

# Present Landscape and Future Challenges for Process Safety

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## Present Landscape

- Oil Price
- Budget cuts
  - Capital projects cancelled/postponed
  - Drilling rigs idle
  - Lay-offs
    - Contractors
    - Employees
  - Maintenance & training deferred?



## Present Landscape

### Impact on safety?



Dr Trevor Kletz

*“There's an old saying that if you think safety is expensive, try an accident. Accidents cost a lot of money. And, not only in damage to plant and in claims for injury, but also in the loss of the company's reputation.”*



## Notions of Process Safety

- Don't rely on compliance with regulations to prevent major accidents
- No regulator anywhere has ever thought of everything
- Good process safety requires:
  - Hazards are identified,
  - Risks of these hazards are understood, and
  - Risks are managed by **“doing the right thing”**
- Compliance will be an outcome. It should not be **the** goal



## Manage Risks with Fewer Resources

- Best use of limited resources
- Identify safety critical equipment (SCE)

***Safety Critical Equipment / Element***  
Equipment, the malfunction or failure of which is **likely** to cause or contribute to a major accident, or the purpose of which is to prevent a major accident or mitigate its effects.

- ITPM priority for SCE
- If necessary, defer non-SCE tasks

## Drilling Process Safety

- PS fundamental principles not understood
- Quality of some PS elements generally poor:
  - e.g. hazard/risk assessment, asset integrity, MOC
- Asset Integrity of rig left to rig contractor
- SCE not understood by rig contractors & Operator leadership
- Significant PM backlogs on SCE
- Vulnerability of SCE not assessed



## Future Challenges

- SCE
  - best use of limited resources
- Standardization
  - especially offshore installations
- Mature fields
  - fracking & tertiary recovery
  - extended life – asset integrity?
  - 2 CCPS projects – AIM & ageing assets
- Culture



## Safety Culture

- Culture tends to be result of everything that happened or failed to happen
- Quality of leadership & commitment will drive (or limit) culture
- Essential features of a sound culture:
  - Enforce high standards
  - Maintain sense of vulnerability
  - Open and effective communication
  - Timely response to issues / concerns



## What Leaders should Know & Do

- Efforts to maintain/improve safety must be based on understanding:
  - Risks, and managing them
  - Demand for, and resources used in, Process Safety activities
  - How activities are influenced by culture
  - Measure performance (barriers) to apply limited resources to competing safety needs (early warning)