

CHEMICAL AND BIOMOLECULAR ENGINEERING FOUNDATION

Deepwater Horizon Revisited Investigative Insights A Professional Development Workshop Venues: Palace Cinemas

Sydney, Palace Verona, February 20, 2017

Melbourne, Palace Cinema Como, February 21, 2017

Adelaide, Palace Nova Cinemas, February 23, 2017

Brisbane, Palace Barracks, February 24, 2017

Times: 12.00 midday to 5.00 pm

Faculty of Engineering and Information Technologies

Dear Members and Friends of the Foundation,

You are invited to attend one of the Professional Development Workshops in February 2017, organized in association with the Safety Institute of Australia (SIA), which will include drinks and finger food on arrival and the screening of 'Deepwater Horizon' the movie.

Following this will be presentations on the Gulf of Mexico oil rig incident, and its aftermath, by:

- **Cheryl Mackenzie, Investigator at the United States Chemical Safety and Hazard Investigation Board (CSB)**, appointed as Lead Investigator of the team which investigated the incident, and
- **Peter Wilkinson, General Manager, Risk – Noetic Group**, an adviser to their investigation of the BP Deepwater Horizon disaster in the Gulf of Mexico.

Workshop Objectives:

As a result of attending this Workshop delegates will be able to:

- Identify the key human errors and why did they occur?
- Describe the most significant cognitive biases which affected the decision taking of those on the Deepwater Horizon rig and delayed the diagnosis of an incipient well event
- Discuss how hindsight bias affects our view of incident causation
- Explain the concept of the gap between 'Work as Imagined' it is done versus 'Work as it is actually Done' and why this poses a significant threat to safe operations.
- Describe how "active monitoring" by supervisors at all levels is an essential tool in barrier management.
- Identify how organisations can move from identifying *lessons to be learnt* to learning and implementing lessons in practice
- Describe how the BPs priorities in workplace health and safety affected process safety management
- Summarise the prevailing theories which underpin a good organisational culture and be able to describe to colleagues' ways in which organisational culture can be improved in practice

Deepwater Horizon Revisited – Investigative Insights

Synopsis :

Adapted from The Australian

The Deepwater Horizon movie is based on a true and terrible story that made headlines around the world: the April 2010 fires and explosion on the Deepwater Horizon oil drilling rig in the Gulf of Mexico, an unnatural disaster that killed 11 workers and caused the worst oil spill in US waters.

Directed by Peter Berg, the movie takes the audience straight into the action through the sheer scale and complexity of a mobile offshore drilling unit (MODU). “Anything that big ought to be manned by God,” says a man from BP.

While the men and women on board are skilled workers, not even they can see what is going on 5km underwater. We in the audience can, however, and it’s a situation where something as simple as an air bubble is full of danger.

The main characters are two of the crew, Mike Williams (Mark Wahlberg) and Andrea Fleytas (Gina Rodriguez), their respected boss Jimmy “Mr Jimmy” Harrell (Kurt Russell) and visiting BP senior executive Donald Vidrine (John Malkovich). As the action starts the job is 43 days — and \$US50 million — behind schedule. The well is already drilled, the cementing crew has left the rig and on the rig they are displacing well fluids as they pull out of the hole believing they have set a competent cement plug, as the doubts as to whether or not a good cement plug was set play out amongst the main members of the cast. Yet BP wants to press on. “BP’s well, BP’s hole!” Mr Jimmy says. “We’re just the help you’ve hired to drill the hole.” (BP, by the way, has said the film is inaccurate). BP gets its way, the result is catastrophic and the crew have to fight to survive and then escape the “well from hell”.



The film provides a background for presentations by Cheryl MacKenzie who was appointed as Lead the investigator by the US Chemical Safety Board, and by Peter Wilkinson, an adviser to their investigation of the BP Deepwater Horizon disaster in the Gulf of Mexico.

The workshop offers a unique opportunity to find out what were the most relevant issues related to process safety on the Deepwater Horizon rig on and before April 20, 2010, from people who have in-depth understanding in an event that had a powerful impact on the engineering fraternity. The speakers will highlight the issues that should be at the forefront of our thinking in all the everyday operations we take so much for granted. Understanding process safety may save our lives, and the lives of our work mates.

Cheryl MacKenzie from the **United States Chemical Safety Board** and **Peter Wilkinson**, who provided support to the CSB during the investigation, will take us through some of the more important human and organisational factors and discuss how these can be put into practice and explain why the disaster was not a Black Swan.

Program:

- 12:00 Arrival and registration, lunch and networking
- 12:30 Deepwater Horizon Screening
- 2:35 Coffee break
- 2:50 Workshop with Cheryl MacKenzie and Peter Wilkinson:
 - Safety issues as portrayed in the movie
 - Organisational issues from investigation perspective
 - Operationalising organisational factors
 - Discussion and conclusion of event.
- 5:00 Networking drinks (own cost)

About the Presenters:

Cheryl MacKenzie – Investigator at United States Chemical Safety and Hazard Investigation Board (CSB)



Ms. MacKenzie is a Lead Investigator with the U.S. Chemical Safety and Hazard Investigation Board. With the CSB for over 12 years, she has been involved in numerous investigations and safety studies of catastrophic chemical accidents, including the BP Texas City refinery explosion, the Xcel Energy hydroelectric tunnel fire, the Kleen Energy natural gas explosion, the Texas Tech University laboratory explosion, and the 2010 Gulf of Mexico Deepwater Horizon oil rig disaster. She is currently leading an investigation into a natural gas plant explosion in Mississippi. Her areas of focus are on human and organizational factors, including human performance, safety performance indicators/metrics, and

organizational culture. Prior to her CSB work, Ms. MacKenzie completed extensive study and research in the fields of anthropometrics, biomechanics, human information processing, and design. Ms. MacKenzie is a graduate of Cornell University with a MS in Human Environment Relations, specializing in Human Factors and Ergonomics.

Peter Wilkinson – General Manager, Risk, Noetic Group

Adviser to the CSB investigation of the BP Deepwater Horizon disaster in the Gulf of Mexico 2011



Peter has an unusual mix of regulatory, senior executive and consulting experience. He worked as a regulator in the North Sea in the immediate post Piper Alpha disaster era, where he was a member of the team which developed and implemented the safety case approach. He was also an operational team leader which involved leading investigations into a wide range of process safety events, including a major loss of containment from a BP offshore platform and a loss of well control from a coal seam gas well in the grounds of a hospital!

From 2001 – 2005 he was loaned to the Australian Government where he led the team which developed NOPSA, the forerunner to NOPSEMA. In 2002, Peter was a member of a team the Brazilian regulatory proposals following the loss of the P36 production facility with the loss of 11 lives. Working on the leadership team of Caltex Australia from 2005 involved rejuvenating the approach to process safety management. From 2010 a consulting career has included work on the Montara blowout for the Australian Government and support to the CSB on Deepwater Horizon. Recently, Peter has helped ENFORM in Canada develop process safety guidance for small oil and gas operators and an innovative approach to critical control management for the mining industry.

Peter has qualifications in Bachelor of Arts (Hons), Postgraduate Diploma Occupational Safety and Hygiene, City and Guilds Petroleum Processing Technology Series, and is a Chartered Fellow of the (UK) Institution of Occupational Health and Safety. He is a member of the Australian Radiation Protection and Nuclear Safety Agency's (ARPANSA) Nuclear Safety Committee, of the Society of Petroleum Engineers, and of the Safety Institute of Australia. Peter is a recognised expert in the areas of innovation in process safety and enterprise risk management.

Event presented by The University of Sydney Chemical and Biomolecular Engineering Foundation, Faculty of Engineering and Information Technologies, in association with the Safety Institute of Australia (SIA)



Dates and Venues:

Sydney: 20 February, 2017

Palace Verona

17 Oxford St

Paddington NSW 2021

Parking: Paid parking is available a 2-5min walk away on Victoria St, Darlinghurst at St Vincent's Hospital (entrance Barcom Avenue)

Melbourne: 21 February, 2017

Palace Cinema Como

Cnr Toorak Rd and Chapel Street

South Yarra Vic 3141

Parking: Entrance off Chapel Street or River Street under the Como centre. \$6 flat rate when tickets validated

Adelaide: 23 February, 2017

Palace Nova Cinemas

3 Cinema Place, Adelaide, 5000 (off 250 Rundle Street)

Parking: There is plenty of public parking in the Rundle Street area – Ezy Park accessed from Union and Frome Streets; Centrepont Car Park on the corner of Rundle and Pulteney Streets, Bent Street Car Park, and U Park on Frome Street & Terrace North

Brisbane: 24 February, 2017

Palace Barracks

61 Petrie Terrace, Brisbane, 7000

Parking: Parking facilities in the Barracks complex. \$15 flat rate for 8 hours when tickets validated

Fees:

Members of Foundation and of SIA:
\$165

Students: \$165

Members of other Organisations: \$242 (Society of Petroleum Engineers, Risk Engineering Society, IChemE, Australian Institute of Energy)

Non-members: \$385

Registration: click on link - <https://safetyinstituteofaustralia.eventsmart.com/events/deepwater-horizons-revisited-investigative-insights/>

Please note that seating is limited, so if you wish to attend you should register as soon as possible



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Its organization is supported by

