WHY BP FAILED
TO LEARN THE LESSONS

The Texas City Refinery Explosion

Andrew Hopkins
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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%
Failure to Learn

the BP Texas City Refinery disaster

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6.5 ft Desired level (50% of range)
9 ft Maximum
4 ft Minimum
158 ft Actual level
170 ft
THINKING ABOUT THE TEXAS CITY REFINERY ACCIDENT

Overfill → Release to air → Ignition → Trailer siting → Death
6.5 ft Desired level (50% of range)

9 ft Maximum

6.5 ft Desired level (50% of range)

4 ft Minimum

170 ft

158 ft Actual level

Gas

Inflow mixture

Level measuring instrument

Heavy liquid
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

- Reward structure
- Organisational design

Inability to learn

Lack of focus on process safety

- Overfill
- Release to air
- Ignition
- Trailer siting

Death
Group Chief Exec

CE for functions
- VP HSSE
- VP Tech.

CE Refining and Marketing
- VP world refining
- VP US Refining
- Business Unit Leader Texas City Refinery
  - HSSE Mgr
  - Process safety mgr
  - Line managers
  - BU 2
  - BU 3
  - BU 4
  - BU 5
  - 4 other US refineries

Other CEs
- Other regional VPs Refining
BP ORGANISATIONAL CHART, SIMPLIFIED

Group Chief Exec

CE for functions
  - VP HSSE
  - VP Tech.

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Other CEs
  - Other regional VPs Refining
THINKING ABOUT THE TEXAS CITY REFINERY ACCIDENT

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

Inability to learn

Lack of focus on process safety

- Overfill
- Release to air
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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.
THINKING ABOUT THE TEXAS CITY REFINERY ACCIDENT

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

- Inability to learn

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

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

- Overfill
- Release to air
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- Trailer siting

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

- Overfill
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Death