropped onto the escalator. The fire seemed minor until it suddenly increased in intensity, and shot a violent, prolonged tongue of fire, and billowing smoke, up into the ticket hall.

London Underground were strongly criticised for their attitude toward fires – similar to NCB at Aberfan. Staff were complacent because there had never been a fatal fire on the Underground, and had been given little or no training to deal with fires or evacuation.

A report was published on the inquiry, leading to resignations of senior management, unlike NCB, in both London Underground and London Regional Transport and to the introduction of new fire safety regulations. Wooden escalators were gradually replaced with metal escalators on the London Underground, wooden panelling was removed from escalators, heat detectors and sprinklers were fitted beneath escalators, and the radio communication system and station staff emergency training were to be improved.

The Fire Precautions (Sub-surface Railway Stations) Regulations 1989 were introduced. Smoking was banned in all London Underground stations, including on the escalators, on 23 November, five days after the fire.

On the evening of 6 July 1988 167 people died in a series of catastrophic explosions and subsequent fire on the Piper Alpha platform. The majority of the emergency systems, including the sprinklers, failed to operate. Structural collapse of the platform quickly followed, causing many of the workers to jump into the sea. The accident remains the worst offshore oil disaster in terms of lives lost and industry impact.

The Cullen Inquiry was set up in November 1988 to establish the cause of the disaster. It was chaired by the Scottish judge William Cullen. After 180 days of proceedings, it released its report in November 1990.

The inquiry was critical of *Piper Alpha's* operator, Occidental, which was found guilty of having inadequate maintenance and safety procedures, but no criminal charges were ever brought against the company.

The second part of the report made 106 recommendations for changes to North Sea safety procedures:

- 37 recommendations covered procedures for operating equipment, 32 the information of platform personnel, 25 the design of platforms and 12 the information of emergency services
- The responsibility to implement was for 57 with the regulator, 40 for the operators, 8 for the industry as a whole and 1 for stand-by ship owners.

These recommendations led to the adoption of the Offshore Installations (Safety Case) Regulations 1992.

So, a fairly this has been a fairly grim history, but I'd like to end with some positives!

Although implementation of the HSAW Act experienced a slow start, it has undoubtedly been a success story. It has clearly contributed to the substantial reductions in fatalities and non-fatal injuries we have seen over the past 40 or so years and clearly placed the responsibility for assessing and managing risks onto employers.

Government minister Mike Penning confirmed in the House of Commons in January 2014 that the 40th anniversary should be appropriately acknowledged and recognised as the HSWA had made Britain 'one of the safest places to work in the world'.

The HSWA can't take all the credit however, as we have also seen Britain's economic landscape change with a substantial decline in the more hazardous heavy engineering industries.

Manufacturing industry too has responded to the principles contained within the HSWA. Cultures have changed. The manufacturing industry is cleaner, quieter, safer and healthier; is more technologically advanced and is a much more attractive place to work. The manufacturing sector understands that good health and safety is good business.

Investment in health and safety is cost effective and can produce excellent rates of return. Health and safety performance is now a component part of the corporate social responsibility agenda and important for 'ethical' investors.

The way in which the HSWA is structured should make it fit for purpose for the next 40 years.

Finally, here's a couple of funny pictures to show that you'll never stop everyone taking risks.

