

Offshore process isolation failures present major accident hazard risk

Isolation failures are one of the main causes of hydrocarbon releases on offshore installations on the UK Continental Shelf. These are not minor incidents – many have the potential to cause serious injury, fatalities or major accidents if ignited.

The Health and Safety Executive (HSE) continues to find serious failings during inspections and investigations, which has led to significant enforcement action in recent years.

Now the regulator is highlighting the findings from its inspections and investigations to assist operators in improving their safety performance on offshore installations.



A drilling rig and platform used in the oil and gas industry for offshore fuel exploration

Scott Templeton, Principal Specialist Inspector in HSE's Energy Division – Offshore, said:

“The problem is not the procedures on paper, it is that people are not following them. Most UK operators have isolation procedures that broadly follow [HSG 253](#) (the guidance on safe isolation of plant and equipment).

“Effective and lasting improvement requires everyone involved in isolations, from senior management to those carrying out work on the plant, to share a genuine commitment to achieving and maintaining isolation procedures and practice to the required standard.

“We will soon issue updated inspection guidance, so operators know what to expect they will be assessed on. Safe isolation will remain an inspection priority.”

Findings from inspections and investigations

HSE inspections have identified critical gaps in offshore isolation practices:

- Company standards failing to meet HSG 253 requirements – some duty holder ‘selection tools’ specify lower isolation standards than HSG 253 requires.
- Poor hazard identification – risk assessments frequently miss trapped fluids, pressure sources and non-return valves. Electronic systems encourage ‘copy and paste’ approaches which can fail to reflect actual task hazards.
- Inadequate isolation planning – dutyholders are proceeding with complex isolations (multiple passing valves, extended boundaries) rather than waiting for shutdowns, resulting in risks that are not as low as reasonably practicable (ALARP).
- Inaccurate piping and instrumentation diagrams (P&IDs) – plant drawings do not reflect actual conditions, leading to incorrect isolation design and implementation issues.
- Missing or inadequate method statements – step-by-step instructions for applying, testing and removing isolations are either absent, insufficiently detailed or unclear, increasing the risk of human error.

All variations from isolation standards must be risk-assessed and approved by a technically competent, operationally independent person (typically onshore). Control measures identified in risk assessments must be followed.

Questions for your organisation

Procedures

- Do your isolation procedures align with HSG 253?
- Do they give clear guidance on venting and depressurising safely?
- Do they require detailed method statements?

Risk management

- When do you allow single block and bleed isolations on hazardous fluids, and how do you ensure risks are ALARP?
- Have you defined an acceptable leakage rate for isolation valve integrity?
- How do you handle situations where valve integrity is hard to prove, such as flare headers?
- What are your ‘cleanliness criteria’ before breaking containment?

People

- How do you minimise human error?
- Is training and competency assessment suitable for everyone involved in isolations?
- How effective are you at recognising high-risk activities when multiple jobs are happening simultaneously?

Assurance

- Is your monitoring and audit system robust enough to catch procedural violations?
- How do you manage deviations from isolation procedures?
- Do you have a system to consider plant modifications that would reduce isolation risks?
- Do you identify problem valves and fix them?

The solution

Isolation risks exist at every stage – from planning through to completion. Good procedures alone are not enough. Everyone from senior management to those doing the work must genuinely commit to following procedures every time.

HSE is engaging with industry to share learning and improve standards. Updated guidance will be issued soon.

These failures are entirely preventable. The question is whether your organisation will prevent them.

Further information

HSE hosted a webinar on process isolations in the offshore oil and gas sector. Essential viewing for all those involved in isolation activities for offshore installations in the UKCS, from design and installation, through to approval and audit.

This is available to watch via Health & Safety matters website. Register here to watch: [Offshore UKCS Process Isolations – Regulatory Expectations and Learnings](#)

HSG 253 'The safe isolation of plant and equipment' provides comprehensive guidance on isolation procedures.

[Construction company fined after](#)

worker crushed by collapsing wall

- Worker critically injured after wall collapsed into excavation.
- Temporary works were not designed, planned or managed.
- HSE guidance on temporary works is available.

A construction company has been fined £100,000 after a steel-fixer was seriously injured when a newly built blockwork wall collapsed at a site in Poole.

Matrod Frampton Limited pleaded guilty at Bristol Magistrates' Court on Friday 5 December 2025 after the incident left 69-year-old Patrick Grant with life-changing injuries.

The court heard how the breeze block wall had been back-filled too early, before the mortar had properly set. The wall collapsed while Mr Grant was working nearby, crushing him against the concrete floor of the excavation.



The collapsed wall where Mr Grant was working on the excavation

The incident happened on 19 August 2022 at the company's site on Old Coast Guard's Road, Poole. Mr Grant and two colleagues had started work at the lower level of the excavation when the wall at the north end gave way at around 8.30am.

Emergency services attended the scene, but there was no emergency rescue plan in place. The use of an unstable ladder to access the deep excavation delayed rescue efforts, and Mr Grant had to be hoisted out by the fire and rescue service before being airlifted to hospital.

An investigation by the Health and Safety Executive (HSE) found that Matrod Frampton Limited had failed to properly assess a foreseeable risk associated with temporary works on site.

The investigation identified that there was no temporary works design for the blockwork wall, nor for any other temporary work structures at the site. The company had failed to appoint either a temporary works coordinator or a temporary works supervisor, despite this being highlighted as a serious concern in a safety report issued eight days before the incident.

Temporary works on construction sites include trenches, excavations, temporary slopes and stockpiles, formwork, falsework, propping, shoring, edge protection, scaffolding, site fencing and signage.

Without a temporary works procedure in place, groundworkers backfilled the wall prematurely, leading directly to its collapse.

Matrod Frampton Limited, of Riverside Park, Wimborne, Dorset, pleaded guilty to breaching Regulations 13(1) and 19(1) of the Construction (Design and Management) Regulations 2015. The company was fined £100,000 and ordered to pay £8,242 in costs and a £2,000 victim surcharge at Bristol Magistrates' Court on 5 December 2025.

After the hearing HSE inspector, Alexander Ashen, said: "The correct design and execution of temporary works is an essential element of risk prevention in construction.

"This incident illustrates what can happen when temporary works are not properly organised. Matrod Frampton Limited is an established construction company, and a temporary works procedure should have been implemented as a matter of course.

"The fact that the company's own health and safety consultants raised this issue eight days before the incident makes this wholly avoidable event all the more tragic.

"HSE will not hesitate to take action against companies that fail to properly plan and manage serious risks on construction sites."

Guidance on temporary works is available on the [HSE website](#).

This HSE prosecution was brought by HSE enforcement lawyers, Iain Jordan and Rowena Goodwin, and paralegal Officer, Hannah Snelling.

Further information:

1. [The Health and Safety Executive](#) (HSE) is Britain's national regulator for workplace health and safety. We are dedicated to protecting people and places and helping everyone lead safer and healthier lives.
 2. More information about the [legislation](#) referred to in this case is available.
 3. Further details on the latest [HSE news releases](#) is available.
 4. Guidance on temporary works can be found here: <https://www.hse.gov.uk/construction/safetytopics/temporary-works.htm>
 5. HSE does not pass sentences, set guidelines or collect any fines imposed. Relevant sentencing guidelines must be followed unless the court is satisfied that it would be contrary to the interests of justice to do so. The sentencing guidelines for health and safety offences can be found [here](#).
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Cheshire-based property developer fined £45,000 for multiple construction site failures

- Company fined for serious health and safety failures at a Manchester construction site
- The company repeatedly failed to improve standards or fulfil principal contractor duties.
- Free guidance on managing health and safety in construction is available

A Cheshire property developer has been fined £45,000 after the Health and Safety Executive found multiple failures at a construction site in Manchester.

Numerous health and safety failings were found during a site inspection at a home build project being undertaken by Stockport Development Limited on Kingsley Road, Manchester, in November 2023. The inspection by Health and Safety Executive (HSE) found missing edge protection on first floor landings, missing and damaged security fencing, a lack of fire alarms and extinguishers, heavily obstructed walkways, and inadequate welfare provision for workers.

This resulted in four Improvement Notices being served, requiring the company to take action to comply with the law and protect its workers and members of the public.

When it was established that there had been four previous visits to the company's construction sites between February 2021 and March 2023, all of which resulting in enforcement action being taken in relation to poor health and safety standards, an investigation was launched by HSE.

The investigation established that the company had repeatedly failed to fulfil its principal contractor duties and had failed to take heed of previous warnings and advice given by HSE inspectors.



Images from Stockport Development Limited site

Principal contractors have a responsibility to plan, manage and monitor construction work to ensure that it is carried out without risks to health or safety. Further guidance on [Managing health and safety in construction – HSE](#) can be found on HSE’s website.

Stockport Development Limited, of Bird Hall Lane, Stockport, Cheshire, pleaded guilty to a breach of regulation 13(1) of the Construction (Design and Management) Regulations 2015. The company was ordered to pay a fine of £45,000 plus surcharge of £18,000 and costs of £6,297 at Manchester Magistrates court on Friday 12th December.

HSE Inspector, Claire Whitehurst, said: “This company showed a total disregard for keeping its workers and members of the public safe by failing to meet the most basic health and safety standards.

“Principal contractors have a responsibility to ensure they identify and manage risks involved in construction work, and to put safe systems in place to protect all who may be affected by their undertaking.

“Companies should be aware that HSE will not hesitate to take appropriate enforcement action, including prosecution, against those that fall below the required standards, even where no incident has occurred.”

The HSE prosecution was brought by HSE enforcement lawyer Gemma Zakrzewski and supported by HSE paralegal officer Benjamin Stobbart.

Further Information

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[Manufacturer sentenced after a sawmill worker lost his leg following an accident at work](#)

- Worker had one leg amputated below the knee and sustained significant injuries to the other
- Major injury rate for sawmilling is over two and a half times that of general manufacturing
- Free guidance is available, developed in collaboration with HSE and the sawmill industry.

A large wood manufacturer in Shropshire has been fined £160,000 after an employee sustained life-changing injuries when working at their Ellesmere premises.

Robert Stubbs, 37, sustained life-changing injuries when clearing a jammed log on a machine in May 2021. Mr Stubbs climbed onto a stationary conveyor bed and used a metal pole to move a log. The conveyor started to move unexpectedly, dragging his legs across the moving chains and trapping them against a stop plate. Subsequently Mr Stubbs had his right leg amputated below the knee and sustained significant injuries to his left leg.

An investigation by the Health and Safety Executive (HSE) found that E.T.C. Sawmills Limited failed to adequately assess the risks and devise and implement effective measures to prevent access to the dangerous moving parts of the Quad Saw machine or to stop the movement of the dangerous parts before people entered the danger zones. Additionally, the company failed to provide employees with safe systems of work or suitable and sufficient information, instruction, training and supervision to enable safe operation of the machine.



ETC Sawmills Factory

Although standards of health and safety are much improved over recent years, sawmilling remains a high-risk industry with a major injury rate that is over two and a half times that of general manufacturing.

Machinery accidents remain one of the major causes of injury, with lock-out procedures for interrupting mechanised production processes still being a problem area. There is also an average of one fatality every year. HSE sawmill guidance is available to read at [Health and safety in sawmilling – HSE](#).

E.T.C. Sawmills Limited, 281 Penarth Road, Cardiff, CF11 8YF, pleaded guilty to breaching section 2(1) of the Health and Safety at Work etc. Act 1974 and was fined £160,000 and ordered to pay costs of £7,395.51 at Kidderminster magistrates court on Tuesday 9 December.

HSE Inspector Keeley Eves said: “E.T.C Sawmills is one of the largest manufacturers of softwoods for the fencing and pallet industries in England.

“The life-changing injuries sustained by Mr Stubbs could easily have been prevented if the company had acted to identify and manage the risks involved, put a safe system of work in place and ensured that employees were appropriately trained and supervised.”

This HSE prosecution was brought by HSE senior enforcement lawyer, Nathan

Cook and paralegal, Sarah Thomas.

Further Information:

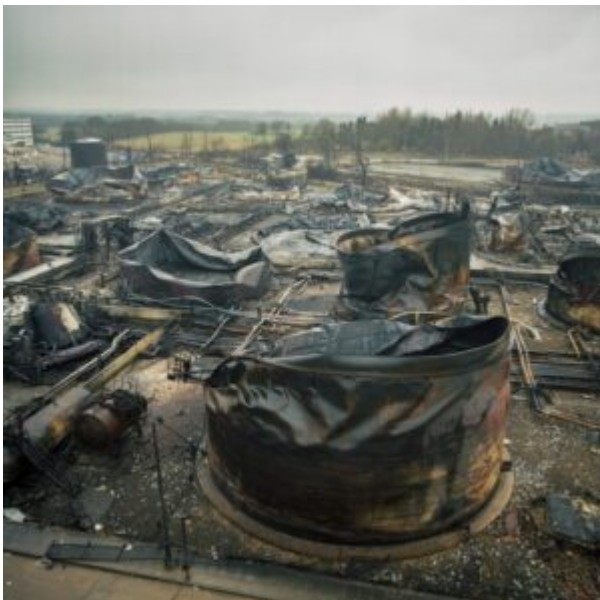
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[Buncefield 20 years on: Turning lessons into safer industry practices](#)

- Two decades after one of Europe's largest industrial incidents, the legacy of Buncefield continues to shape safety standards across the UK's major hazards sector

This week marks 20 years since the Buncefield explosion in Hertfordshire – one of the largest industrial incidents in Europe and the UK's largest peacetime explosion.

The incident



In the early hours of Sunday 11th December 2005 explosions occurred at Buncefield Oil Storage Depot, Hemel Hempstead, Hertfordshire.

In the early hours of 11 December 2005, a storage tank at the Buncefield oil storage depot overflowed, releasing a massive petrol vapour cloud that spread beyond the site perimeter and ignited. The resulting explosions and fires caused widespread damage and disruption, forcing thousands of residents and businesses to evacuate.

Remarkably, no lives were lost. However, the impact on people, property and the environment was profound. More than 2,000 homes and 600 businesses were affected, with damage extending several kilometres beyond the site. The incident left a lasting mark on the local community and fundamentally changed the UK's approach to managing major hazard risks.

Investigation and accountability

The Health and Safety Executive (HSE) and the Environment Agency (EA) jointly led one of the most extensive industrial investigations in UK history. The work involved detailed forensic analysis, engineering assessments and consultation with industry experts to determine how the incident occurred and what could be learned.

The investigation identified systematic failings in tank level monitoring, overflow prevention and safety management systems. Weak oversight and inadequate controls allowed large quantities of petrol to overflow undetected, leading to the release of a vapour cloud that ignited with catastrophic force.

Following the investigation, the operating companies and site owners were successfully prosecuted under the Health and Safety at Work Act. The courts imposed multi-million-pound fines, setting a precedent for accountability in major hazard industries. The case outcomes reinforced the responsibility of operators to maintain robust systems for preventing and mitigating major accidents and the importance of Process Safety Leadership.



The Health and Safety Executive (HSE) and Environment Agency (EA)

investigated the incident and secured convictions against five companies, who were ordered to pay almost £10m in combined fines and costs.

Learning and reform

In the aftermath of the incident, several major reviews and task groups were established to drive improvements:

- The Buncefield Standards Task Group (BSTG) – a joint regulator-industry initiative – developed stronger standards for fuel storage and transfer operations
- The Major Incident Investigation Board (MIIB) published a series of influential reports identifying root causes and recommending wide-ranging reforms to safety leadership, management systems and emergency planning
- The Process Safety Leadership Group (PSLG) was created to oversee implementation, producing its 2009 final report which set out new benchmarks for overfill prevention, automatic shutdown, secondary containment and process safety management.

Onshore major hazard industries have recently relaunched the Process Safety Leadership Principles Guidance taking the important opportunity this anniversary offers to promote good practice.

These reports provided a foundation for industry-wide reform, promoting stronger leadership, real-time monitoring, improved reliability of electrical and control systems, and closer collaboration between regulators and operators.

Sarah Albon, Chief Executive of the Health and Safety Executive, said:

“Twenty years on from Buncefield, we remember not only the scale of the incident but also the determination shown by everyone involved to learn from what happened and drive lasting change.

“The comprehensive investigations, reforms to safety standards, and strengthened collaboration between regulators and industry have created a legacy that continues to protect people and places today. Buncefield demonstrated that when we face serious challenges head-on with transparency and commitment to improvement, we can fundamentally change how major hazards are managed.

“As HSE, we remain committed to applying these lessons, working closely with industry and our regulatory partners to ensure the highest standards of safety and environmental protection across all major hazard sites in Great Britain.”

Legacy and ongoing impact

Two decades on, Buncefield remains a defining moment in UK major hazards safety regulation. The incident exposed critical weaknesses in risk management and highlighted the importance of learning, transparency and continuous improvement in the robust oversight of major hazard sites.

Since then, HSE and the EA have worked with industry and international partners to strengthen safety standards, enhance risk management and ensure consistent enforcement where failings occur.

The lessons of Buncefield continue to shape not only how onshore major hazard industry operates, but how HSE itself develops as a regulator. Investing in people, building capability and fostering a culture of learning remain central to HSE's mission.

Ken Rivers, Board Member for Health and Safety Executive said:

"Buncefield has led to profound changes not just in the operational, technical and regulatory aspects of managing major hazards but also in leadership, and the way industry and regulator work together in the UK.

"It led industry to becoming more self-disciplined, taking ownership, and it led to a more mature and collaborative relationship with the regulator.

"The impact of Buncefield remains with us today continuing to stimulate industry and regulator to work together to protect people and places."

The Buncefield anniversary is an important reminder that vigilance, leadership, continuous learning and robust regulation are essential to protecting people, communities and the environment.

Notes to editors:

- [The Health and Safety Executive](#) (HSE) is Britain's national regulator for workplace health and safety. We are dedicated to protecting people and places, and helping everyone lead safer and healthier lives.
- Buncefield section on our website: [Buncefield – HSE](#)
- Process Safety Leadership Group (PSLG) guidance: [Buncefield Response Programme](#)