



Fine for dangerous work at height

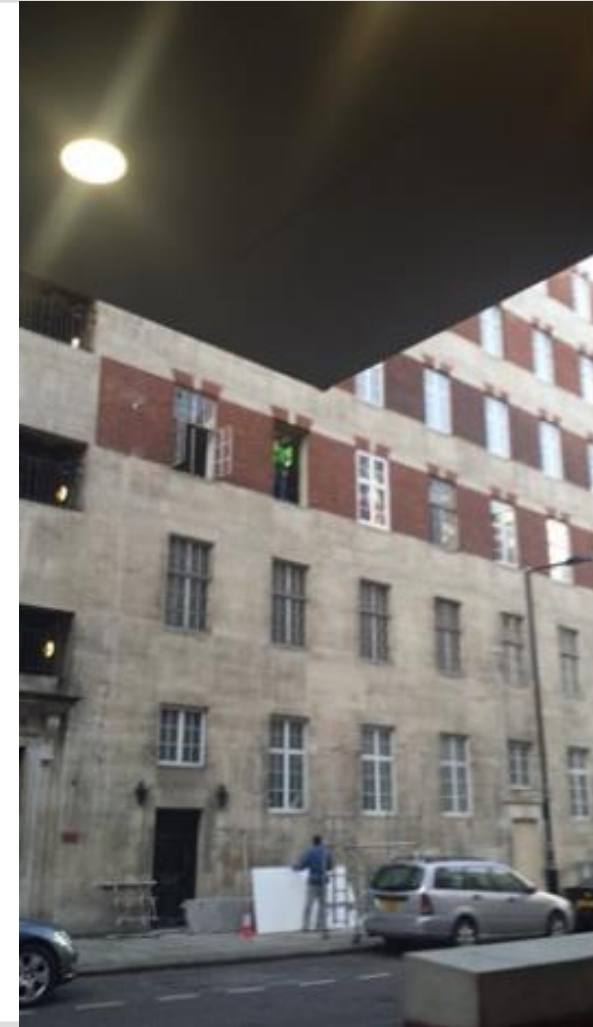
A company which manufactured and installed windows has been fined £36,000 after carrying out work in the West End of London with no measures to prevent the workers falling eight metres and after dropping part of a window onto the public area below.

Westminster Magistrates' Court heard Ideal Glazing (Euro) Ltd carried out window installation work at Aldford House, Park Street, London, between 19 and 20 January 2015 that put their workers and members of the public at risk of suffering serious injuries or a fatality.

The Health and Safety Executive (HSE) carried out an investigation into the work after a member of the public provided photos of workers leaning out of window openings eight metres above the ground. They also provided a video showing the workers dropping part of a window which fell to the ground and missed a nearby pedestrian.

The company had failed to provide equipment such as scaffolding which would have prevented the workers and window falling. None of the workers had received any formal training and no one was appointed to supervise the work. The court heard the company had previously been given advice by HSE in connection with work at height and that an audit by Ideal Glazing's bank had previously identified a range of relevant health and safety failings. The court heard that neither written warning was heeded by the firm.

Ideal Glazing (Euro) Ltd of 29, The Green, Southall, Middlesex, pleaded guilty to breaches of Regulation 6(3) and 10(1) of the Work at Height Regulations 2005 and was fined £36,000 and ordered to pay £1,386 in costs.



30th anniversary of the Challenger shuttle disaster

January saw the 30th anniversary of the Challenger shuttle disaster being marked with tributes for the sacrifice of the crew. The seven astronauts of the space shuttle Challenger were to have spent six-and-a-half days in Earth's orbit, during which they would have deployed a satellite and carried out a number of experiments. One of the crew members, Christa McAuliffe, was to have been the first teacher in space - selected from more than 11,000 applicants under a programme announced by US President Ronald Reagan.

After several launch delays, Challenger lifted off from Florida's Kennedy Space Center at 1138 local time on 28 January. In the first few seconds after lift-off, cameras captured several puffs of dark smoke emerging from a joint in the shuttle's right booster rocket.

About 37 seconds into the flight, Challenger began experiencing severe wind shear conditions - changes in the direction and speed of the wind - which exerted strong forces on the vehicle.

The first flickers of flame from the rocket booster joint emerged 58 seconds into the launch. And these swiftly expanded into a well-defined orange plume. A few seconds later, the shape and colour of the plume changed as the flame pierced the shuttle's huge external tank and began mixing with the hydrogen fuel leaking out.

Some 73 seconds into the 25th US shuttle flight, the external tank tore apart, forming a vast fireball 14km (46,000ft) up as hydrogen and oxygen fuel escaped into the atmosphere. The Challenger shuttle was ripped apart by aerodynamic forces as it was cut loose from the external tank. There were no survivors.

Millions of people following coverage of the launch watched in horror as the vehicle broke apart in mid-air. Within minutes of the disaster, ships and aircraft were despatched to begin the recovery effort in the Atlantic waters where debris fell.

President Ronald Reagan had been due to give the annual State of the Union Address on the evening of the Challenger accident. Instead, he postponed this by a week and gave a televised address to the nation in which he paid tribute to the astronauts. The speech concludes with President Reagan quoting from the poem High Flight by John Gillespie Magee Jr: "We will never forget them, nor the last time we saw them, this morning, as they prepared for the journey and waved goodbye and 'slipped the surly bonds of Earth' to 'touch the face of God'." President Reagan - who was said to have been personally affected by the disaster - set up an independent commission to probe the probable cause of the disaster.

The independent commission set up to investigate the disaster was headed by the former Secretary of State William P Rogers. Among the members were Neil Armstrong, the first man on the Moon; Sally Ride, the first American woman in space; Chuck Yeager, the test pilot; and Richard Feynman, the Nobel Prize-winning physicist.



Temperature on the day of the launch was a contributing factor



The Rogers Commission released its report in June 1986, concluding that the destruction of Challenger had been caused by the failure of the joint in the two lower segments of the shuttle's right solid rocket booster.

More specifically, the failure happened because of the destruction of the "O ring" seals intended to prevent hot gases leaking through the joint while the rocket propellant was burnt during flight.

The commission found that a contributing factor had been the unusually cold temperatures at Cape Canaveral prior to the launch, which had caused the rubber O ring to become significantly less elastic. Richard Feynman memorably demonstrated this effect on television by dipping a sample of the material in ice water to show how it became less pliable.

"I discovered that when you put some pressure on it and then undo it, it doesn't stretch back. It stays the same dimensions for a few seconds at least," Feynman said during one of the commission hearings.

"There's no resilience in this particular material when it's at 32 degrees (F). I believe that has some significance for our problem."

It emerged during the investigation that engineers at Nasa and the booster rocket contractor Morton Thiokol were well aware of flaws with the O ring seals.

The report concluded that Nasa's organisational culture and decision-making processes had been key contributing factors in the accident. Managers had failed to adequately communicate engineers' growing doubts about the seal to senior officials.

Among the recommendations made by the Rogers Commission were design changes to the rocket booster joints and seals.

The investigation also urged Nasa to establish a strong and independent office to look after "safety, reliability and quality assurance". The investigation and the corrective actions undertaken by Nasa led to a 32-month hiatus in shuttle launches. After the shuttles resumed flying in 1988, the programme continued without a serious accident until 2003, when the Columbia shuttle broke up as it tried to re-enter the atmosphere from orbit.

Nasa had made significant changes, both to its management structure and safety procedures, after the Challenger accident.

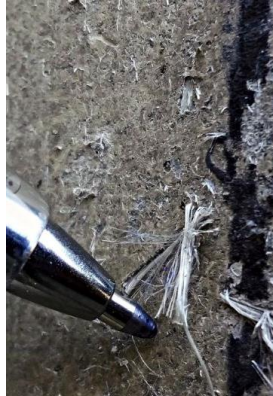
Nevertheless, the accident investigation report for the Columbia disaster drew parallels with Challenger.

"First, despite all the post-Challenger changes at Nasa and the agency's notable achievements since, the causes of the institutional failure responsible for Challenger have not been fixed," the report said.

As a result of the Columbia accident, the US space agency made many improvements to shuttle safety, including inspections for damage sustained on launch.



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Asbestos failings at school

An Oxford based company has been fined after disturbing asbestos insulation board (AIB) at a school.

Northampton Magistrates' Court heard how Amey Communities Limited (ACL) were contracted to carry out roof refurbishment at Lings Primary School, Hayeswood Road, Northampton. During the course of this refurbishment workers from ACL disturbed AIB in a small plant room.

An investigation by the HSE into the incident which occurred on 6 November 2014 found failings in ACL's project management arrangements. They failed to monitor and identify asbestos materials during this specific roof refurbishment work at the school and ensure key personnel had suitable asbestos awareness training.

Amey Community Limited, of Edmund Halley Road, Oxford, pleaded guilty to breaching Regulation 13(2) of the Construction (Design and Management) Regulations 2007, and was fined £20,000 and ordered to pay costs of £1,737.

HSE inspector Sam Russell said after the hearing: "The serious health risks of asbestos which is a class one carcinogen are well-known and publicised. Any maintenance or construction work undertaken in buildings built before 2000 must consider and manage the risk of possible asbestos containing materials. It is important this material is considered at every stage of a construction project and failure to do so places workers, buildings occupants and the public at risk to possible exposure to asbestos fibres."

Worker falls through skylight

A Stoke on Trent roofing company has been fined after an employee suffered serious injury when he fell through a roof skylight at Northwood Lane, Clayton, Newcastle under Lyme.

Newcastle under Lyme Magistrates' Court heard how the young worker accessed an unprotected roof and fell through the skylight.

The injured man was working for his uncle during the summer vacation when the incident occurred. He suffered three cracked vertebrae as a result of the fall.

An investigation by the HSE into the incident that occurred on 7 July 2014, found that there was poor supervision and training.

Storm Roofing Services Limited, of Brindley Ford, Stoke on Trent, pleaded guilty to breaching Regulations 6(2) and 6(3) of the Work at Height Regulations 2005, and was fined £14,000 and ordered to pay costs of £6,919.



Firm fined after fatality

A scrap metal recycling company based in Sheffield has been fined for safety failings after a worker was killed when he was hit in the head by an exploding gas cylinder.

Sheffield Crown Court heard how Tony Johnson, aged 55, was working at the Walter Heselwood recycling site on 16 June 2009 when a pressurised gas cylinder was put through a shearing machine causing it to explode. A large section of the cylinder hit Mr Johnson in the head causing fatal injuries.

An investigation by the HSE found a number of safety failures by the company. They had no effective health and safety management system in place and failed to adequately assess the risks involved with processing different types of scrap material. The company also failed to put in place a range of measures to reduce the risks, for example by providing a blast wall.

Walter Heselwood Limited of Stevenson Road, Sheffield, pleaded guilty to breaching Sections 2(1) and 3(1) of the Health and Safety at Work etc. Act 1974 and was fined £120,000 with £40,000 costs.

After the hearing, HSE inspector Kirsty Storer commented: "Companies processing different materials should have good, documented systems to ensure materials such as pressurised cylinders are sorted and dealt with correctly. Workers also need to be properly trained and supervised...where safeguards are provided they need to be well maintained."

Smiler crash: Alton Towers owner to be prosecuted

The owner of Alton Towers is to be prosecuted over the Smiler rollercoaster crash which left five people seriously injured.

Two women lost a leg and three others were seriously injured when their carriage collided with a stationary carriage on the same track last year.

Merlin Attractions Operation Ltd will appear at North Staffordshire Justice Centre on 22 April.

It will face a charge under the Health and Safety at Work Act 1974.

Neil Craig, head of operations for The Health and Safety Executive in the Midlands, said: "This was a serious incident with life-changing consequences for five people.

"We have conducted a very thorough investigation and consider that there is sufficient evidence and that it is in the public interest to bring a prosecution."

Following an initial investigation, Alton Towers said human error caused the crash.

The theme park said staff misunderstood a shutdown message and wrongly restarted the ride.

"This led to a decision to manually restart the ride, overriding the control system without appropriate safety protocols being followed correctly," a spokesperson said at the time.

No technical or mechanical issues were found with the ride itself.

Alton Towers had a "significant" fall in visitor numbers after the accident on June 2, which resulted in the 500-acre theme park in Staffordshire being shut down for four days.



ISO 45001 Draft International Standard made available

The long-awaited Draft International Standard (DIS) of ISO 45001 is now available.

It will be the first internationally-agreed health and safety management systems standard to apply to organisations across the world.

Standards like ISO 45001 are developed to help organisations manage their processes and risks in a systematic and consistent way.

Reaching the DIS stage means the general public are being consulted about the standard for the first time. It is also the final opportunity for OSH professionals to comment on it.

Richard Jones, Head of Policy and Public Affairs at IOSH, said: "It's fantastic that we've reached the advanced drafting stage of this important health and safety management systems standard and that everyone has a chance to see it and comment.

"This keeps the standard's development timetable on track and represents the fruition of over two years of IOSH close involvement in this international collaborative project."

It is anticipated that ISO 45001 will be completed and published in October. It will replace BS OHSAS 18001 and have a greater emphasis on leadership, worker involvement, context and documented information.



Europe's recent summers were the 'warmest in 2,000 years'

The past 30 years in Europe have likely been the warmest in more than two millennia, according to new research.

The study used tree ring records and historical documents to reconstruct yearly temperatures going back 2,100 years.



Scientists say that past natural variability in temperatures was greater than previously thought. As a result, climate models may be underestimating the frequency and severity of heat waves in the future.

According to the study, Europe has seen an increase in summer warming of 1.3C between 1986 and 2015. In this period there has also been an increase in severe heat waves, most notably in 2003, 2010 and 2015.

The 2003 event was linked to the extra deaths of thousands of elderly people due to heat stroke, dehydration and increased air pollution.

In 2014, researchers from the Intergovernmental Panel on Climate Change found that the period between 1983 and 2012 was likely the warmest 30 years of the last 1,400 in the Northern Hemisphere. But this new, large-scale study, involving 45 researchers from 13 different countries, attempts to put the European temperatures experienced in the past three decades into an even broader context.

They have understood for many years that the last 1,000 years was cooler because of the Little Ice Age, which lasted from the 14th to the 19th Century. They wanted to go as far beyond that as they could to better understand natural variability.

To do this, the researchers used recently developed statistical reconstruction methods, as well as a number of what they term "high quality proxy records", to estimate the European mean temperature variation since 138 BC.

"We've got 2,000 years of reconstruction where we have values for every year and the big surprise was that there wasn't a single 30-year period that was as warm as the last 30 years; that was unexpected," said Prof Danny McCarroll from Swansea University, UK, who was part of the research group.

The researchers then used modern climate models to predict past temperatures and compared the results with their newly reconstructed record.

"The modern models don't reconstruct the full range of climate change in the past, so they are underestimating the natural variability of the climate," said Prof McCarroll.

"When they predict forwards, they predict the effect of CO2 but they have to sit natural variability on top of it. If they underestimate that they underestimate the extremes - so the recurrence of heat waves are likely to be underestimated by these models."

Even though the new reconstruction has a wider range of natural variability in summer temperatures than previous attempts, the temperature data recorded in the past 30 years still sits outside it, pointing towards the same inference as made by the IPCC - that the recent warming is mainly caused by humans.

"The last 30 years lie beyond the bounds of natural variability," said Prof McCarroll.

"Climate modellers are always reticent to say a weather event is because of anthropogenic effects - but if you see those 30 years in the context of 2,000 years, and it's so unusual, it really suggests it is because of the greenhouse effect."

The team found that the first century was the warmest in their analysis, slightly hotter than the 20th Century but according to team, the difference between the two was not statistically significant.

The research has been published in the journal of Environmental Research Letters.

How Northern European waters soak up carbon dioxide

The seas around the UK and the rest of northern Europe take up a staggering 24 million tonnes of carbon each year. It is a mass equivalent to two million double-decker buses or 72,000 747 jets.

The number was produced by scientists studying the movement of carbon dioxide into and out of the oceans. The team, led by Heriot-Watt University and Exeter University, has produced a software "engine" that will allow other scientists to do the same for different parts of the globe.

"It's a software toolbox essentially, that we've made available," said Exeter's Jamie Shutler.

"We've used it for our own work. We've done extensive checking, and now we're putting it out there for everyone else to use."

The amount of carbon dioxide absorbed by seawater acts as a moderator in the climate system. It is estimated that a third of all human-produced CO₂ emissions, from fossil fuel burning and the like, ends up in the oceans. Another third is taken up by land "sinks", with the rest remaining in the atmosphere. Researchers are keen to understand how this budget might change over time. Should the oceans' capacity become diminished in future, it could lead to an acceleration in atmospheric warming. There is also concern that as more carbon dioxide is dissolved into the oceans, it will reduce the pH of the water (a process called ocean acidification), making it harder for corals and similar organisms to make the hard parts in their bodies.

In developing its software, the international team used a combination of satellite and ship-borne measurements. To calculate a flux, scientists have to know the solubility of CO₂ in seawater, as well as the speed of gas transfer. Solubility comes from a combination of measurements of the surface water's temperature and its salinity. And the speed at which carbon dioxide is transferred is governed by the state of the ocean surface, which is affected by wind and waves. The level of biological activity in the water is a factor here, too.

"Temperature is a key driver," explained Dr Shutler. "You typically get more carbon dioxide being taken up at higher latitudes where the water is colder and more storms are able to churn up the surface to increase the transfer. And then you end up with some of the gas being given back up to the atmosphere in latitudes around the equator.

"So, it's constantly moving around but because the water gets drawn down into very deep parts of the ocean, the carbon dioxide gets locked away for long periods of time before it escapes again."

Dr Shutler and colleagues are eager to start using the European Union's new Sentinel-3 satellite, launched earlier this month. That platform carries a suite of instruments that will gather many of the measurements required to run the team's Flux Engine. It has an altimeter that can determine the state of the ocean surface, and a thermal infrared sensor to map water temperature. And its colour camera gathers data that can be used to interpret the biological activity in the water - it will see the blooms of phytoplankton that consume dissolved carbon as they photosynthesise.

The Flux Engine research is described in the Journal of Atmospheric and Oceanic Technology.

Fukushima disaster: Tepco admits late meltdown announcement

The operator of the Fukushima nuclear power plant hit by a tsunami in 2011 has admitted that it should have announced sooner that there was a nuclear meltdown at the site.

It was two months before it was acknowledged there had been a meltdown.



Tokyo Electric Power Company now says the public declaration should have been done within days of the disaster.

Experts have long said the melting began within hours of the reactor being struck by the tsunami.

For the first time, the company, also known as Tepco, admitted there were clear internal regulations stating when a meltdown should be declared - when damage to the reactor core exceeds 5%.

The company told Japanese authorities that damage to one of the reactor cores had already passed 50% three days after the disaster, but it did not acknowledge this publicly for two months.

Tepco says it will investigate why the procedures were not followed.



The meltdown at Fukushima in March 2011 happened because the plant lost power after it was swamped by the tsunami. It lost the ability to cool the nuclear reactor, leading to an explosive build-up of heat and gas.

It was the worst nuclear accident since the Chernobyl disaster in 1986.



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