Fundamental of Process Safety and Safety Case

NUS National University of Singapore | School of Continuing and Lifelong Education

THE INSTITUTION OF ENGINEERS - SINGAPORE -

Introduction

This is a course detailing the fundamentals of process safety and safety case. The topics covered include technical safety major hazards assessment, the Workplace Safety & Health Regulations, safety case process safety management and an industry group learning journey (to the Petrochemical Corporation of Singapore).
Under the Safety Case Regime, MHIs (or SPE (Chemical) are expected to:

• Take on greater responsibilities.
• Proactively identify and manage Safety Health and Environment (SHE) risks through integration of all SHE protocols.
• Demonstrate to regulators that their risks are as low as reasonably practicable.
This course helped to transform PE Chemical to support MHI more efficiently and effectively.

Objectives:

At the end of the programme, the participants will be able to:

- Explain key concepts of Process Safety and Safety Case
- Demonstrate a clear understanding of chemical reaction hazards, process isolation, functional safety, fire and gas detection, ignition controls, risk assessment methodologies, consequence modelling and process safety management.
- Understand the requirements of the Workplace Safety & Health (MHI) Regulations 2017

Details

Date: 23 - 25 June 2020

Duration: 21 hours (3 days training)

Time: 9:00am to 6:00pm

CPD: 20 PDU (Confirmed)

Programme Completion & Certification Requirements

- At least 75% attendance rate and pass the course assessment

Target Audiences:

- Professional Engineers
- Safety Case Practititoners

Entry Requirements:

- Bachelor's Degree in Engineering

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Programme fees after SSG & various funding:

PROGRAMME:	Fundamentals of Process Safety and Safety Case					
	International Participants	Singapore Citizens			Singapore PRs	Enhanced Training Support for SMEs
		39 years old or younger	40 years old or older	Eligible for WTS		
Full Programme Fee	$2,550.00	$2,550.00	$2,550.00	$2,550.00	$2,550.00	$2,550.00
Less: SSG Grant Amount	$0.00	$1,785.00	$1,785.00	$1,785.00	$1,785.00	$1,785.00
Nett Programme Fee	$2,550.00	$765.00	$765.00	$765.00	$765.00	$765.00
7% GST on Nett Programme Fee	$178.50	$53.55	$53.55	$53.55	$53.55	$53.55
Total Nett Programme Fee Payable, Including GST	$2,728.50	$818.55	$818.55	$818.55	$818.55	$818.55
Less Additional Funding if Eligible Under Various Schemes	$0.00	$0.00	$510.00	$637.50	$0.00	$510.00
Total Nett Programme Fee Payable, Including GST, after additional funding from the various funding schemes	**$2,728.50**	**$818.55**	**$308.55**	**$181.05**	**$818.55**	**$308.55**

Programme Outlines:

- Introduction / Overview (0.5 hour – IESA)
- Overview of Safety Case – 6 key components (0.5 hours – NUS)
- Technical Safety (3 hours – NUS)
- Industry Sharing By Mikes Bakes (3 hours – TUV Rheinland / Risktec)
- Major Hazards By Mikes Bakes (3.5 hours – TUV Rheinland / Risktec)
- Regulatory Sharing (3.0 hours – MHD Team <MOM,NEA,SCDF>)
- Systems & Culture (3 hours – Petrochemical Corporation Of S'pore)
- Industry Group Learning / Video / Discussion (3 hour- PCS)
- Summary – Q&A (1/2 hour)
- Assessment (1 hour)

Speakers Profile:

Dr. Foo Swee Cheng, Associate Professorial Fellow

Dr. Foo (Session Lead) is a professor of occupational safety & health in the National University of Singapore, Department of Chemical & Biomolecular Engineering. He is immediate past program manager of the Master of Science Degree Program in Safety, Health & Environmental Technology, overseeing the teaching of Advanced SHE Management, Industrial Hygiene, Safety Engineering, Quantified Risk Analysis, Occupational Ergonomics, Human Factors in Process Safety, Chemical Hazard Evaluation and Management.

As the Chairman of Technical Committee for Personal Safety & Ergonomics, SPRING Singapore and past Chairman of the Occupational Safety & Health Division, Environmental Engineering, and Safety & Health Technical Committee of Singapore Institution of Engineers, he is a frequent speaker at numerous local & international events and had published more than 100 papers in international scientific journals.

Er. David Kan, PE(Chem), Certified Functional Safety Engineer (SIS)

David is a professional engineer (chemical), practicing process safety and leading process hazard analysis in one of process plants on Jurong Island. He is also a certified TUV Functional Safety (SIS) Engineer with experience in developing safety requirement specification and the appointed site safety case lead for his company, overseeing the site's safety case submission. He has experience developing job specifications for technical safety works such as safety case development, CFD modeling, consequence modeling, occupied building impact assessment, and QRA.

Prior his current role of process safety engineering specialist, he has taken on other roles in a process plant such as process unit operation supervisor, process design engineer as well as process engineer. The diverse experience put him in a good position in leading the development of safety case as well as dialogue with government agency on statutory submission.

Mr. Ivan Sin Siang Meng, Adjunct Associate Professor

Ivan is an adjunct academic staff in the National University of Singapore, Department of Chemical & Biomolecular Engineering. As a certified emergency responder, planner, fire and explosion investigator, and commander, Ivan come with 25 years of experience in the areas of safety and health, with focus in fire safety, emergency response, incident investigation, business continuity, disaster recovery, and crisis management with the Singapore Civil Defence Force (SCDF) and the Monetary Authority of Singapore (MAS).

As a member of Technical Committee for Petroleum Processes and Products, SPRING Singapore and Council Member of the Society of Loss Prevention for Process Industries (SLP), Ivan is experienced and well-received in project consulting and training for clienteles in emergency incident, business continuity and crisis management; including conducts of validation tabletop and deployment exercises at different corporate levels, such as Pertamina PHE Head Office, Shell Jurong Island, Roche Pharmaceuticals, Iron Mountain Information (Former Recall Corporation), and TPSC Asia (Former Total Petrochemicals).

Mr Bernard Leong

Bernard LEONG Lian Wah is the Health, Safety and Environment Manager of a leading petrochemical company on Jurong Island. He has more than 30 years' experience in the process industry, in the areas of process technology, operations and process safety, as well as occupational safety. He spent the last eleven years overseeing health and safety programme development and implementation, including driving the Process Safety Management programme. He also facilitated the development of the company's Safety Case.

He is involved in various committees within the Singapore Chemical Industry Council (SCIC). Among them, he currently chairs the Process & Engineering Committee. On the global platform, he is a Technical Steering Committee member of the Center for Chemical Process Safety. Bernard is a chemical engineering graduate of the National University of Singapore. He is a registered Professional Engineer (Chemical) with the Professional Engineers Board of Singapore (P.Eng.), and a registered Workplace Safety & Health Officer (WSHO). He is also a CCPS Certified Process Safety Professional (CCPSC).

Mr Mike Bates

Mike is the Asia Regional Manager for TÜV Risktec's Risk and Safety business, and has been based in the TÜV Risktec offices in Kuala Lumpur since November 2018.

Mike has over 19 years of experience in a wide range of Risk Management projects in the oil & gas, petrochemical and process industries, both in the Health & Safety and Environmental sectors. Mike's experience covers formal onshore and offshore risk management strategies such as QRA, HSE Case development, Compliance auditing for Safety Management systems, BowTie Analysis, ALARP demonstrations and Cost Benefit Analysis.

Mike is also an experienced workshop facilitator leading HAZIDs, PHAs, BowTie workshops and SIMOPs workshops.

Mike has developed and delivered a number of training courses from half day awareness sessions to very detailed five day courses. Mike is also an approved teacher on the MSc course taught by Risktec and certified by Liverpool John Moores University.

Er. Lim Liang Hong

Lim Liang Hong is Senior Specialist with the Major Hazards Department, Ministry of Manpower, which oversees the Safety Case regime for Major Hazard Installations in Singapore.

Liang Hong is a registered Professional Engineer (Chemical) with the Professional Engineers Board Singapore and a TUV Rheinland certified Functional Safety Engineer. He is also a lecturer with the Department of Chemical and Biomolecular Engineering of the National University of Singapore.

Liang Hong has 9 years of experience in the oil & gas and chemical process industry, specialising in Process Safety Management, Risk Assessments and Safety Case development. In his current role as an inspector, he supports the implementation of the Safety Case regime in Singapore, and is actively involved in various committees with the industry.