

Safe Net Zero 2025

Safety considerations for the production and large scale storage of hydrogen and its derivatives

25 - 26 November 2025

EVENT PROGRAMME



 **slido**

#1606319

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WELCOME TO SAFE NET ZERO 2025

Dear delegate,

It gives me real pleasure to welcome you to this event, the 8th in HSE's Safe Net Zero/ Future of Gas series of events and webinars - the first of which took place in 2017, at the Royal Armouries in Leeds.

A lot has happened since that first event, including obviously COVID, with a number of twists and turns in the deployment of hydrogen in wider society.

Some key developments in hydrogen in the UK have included the UK Hydrogen Strategy and production targets, the Net Zero Hydrogen Fund, the Hydrogen Production Business Model, the Low Carbon Hydrogen Standard, Transport and Storage Plans, setting up of the National Energy System Operator (NESO), Clean Power 2030 and the Aviation Technologies Institute's Fly Zero programme. In addition, there are the Hydrogen Allocation Rounds, the Industrial Cluster Strategy, HyDeploy's blending trials at Keele and Winlaton and SGN's LTS trial, to name but a few.

Recognising these developments, and reflecting where we are today in the journey, this event is focusing on safety considerations for the production and large scale storage of hydrogen and its derivatives, bringing together leaders on these important topics, describing the key projects and broader developments, plus the challenges encountered and hopefully overcome.

The first day will start by setting the scene with presentations from government, followed by the international perspective and current research and innovation. We will then move on to hear about industrial practice, standards and guidance and principles of good practice.

We have included several panel sessions to generate discussion. We hope that this will flow down and you will all take the opportunity to network and exchange information with other delegates, and with our sponsors and supporters.

By sharing knowledge and working collaboratively, we will not only help the UK move forward, but we will also position the UK as global leaders in energy innovation, technology and know-how, and influence and enable international change.

Please enjoy the conference and I very much look forward to speaking with you over the next couple of days.



Stuart Hawksworth

Head of Centre for Energy and Major Hazards,
Health and Safety Executive

PROGRAMME

Tuesday 25 November 2025

09:00 - REGISTRATION, REFRESHMENTS, EXHIBITION VIEWING AND NETWORKING	
10:00 - WELCOME	
Welcome	Stuart Hawksworth , Head of Centre for Energy and Major Hazards, Health and Safety Executive
Virtual welcome	Sarah Newton , Chair, Health and Safety Executive
10:15 - SESSION 1 KEYNOTE	
Opening keynote address	Harry Brazier , Hydrogen to Power Lead, Hydrogen Demand, Department for Energy Security and Net Zero
10:45 - SESSION 2 THE INTERNATIONAL PICTURE	
Chair's introduction	Kate Jeffrey , Health and Safety Executive
Latest insights into international liquid hydrogen research	Thomas Jordan , Karlsruhe Institute of Technology, Germany
Ensuring safe and efficient ammonia transport from NEOM to international markets	Simon Earnshaw , Air Products
Asia Pacific and its hydrogen priorities	Nick Smith , Global Decarbonisation Advisory, Australia
PANEL SESSION	
12:00 - LUNCH, EXHIBITION AND NETWORKING	
13:15 - SESSION 3 RESEARCH AND INNOVATION	
Chair's introduction	Nigel Holmes , Hydrogen Scotland
FutureGrid: Results from live trials	Lloyd Mitchell , National Gas
The role of hydrogen in a decarbonised energy system	Sarah Kimpton , DNV
Enabling hydrogen flight to take off – learning by doing, a testing perspective	Mark Eldridge , Element Materials Technology
Developing the safety case for membrane-free electrolysis	Paul Cassidy , CPH2
PANEL SESSION	
14:45 - REFRESHMENTS, EXHIBITION AND NETWORKING	
15:15 - SESSION 4 LARGE SCALE HYDROGEN PRODUCTION AND STORAGE IN THE UK	
Chair's introduction – Large scale hydrogen storage and production: Options and challenges	Nigel Holmes , Hydrogen Scotland
Safety considerations for electrolytic hydrogen production	Joe Bailey , Progressive Energy
Integrating hydrogen production and large-scale storage for the future energy system	Chris McClane , Centrica
Chlor-Alkali experience: Enabling safe and scalable green hydrogen production	Rob Craig , INEOS Technologies
PANEL SESSION	
16:35 - END OF DAY ONE	

Wednesday 26 November 2025

09:00 - ARRIVAL AND REFRESHMENTS	
09:30 - WELCOME	
Welcome and overview from Day 1	Stuart Hawksworth , Health and Safety Executive
09:40 - SESSION 1 OPTIONS AND CHALLENGES FOR LARGE SCALE STORAGE	
Chair's introduction	Stewart McEwen , SJM2050 Ltd
Safety aspects of hydrogen storage projects	Hippolyte Djizanne , INERIS
Storage and transportation - the implications of scaling hydrogen	Will France , ERM on behalf of EEMUA/EI
Safety aspects of hydrogen in the LTS trial at Grangemouth	Nancy Thomson , SGN
PANEL SESSION	
10:50 - REFRESHMENTS, EXHIBITION AND NETWORKING	
11:20 - SESSION 2 STANDARDS AND GUIDANCE	
Chair's introduction	Ian McCluskey , IGEM
Addressing net zero health and safety challenges	Mark Scanlon , Energy Institute
Environmental permitting and guidance for hydrogen production	Jane Durling , Environment Agency
Sustainable hydrogen and environmental permitting in Scotland	Jacqui Lang and Ian Brocklebank , SEPA
PANEL SESSION	
12:40 - LUNCH, EXHIBITION AND NETWORKING	
13:40 - SESSION 3 PRINCIPLES FOR GOOD PRACTICE	
Chair's introduction	Charles Oakley , HSE
Scaling and tailoring safety assurance on the journey to large scale storage	Ed Macfarlane , Abbot Risk Consulting
Leveraging inherent safety to reduce hydrogen project risks and costs	Helen Conlin , Cairn Risk
Safety distances of hydrogen installations: global approaches and UK perspective	Stuart Williams , Air Products
How far is far enough? Novel tool to calculate separation distances for H2 installations	Karina Almeida , Gexcon
PANEL SESSION	
15:05 - CLOSING REMARKS AND CONFERENCE CLOSE	

SPEAKER BIOGRAPHIES



Stuart Hawksworth

Stuart leads HSE's Centre for Energy and Major Hazards and has over 33 years' experience in the area of major hazards, many of these focusing on the safety of hydrogen as an energy vector. He has broad experience in relation to hydrogen, including being the past President of the International Association for Hydrogen Safety, a member of the European Hydrogen Safety Panel and an advisor to the EPSRC HyNET project.

Harry Brazier

Harry Brazier is a Policy Lead at the UK Department for Energy Security and Net Zero (DESNZ), focusing on hydrogen to power demand. He previously held several roles at Ofgem, including Senior Policy Lead on hydrogen, Policy Manager for gas decarbonisation and Policy Analyst in European Affairs. He began his career in audit within renewable energy schemes. Harry holds a first-class master's degree in Chemistry with Industrial Experience from the University of Bristol.



Kate Jeffrey

Kate Jeffrey is a Senior Policy Advisor in HSE's Engagement and Policy Division enacting HSE's strategic objective to enable industry to innovate safely to prevent major incidents, supporting the move towards net zero. Kate has experience in assessing regulatory frameworks for new, emerging and evolving technologies. Before delivering strategic policy work, Kate worked as a Scientist in HSE's Explosive Atmospheres team, developed and piloted HSE's 'Hydrogen: the Fundamentals' training course and held a position on the executive board of the International Association Hydrogen Safety. Kate was also a contributing author to the Hydrogen Safety for Energy Applications Handbook.



Thomas Jordan

Thomas Jordan is Senior Researcher at the Karlsruhe Institute of Technology (KIT). He heads the Hydrogen Department of the Institute for Thermal Energy Technology and Safety ITES at KIT and is coordinating publicly and industry funded research work for hydrogen safety. Thomas has a doctoral degree in Mechanical Engineering from University of Karlsruhe and is the co-founder and past President of the International Association for Hydrogen Safety. He has published more than 150 papers and 2 books related to hydrogen safety.





Simon Earnshaw

Simon is the European Production & Supply Chain Director (Large Project Business Integration) at Air Products. He heads up a team responsible for establishing Air Products' blue and green hydrogen supply chains in Europe. This ranges from the start up and operation of new large process production facilities (in Europe and Uzbekistan), through product transportation equipment and handling, to customer supply for mobility and industrial heating applications.

Nick Smith



Nick is the Managing Director of Global Decarbonisation Advisory (GDA) and has also recently started a development and investment fund, Global Decarbonisation Infrastructure. The companies bring together people, projects and capital to accelerate decarbonisation across the energy, mineral processing and hard to abate industrial sectors.

Nick is the current President of the International Association for Hydrogen Safety, as well as holding a range of local and international committee positions related to the energy and decarbonisation sectors, in the Asia/Pacific region.

Nick holds a master's degree in Business Administration, is a graduate of the Australian Institute of Company Directors and a Fellow of the Australian Institute of Energy.



Nigel Holmes

Nigel Holmes is CEO of Hydrogen Scotland, formerly known as the Scottish Hydrogen and Fuel Cell Association (SHFCA).

Nigel first became involved in renewables and hydrogen over twenty years ago, joining SHFCA as an individual member when it was established in 2004 and has been Chief Executive of Hydrogen Scotland since 2011.

Hydrogen Scotland brings together over 200 members from industry, academia, and the public sector who are involved in a growing number and scale of hydrogen projects.



Lloyd Mitchell

Lloyd has a decade experience in gas transmission, leading high-profile projects focused on repurposing the network to enable the energy transition. As Engineering Lead on the pioneering FutureGrid Phase 1 project, Lloyd helped demonstrate hydrogen's role in a decarbonised future. Lloyd now holds the role of Innovation Demonstration Manager, heading the FutureGrid Deblending for Transport initiative, exploring how the gas transmission system can support low carbon transport solutions, as well as leading projects on consequence modelling and hydrogen blending.

Sarah Kimpton

Sarah Kimpton is a Vice President in DNV's Energy Systems business in the UK and Ireland. She has a particular interest in how hydrogen can be used to decarbonise the hard to abate sectors as part of a whole low-carbon energy system. Sarah is a chemist by training, with a PhD from University College London. She has over 30 years' experience working with industry and particularly enjoys the challenge of innovation projects



Mark Eldridge

Mark Eldridge is Director of Hydrogen for Element Materials Technology and is responsible for leading the hydrogen initiatives and technology partnerships across the group. This portfolio covers gaseous and liquid hydrogen testing, across a broad portfolio from modelling and simulation, engineering propulsion and fuel systems to fracture mechanics and materials science. Prior to joining Element, Mark led the UK energy business of Kiwa as Divisional Director for their global hydrogen focus and has worked in aerospace with GKN and across the steel industry. Mark holds a PhD in Welding Metallurgy and has worked closely within the materials testing industry for over 20 years in various technical, operations and senior leadership roles.



Paul Cassidy

Paul Cassidy is the Chief Technical Officer at Clean Power Hydrogen Group Ltd. Paul has a wealth of knowledge in the engineering and technology field, with a track record of scaling up technologies from the laboratory to implementation at a commercial scale. Paul has significant experience and insight into the methanol industry and its linked application in hydrogen-based technologies and markets.

Paul received a Master of Engineering from the University of Cambridge and has won multiple awards in the sector, including the 2016 Institution of Chemical Engineers Global Awards, Outstanding Achievement Award and Industry Project Award for Gas Heated Reforming Development and Commercialization and the 2014 Institution of Chemical Engineers Sustainable Technology Award.





Joe Bailey

Joseph Bailey is Head of Projects at Grenian Hydrogen which is a joint venture between Progressive Energy, Statkraft and Foresight. As Head of Projects, he is responsible for the development of the company's electrolytic hydrogen portfolio including the Cheshire Green Hydrogen project (shortlisted under HAR1) and the Grenian Hydrogen St Helens project (shortlisted under HAR2). Joe is responsible for all elements of project delivery including commercial, financing, engineering, planning and permitting. Joseph was shortlisted for the Hydrogen Future Leaders Award by Hydrogen UK in 2023 and is a member of the Hydrogen Delivery Council Supply Chain and Skills working group.

Chris McClane



Chris McClane is an experienced Operations Engineer and Project Manager, with 25 years' experience working in large-scale petrochemical and oil and gas operations. Chris is currently Centrica's Interface Manager for energy transition projects, working in Centrica Energy Storage's New Energies Team.

He has supported operations at Centrica's Rough gas field and Easington Terminal assets for over 12 years and is currently responsible for managing stakeholder engagement and subsurface technical feasibility activities relating to redevelopment of Rough facilities for hydrogen-ready gas storage.

Chris is also working on the Kestrel gas storage project in Ireland, and Centrica's hydrogen-to-power developments in the UK.



Rob Craig

Rob Craig is the Technology Manager for INEOS Electrochemical Solutions, leading the company's electrolyser development activities. He holds a master's degree in Chemical Engineering from Newcastle University and brings nearly 20 years of experience in operations, plant design, project delivery, and technology development across the chlor-alkali and petrochemical industries. He is responsible for development of the company's Alkaline Water Electrolyser (AWE) technology, Hydræon, including oversight of demonstration unit operations.



Stew McEwen

Stew McEwen is a highly experienced policy adviser and consultant specialising in clean energy and hydrogen safety. With over 30 years at HSE, Stew played a key role in developing health and safety policy, particularly in the gas and pipelines sector. Since retiring from HSE, he has supported Progressive Energy Ltd on the HyDeploy hydrogen blending project, contributing vital safety evidence for government decision-making. Stew also serves as the Non-Executive Director on the board of SGN Futures (H100) Ltd, providing independent oversight of the pioneering, world-first trial in Fife, Scotland, which will supply up to 300 homes with 100% green hydrogen for heating and cooking. He holds a BSc (Hons) in Environmental Studies from the Open University.



Hippolyte Djizanne

Hippolyte Djizanne is Head of Studies and Research at Ineris, the French National Institute for Industrial Environment and Risks. He holds a master's degree in Rock Mechanics from École Centrale Paris and a PhD from École Polytechnique. At Ineris, he specialises in risk assessment for brine production fields and the mechanical stability of salt caverns for underground energy storage, including hydrogen. He plays a leading role in European Underground Hydrogen Storage demonstrators such as HyPSTER and FrHyGe. As a member of the Solution Mining Research Institute (SMRI) Research Committee, he helps shape research priorities that serve operators, service companies, researchers and consultants across the solution-mining industry.



Will France

Will is a Managing Consultant at ERM, specialising in industrial decarbonisation and hydrogen. He has led numerous projects developing decarbonisation strategies and transition plans for large industrials and infrastructure funds. Will has also played a pivotal role in advancing project development within the hydrogen and CCS sectors, alongside conducting comprehensive global infrastructure assessments for these sectors. Will has previously managed the delivery of over £100 million of UK government innovation funding, covering themes such as industrial decarbonisation, energy efficiency and hydrogen fuel switching. His extensive program and project management experience has been instrumental in driving innovation and supporting dozens of businesses in developing cutting-edge technologies.



Nancy Thomson

Nancy Thomson has over 17 years' experience in high pressure pipelines, onshore and offshore, all over the world. For the last 5 years, Nancy has been leading LTS Futures which investigates repurposing high pressure gas assets to hydrogen. Over the summer, the project has delivered world firsts in operating hydrogen pipelines. This will feed into the blueprint, so we can understand what assets can be repurposed, how they can be repurposed and how much it will cost.

Ian McCluskey



Ian is the Head of Technical and Policy at the Institution of Gas Engineers and Managers (IGEM). He is a Chartered Engineer and Fellow of both IGEM and the Institution of Mechanical Engineers (IMechE). With over 37 years gas industry experience, Ian is a Director of the Gas Industry Safety Group and currently sits on a wide variety of industry committees, expert panels and working groups producing new engineering standards for the sector.

Recently, Ian led the IGEM team on the DESNZ Hydrogen Standards and Skills for Heating programme which delivered new standards for the training of downstream engineers. He also manages the IGEM Hydrogen Committee and is a member of the Royal Academy's National Engineering Policy Centre for Net Zero.



Mark Scanlan

Mark Scanlon leads the health, safety, environment and sustainability (HSE&S) aspects of the Energy Institute's Technical and Innovation programme. Working collaboratively with international stakeholders, from industry operating companies through to regulators and service suppliers, the Technical and Innovation programme develops and produces scientific and technical resources, such as guidelines and research reports, on topics such as occupational health, process safety, asset integrity, emissions management and the circular economy.

Mark leads a team of project managers that deliver the HSE&S programme for energy industry sectors from upstream oil and gas, through petroleum refining and wider downstream, to renewables such as hydrogen and carbon capture usage and storage.



Jane Durling

Jane is a Chartered Chemical Engineer developing advice and guidance for hydrogen production, storage and use as part of the Environment Agency's hydrogen and CCUS programme.

Previously, Jane was part of the EA's onshore oil and gas programme focusing on international engagement and air quality.

She was seconded to HSE to support the environmental aspects of the transposition of the Seveso III Directive into legislation as COMAH 2015.

As an environmental regulator with the EA, Jane has extensive experience of compliance and permitting of large industrial processes and COMAH regulation, after working in the chemical industry as an engineer and manager.

Jacqui Lang



Following many years as an inspector/permitter with SEPA, Jacqui works in a policy role implementing legislation around a number of industrial and energy centred activities, latterly leading for SEPA in understanding the environmental implications and requirements around regulating hydrogen production and use in Scotland.

Ian Brocklebank



Ian joined SEPA after 16 years as a process engineer in the chemical industry in various technical and production roles. As a specialist covering the Environmental Authorisation (Scotland) Regulations [EASR] and COMAH, Ian is involved in all aspects of permitting and site regulation for industrial activities including hydrogen production.



Charles Oakley

Charles Oakley studied Mechanical Engineering at Bristol University and was sponsored by the Ministry of Defence, before going on to work for British Aerospace, Frazer-Nash Consultancy and the Transport Research Laboratory, finishing at the latter as Director of the Vehicle Engineering Division. Charles joined HSE's Science and Research Centre in 2007, leading various scientific groups including the Mathematical Sciences Division, before moving into a number of corporate roles, leading organisation-wide initiatives including the development of new business processes, revenue streams and software products. More recently as Head of

Strategic Partnerships, Charles has led on plans to develop the Centre's 550-acre experimental site, particularly to support work on net zero fuels and energy including hydrogen, while developing relationships and partnerships across government and the private sector.

Ed Macfarlane

Ed Macfarlane is a System Safety Engineer with over 20 years' experience gained across range of industries including renewables, aerospace, nuclear, petrochemicals, defence, rail and oil and gas. Ed has supported hydrogen projects across different industrial sectors through the whole value chain from production, through transport and storage, to end use. This has been at multiple different scales from lab to demonstrator to commercial application and includes the safety management systems and associated safety documentation. Ed has experience of identifying and supporting the integration of safety and systems engineering activities.



Helen Conlin

Helen is a Chartered Chemical Engineer, Fellow of IChemE and an IChemE Registered Safety and Loss Prevention Professional with over 30 years' experience providing leadership and technical expertise across diverse high and medium high hazard sectors. Helen has worked within industry, regulation and consultancy, with a wide range of public and private sector organisations, to deliver risk, environmental and quality management projects, with a focus on improving operational performance and reducing risk.





Stuart Williams

Stuart joined Air Products in 1997 and has held various positions in research and development, customer engineering and applications technology. Stuart also spent 3 years working for the European Industrial Gases Association as a Technical Manager supporting a wide range of working groups and global harmonisation activities.

He is currently Global Operations Process Safety Lead, supporting all process safety activities on Air Products operating sites across the globe. He sits on Air Products' Oxidizer Safety Committee as a technical expert.

Stuart is a Mechanical Engineer and a graduate of the University of Oxford. He is a Chartered Engineer and a Fellow of the Institution of Mechanical Engineers.

Karina Almeida



Karina Almeida Leñero is Technical Lead for all matters related to the Energy Transition at Gexcon UK, with a particular focus on hydrogen safety. She has over 20 years' professional experience in the energy industry, the last 14 years in process safety. Karina started her career at Shell as a Research Chemist, before spending 6 years as Technical Safety Engineer. She then became Technical Lead for process safety at TGE Gas Engineering, responsible for the safe design of cryogenic gas terminals (mainly LNG, NH₃ and ethylene). Her current role encompasses not only hydrogen applications, but also carbon capture and storage, ammonia, and other technologies related to alternative energy. Karina has also developed several award-winning hydrogen safety training courses, which she delivers in collaboration with the Institution of Chemical Engineers (IChemE), with the objective of ensuring participants have the knowledge required to design and operate safe hydrogen installations.

MEET OUR EXHIBITORS

Hydrogen Scotland is the network for organisations advancing Scotland's hydrogen economy.

Find out more about Hydrogen Scotland on their [website](#).



Gexcon is a safety and risk management partner for the world's leading industries.

Find out more about more about Gexcon on their [website](#).



HSE's research and consultancy services draw together a unique blend of scientific expertise and regulatory insight to address health and safety risks, for organisations or as part of shared research programmes.

**RESEARCH AND
CONSULTANCY FROM**



To learn more about how HSE can support organisations, visit www.hse.gov.uk/researchandconsultancy

Hydrogen: The Fundamentals

Introduction

Hydrogen is one of the low carbon energy solutions that will be critical for the UK's transition to net zero.

But using hydrogen as an energy carrier is not a new phenomenon. Hydrogen has been manufactured, used or dealt with as a biproduct by industry for over 100 years across a number of sectors and has been handled safely by a professional workforce with few incidents and accidents.

With more novel and innovative applications for hydrogen anticipated as we approach our 2050 net zero targets, we need to keep individuals and workplaces safe from new risks, whilst not forgetting those that existed before. A fundamental understanding of hydrogen's physical properties and behaviours will be key to safely developing and deploying it as a net zero energy vector.

This course will provide that foundation knowledge and give examples of risks and control measures when using hydrogen to enable delegates to understand and identify the hazards hydrogen could pose to their own environments and intended uses.

Learning outcomes

Delegates will be provided with information that will help them to:

- understand the physical properties and novel phenomena of hydrogen and how it differs from traditional fuels;
- understand the behaviour of hydrogen in different phases;
- identify hazards posed by the introduction of hydrogen into an existing system;
- know the regulations that relate to the use of hydrogen, thresholds, and when they apply; and
- design appropriate procedures for handling liquid and gaseous hydrogen.

What the course will cover

This course is designed to provide an introduction to the properties and behaviour of hydrogen and its effect on materials and system design, including gas detection, purging and gas handling. Delegates will examine the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR), have an introduction to Hazardous Area Classification (HAC) and look at risk mitigation and control measures. Delegates will establish how to respond to an emergency, how to choose appropriate PPE and will explore the use of liquid hydrogen.

Who should attend?

This course is designed for new entrants to the hydrogen sector, those already working with hydrogen and need a greater understanding of its fundamental properties and behaviour or those whose organisations are considering energy transition to hydrogen-based technologies.



Key facts

Available as:

- Open courses
- In-company training
- Live online

Duration:

- 1 day (face-to-face)
- 2 part days (live online)

Scan below to find out more
or to book a course:



DSEAR: Gases and Liquids

It is recommended that attendees complete this course before attending the **'DSEAR: Hazardous Area Classification for Gases and Liquids'** course.

Introduction

DSEAR places duties on employers and the self-employed to protect employees, contractors and others from the risks from fires and explosions related to dangerous substances stored and used in the workplace.

This course explains the duties that DSEAR places on employers and the actions needed to comply with them. It focuses particularly on the assessment of risks and the application of controls to both minimise and mitigate those risks.

Learning outcomes

Delegates will be provided with information that will help them to:

- know their legal duties under DSEAR;
- be able to act as an intelligent customer when commissioning DSEAR assessments;
- be able to understand the key concepts related to hazardous area classification and common approaches; and
- be able to identify potential ignition sources and select appropriate ATEX rated equipment.

What the course will cover

The course will help delegates understand their legal duties under DSEAR, as well as the moral and financial reasons why they should comply with the regulations. Delegates will be shown how to assess, control and mitigate the risk from dangerous substances and will be introduced to the equipment for use in explosive atmospheres. Delegates will be introduced to the key definitions and concept areas of hazardous area classification and the standards that apply. The course also looks at hazardous area classification for laboratories and small-scale operations, as well as covering mists and the control of ignition sources.

Who should attend?

This course is aimed at managers and supervisors of process plant and operations where dangerous substances are used or stored, or safety specialists who need to understand how to manage the risks from dangerous substances within the framework of the DSEAR duties. This course is intended to allow them to act as an intelligent customer when commissioning work related to DSEAR.



Key facts

Available as:

- Open courses
- In-company training
- Live online

Duration:

- 1 day (face-to-face)
- 2 part days (live online)

Scan below to find out more
or to book a course:



DSEAR: Hazardous Area Classification for Gases and Liquids

This course is aimed at those with some existing experience of DSEAR and hazardous area classification. It is recommended that delegates without such experience complete the **'DSEAR: Gases and Liquids'** course prior to taking this course.

Introduction

DSEAR requires that areas where accidental releases of dangerous substances could occur are identified and classified according to the likelihood of the formation of a flammable atmosphere.

Within classified areas, sources of ignition should be controlled. This course is designed to provide delegates with the knowledge to carry out straightforward hazardous area classification in accordance with commonly used standards or to act as an intelligent customer when contracting others to deliver this role.

Learning outcomes

Delegates will be provided with information that will help them to:

- understand how the regulations apply in relation to hazardous area classification;
- know what standards are available for area classification;
- understand which area classification standards are most applicable to them and understand which are applicable to their business;
- be able to perform a straightforward area classification study; and
- be able to act as an intelligent customer when commissioning hazardous area classification.

What the course will cover

Delegates will be introduced to DSEAR and the classification of hazardous substances and will look at the relevance of the physical/chemical properties of gases, liquids and flammable mists to area classification. The classification of hazardous areas by zone will be explained, including the concept of a zone of negligible extent (NE). Delegates will look at the importance of ventilation in area classification and the concept of Vz based methods. Delegates will look at hazardous area classification standards and codes and be given an overview of what equipment to use in classified areas. Finally, delegates will look at the national and international standards and guidance commonly used in area classification including practical examples of their use.

Who should attend?

This course is suitable for those who require a detailed understanding of the process of hazardous area classification, including process safety engineers, electrical engineers and health and safety practitioners.

For a more fundamental introduction to hazardous area classification, the **'DSEAR: Gases and Liquids'** course would be more appropriate.



Key facts

Available as:

- Open courses
- In-company training

Duration:

- 1 day (face-to-face)

Scan below to find out more
or to book a course:



COMAH: Compliance for Lower Tier Establishments

Introduction

The Control of Major Accident Hazards (COMAH) Regulations 2015 place duties on establishments storing or processing quantities of hazardous materials above thresholds defined for each substance. Establishments where the quantities exceed the lower of the thresholds are known as 'lower tier establishments'.

This course identifies the COMAH duties for lower tier establishments and what needs to be done to comply with them. It also explains the duties that fall to the Competent Authority (CA) and local government.

Learning outcomes

Delegates will be provided with information that will help them to:

- know what COMAH duties exist for lower tier establishments and who is responsible;
- have an overview of the major hazards regulatory regime;
- have an overview of the Major Accident Prevention Policy (MAPP);
- understand their risk profile and how to control their risks;
- understand the role of the CA and their interaction with operators; and
- understand how to deliver a safety management system.

What the course will cover

This course explains the COMAH duties for lower tier establishments and helps delegates to understand their roles and responsibilities to ensure that they are compliant. It looks at how to mitigate the consequences of a major accident, covering the measures which are necessary to prevent major accidents and how to limit their consequences. It will give delegates an introduction to the major hazards regulatory regime and the MAPP, along with how to deliver a safety management system. The course will also cover COMAH application, including aggregation rules, duties and notification to the CA. Delegates will learn about delivering COMAH and how to control their risks by understanding their own risk profile.

Who should attend?

This course is designed for managers and supervisors of new lower tier COMAH establishments, those moving into managerial roles at existing lower tier establishments and those wanting to refresh their understanding of COMAH.



Key facts

Available as:

- Open courses
- In-company training

Duration:

- 1 day (face-to-face)

Scan below to find out more
or to book a course:



Ageing Assets: Managing Creeping Change

Introduction

From challenging environments, such as chemical plants and offshore installations, to more conventional workplaces, where there is a requirement to manage ageing equipment and machinery, organisations need to know that the assets they are responsible for are safe and that the right management systems are in place to keep them that way.

Managing ageing assets is becoming an ever more important issue as the UK's industrial base ages. This has been highlighted by HSE's inspection programmes of ageing plants both onshore and offshore.

This course will help delegates manage ageing plant by providing the motivation to take action, showing and discussing examples of how the ageing process can affect equipment and by outlining an approach to aid decision making in the management of ageing plant and equipment.

Being conscious of creeping change, the small changes that are gradual in nature, unseen and not planned, but can add up to a significant change, is an important consideration for organisations who wish to proactively manage their ageing assets.

The course will explain in detail the background and development of the Creeping Change HAZard IDentification (CCHAZID) methodology that was developed by HSE and published as guidance by the Energy Institute (EI).

Learning outcomes

Delegates will be provided with information that will help them to:

- understand creeping change and why they need to be aware of it;
- know how and why the CCHAZID methodology was developed;
- understand how they can use their data more effectively to better monitor performance; and
- learn from past incidents associated with poor asset management due to creeping change.

What the course will cover

This course provides an introduction and background to ageing assets and their associated issues, and an introduction to creeping change. It will also cover CCHAZID methods developed by HSE for the EI. Delegates will examine Key Performance Indicators (KPIs), data management and trending. There will be interactive learning elements, where delegates will study past incidents involving ageing assets and creeping change.

Who should attend?

This course introduces the concept of creeping change and is suitable for safety professionals, engineers and managers who are responsible for managing ageing assets, or who have ageing assets on their site.



Key facts

Available as:

- Open courses
- In-company training

Duration:

- 1 day (face-to-face)

Scan below to find out more
or to book a course:



NEBOSH HSE Certificate in Process Safety Management



Introduction

Effective process safety management is a blend of engineering and management skills and is of vital importance in major hazard industries to prevent catastrophic accidents and near misses.

But process safety management isn't just the job of the process safety specialist. It's important that all managers, supervisors and safety professionals working in these industries possess an understanding of process safety to allow them to manage their responsibilities effectively.

The NEBOSH HSE Certificate in Process Safety Management is a four-day course followed by a formal assessment to give managers, supervisors and safety professionals working in high hazard industries a broad understanding of the accepted principles and recognised industrial practices for the management of process risk. The course introduces delegates to common hazards found in the process industries and will help them to contribute to their control.

Learning outcomes

Delegates will be provided with information that will help them to:

- understand process safety management to ensure that they can contribute to the effective management of process safety risks;
- be able to describe the main elements of a process safety management system and why each element is important;
- have an appreciation of how to establish process safety management systems and the performance standards for safety critical systems and equipment; and
- understand hazards and controls for chemical reactions, bulk storage of dangerous substances, fire and explosion.

What the course will cover

This course gives a wide-ranging introduction to process safety management. It introduces the key elements of a process safety management system and explains why each of the elements is important. Other topics introduced on this course include asset management and maintenance strategies, safe start-up and shutdown of process plant and performance standards for safety critical systems and equipment. Delegates will examine hazards and controls for chemical reactions, bulk storage of dangerous substances and fire and explosion, along with the purpose and features of emergency plans.

How is the qualification assessed?

Delegates are assessed by a 90 minute multiple choice examination, which must be accessed and completed via NEBOSH's Online Assessment Platform within a 24-hour window.

Who should attend?

This qualification is ideal for those who are new to or have some experience and knowledge (building on level 2 knowledge) of process safety. It is not designed for process safety or chemical engineers with extensive operational experience of working within the processing environment. Delegates should have some prior knowledge of health and safety issues and concepts.



Key facts

Available as:
■ Open courses

Duration:
■ 4 days (face-to-face)

Scan below to find out more
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