



Institute of
Ergonomics &
Human Factors

Human & organisational factors in the oil, gas & chemical industries



Manchester
Conference Centre
25-26 November 2010

Gold sponsor



Programme

The Institute of Ergonomics & Human Factors (previously the Ergonomics Society) is pleased to announce that Andrew Hopkins will be speaking on both days of this conference. Professor Hopkins is a world renowned expert in the analysis of the causes of major industrial accidents and has assisted many organisations in improving and developing systems of prevention.

This is 2010's essential conference for directors, safety & risk managers, operations managers, engineering managers, process safety specialists, maintenance managers, HSE advisors, emergency managers, employee representatives, training managers, safety report authors and all supervisors. The conference will also feature several speakers from industry and an exhibition. There will also be opportunities to network informally, including at a conference dinner on the evening of the 25th.

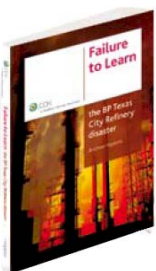
The Energy Institute are holding a pre-conference half-day workshop based around the "Hearts and Minds" toolkit on 24th November. Led by Professor Dianne Parker, this workshop will include sessions on "Understanding your culture" and "Managing rule breaking".



Two presentations by Andrew Hopkins

Risk management and rule compliance: decision making in hazardous industries

Risk-management and rule-compliance are inter-related strategies for promoting safety in hazardous industries. They are co-existing and complementary, not contradictory. However risk-management offers very little guidance to end point decision-makers; they need rules to guide their decisions. Accordingly, it is important, even within a risk-management framework that risk-management be translated into rule-compliance for end point decision-makers, where possible. The paper demonstrates that this is what in fact happens for a wide range of operational decision-making. For non-operational decisions, such as investment and design decisions, the need to convert risk-management into rule-compliance is equally important, although more controversial. Nevertheless the authorities have shown that they are willing to impose prescriptive technical rules on duty holders in relation to non-operational decisions, in the interests of safety. These points are illustrated using a variety of empirical examples and materials, including, the Buncefield accident, and the Australian pipeline standard.



Why BP failed to learn: the Texas City Refinery fire

An explosion at BP's Texas City Refinery in March 2005 cost the lives of 15 people and injured nearly 200 more. BP had failed to learn the lesson of earlier incidents, such as the Esso Longford explosion, that major hazards are quite distinct from the hazards that give rise to most occupational injuries and must be managed quite differently. This paper explores the reasons for this failure to learn, focusing on the company's organisational structure and its incentive systems. It is based on the author's book, 'Failure to Learn'.

Places at this conference are limited, book now to avoid disappointment.

www.OGC2010.org

Speakers

Judith Hackitt CBE, HSE Chair Leadership in the major hazard industries

We are all familiar with the major hazard incidents at Flixborough, Piper Alpha, Texas City Refinery and Buncefield. We also understand that like the majority of catastrophic events of the past, their root causes rest in foreseeable failures and could have been prevented if the necessary risk controls were implemented and operated effectively. At the heart of many of these catastrophes lays human error with mistakes occurring in spite of elaborate risk assessments and well designed control systems, documented in operating procedures and work instructions.

This presentation will examine the importance of ensuring that those responsible for carrying out key tasks are involved in the design of control systems and crucially, are fully aware of the hazards associated with their work, what can go wrong and how, as well as the purpose and importance of the arrangements they are being asked to adopt to protect themselves and their colleagues.

The presentation will also demonstrate the key role that leaders have in helping to achieve this aim, particularly their ability to manage corporate memory and to retain competent and experienced staff. Moreover, as we enter an era of unprecedented change and seek to develop and introduce the power generation technologies of the future, leaders must be capable of 'thinking the unthinkable' so the solutions they implement are intrinsically safe.

Cheryl MacKenzie, Investigator, US Chemical Safety Board Recent CSB investigations: key HF issues

The human is an integral component to the safe functioning of any high hazard system. As such, it is not surprising that human factors issues are prevalent in every accident the CSB investigates. This presentation will briefly discuss a number of recent CSB investigations and identify some of the human factors issues the agency is examining as part of those investigations. The management of human fatigue in the workplace, the impact of contractor selection and oversight on safety, and the rationalisation of conducting work in unsafe conditions will be explored within the context of various CSB investigations.

US Congress has requested that CSB investigate the root causes of the Deepwater Horizon incident as its previous work puts it in a unique position to address questions about BP's safety culture and practices. Congress has also asked for the same CSB investigation team as for the BP Texas City inquiry and so Cheryl may be able to discuss aspects of this investigation into Deepwater Horizon.

Simon Robinson, Human Behaviour Specialist, BP & Dave Nicholls, Step Change First steps in human and organisational factors - for an entire industry

Simon and Dave describe how the UK oil and gas industry's flagship safety initiative (Step Change in Safety) is encouraging the entire sector to understand and tackle human and organisational issues. Many in our industry



believe that human factors means behavioural safety, with behaviour modification programmes being the answer. Some see HF as (at best) theoretical or (at worst) wishy-washy psycho-babble. Others understand that human factors are important in accident causation, but don't fully appreciate what the issues are and what can be done about them.

Step Change in Safety is seeking to bust these myths with a set of case studies that take real incidents from the UK, and spotlight the human and organisational factors that made them possible. The case studies aim to help the UK oil and gas industry take the first steps, in recognising that HF helps to explain many of the accidents we have, and also provides practical ways of tackling the root causes. Case studies have been volunteered from Step Change in Safety member companies, and range from simple front-line human errors to management and design decisions that have unforeseen consequences.

George Petrie, Petrofac Offshore "Not on my shift" - developing positive supervisor behaviours

The organisation recognised that they wanted to improve supervisor behaviours in order to reduce risk of incidents, engage employees at the 'sharp end' in order to improve the safety culture within the construction teams. To achieve this a supervisor booklet was developed by the supervisors themselves but tied into other systems to keep it 'alive'. The term "not on my shift" was the concept developed to ensure the organisation had the 'ownership' of safety with the supervision. This is a similar ownership concept that the fire brigade/forces have when they go on a callout or mission with their leaders wanting to return with everyone in good shape. The process was developed from the Wood Group Engineering (North Sea) behaviour standard, the booklet itself was developed over 10 months, it was recognised that if this was to be truly effective it required the maximum input from the existing supervision. This process further builds on the award winning WGENS HF programme by providing Supervision, who have the greatest influence on site HSE, with practical examples of how they can demonstrate excellent safety leadership in the field.

Zoila Harvie, Corporate HSE Manager, Wood Group (North Sea) Ltd Safety culture amongst designers and engineers

People often think safety culture is about holding the handrail, putting lids on coffee cups, managing poor ergonomics, etc. Whilst these behaviours are important in shaping safety culture, an equally important aspect of safety culture is understanding the impact that your day to day job has on others. For example, think about the effect that poor decisions made during product design and engineering phases can have on the safety of people who later use that designed product. An omission



can lead to the introduction of a significant risk with potentially fatal consequences some months or years later. The presentation describes the journey to safety culture development amongst engineers and designers.

Caroline Sugden, Technical Lead, HSL & Peter Jefferies, Human Factors Specialist, ConocoPhillips
Translating theory into practice - high reliability organisations and ConocoPhillips

The talk will outline work carried out in partnership between HSL and ConocoPhillips. HSL has carried out research on behalf of HSE reviewing the academic literature and identifying the characteristics and requirements of high reliability organisations. An audit method was developed and piloted on ConocoPhillips. This paper will report on the method and the outcomes of the pilot, drawing conclusions and making recommendations for the application of this work.



Helen Rycraft, Human Performance and Human Factors Specialist, Magnox Electric
Human factors and nuclear decommissioning

Historically nuclear generating and chemical plants have incorporated human factors at all stages of their lifecycle e.g. design, commissioning, operations, modifications, and participated in generic safety research programmes. With the advent of plant shut downs and the start of decommissioning, and the restructuring of the nuclear industry with the formations of the NDA, and the sale of the management companies, the application of human factors knowledge continues to be an essential part of the industry's operations not only in the area of safety but also in effective business organisation. The talk will cover the application of human factors within decommissioning covering how human factors capability was developed during the major organisational changes and how Magnox North identified tools and techniques suitable for decommissioning activities. The talk will cover the improvement processes, and the difficulties and issues identified in maintaining a consistent standard of application. The talk will also touch on the Human Performance programme within the company and how this supports human factors.



Ron McLeod, Global Discipline Lead, Human Factors Engineering, Shell International
Introducing the OGP draft Recommended Practice, 'Human Factors Engineering in Projects'

The International Association of Oil & Gas producers (OGP) encompasses most of the world's leading publicly-traded, private and state-owned oil & gas companies, oil & gas associations and major upstream service companies. OGP members produce more than half the world's oil and about one third of its gas. This presentation will summarise the current status and contents of the proposed new OGP Recommended Practice guide



'Human Factors Engineering in Projects', covering recommendations for the organisation of HFE on projects, expected HFE activities and competence requirements for individuals assigned responsibility for leading or supporting HFE work.

Jim Wetherbee, Safety and Operations Culture Leader in BP Exploration (Alaska)
Managing risk in a dangerous world

Every accident gives signals before it becomes an accident. To enhance our chance of preventing catastrophe we must learn to discern these signals. Preventing accidents is simple, but not easy. We can study history. We can analyse previous organisational failures and catastrophes. Root cause specialists can identify basic problems that, if corrected, have a higher likelihood of preventing future occurrences of similar tragedies. But somehow it becomes extraordinarily difficult for people to use the organisational processes to prevent future accidents. We can easily prevent similar recent accidents, but find it seemingly impossible to predict and prevent different types of accidents. Organisations continue to be blindsided by tragedies that no one thought would occur. Yet, in the post-incident analysis, it is often determined that the latest catastrophe is very similar to a previous one.

Two kinds of control must be executed well to manage risk: organisational and personal. Organisational control methods are systematic and structured processes developed and implemented by the leaders in the organisation to help the workforce conduct their jobs in a safe and productive manner. But even in the best organisations, when it is time to go to work, the most valuable techniques an operator can use to work effectively and stay alive are personal control methods. The techniques described in this presentation were developed to help flight crews execute successful missions and stay alive in the dangerous and unforgiving environment of space. These personal control methods can also be used down here on the planet to help operators reduce injuries, eliminate fatalities, and conduct work safely, while increasing production in any high-risk business.

Martin Anderson, Specialist Inspector, Offshore Division, HSE
Lessons from another industry - Nimrod XV230

On 2 September 2006, RAF Nimrod XV230 was on a routine mission over Helmand Province in Southern Afghanistan when she suffered a catastrophic mid-air fire leading to the total loss of the aircraft and the death of all the 14 personnel on board. This accident was avoidable, and, as with many major incidents, there were a number of previous incidents and warning signs which represented missed opportunities. An independent inquiry into the loss of this aircraft was subtitled 'A Failure of Leadership, Culture and Priorities'. I presented material to this inquiry, focusing on the organisational issues and the similarities between this incident and earlier events. Many of the lessons are not new; the human and organisational causes echo previous major incidents. In this presentation I will review some of the key findings of this inquiry - and discuss their relevance to other safety critical industries. You will be encouraged to examine your own organisation, and this presentation will explore a number of fundamental organisational themes and issues to assist you in this process.



Need more reasons to attend?

Fascinating after dinner speaker

Jim Wetherbee will be the after dinner speaker - talking about his experiences as a former Astronaut from NASA. His six flights aboard the Space Shuttle included docking missions to the International Space Station and the Russian Space Station Mir. He is the only American to have commanded five missions in space, and holds the record for most Space Shuttle landings with five. During Jim's twenty-year career at NASA, he held several positions, including Director of Flight Crew Operations with responsibility for all crew activities related to human space missions. He was the Technical Assistant to the Safety Director, and the Deputy Director of the Johnson Space Center in Houston, Texas.

Superb venue

Manchester Conference Centre offers purpose built conference facilities, right in the heart of Manchester's central commercial zone, just 300 metres from Manchester Piccadilly Station. For more details visit www.manchesterconferencecentre.co.uk.

New exhibition

For the first time the conference will feature an exhibition of related products and services.

Great value

The early bird delegate rate until 31 August 2010 is £895 plus VAT for IEHF members, £995 plus VAT for non-members. This includes proceedings, refreshments and lunch. Also included is the conference dinner on the evening of the 25th, enabling you to network with speakers and other delegates. The cost does not include the workshop or accommodation.

The delegate rate for the Hearts and Minds workshop is £115 plus VAT for IEHF and Energy Institute members, £150 plus VAT for non-members.

Book securely online now at the conference website at www.ogc2010.org.

Discounted accommodation

Recommended accommodation can be found at Manchester Conference Centre and Days Hotel, Sackville Street, Manchester M1 3BB, telephone 0161 955 8000.

The hotel will accept telephone bookings and if you mention that you are attending the IEHF conference and quote reference 19138, you will receive a discounted rate of £78.50 inc VAT for Bed & Breakfast.



Hearts and Minds Workshop

The Energy Institute are holding a pre-conference half-day workshop based around the "Hearts and Minds" toolkit on 24th November. Led by Professor Dianne Parker, one of the original developers of the toolkit, this workshop will provide an introduction to Hearts and Minds including the history and theory, when and where they should be used, and how to use them. Also included will be participative workshop activities for two of the tools - Understanding your culture and Managing rule-breaking - providing an insight into how the tools should be run and facilitated.

You can book to attend this workshop when you book your place at the conference.

Need more information?

For further details and up to the minute news about the conference, visit the conference website at www.ogc2010.org.

Contact Sue Hull, IEHF Conference Manager, telephone 01509 234904, email s.hull@ergonomics.org.uk.



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