

PROCESS SAFETY MANAGEMENT- KEY TO ZERO INCIDENT OPERATION

23rd February 2012, 8.30am – 5.30pm, Suntec Convention Centre, Level 3 Theatre
(7 Safety Development Units, SDU awarded)

The Asia Pacific Confederation of Chemical Engineering (APCChE) comprises of non-profit societies, associations and institutions working in the field of Chemical Engineering in the Asia Pacific region. A congress is held biennially to enhance communication among researchers and practitioners from Asian countries working in the area of Chemical Engineering. 14th APCChE will be held in Singapore from February 21 – 24, 2012. A one day seminar on Process Safety Management is organised on 23rd Feb as part of APCChE 2012 to enhance application of Process Safety Management in Chemical Industries in Singapore

The chemical and energy industries (including refineries and petrochemical plants) handle large quantities of hazardous chemicals, converting them into valued products used in our daily lives. If not managed properly, these hazardous chemicals may be accidentally released with potentially catastrophic consequences. Process Safety Management integrates technology, procedures and management practices to minimize the risks associated with handling highly hazardous chemicals. Implementation of a well structured Process Safety Management system can help organizations achieve Zero Incident Operation.

This conference segment will provide participants with an understanding of the critical elements that are necessary for managing Process Safety, allowing practitioners to share their knowledge, experience and challenges encountered in achieving and sustaining zero incident operation. The need for a strong Process Safety Culture and monitoring of leading Process Safety Performance Indicators to support the structured management system will be discussed and deliberated. It is a unique opportunity not only for chemical engineers but also for all professionals associated with chemical and energy industries to gather and reinforce the belief that “Zero Incident Operation” can be achieved.

Speakers in Process Safety Management seminar:

- **Mr. Brian D. Rains DuPont USA**
- **Mr. Go Heng Huat MOM, Govt. Of Singapore**
- **Mr. Don Kimbril ExxonMobil**
- **Ms Rachelle Doyle Chevron ETC Australia**
- **Other eminent Singapore based PSM subject matter experts**

Details for the Process Safety Management Seminar

Process Safety Culture

APCCChE Sponsored talk

Process Safety : Great Britain HSE Regulators Approach

Judith Hackitt, CBE

Chairperson Health and Safety Executive UK

Judith will provide an update on recent developments including:

- The UK regulator's approach to major hazards inspection Onshore and Offshore;
- Tools and techniques available for assessing the consequences of major incidents and addressing land use planning implications;
- The development of a national competence framework for process safety;
- Development of meaningful indicators of process safety performance; and
- Case studies highlighting examples of industry good practice in leadership and experience sharing.

Judith has spoken at a number of international conferences about the importance of process safety and has been actively involved with business leaders in raising awareness of the need for leadership from the very top if standards are to be improved further.. Judith began her working career in 1975 with Exxon Chemicals where she spent 15 years in various process management roles at Fawley. She was subsequently European Operations Director of a Speciality Pigments business before becoming Group Risk Manager at Elementis PLC with world-wide responsibility for health and safety, insurance and litigation.

Judith trained as a Chemical Engineer at Imperial College, London and is a Fellow of the Institution of Chemical Engineers, an Ordinary Member of Council of the Institution of Chemical Engineers, a Fellow of the City and Guilds Institute and an Honorary Vice President of the Institution of Occupational Safety and Health. She was elected as a Fellow of the Royal Academy of Engineering in July 2010. She will become Deputy President of IChemE in May 2012.

Singapore's Approach to Process Safety Management

Go Heng Huat

Deputy Director, OSH Specialist Department, Occupational Safety & Health Division,
Ministry of Manpower
Government of Singapore

Process Safety Management is a holistic management of Process Safety to prevent process incidents and mitigate their consequences. The talk covers the development of process safety management, the regulatory framework to engender the adoption of process safety management and the way forward.

Go Heng Huat is a Deputy Director of the Occupational Safety and Health Division, Ministry of Manpower. He holds a Bachelor of Science (Hons) and Master of Science in Chemical Engineering from the University of Newcastle, UK. He is an Associate Member of the Institution of Chemical Engineers.

Go Heng Huat has been actively involved in the Singapore standardization especially in the area of safety standards. He sits in Management System Standard Committee of SPRING Singapore and chairs the Technical Committee on Occupational Safety and Health Management System. He is a member of the Council Committee for Management Systems and Products of the Singapore Accreditation Council. Mr Go is also an Adjunct Associate Professor with the Department of Chemical Engineering and Biomolecular Engineering of the National University of Singapore.

Learning from Major Process Safety Incidents

Brian D. Rains

Leader DuPont's Process Safety/ Operations Risk Management Consulting Practice
USA

Incident investigations teams routinely identify not just a single root cause that triggered the incident but also a number of other, contributing causes. One explanation for this observation is the well known "Swiss cheese model" as described by James Reason. A second explanation is the interdependent nature of the various PSM elements; how weakness in one can contribute to failure in another. In the highly complex facilities that are operated by Oil & Gas, Chemicals, Metals companies, only a truly integrated and interdependent approach to PSM implementation will successfully prevent serious Process Safety Incidents

Brian started his career with DuPont in 1981 and has gained extensive experience primarily in manufacturing and technology. He has held Plant Manager roles in the USA, Spain and Singapore as well as other a wide range of other leadership assignments. In Singapore, he served as Director of the Singapore Chemical Industry Council and as Chair of the Responsible Care Committee. He has been leading the process safety management practice since 2008 for DuPont Sustainable Solutions. Brian is sought after speaker in major events across the globe and has interacted with major process companies across all regions.

Brian was born in California. He earned his B.S. degree in Chemical Engineering from Brigham Young University in 1981.

Keys to Effective Site Wide Risk Management & Efficient Resource Utilisation

Don Kimbril

Chief Safety Engineer, ExxonMobil Chemical Company

Every operating facility has risks....many of them. Those risks are not the same...some are more significant than others. The keys to effective risk management incorporates a comprehensive process of risk discovery, risk assessment that prioritizes based upon significance, and resource allocation that maximizes risk reduction. This paper will describe the process in place within ExxonMobil to do just that.

Don has worked in the Safety Engineering field for ExxonMobil for the past 32 years. He has worked in operations at various ExxonMobil affiliates around the world ranging from offshore platforms in the North Sea to petrochemical plants in the United States. Don has a Bachelors degree in Industrial Engineering from Auburn University, and a Masters degree from Texas A&M University. He is a Certified Safety Professional and a Registered Professional Engineer.

Process Safety - PHA Study & Challenges in Industry

Rachelle Doyle

Senior Process Safety Specialist Chevron Engineering Technology Company
Perth Australia

Process Hazards Analyses (PHA) studies are a key tool used to recognize and manage process safety risks. Ineffective PHA can lead to hazards not being identified, consequences not being fully understood and the subsequent risks being underestimated. Challenges to PHA effectiveness can arise from a number of sources ranging from out of date process safety information, lack of rigor, inappropriate analysis technique, to team member selection issues. This presentation will outline some common failures mechanisms, along with methods that can be used in the preparation, execution and validation of a PHA study to assist in achieving a successful study

Rachelle started her career as a Chemical Engineer with Alcoa and has held various process engineering, operations, process safety positions in operating companies and specialist consulting companies before joining Chevron on the Gorgon Project and then into her current Chevron Energy Technology Company assignment as a Senior Process Safety specialist based in Perth, Australia.

Rachelle has a Bachelor's degree in Chemical Engineering and a Graduate Diploma in Business from Curtin University in Australia.

GHS Implementation in Singapore

Ms Veronica Chow

Senior Assistant Director (Occupational Hygiene), Occupational Safety and Health Division, Ministry of Manpower

Process Safety Hazard Analysis - Use of Bow Tie Tool for Easy Hazard Analysis Study

Syed Zaiful Hamzah

Principal Risk Consultant, ABS Consulting
Singapore

The Bow-Tie tool is a easy to use HAZAN tool with clear presentation on multiple barriers installed for each threat and the ability to see how the degradation of individual barriers increases the overall risk. It is a good visual tool indicating multiple barriers and the mitigation steps put in place to prevent Loss Of Containment incidents

Syed Zaiful Hamzah is a Principal Risk Consultant at ABS Consulting in Singapore, where is serves primarily as the lead consultant and project manager for the undertaking of risk assessments for offshore and onshore installations. His primary areas of expertise are in the preparation of HSE cases, bow-tie analysis, HAZOP/PHA facilitation and various technical safety studies such as Quantitative Risk Assessment (QRA), Fire & Explosion Assessment (FEA), Escape, Temporary Refuge, Evacuation & Rescue Analysis (ETRERA), Emergency Systems Survivability Analysis (ESSA) etc. He has almost 20 years experience in Asia and Europe, covering plant operations, corporate risk management and risk consulting.

Syed hold as BSc. Degree in Chemical & Petroleum-Refining Engineering from Colorado School of Mines, Golden, Colorado, USA

Process Safety Risk Reduction Approach – An Insurance Risk Engineering Perspective

Yue Feng Chen

Vice- President, Global Energy Risk Engineering – Asia Energy Practice

The Oil, Gas and Petrochemical sectors in Asia are in a continuous state of growth across many markets in the region. Despite this momentum, the industry has suffered record losses across the region, highlighting the risk exposures as the industry develops and matures. Are we learning from these lessons? This presentation will provide insights and approach to manage risks from insurance risk engineering perspective. Risk ranking and the areas of concerns in rating risks from the insurance market will be shared in the presentation.

Yue Feng is Marsh Asia's Engineering practice leader based in Singapore. He has worked with oil, gas and petrochemical clients across Europe and Asia

Process Safety Indicators – Key to Incident Free Operation

Bernard Leong

Health, Safety & Environment Manager
Petrochemical Corporation of Singapore (Private) Limited

The presentation will touch on background of recent thrusts in Process Safety and what stakeholders need to commit. It will briefly cover the company's initiatives and its selection of Key Performance Indicators for Process Safety and Reliability. The paper will wrap up with importance of learning and sharing collaboration within the industry.

Bernard has more than 20 years experience in the process industry, in the areas of process technology and operations. He spent the last 5 years in HSE capacity, first in line function safety and health and recently in corporate capacity.

Bernard develops and administers policies and programs for workplace safety and health, and environmental issues in accordance with corporate and legal requirements.

Safety Instrumented System - A critical barrier

Sujith Panikkar

CFSE, FSE (TÜV SÜD), FS Expert (TÜV Rheinland) Consultant

Safety Systems Engineering

Yokogawa Engineering Asia Pte Ltd

Singapore

The talk aims to address the position of Safety Instrumented systems in the overall risk reduction strategy for a process plant and how this forms a critical safety preventive. In this perspective, the factors that influence reliability of such critical systems and design conformance to safety targets are examined. How standards (IEC61508/ 61511) provide the necessary guidance for realization of safety instrumented systems.

Sujith has a Masters degree in SHE from NUS, Singapore and is a Certified Functional Safety Expert. He has over 21 years of experience in the field of Industrial Automation Systems & products for Oil & Gas, Petroleum Refining, LNG, downstream petrochemicals industry projects including Distributed Control Systems and Safety Instrumented Systems for ESD/ BMS/ F&G applications and Intrinsically Safe hazardous area interfaces. Currently he is engaged in Functional Safety and Safety Systems Engineering Practice at Yokogawa in Singapore.

Registration Details

- Fee:

Standard Registration Fee **S\$400.00**

Special Discount is available for IES, SCIC, WSHC, SBF, NUS, NTU, SP, NP, NYP members.

Fees include materials, lunch and 2 tea breaks.

Fees payment is to be made at the time of registration.

Student Registration Fee **S\$200.00**

Documentary proof of student status required

- To register, please download and complete the enclosed [registration form](#) and fax to **+65 6874 5097** or email to engokhg@nus.edu.sg

The seminar is now open for registration. Seats are limited so register now!

Closing Date for Registration: **31 January 2011**

For any queries regarding the registration please contact

Mr Gabriel Ong at Tel: **+65 6516 5113** or Email: engokhg@nus.edu.sg

