WHY BP FAILED TO LEARN THE LESSONS

The Texas City Refinery Explosion

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Financial cost

• Compensation $2 billion (set aside)
• Texas City overhaul $1 billion
• (BP profit in 2005 $19 billion)

• From start 05 to mid 07,
  BP shares underperformed European oil and gas sector by 16%

• From March 05 to Dec 07,
  BP shares rose 15%
  Amex oil index rose 72%
170 ft

Gas

158 ft Actual level

9 ft  Maximum

6.5 ft  Desired level (50% of range)

4ft Minimum

Heavy liquid
THINKING ABOUT THE TEXAS CITY REFINERY ACCIDENT

Overfill → Release to air → Ignition

Trailer siting

Death
Types of hazard

- Major and other

- Major: low frequency, high consequence events
  Other: high frequency, low consequence events

- In process industries:
  - Major hazards - loss of containment
    loss of control of process
  - Other hazards – heights, confined spaces, vehicles

- Process safety versus personal safety.
THINKING ABOUT THE TEXAS CITY REFINERY ACCIDENT

Lack of focus on process safety

- Overfill
- Release to air
- Ignition
- Trailer siting

Death
BP’s learning disability

- TC failed to learn from elsewhere
- TC failed to learn from own incidents
- TC failed to learn from audits
THINKING ABOUT THE TEXAS CITY REFINERY ACCIDENT

Inability to learn

Lack of focus on process safety

Overfill
Release to air
Ignition
Trailer siting

Death
THINKING ABOUT THE TEXAS CITY REFINERY ACCIDENT

- Inability to learn
- Reward structure
- Organisational design

Inability to learn leads to:

- Lack of focus on process safety
  - Overfill
  - Release to air
  - Ignition
  - Trailer siting

Lack of focus on process safety results in:

- Death
Operations

CEO

Business Units

BU 1
BU 2
BU 3
BU 4
BU 5
BU 6

Functional Units

Operations
Projects
HSE
Commercial
Exploration
THINKING ABOUT THE TEXAS CITY REFINERY ACCIDENT

Inability to learn

Reward structure
Organisational design
Risk mgmt v. rules

Inability to learn

Lack of focus on process safety

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Death
Process safety often involves risk management, not rule compliance.

- We should convert risk management into rule compliance (where possible)

- The need to comply with rules is stronger driver than need to reduce risk.
BP budget priorities

• 1 Spending to ensure compliance – “License to operate”

• Spending to ensure current production can be maintained – sustainability

• 3. Spending to boost production - new commercial opportunities.
The logic of the budget problem

• Budget gave low priority to risk management

• For BP, PSM was a matter of risk management, not compliance

• Therefore, PSM had a low budget priority
THINKING ABOUT THE TEXAS CITY REFINERY ACCIDENT

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- Risk mgt v. rules

Inability to learn

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Death
THINKING ABOUT THE TEXAS CITY REFINERY ACCIDENT

- Reward structure
- Organisational design
- Risk mgt v. rules
- Cost cutting

Inability to learn

Lack of focus on process safety

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Death
Lessons on cost cutting

Funding should be on the basis of needs analysis not competitive comparisons

Those who order funding cuts should take responsibility for risk assessing them
THINKING ABOUT THE TEXAS CITY REFINERY ACCIDENT

- Reward structure
- Organisational design
- Risk mgt v. rules
- Cost cutting
- Leadership focus

Inability to learn

Lack of focus on process safety

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Death