

# Competency or Complacency

## LEARNING FROM OTHERS EXPERIENCE

**“If you believe that risks are only associated with what you know, then you could be in for a big surprise”**

- **Should mindfulness be a condition of employment?**

# Competency or Complacency

“Leaders create cultures by what they systematically pay attention to. This can mean anything from what they notice and comment on, to what they measure, control, reward and in other ways systematically deal with”

E Schein Organisation culture and leadership

# Continuous mindfulness at Centrica Storage Ltd

*Focus for this session is our willingness to learn lessons as in 1 and 5 below*

- 1. I worry about failure even at times of quiet, successful periods**
2. I have no right to damage equipment
3. Safety is a condition of my continued employment
4. I have no right to hurt anyone
- 5. I must not assume that the future will be a repeat of the past**
6. I must follow business and safe systems of work at all times
7. I will stop and I will stop others and ask when I am unsure
8. I am responsible for my own action and the knock on effect of my actions

# Competency or Complacency

Mindfulness – Learning from Lessons

Q - why do major accident investigation outcomes have many common repeatable causes?

Q – why are the learning's unsustainable over time?

Q – Who has a major influence in either accident preventions or accident management?

# Major incidents don't occur by accident



Bhopal



Texas City



Hickson & Welch



Flixborough



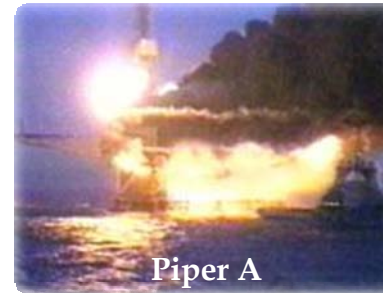
Conoco Phillips



Longford



Chernobyl



Piper A

# Sections extracted from the incident/accident reports

## Incident 1 - Group 1: Bhopal

- Instruments had been malfunctioning for over a year but were **ignored**. Little investment made in the plant.
- The only safe venting route for toxic gasses had been taken **out of service**.
- Essential inventory cooling was taken offline for maintenance **without understanding** the full effects.
- **Poor modification/ maintenance practices** are thought to have contributed to a runaway reaction.
- The **emergency plan was not tested**; no public information regarding toxic gases; poor alarm sounding procedure.

## Incident 2 Group 2: Chernobyl

- A test programme was put together to improve the operation of the plant, in which safety critical equipment would be **inhibited**.
- The programme did not include all the required inhibits, some being added late **without a plan review**.
- The test caused instability in the plant and further **trips were disarmed** in order to meet the test criteria.
- The chief operator **realises without taking action** that the plant is too close to the limit for acceptable operation. When further instability arises, the shutdown button is pressed 4 seconds too late.

## Incident 3 Group 3: ConocoPhillips

- Modifications were made to the process plant **without engineering review**.
- The failed pipe section and elbow were **omitted** from the integrity inspection list.
- An inspection report was written, yet **recommendations were lost**: no transfer to a central risk register.
- Further change was engineered but failed to identify the need for pipe work verification.
- The plant could not be isolated due to **uncertainty** regarding valve locations.

## Incident 4 Group 4: Flixborough

- Leaking seal not repaired to **prioritise continued production**.
- **Un-assessed control measure** for the leak caused further damage to the vessel.
- Forced change out of vessel was **insufficiently engineered**.
- **Poorly designed leak tests** on the temporary system only covered the normal operating range (2 barg below the PSV setting).

# Sections extracted from the incident/accident reports

## Incident 5 Group 1: Texas City

- Plant start up was being attempted **without communication or planning**.
- Start up **procedure was being ignored**.
- Operations had a knowledge of defective equipment and **accepted** to run them without repairs.
- The vent system on site had **not been upgraded** in line with best practice and the latest hazard analysis outcomes.
- The majority of fatalities occurred within close proximity to the plant due to **unauthorised** trailer placement.

## Incident 6 Group 2: Longford

- Operators struggled to bring a process upset under control.
- Plant temperatures dropped well below normal operating range with many **overrides applied**.
- Leaking flanges occurred spontaneously and were being nipped up on-line **without understanding**.
- Production concerns were seen to be more important than safety.
- It took several weeks to isolate the plant due to the complexity of the system and **lack of design information**.

## Incident 7 Group 3: Piper Alpha

- Routine maintenance was being carried out on key equipment.
- Work was not completed but suspended until the next day, **without making the system safe**.
- The **handover was incomplete** and when equipment was urgently needed, **nobody had knowledge** of the work carried out during the previous shift.
- **No line walk was carried out** to check integrity.
- **Poor hazard analysis** in design led to a runaway reaction.

## Incident 8 Group 4: Hickson & Welch

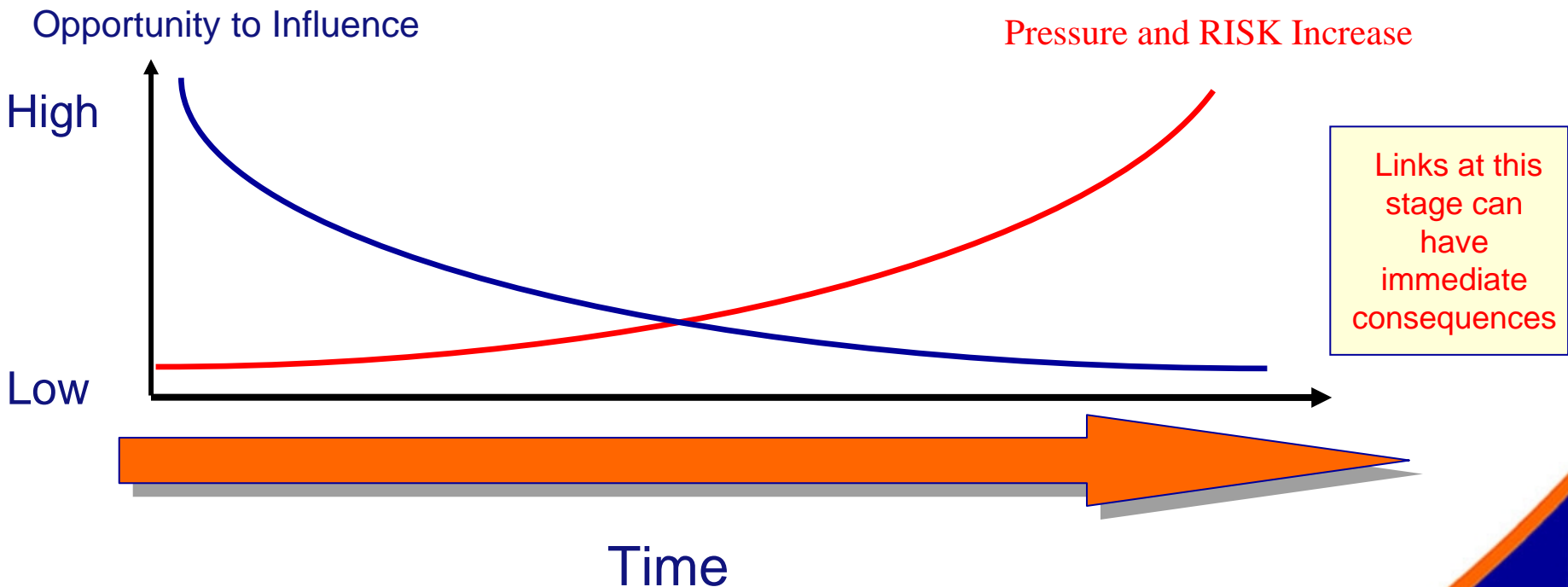
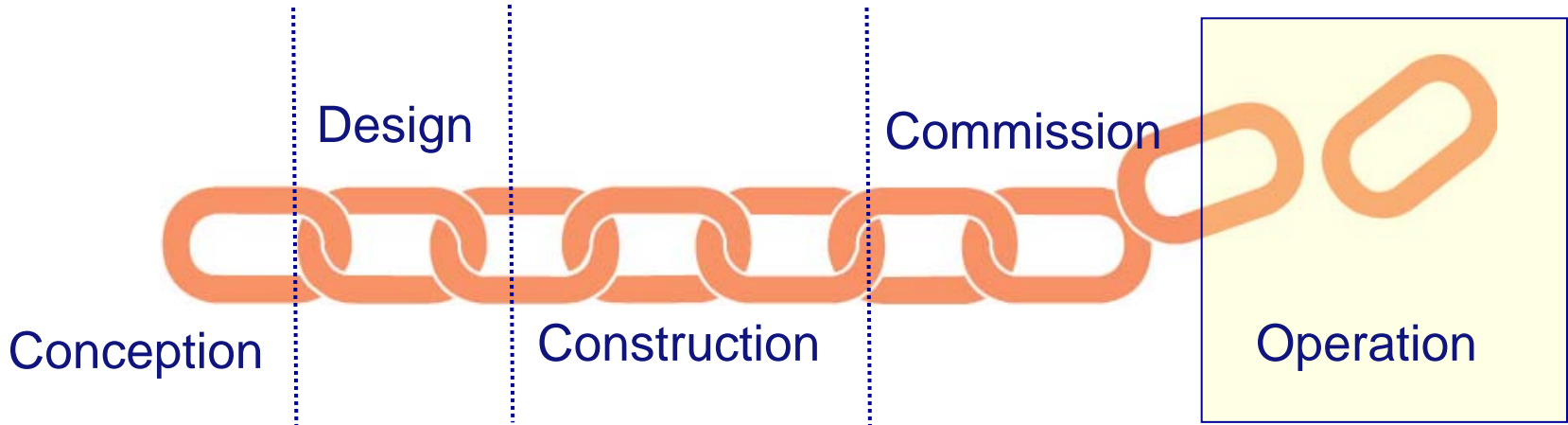
- A distillation still was cleaned of sludge for the first time in 30 years of operation **without a formal procedure**.
- Permits were made out for breaking containment **without the still inlet having been isolated**, by a **new team leader** who had only been in the job 13 days.
- No samples were taken of the Nitro compounds which were to be removed, they were **assumed** to be stable.
- The heating element in the sludge was not controlled by the temperature sensor, which was situated above the sludge level measuring ambient air temperature, **which was not assessed**.
- The **occupied control building was situated close by** (13.4 metres from the still man way door).
- The jet flame reached 2300 deg Celsius which consumed the control building in 24 seconds.

## Competency or Complacency

“a history of fires and incidents in Bass Straights and overseas including Piper Alpha clearly indicates the obvious risk where even the smallest error can lead to a potential for disaster. The lessons ought to have been learnt well before 1989”

Australian Coroner Investigating the Longford Gas Plant

# Operating is the last link in the chain



## What makes us all different from the organisations that suffer major incidents?

- **NOTHING!**
- They all had multiple layers of protection to provide safeguards and barriers
- They were all confident that this could not happen to them
- They provided employees with the necessary plant, equipment, resources, training and competence

# Competency or Complacency

What am I here to give you?

- Opportunity of learning lessons from our experience (positives and negatives) told by those involved.
- Delivering the lessons message in more interactive way. The 'normal' accident and incident reports are fact based, difficult in context, cold and remote, in turn I believe they instil a 'tick box' behaviour.
- I would like you to experience the event of the 16<sup>th</sup> February 2006 from the individuals perspective i.e. the truth

# Competency or Complacency

What should you do?

- Think openly and holistically about the lessons? No tick-box cultures, no 'we don't have that equipment'
- Please do not consider yourselves immune from either foreseeable or unforeseeable events.
- Remember unforeseeable events and causal failings are a one off and then become foreseeable
- Feedback on what you have witnessed and did it make a difference?
- Go from here and ask how 'mindful' your organisation is?

**“What can happen” Rough 47/3 Bravo... Run DVD**



## Questions ...

