

[British Science Week: HSE launches its annual Science Review 2018](#)

Marking British Science Week, the Health and Safety Executive (HSE) has today launched its [Annual Science Review](#) with a focus on its work in supporting a sustainable energy sector in the UK.

Made up of 850 engineers and science experts, including mechanical and chemical engineers, explosive specialists and microbiologists, HSE has been working hard this year to establish the safe introduction of low carbon technologies.

The [2018 HSE Annual Science Review](#), packed with case studies and achievements, showcases the work of the team including supporting the safe introduction of blended hydrogen into the National Gas grid, research to enable the introduction of innovative carbon capture and storage technology, as well as the safe implementation of new battery energy storage applications.

Chief scientific adviser and director of research, Professor Andrew Curran, said: "I am very pleased and proud to launch our latest Science Review. Good evidence underpins how we regulate and how we support other organisations and government departments both in the UK and overseas. It is particularly pleasing in the Year of Engineering to be able to highlight our work enabling a green and sustainable future for the energy sector in the UK.

"By anticipating future health and safety challenges today we can prevent incidents and harm to people tomorrow. Introducing our review during British Science Week also shows how the practical application of science and engineering to real world problems helps Great Britain work well."

For more information please go to: <http://www.hse.gov.uk/research/>

Notes to Editors:

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 2. The science review can be read in full at: <http://www.hse.gov.uk/research/content/science-review-2018.pdf>
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Company fined after worker loses top of finger

Llanharan Concrete Co. Limited has today been fined after a worker was injured when his glove got entangled with the moving blade of a table saw.

Cardiff Magistrates' Court heard how the employee of the company was cutting wood with a table saw when his glove got entangled, pulling his finger into contact with it. The injured worker was rushed to hospital where he underwent surgery to amputate the top of his left index finger to the first knuckle.

An investigation by the Health and Safety Executive (HSE) found there was a lack of supervision, no risk assessment or safe system of work was in place for using the table saw, and no training was given to the worker before using the saw. This was despite the company having previously been advised by a HSE inspector, and their own health and safety consultants, to implement safe systems of work for their machinery.

Llanharan Concrete Co. Limited of Llanharry Road, Llanharan, pleaded guilty to breaching Section 2(1) of the Health and Safety at Work Act 1974, and Regulation 3(1) of the Management of Health and Safety Regulations 1999 and has been fined £6,000 and ordered to pay costs of £1,889.

Speaking after the hearing HSE inspector Lee Jones said, "This injury could have easily been prevented had the risk been identified.

"Employers should make sure they properly assess and apply effective control measures to minimise the risk from dangerous parts of machinery."

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2. More about the legislation referred to in this case can be found at: legislation.gov.uk/
3. HSE news releases are available at <http://press.hse.gov.uk>

Journalists should approach HSE press office with any queries on regional press releases.

Help GB Work Well case study highlights science and innovation in health and safety.

During national science week, HSE want to share a case study about how Crossrail's commitment to its workforce uses a science and innovation approach to provide a safe and healthy working environment for drill operatives.

Crossrail recognised early on in their project that innovation and the use and development of new technology had the potential to manage the risks posed by such a project. Championing innovation from the top of the organisation was instrumental to the changes they wanted to make and funding was provided. Everyone was involved and encouraged to bring forward new and innovative ideas.

One challenge faced by Crossrail was the fitting of supporting bracketry for the electrical cable management systems, overhead power and firefighting systems within the railway tunnel environment. There was a requirement to drill some 250,000 holes. To meet this challenge, a bespoke automated drilling rig was developed, which provided multiple drilling points to create service connection holes.

Whilst the potential for increased productivity initiated this project, the core value of safety and the welfare of the workers was paramount. This resulted in the focus being on improving the working environment for operatives. The innovations made to the drilling rig reduced, and under certain conditions eliminated, the issue of hand arm vibration, reduced the need for manual handling, and provided a key health benefit – the control of Silica dust.

For most of its use on the Crossrail project, the rig has mostly been used along the rails of the tunnels. The changes made provided flexibility to allow the rig to be mounted on tyre mounted vehicles, allowing the holes to be drilled where the track hadn't been laid. This gave the programme some schedule benefit with more work fronts being made available.

The process for setting up the drilling operation included a scientific approach using a 3D scan of the tunnel, development of the programme of data for the machine to operate and input of that data to the machine. The rig was designed and constructed to be capable of drilling 16 holes at a time, working through 250 metres of tunnel a shift. Supporting data suggests that undertaking the same operation manually would complete some 30 metres a shift.

The business benefits of this approach included elimination of setting out resources within the tunnel environment, saving time and reducing safety and health risks at the work face. This was the first time this piece of

equipment has been used in an operational environment in the UK. Developing a solution to improve safety and health while also delivering programme / schedule benefits has proved invaluable and can be of benefit to others in the construction tunnelling environment going forward.

This equipment was a wonderful example of collaborative working across the Crossrail project environment, linking client, designers and contractor's delivery teams, who contributed valuable time and resources into making the rig a success.

There is no doubt that the process and schedule benefits will provide some element of commercial saving but the relevance in terms of improving health and safety in the workplace provided the inspiration for engineers on the project and we hope can inspire others in the future to demonstrate that innovative thinking can effectively align health, safety, cost and schedule benefits.

Further details on the development and use of the equipment will be available on the Crossrail Learning Legacy Website.

Make your commitment today visit [make a commitment](#) to join Crossrail in playing a part in #HelpGBWorkWell during British Science Week #BSW18

[Construction firm fined over safety and welfare failings](#)

A construction firm has been fined after failing to safeguard the public and workers from an unsafe excavation and lifting operation, and not providing adequate welfare facilities for workers on site.

Greater Manchester Magistrates' Court heard how, on 23 June 2016, Toft Construction Limited were undertaking the refurbishment of a domestic property in Salford. A Health and Safety Executive (HSE) inspector issued two prohibition notices (PNs) to the company when he found an unsupported, deep excavation in the front garden with insufficient controls to prevent members of the public accessing the hazard. The inspector also found that a steel beam was being lifted unsafely.

The investigation also found that there were no toilet and washing facilities for workers on the site. The company also failed to comply with an improvement notice that was issued after the inspector's visit, after failing to provide suitable and sufficient welfare facilities.

The HSE investigation found that Toft Construction Ltd did not properly plan the lifting operations or carry it out safely. The company failed to take suitable and sufficient measures to prevent falls into the excavation and to

fence it off to prevent risks to the public.

Toft Construction Limited, of Three Acres Lane, Cheadle Hume, Cheshire, pleaded guilty to breaching Sections 2(1), 3(1) and Section 33(1) (g) of the Health and Safety at Work etc. Act 1974. The company also pleaded guilty to breaching Regulations 15(11) and Regulation 2 of the Construction (Design and Management) Regulations 2015.

The company was fined £20,000 with £5,176.90 costs.

HSE inspector David Argument said after the hearing: "These risks could so easily have been avoided by simply carrying out correct control measures and safe working practices. Companies should be aware that HSE will not hesitate to take appropriate enforcement action against those that fall below the required standards".

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[Company fined following unlicensed asbestos removal from primary school](#)

A construction company has been fined after it carried out unsafe and unlicensed asbestos removal during the refurbishment works in a junior school in Dursley.

Cheltenham Magistrates Court heard how, in October 2016, R F Gardiner Limited removed asbestos in an unsafe manner and did not have the appropriate licence to carry out the work. Operatives working for the company were exposed to high levels of airborne asbestos fibres during the removal work as no water suppression was used and they had not been face-fit tested for the face mask they were wearing.

An enclosure under negative pressure was not set up to contain the asbestos

fibres released during the removal and as such asbestos fibres were spread to the surrounding area. Workers also had no way of decontaminating onsite on completion of the work.

An investigation by the Health and Safety Executive (HSE) found that poor planning of the work meant that unsafe and unlicensed asbestos removal work was undertaken.

R F Gardiner Limited of Cirencester Road, Gloucestershire, pleaded guilty to breaching Sections 8(1), 11(1) and 16 of the Control of Asbestos Regulations 2012 and was fined £28,000 and ordered to pay costs of £1,141.80.

Speaking after the hearing, HSE inspector James Lucas said "The company in this case should have ensured appropriate measures were identified during the planning process to include the engagement of a licensed asbestos contractor to carry out correct control measures and safe working practices for the removal of the asbestos.

"Companies should be aware that HSE will not hesitate to take appropriate enforcement action against those that fall below the required standards".

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