Tuesday 16 November 2021

All times are Greenwich Mean Time (GMT)

Hazards31

| 09:30-09:45 | Welcome from the conference chair | | | | | |
|-------------|---|--|---|---|---|--|
| 09:45–10:40 | Plenary speaker A Reflection of How the Downstream Oil Sector Responded to the Outbreak of COVID-19 and How that Response Mapped to Process Safety Management During the Ensuing Pandemic Simon Wood, UK Petroleum Industries Association (UKPIA) | | | | | |
| | Lessons Learned from the COVID-19 Response I | Assurance | Safety Culture I | Modelling I | | |
| | Session chair: Trish Kerin | Session chair: Eamon Chandler | Session chair: James Birch | Session chair: Felicia Tan | | |
| 10:45–11:10 | <i>Lessons Learned from the COVID-19 Pandemic</i> Keith Plumb, Integral Pharma Services, UK | Process Safety Key Performance Indicators (API- 754 Guidelines) Ameer Hamza & Syed Salwat Hosain Rizvi, Engro Polymer & Chemicals, Pakistan | Process Safety Site Visit to Improve PSM Culture Ipek Isteben & Seçkin Gökçe, Tupras, Turkey | Applying Standards and Transient Simulations to Find Root Cause of Fire Incident Mira Ezora Zainal Abidin, Siti Fauzuna Othman & Zalina Harun, Petronas, Malaysia | | |
| 11:15–11:40 | Case Study – Design and Build of New Plant for Production of a Key Ingredient for a COVID-19 Vaccine Carolyn Nicholls, RAS, UK | Learning from Major Incidents Related to Process Safety Audits Zsuzsanna Gyenes, IChemE Safety Centre, UK | Influencing Improvements in Safety Culture Using Qualitative Research Methods: a Regulatory Perspective Nick Shaw, Office for Nuclear Regulation, UK | Advanced Methodology of Structural Redundancy Analysis for Optimising Passive Fire/Cryogenic Spill Protection Hiroki Takahashi & Yoshinori Hiroya, JGC Corporation, Japan | | |
| 11:45–12:10 | Experiences and Lessons During COVID-19 Ellen Daniels, British Compressed Gases Association (BCGA), UK | Integrated PHA approach for an Auditable Barrier Management Regime Khama Matiti, Monaco Engineering Solutions, UK & Majid Siddiqui, North Caspian Operating Company, Kazakhstan | Process Safety Cards "A Good Deal Safer" David Hatch, Process Safety Integrity, UK | Comparisons of the Predictions of the Dispersion Model DRIFT Against Data for Hydrogen, Ammonia and Carbon Dioxide Graham Tickle, ESR Technology, UK | | |
| 12:15–12:40 | Facilitated discussion | Facilitated discussion | Facilitated discussion | Facilitated discussion | | |
| 12:40–13:15 | | | | | | |
| 13:15-14:15 | Break | | | | | |
| 14:15–15:10 | Plenary speaker | <i>Cross Sector Learning – What the Chemical and Process Industries Can Learn from the Building Sector</i> Peter Baker, Health and Safety Executive, UK | | | | |
| | Cross-sector Learning | Analysis of Losses | Risk Assessment | Modelling II | Process Safety | |
| | | · | | Modelling II | Competencies | |
| | Session chair: Ken Rivers | Session chair: Paul Coleman | Session chair: James Fairburn | Session chair: Diego Lisbona | - | |
| 15:15–15:40 | | | Session chair: | Session chair: | Competencies Session chair: | |
| 15:15–15:40 | Ken Rivers What the Processing Industry Must Learn from the Boeing 737 MAX Crashes Richard Carter, ACM Facility | Paul Coleman Trends in Offshore Process Equipment Leak Frequencies | Session chair: James Fairburn Cumulative Risk Model of Safety Barriers – Case Study Yasser Fathy, Rashid Petroleum, | Session chair: Diego Lisbona Is Your Tank Inert? A Study into the Challenges of Ensuring Inert Atmospheres Alan Collier & Stephen Puttick, | Competencies Session chair: Azzam Younes Understanding Your Process Safety Competency Trish Kerin, IChemE Safety Centre, Australia & Ken Gray, | |
| | Ken RiversWhat the Processing Industry Must Learn from the Boeing 737 MAX CrashesRichard Carter, ACM Facility Safety, CanadaThinking Outside the Box: Lessons and Experience that the Major Hazard and Nuclear Sectors Can Learn from Each Other Ian Phillips, Office for Nuclear | Paul ColemanTrends in Offshore ProcessEquipment Leak FrequenciesBrian Bain, DNV, UKAnalysis of Accidents andGood Inspection Practices forthe Management of Ageing ofIndustrial PlantsRomualdo Marrazzo & FabrizioVazzana, Istituto Superioreper la Protezione e la Ricerca | Session chair: James Fairburn Cumulative Risk Model of Safety Barriers – Case Study Yasser Fathy, Rashid Petroleum, Egypt Use of Live Barrier Models to Manage Risk Rae Ann Joseph, Atlantic LNG, | Session chair: Diego Lisbona Is Your Tank Inert? A Study into the Challenges of Ensuring Inert Atmospheres Alan Collier & Stephen Puttick, Syngenta, UK Addressing the Unique Challenges of Hydrogen Gas Detection in 3D Fire and Gas Mapping Khama Maiti, Chris Dysart, Alex Lebas, Lloyd Samaniego, Hasanah Shamsuri, Ahmad Muzammil & Filippo Derosa, Monaco Engineering Solutions, | Competencies Session chair: Azzam Younes Understanding Your Process Safety Competency Trish Kerin, IChemE Safety Centre, Australia & Ken Gray, The Keil Centre, UK Practical Experience of Rolling out Process Safety Competency Assessments Across a Large Multinational Company | |

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| 09:30-10:25 | Plenary speaker | Keeping Risk in Perspective: Learn Professor Atula Abeysekera, Imperia | | | |
|-------------|---|---|--|---|---|
| | Lessons Learned from the COVID-19 Response II | Environment | Human Factors | Process Safety Management | Pressure Relief |
| | Session chair: Ken Rivers | Session chair: Tony Clayton | Session chair: James Birch | Session chair: Laurence Cusco | Session chair: Caroline Ladlow |
| 10:30–10:55 | LOPA Versus Covid – Return to Sustainable Living Ali Mokhber, Shivani Aggarwal & Pablo Garcia-Trinanes, University of Greenwich, UK | Flood Risk Management – Are You Prepared? Brad Eccles & Steve Fitzgibbon, ABS Consulting, UK | The Impact of Cognitive Bias in Safety Trish Kerin, IChemE Safety Centre, Australia | Effective Field Engagement and Management of Higher Consequence Scenarios Martin R Ovenden, ExxonMobil, UK | Assessment of Operators' Response Time on Safe Operation of Distillation Columns: a Process Dynamic Analysis Zalina Harun & Zulfan Adi Putra Petronas, Malaysia ; Nik Abdul Hadi Md Nordin, Universiti Teknologi PETRONAS, Malaysia Darmawan Ahmad Mukharror, Keselamatan Proses, Indonesia |
| 11:00–11:25 | <i>Lessons Learned and the Pros & Cons of Virtual HAZOP</i> Azzam Younes, AyEnergi Consulting, UK | Guidance to Provide an Economic Value (or Series of Values) Which Can Be Applied When Undertaking a CBA Under Major Hazard Establishments for Environmental Purposes Amaia O'Reilly, Energy Institute, UK | <i>Human Factors Issues in Turnarounds (TARs)</i> Jamie Henderson & Richard Marshall, Human Reliability, UK | Applying Process Safety Experiences and Lessons Learnt to Achieve Improvements in Plant Up-Time and Stability of Production Anees Iqbal Ansari & Mohammad Moonis, Pleiades Global, UK | Mechanical Response of Shell to Tube Rupture in Shell-and- Tube Heat Exchangers Colin Deddis, Greymore Engineering Services, UK; Marl Scanlon, Energy Institute, UK; Alan Clayton, Consultant, UK; Rob Kulka, TWI, UK |
| 11:30–11:55 | Facilitated discussion | The Application of Satellite Data for Detection and Monitoring of Methane Emissions and the Integration Opportunities with Weather and Plant Sensor Data Darren Steele, Stiperstone Analytics, UK & Dr Ian Spence, GHGSat, UK | Managing Operator Fatigue – It's About More Than Just Sleep. Incorporating Lessons Learned from Offshore Wind into Process Safety in Onshore Major Hazard Facilities Stefi McMaster, University of Hull, UK & Jenny Hill, RAS, UK | Facilitated discussion | Detailed Analysis of Temperature and Pressure Behaviour During Reaction Runaway for Vent Sizing Yuto Mizuta Turo, Motohiko Sumino, Hiroaki Nakata, Yuichiro Izato & Atsumi Miyake Mitsubishi Chemical Corporatio Japan |
| 11:55–12:30 | | Facilitated discussion | Facilitated discussion | | Facilitated discussion |
| 12:30-13:30 | Break | | | | |
| 13:30-14:25 | Plenary speaker | | Sonal Senior HSE Management Jour Regulator for Environment and Decom | | |
| | Identifying & Embedding Good Practice in Process Safety | Clean Technologies – Hydrogen I | DSEAR | Process Hazard Analysis | |
| | Session chair: Paul Kenny | Session chair: Ashley Hynds | Session chair: Andy Mackiewicz | Session chair: Diego Lisbona | |
| 14:30–14:55 | The Message from Losses – What You Need to Know and Learn From to Prevent Major Accidents Phil Hewer & Scott McNeil, Marsh, UK | Hydrogen Projects – Business as Usual? Clare Dunkerley, Otto Simon, UK | Application of Functional Safety to a Burner Management System – How to Avoid Common Pitfalls Michael Scott, aeShield, USA | Latest HAZOP Practice James Fairburn, Chevron, UK | |
| 15:00–15:25 | Why Did They Do That? How To Conduct A Human Factors Incident Investigation Steve Cutchen, retired Incident Investigator, Chemical Safety Board (CSB), USA | Ammonia, Methane, Hydrogen Oh My! Understanding Hazards from Alternative Power to Gas Options Darren Malik & Kelly Thomas, BakerRisk, USA | The Role of an Innovative Approach to DSEAR in Accelerated Early Career Development Rebecca Phillip & Adriana Reyes Cordoba, Atkins Global, UK | Hazard Identification and Risk Assessment for Smaller Changes: Tips and Tools for Avoiding Misses and Improving Quality Jody Olsen, JE Olsen Consulting LLC,USA | |
| 15:30–15:55 | Embedding the Lessons of Hard Knocks–Trying Not to Repeat Our Mistakes Time and | Developments and Uncertainties in Hydrogen Fuels Risk Assessment | Facilitated discussion | Facilitated discussion | |

| 10.00 | Hard Knocks–Trying Not to Repeat Our Mistakes Time and Time Again Ken Patterson, Consultant, UK & Gillian Wigham, Synthomer, UK | Uncertainties in Hydrogen Fuels Risk Assessment Michael Moosemiller, Baker Engineering & Risk Consultants, USA & Rob Magraw, BakerRisk Europe, UK | | |
|-------------|---|--|--|--|
| 16:00–16:25 | Identifying and Embedding Good Practice in Process Safety – Safety Culture/Leadership Peter Culbert, Exida, Ireland | Quantification of the Risks Associated with a Hydrogen Gas Distribution Network Andrew Phillips, Mike Acton & Ann Halford, DNV, UK; R Oxley & D Evans, Northern Gas Networks, UK | | |
| 16:25-17:00 | Facilitated discussion | Facilitated discussion | | |

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Managing Cyber Security Risks: a Regulator's Perspective **Plenary speaker** 09:30-10:25 Sarabjit Purewal, Health and Safety Executive, UK Clean Technologies -**Digitalisation I** Safety Culture II **Mist Hazards Risk Analysis** Other Session chair: Session chair: Session chair: Session chair: Session chair: Matt Clay Trish Kerin Andy Crerand **Rob Magraw** Diego Lisbona **Best Practices to Optimise** Managing the Major Accident The Safety Culture of the Demystifying Mist Explosion Preliminary Hazard Analysis 10:30-10:55 Potential of Carbon Capture Regulator Management of Change System Hazards and Mitigation for the and Manage the MOC Digital Prevention of Catalyst and Storage CO₂ Marc McBride, Office for Nuclear Stephanie El-Zahlanieh, Idalba Transition Regeneration Vessel's Hamish Holt & Michael Simms, Regulation, UK Souza Dos Santos, Hugo Catastrophic Rupture DNV, UK Hussain Alabduljabbar, Saudi Tostain & Olivier Dufaud, University of Lorraine, France; Manesha Thiyaga Rajan, Noor Aramco, Saudi Arabia Arnida Abdul Talip & Hasnor Alexis Vignes, INERIS, France; Simon Gant, Health and Safety Hassaruddin Hashim, Petronas, Executive, UK Malaysia Improving Loss Prevention Smoke, Sparks, Flames or Leadership Matters – Real Ignitability of Diesel Fuel New International Failure 11:00-11:25 in High Hazard Industries **Explosions?** An Experimental World Examples of Process Mists over a Vertical Distance Frequency Database for High Study into How Lithium-ion Through the Evaluation of Pressure Gas Installations Safety Leadership Good Louise O'Sullivan & Dr Safety Culture and Error Cell Failure Varies in Open Field Practice Richard Bettis, Health & Safety Mike Acton, C Humphreys & Traps from Structured and Katie Abbott, Jonathan Buston Executive, UK; Dr Anthony Z Wattis, DNV, UK; H Olafsen, Ashley Hynds & Colin Chambers, Unstructured Data Using Giles, Cardiff University, UK & Jason Gill, Health & Safety WSP, UK Energinet, Denmark Machine Learning Executive, UK Gus Carroll & Dr Nyala Noe, Empirisys, UK; Dr Mike Orley, Centrica Storage, UK Cyber Attacks on Process From Zero Accidents to Safe Experimental Understanding Flammability Testing for Assessing the Risks When 11:30-11:55 Plants and Understanding Expanding Process Plants of Displacement and Forces Heavy Oil Mists Sustainable Production What is Needed or Building New Units on Generated Due to Swelling Urbain Bruyere, Environmental Hannes Engel, Gexcon, UK During Lithium-ion Pouch Cell Compact Sites Clive de Salis, Dekra, UK Resources Management (ERM), Failure Robert Canaway, Suregrove, UK UK Gemma Howard, Jason Gill & Jonathan Buston, Health & Safety Executive, UK Facilitated discussion Facilitated discussion Facilitated discussion Facilitated discussion Facilitated discussion 11:55-12:30

| 12:30-13:30 | Break | | | | |
|-------------|--|---|---|--|--|
| 13:30-14:25 | Plenary speaker | Plenary speaker Engineering X Safer Complex Systems – Learning Through Case Studies Professor Brian Collins CB, UCL, UK & Dr Steve Gwynne, Lund University, Sweden | | | |
| | Digitalisation II Session chair: David Hatch | Clean Technologies – Hydrogen II Session chair: Andy Crerand | Fire and Explosion Hazards Session chair: Chris Tighe | Case Histories Session chair: Zsuzsanna Gyenes | |
| 14:30–14:55 | Treating Data as an Asset – Experiences of the Early Adopters Brad Eccles, ABS Consulting, UK; Henrique Paula, Steve Arendt & Matt Mowrer, ABS Group, USA | Review of the Current Understanding of Hydrogen Jet Fires and the Potential Effect on PFP Performance Michael Johnson & Robert Crewe, DNV, UK; Graham Boaler & John Evans, Thornton Tomasetti, UK | Fight or Flight: What's your Fire Response? Kristen Graham & Karen Vilas, Baker Engineering & Risk Consultants, USA | Human-Factors and Automation-Related Accidents in the Railway Industry Mona Ahmadi Rad, Lianne M Lefsrud, Michael Hendry & Daniel Blais, University of Alberta, Canada | |
| 15:00–15:25 | Using Artificial Intelligence and Machine Learning Techniques to Analyse Incident Reports Fereshteh Sattari, Daniel Kurian, Renato Macciotta & Lianne Lefsrud, University of Alberta, Canada | Maximum Overpressure and Flame Velocity of Methane/ Hydrogen Layers Vented Deflagrations in a Large-Scale Enclosure David Eduardo Torrado Beltran, James Fletcher, Andrew Tooke & Philip Hooker, Health & Safety Executive, UK; Thomas Isaac, Progressive Energy, UK; Dave | <i>SafePool</i> Seckin Gokce, Ahmet Can Serfidan, Eyup Azizoglu & Gokhan Gedik, Tupras, Turkey | Investigating Unusual Powder Decomposition Incidents Stephen Rowe, Clive de Salis, Simon Gakhar & Andrew Jennings, Dekra Organisational & Process Safety, UK | |

| | | Lander, Consultant, UK | | | |
|-------------|---|--|--|---|--|
| 15:30–15:55 | Practical Guidance for Applying Data Science Techniques in Health & Safety Scott Kimbleton & Graziella Caputo, IBM, USA | Assessment of Enclosure Ventilation Safety for Hydrogen Fuelled Gas Turbines Tristan Vye & Aidan Wimshurst, Frazer Nash Consultancy, UK | The Use of Ester Based Transformer Liquids for Reduced Fire Risk and Lower Costs James Reid, M&I Materials, UK | Investigation into a Microbiologically Induced Corrosion (MIC) Failure of an Onshore Pipeline Keith Birkitt, Aneta Nemcova & Ian Chapman, Health & Safety Executive, UK | |
| 16:00-16:25 | How is Cybersecurity Changing Process Safety? Patrick O'Brien, exida, USA | The Use of CFD for the Design of Hydrogen Bulk Storage Areas Pablo Giacopinelli, Michael Bristow, Graham Morrison & Gary Pilkington, Gexcon, UK | Facilitated discussion | Facilitated discussion | |
| 16:25-17:00 | Facilitated discussion | Facilitated discussion | | | |

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