

# Responsible Care<sup>®</sup> Process Safety Webinar Series – Part 1

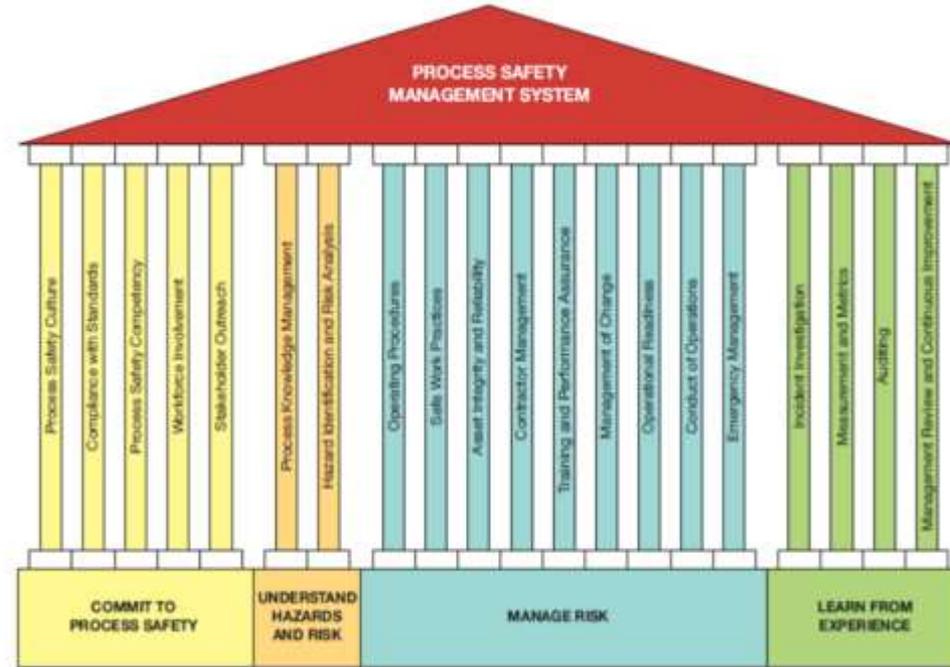
4 March 2021



# What Is Process Safety?

## ◇ A timeline of disasters (redacted)

- Oppau, Germany 1921
- Flixborough UK 1974
- Seveso Italy 1976
- Three Mile Island USA 1979
- Bhopal India 1984
- Chernobyl 1986
- Piper Alpha UK 1988
- Longford Australia 1998
- Texas City Refinery USA 2005
- Montara Australia 2009
- Macondo/Deepwater Horizon USA 2010.....



**The Responsible Care<sup>®</sup> signatory shall implement and maintain a Process Safety Management programme that is designed to prevent or mitigate fires, explosions and unintended releases of chemicals and energy.**

# Recent Events



# Culture vs Climate

## ◇ Culture:

- Collection of behaviours, norms
- Engrained in the company's DNA
- Established over many years and takes real effort to change
- Most people entering the culture will adopt the norms



## ◇ Climate:

- Short-term “atmosphere” often linked to a campaign
- Often linked to a new leader or company drive
- If not backed by a long-term strategy and strong leadership, the Culture will dominate it



# Organisational Culture As A Root Cause



Besides the physical cause – the foam – **Columbia Accident Investigation Board produced a damning assessment of the culture at NASA that had led to the foam problem and other safety issues being minimized over the years.**

**"Cultural traits and organizational practices detrimental to safety were allowed to develop," the board wrote, citing "reliance on past success as a substitute for sound engineering practices" and "organizational barriers that prevented effective communication of critical safety information" among the problems found.**



The commission's final report, issued in January 2011, attributed the spill to a lack of regulatory oversight by the government and negligence and time-saving measures on the part of BP and its partners.

A report released in September, emphasized BP's ultimate responsibility for the disaster. The report noted that, although the defective concrete cap had been installed by Halliburton, **decisions about the installation process made by BP had been the cause of the failure.** The investigation further found that BP and Transocean employees aboard the rig had—while engaged in testing procedures—ignored early indications of a problem and thus missed opportunities to prevent a full-scale blowout.

# Leadership's Role In Forging A PSM Culture

- Make public commitment
- Provide direction, accountabilities and resources
- Integrate process safety into company policies, systems and onto the agenda of relevant a committees
- Upskill yourself
- Raise the PSM results/metrics higher up on the agenda
- Include PSM expectations into performance management
- Use process safety incidents as topics for discussion
- Expect feedback on the causes of process safety incidents
- Ensure a good balance in conversations about all performance metrics (One is not more important than another)



# Training Or PSM

## Engineers

- Elements of PSM are built into the curriculum
- Comprehensive Risk based process safety training, such as IChemE would be ideal
- CAIA PSM 2 is beneficial
- Specialist training such as HAZOP, SIL, LOPA etc. as per the individuals job

## Operations, production staff and SHEQ

- Training on relevant company PSM elements
- CAIA PSM 1 & 2;
- CAIA PSM 3 for SHEQ
- Process Safety for Frontline workers (Junior Operations)

Develop a training matrix for all roles in the company and identify the relevant skill/course needed for each

## PSM Specialists and Senior SHEQ Staff

- Training on all company PSM elements
- CAIA 1 – 3
- Risk Based Process Safety (IChemE or similar)
- Specialist courses including:
  - HAZOP, PHA, SIL, LOPA, QRA
  - Incident Investigation
  - Chemical Compatibility
  - Fire Systems
  - Hazardous Area Classification, etc.

# Thank you

## Any questions?

