

13:30–13:45	Opening session	Welcome - Eamon Chandler, Chair, Hazards 33 Technical Committee			
13:45–14:30	 <div>Plenary presentation Professor Rhona Flin</div>	Developments in Human Factors and Behavioural Safety Professor Rhona Flin, Emeritus Professor, University of Aberdeen and Professor of Industrial Psychology, Robert Gordon University, UK			
	Learning from Incidents	Hydrogen Hazards	Assurance	Modelling & Simulation	Workshops
15:15–15:45	Catastrophic Incidents – Prevention and Failure Trevor Hughes, Hughes Consultancy and Research, UK	Assessment Techniques for Supporting ALARP Demonstration for Energy Transition Projects Richard Tiffin, ESR Technology, UK	Threshold Quantity for Process Safety Metrics for Special/ Coded Chemicals Hema Divya Katna, University of Aberdeen, UK and Rahul Raman, Kaypear Engineering LLP, India	Development of a Practical Methodology for Assessing the Major Accident Risks Associated with Carbon Dioxide Pipelines in Areas of Topography Robert Melville, Alison Thackery and Ian Lines, Kent PLC, UK	15:00-17:00 Human Factors in the Chemical and Process Industries Presented by IChemE and The Keil Centre  
15:45–16:15	Learning Effectively from Near-miss Reporting Stuart King, Energy Institute; Tony Gower-Jones; Stichting Tripod Foundation; and Ibrahim Khan, Energy Institute, UK	Guidance for UK Hydrogen Safety Case Development Sean Baker and Nikhil Hardy, ERM, UK	Performing a Technical Audit With Some of the Findings Robert Canaway, Suregrove, UK	Data Driven Gas Dispersion Modelling Leveraging Machine Learning and Artificial Intelligence Kehinde Shaba, Anglo American, UK	
16:15–16:45	Lessons Learned from Past Incidents/Near-misses – WestJet Flight 2652 Abbie Harvey, UK Civil Aviation Authority, UK	Hydrogen as a Fuel for Industry: Technical and Safety Challenges Luke Butcher, ESR Technology and Graeme Cook, Aecom, UK	Process Safety Management in Operation Readiness Assurance Zuraida Wong Zulkifli, Petronas, Malaysia	CFD-based Evaluation of Inherently Safer FPSO Layouts Etienne Guinot, SBM Offshore, Netherlands; Laurent Paris; Efectis France and Josue Quilliou, Gexcon France	
16:45–17:15	Identifying and Managing Weak Signals – The Platypus Philosophy Trish Kerin, IChemE Safety Centre, Australia	Review of Gaps and Needs in Data Collection and Definition of Equipment Classes, Failure Modes and Safety Equipment for Hydrogen Systems Marta Bucelli and N Paltrinieri, SINTEF Energy Research AS, Norway	Development of a Novel Risk Assessment Methodology to Assess and Communicate the Effectiveness of Risk Control Measures and Strategies Applied to a Covid-19 Scenario Colin Chambers, April Lockhart and Zoe Chaplin, Health and Safety Executive, UK	Statistical-based Maintenance for Above Ground Gas Risers in Domestic High-rise Buildings Simon Au and Pasindu Samaranayake, ERM, Hong Kong	
17:15-17:30	Refreshment break with poster and exhibition viewing				
17:30–18:00	 <div>Trevor Kletz Hazards Lecture Amir Gerges</div>	New Energy and Sustainable Technology Amir Gerges, Vice President, Group Safety, Shell, USA			
18:00-18:15	IChemE update				
18:15-19:45	Welcome reception				

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09:00–09:45	<div></div> <div>Plenary presentation Dr Stuart Hawksworth</div>	<i>Developments in Hydrogen Infrastructure and Strategy</i> Dr Stuart Hawksworth, Head of Centre for Energy and Major Hazards, Health and Safety Executive, UK			
09:45-10:30	Refreshment break with poster and exhibition viewing				
	Safety Culture - Leadership	Hydrogen Experimental Results	Digitalisation	Non-routine Operations	Workshops
10:30–11:00	<i>It Starts at the Top – the Effect of Human Factors and Leadership on Safety</i> Yokogawa 	<i>Lessons Learned from Experimental Tests Concerning Liquid Hydrogen Releases</i> Federica Tamburini, Federico Ustolin and Nicola Paltrinieri, Norwegian University of Science and Technology, Norway; Ernesto Salzano, Valerio Cozzani, University of Bologna, Italy	<i>Artificial Intelligence in Safety, the Future or a Recipe for Disaster?</i> Craig Paterson and David Jamieson, Salus Technical, UK	<i>Operational Risk Assessment: Sharing Good Practice for the Control of Major Accident Risk</i> Tom Downie, INEOS FPS, UK	10:30-12:30 <i>An Evolved Approach to Process Safety Management - Combining the Power of PHA, Bowties and Cumulative Risk</i> Presented by Wolters Kluwer Enablon 
11:00–11:30	<i>Engaging Leadership: Getting Better Insights from Incident Investigations</i> Stuart King, Energy Institute; Tony Gower-Jones, Stichting Tripod Foundation; and Ibrahim Khan, Energy Institute, UK	<i>Digital image Processing for the Estimation of the Heat Flux Entering a Liquid Hydrogen Tank Exposed to a Fire</i> Alice Schiaroli, Norwegian University of Science and Technology, Norway; Giordano Emrys Scarponi, University of Bologna, Italy; Christian Mata, Universitat Politècnica De Catalunya, Spain; Valerio Cozzani, University of Bologna, Italy; and Federico Ustolin, NTNU, Norway	<i>Embedding IOGP Process Safety Fundamentals in the Frontline using AI</i> Edwin Bailey, Ithaca Energy (UK) Limited, UK	<i>Guidelines For Managing Abnormal Situations</i> Roger Stokes, Baker Risk, UK	
11:30–12:00	<i>Process Safety Leadership Site Visit Toolkit</i> Ashley Hynds, UK	<i>Quantification of Liquid Hydrogen Jet Fires from Large Scale Experiments</i> Steven Betteridge, Shell, UK	<i>Driving Process Safety Performance Through Intelligent Dashboard</i> Sai Vijaya Krishna Malluri, HMEL, India	<i>Pre Start-up Safety Review (PSSR): Significance, Common Pitfalls and Insights for an Effective Review</i> Mohammad Moonis, Saudi Aramco, Saudi Arabia	
12:00–12:30	<i>The Difference That Makes the Difference – Identifying and Applying Criteria for Safety Leadership Excellence</i> Rachael Cowin, Legitimate Leadership, UK	<i>Effect of Hydrogen Depressurization on Steel Pipe in Case of Puncture: Experimental Results and Analysis</i> Vincent Blachetiere, GRTgaz; Guillaume Leroy, INERIS, Jérôme Poenou; and Magali Polo, GRTgaz, France	<i>Enhancing Process Safety Understanding Through Virtual Reality: An Interactive Simulation of an Offshore Installation Well Bay</i> Josh Crawley and Dr E J Bailey, Ithaca Energy (UK), UK	<i>Outside in Risks (OiR)</i> Pratik Toshniwal, Shell, India	
12:30-13:30	Lunch break with poster and exhibition viewing				
	Safety Culture – Operator’s Experience	Hydrogen Risk Assessment	Competencies	Critical Task Analysis	Workshops
13:30–14:00	<i>Enhancing Process Safety</i> Caroline Myers and Simon Mugford, ExxonMobil, UK	<i>Rationalising Ignition Probability Models for QRA of Hydrogen Supply Chain Facilities</i> Sriram Raghunath, Shell, India and Andrew Crerand, Shell Global Solutions, UK	<i>Developing the Skills for our World-class Process Safety Workforce</i> Neil Smith and Justine Fosh, Cogent Skills, UK	<i>How to Carry Out Human Factors Assessments of Critical Tasks – CIEHF Guidance</i> Pippa Brockington, HF Expertise; Lorraine Braben, Lorraine Braben Consulting; and Jamie Henderson, Human Reliability Associates, UK	13:00-15:00 <i>Safety Critical Task Identification</i> Presented by Axiom 
14:00–14:30	<i>Safety Culture in an Operating Environment</i> Ron Ramshaw, Safety Management Solutions, UK	<i>To Enclose or Not to Enclose? An Investigation on the Influence of Ventilation Arrangements on Hydrogen Explosion Hazards in Compressors</i> Karina Almeida Leñero and Chris Gold, Gexcon, UK	<i>The Next Level in Process Safety with Intra- and Inter Organisational Learning</i> André de Rooij, Coen van Driel and Chris Williams, New Behavior, Netherlands	<i>Using Outputs from Safety Critical Task Analyses to Support Rapid Identification of Human Factors Issues in Related Tasks</i> Dominic Furniss, and Jamie Henderson, Human Reliability Associates and Karam Singh Bhinder, Johnson Matthey, UK	
14:30–15:00	<i>Transition of Engro Fertilizers from Compliance-based to Risk-Based HSE Management System (Process Safety)</i> Qazi Wasif Ud Din, Sheeraz Hussain Syed and Mohsin Mukhtar, Engro Fertilizers Limited, Pakistan	<i>Hazard Assessment of Energy Storage Systems with a Focus on Hydrogen and Hydrogen Derivatives</i> John Evans, Thornton Tomasetti, UK	Facilitated discussion	<i>How to Carry Out a Human Factors Review of Safety Critical Tasks: Safety Critical Task Analysis</i> Toby Garner and Simon Layton, MES International, UK	
15:00-15:45	Refreshment break with poster and exhibition viewing				
	Safety Culture	Hydrogen Lessons Learned	Cross–sector Learning (Nuclear)	Safety Critical Task Analysis	Workshops
15:45–16:15	<i>How Much Chronic Unease is Enough?</i> Jan Skriver and Mohammad Shafiq, Sandvik Coromant, Sweden	<i>Lessons Learned from Hydrogen System Integration</i> Graham Morrison and Karina Almeida, Gexcon, UK	<i>Development of a Safety Culture Model and Measure for Great Britain's Nuclear Industry</i> Nick Shaw, Office for Nuclear Regulation, UK	<i>Integration of Qualitative Human Factors Safety Critical Task Analysis with Wider Engineering Risk Assessments</i> Jamie Henderson and Dominic Furniss, Human Reliability Associates, UK	15:30-17:30 <i>Delta HAZOP</i> Presented by IChemE 
16:15–16:45	<i>Learning from Process Safety Events – a Culture Improvement Journey</i> Naseem Qamar Shaikh and Syed Aamir Abbas, Mari Petroleum Company, Pakistan	<i>Lessons Learned from H₂-related Incidents: Criticality of Maintenance Operations</i> Giulia Collina, Abhishek Subedi, Alessandro Campari, Biraj Singh Thapa, and Nicola Paltrinieri, Norwegian University of Science and Technology, Norway	<i>Responding to Climate Change: Improving Resilience to Changing Natural and External Hazards at a Nuclear Fuel Facility</i> David Threlfall, Rebecca Bettison and Mervyn Hayes, Rolls-Royce, UK	<i>Leak Testing When Reinstating Plant – It's More Complicated Than You Think</i> Michelle Cormack, Perenco UK and Andy Brazier, AB Risk, UK	
16:45–17:15	<i>Kick Starting Process Safety in the Pulp and Paper Industry in Western Canada</i> John Riddick and Francesca Apruzzese, Caldbeck Process Safety Inc, Canada	Facilitated discussion	<i>Engineering Substantiation in the Nuclear Industry</i> Gareth Davies, Sellafield Ltd, Adam Marriott, EDF Energy and Tim Boland, Sellafield Ltd, UK	Facilitated discussion	
17:15–17:45	Facilitated discussion		Facilitated discussion		
19:00-22:00	Social event (ticket only)				



09:00–09:45	 <div>Plenary presentation Paul Stevens</div>	The New UK Government Initiative on Best Available Techniques and its Implications Paul Stevens, UK BAT Manager, Environment Agency, UK			
09:45–10:15	Refreshment break with poster and exhibition viewing				
	Human Factors	New Energies	Engineering & Design	Hazardous Area Classification	Workshops
10:15–10:45	Human Factors Health Check: An Approach to Assessing Compliance with the Human Factors Operational Delivery Guide Julie Bell and Pippa Brockington, Human Factors Expertise, UK	Enabling a Safe Energy Transition – How Industry Can Work with its Regulators to Seize the Opportunities of Net Zero Max Walker, Health & Safety Executive, UK	Verifying Compliance with Blowdown Performance Standards Using Advanced Analytics Anthony Teodorczuk, SBM Offshore, Monaco and Morgan Bowling, Seeq, USA	Energy Institute Guide 15 Edition 5 launch (ATEX/ DSEAR) Tim Jones and Steve Sherwen, RPS Consulting UK and Ireland, UK	10:15-12:15 Unlocking Exceptional Plant and Facility Performance with SMART ASSETS: Harnessing Advanced Analytics for Actionable Insights Presented by PETRONAS 
10:45–11:15	Human Factors Issues and Solutions When Undertaking Major Projects on Operational Sites Andy Brazier, AB Risk and Nick Wise, SSE Thermal, UK	Mitigation Strategies for Lithium Ion Battery Energy Storage Systems Denise Beach, FM Global, USA	Hydrogen Failures Without Hydrogen Conor Fraser, Axiom, UK	A Semi-quantified Method for Improving Quality and Consistency in DSEAR Assessments David Harding and Graham Morrison, Gexcon, UK	
11:15–11:45	Making Safe Decisions – Our Brains Are Our Worst Enemy Daryl Wake, DEKRA, UK	Performing a Quantitative Risk Assessment for Utility-scale LiFePO4 Battery Energy Storage Systems: A Case Study for First-of-a-kind Installation in South Africa Liza Smit and Adriaan van Wyk, Proconics, South Africa; Oliver Heynes and Allen Miller, Insight Numerics, USA; Richard Walls and Natalia Flores Quiroz, Stellenbosch University, South Africa; and Peter McDonald, Chris Stirling and Andrew Nicholson, Viper Applied Science, UK	The Practical Application of Radio Frequency Interference Assessment Steve Sherwen, RPS Consulting UK and Ireland, UK	A Critical Evaluation of the Basis of Safety for Zone of Negligible Extent in Area Classification Keith Johnson and D De’Ath, Sellafield Ltd, UK	
11:45–12:15	Data Analysis of Behavior Barrier in Permit to Work System Anshulkumar Tiwari and Shrikant Kamle, HMEL, India	Practical Process Safety Decision Making in Decarbonisation and New Technologies Plant Design Helen Fennell and Stuart Hunter, Petrofac, UK	Phishing for Biohazards - Understanding Industrial Cyber Risks to Biosafety Gavin Oldroyd and Fan Ye, Environmental Resources Management (ERM), UK	HAC to Hazard Hack Wahid Azizi, DEKRA, UK	
12:15–13:15	Lunch break with poster and exhibition viewing				
	Human Factors	New Energies	Environment & Climate Change	Cross–sector Learning (Water)	Workshops
13:15–13:45	Jump to It! - A New Model for Safety Alarm Operator Response Time Requirements that Avoids Misplaced Conservatism Harvey Dearden, SIS Suite and Andy Brazier, AB Risk, UK	Good Practices on Effectively Managing Process Safety Issues When Replicating a Modular Midscale LNG Design Veronica Luna, Fluor Corporation, Philippines	Valuation of Environmental Receptors for Cost-Benefit-Analysis in a Control of Major Accident Hazards Context – Phase 2 Progress Amaia O’Reilly, Energy Institute and Rob Ritchie, RAS, UK	The Challenge of Implementing Process Safety in the Water Industry Julie Jeavons, Andre Le Roux and Talia Alberto Picos, Stantec, UK	
13:45–14:15	Situation Awareness as a Factor in Accidents and Incidents Graeme Dick and Mike Pollard, Reflekt AS, Norway	Explosion Safety in Anaerobic Digestion Sites: Where It Can Go Wrong and Guidance to Avoid That Happening Sarah Bergin, Graham Atkinson, Alan Beswick, Brian Crook, Tim Small and Lee Schilling, Health & Safety Executive, UK	NaTech Hazards – What Are They? Why Should We Care? And What Can We Do? Aimee Russell, Carolyn Nicholls and Robert Ritchie, RAS, UK	The Potential Hits COMAH Misses: Process Safety for Significantly Hazardous Installations Outside the Scope of Major Hazards Legislation Ken Patterson, Ken Patterson Process Safety and Ian Welburn, Yorkshire Water, UK	
14:15–14:45	Using Data Science to Identify Human Factors Affecting Process Safety Andrea Rossi and Nyala Nöe, Empirisys, UK	Historical Analysis on Wind Turbine FIRE Incidents Vahid Foroughi, ERM, UK and Adriana Palacios, Universidad de las Américas, Puebla, México	Adapting Hazard Studies to Reflect Climate Change Mike McKay, TUV Rheinland Industrial Services and George Watson, Manchester University, UK	Visualizing Flammable Risks in Drainage Systems Jonathon Lowe, RPS Consulting UK & Ireland and Ian Spriggs, Anglian Water, UK	
14:30–15:00	Facilitated discussion	Facilitated discussion	Facilitated discussion	Facilitated discussion	
15:15–15:30	Refreshment break with poster and exhibition viewing				
15:30–16:15	 <div>Plenary presentation Dr Faisal Khan</div>	Process Safety Challenges from a North American Perspective Dr Faisal Khan, Director, Mary Kay O’Connor Process Safety Center, USA			
16:15	Closing remarks				

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