The 7 delusions
...of near zero organizations

Mark Pergrem
Titanic! 15 April 1912...

Captain EJ Smith
“We believe our ship is safe...it is unsinkable”
Bhopal, India
December 3, 1984
2998 deaths

Piper Alpha
September 6, 1988
167 Killed

Texas Refinery
March 23, 2005
15 killed, 170 injured

BP Deep Water Horizon
Gulf of Mexico
11 killed

Northparkes Mine
(Australia)
24 November 1999
4 killed
Westray Coal Mine: May 9, 1992, explosion killing all 26 miners.
They focused strongly on safety as a ‘core value’ and proud of their achievements...

Their safety approach was on technology, audits and enforcement...

They were fixated on compliance behavior and elimination of the ‘at-risk’ behaviors of workers...

...and achieved low accident rates as a measure of safety...and got nearer and nearer to zero.

“Well managed” companies!

- Analyze and prevent accidents
- Engineer a safe work environment
- Enforce safety rules
- Educate in safe work procedures
- Set accountabilities for safety
- Eliminate at-risk behaviors
- Set safety targets
- Rewards
Many organisations today are experiencing an unexpected occurrence: Safety has never before had so much focus, driven from the top with genuine commitment and employee involvement through behavioural safety programs. Yet, we have reached plateaus of safety performance, that we just can't break through... and in fact we are even experiencing some unforeseen, inexplicable very serious accidents, or even catastrophic events – happening to organisations that are considered leaders in safety. While our incident rates are dropping, our serious accidents rates are increasing.

Research suggests that our current safety approaches and traditional methodologies may be contributing to a vulnerability and systemic “atrophy” that is slowly destroying our safety capabilities. It is not as simple as “employees must change their behaviour”. Most risk taking is a consequence of existing systems, work practices and processes and from a perception of what is expected and “permissible”. Collectively these elements describe the culture of an organisation. This is the “work environment” of employees and it has a powerful influence on risk taking in the organisation. The “leaders” in the business can either reinforce or change that culture. And the culture of the future is one of “risk competence” and resilience!!

The pathway as defined in the DuPont Bradley curve (below) is at the limit of its growth. What lies beyond it is what organisations will have to define, design and create. The SAFEmap focus is seeing a future that is lean, powerful and resilient… as against one that (currently) is becoming increasingly bloated, weak and vulnerable.

The task of the leaders in the business... middle managers, the senior manager and the executive management, is to change the direction and lead their business towards a new future. SAFEmap is equipped to support that journey.

The SAFEmap Model has been designed and deployed in many high-risk industries such as aviation, defence, public utilities, minerals processing, forestry manufacturing and mining – and for which have developed and trademarked the concepts of “Deep Safe” and DeepSafe Leadership®.
7 delusions of ‘Near Zero Organizations’

1. Analyze and prevent accidents
2. Eliminate risk-taking
3. Enforce safety rules
4. Educate in safe work procedures
5. Engineer a safe work environment
6. Measure safety performance
7. Reward achievements
1. The delusion of linear causation
2. The delusion of human error
3. The delusion of compliance
4. The delusion of consistency
5. The delusion of risk control
6. The delusion of quantification
7. The delusion of invulnerability
(National Post, 13 July 2013, page A12)
Contributing factors to the Lac-Megantic accident

18 Systems Failed Randomly and Concurrently

- Single drivers
- Thin tanker shells
- Air release in brakes
- Loco fires
- Mechanical brakes
- Braking procedure
- Firefighters
- Complacency
- Rushing
1. The delusion of linear causation

2. The delusion of human error

3. The delusion of compliance

4. The delusion of consistency

5. The delusion of risk control

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7. The delusion of invulnerability
Keep your eyes on the job!
Don’t rush!
Think safety!
Don’t be complacent!

“…expect the unexpected…”

ABC of human beings

@RISK behavior...

- Risks Fixed
- Antecedent Visible
- Behavior Intentional
- Consequence Mindful
Human Error

A human action that results in

“a deviation from intention, expectation, or desirability.”

Wikipedia

ELIMINATE

!!!
To err is human...

to forgive is against company policy.

If only...

...folks would make better choices...
After the event, with the clarity of 20/20 hindsight, is it possible to imagine different choices that might could have avoided the accident?

Of Course!

But this has ABSOLUTELY NOTHING to do with the question Was this accident preventable?
the reasonable person...

exercises average care, skill and judgment

The UNreasonable standard...

You are expected to react in real time as a team of experts would have done if given days or weeks to analyze a situation knowing the outcome of your choice and having information you cannot know.
We must begin to think differently about how humans interact with risk.
JUMPING TO CONCLUSIONS
1. The delusion of linear causation
2. The delusion of human error
3. The delusion of compliance
4. The delusion of consistency
5. The delusion of risk control
6. The delusion of quantification
7. The delusion of invulnerability
The train engineer ‘followed company directives...’

The Nantes firefighters followed the directives of their training with Montreal Main and Atlantic Rail (MMAR), to power down the locomotive’s engine before they attacked the fire...
1. The delusion of linear causation
2. The delusion of human error
3. The delusion of compliance
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5. The delusion of risk control
6. The delusion of quantification
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Not all the brakes were applied...
The problem of ‘risk homeostasis

Prof John Adams, London University, UK

Swedish Switchover

1. The delusion of linear causation
2. The delusion of human error
3. The delusion of compliance
4. The delusion of consistency
5. The delusion of risk control
6. The delusion of quantification
7. The delusion of invulnerability
The problem of “risk migration”
The main headline in the Daily Mail on 9 May 2010 reads: "£90 fine if you’re texting at the wheel: Minister warns of safety crackdown."
1. The delusion of linear causation
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7. The delusion of invulnerability

Transocean Ltd. had its "best year in safety performance" despite the explosion of its Deepwater Horizon rig that left 11 dead and oil gushing into the Gulf of Mexico.

In 2010, the rate of incidents dropped by 4% from 2009. A number that measures potential severity of those incidents fell nearly 15% from last year.

Accordingly, Transocean’s executives received two-thirds of their target safety bonus.
Stating **zero**...the upside

- Common Vision
- Immoral to target #...
- Non-negotiable
- Served us well...

- Fatalities 0
- Accidents 0
- Incidents 0
- Near misses 0
- Mistakes 0
- Hazards 0
- Risk 0
- ??? 0
37. It is possible to achieve zero accidents.

1. The delusion of linear causation  
2. The delusion of **human error**  
3. The delusion of compliance  
4. The delusion of consistency  
5. The delusion of risk control  
6. The delusion of quantification  

7. The delusion of invulnerability
Risk Secrecy

There are things we know we don't know...

And there are things we don’t know we don’t know...
“I knew everything was OK... because I never got a report that anything was wrong...”

Manager: Piper Alpha
Humans...

...the strongest link in the safety chain

If you expect machine-like precision or infallibility from humans...

...get used to disappointment!
So how can humans be the strongest link?!?

What do humans do best?

Humans can manage complexity in real time better than any technology ever invented.

PERIOD.
Humans can “sense”...
Humans can innovate...
Humans can ‘wing it...’

Capt Sully Sullenburger
“The quickest way to get you killed on a manned space flight is to not follow standard operating procedure”
Karol Joseph "Bo" Bobko
Space Shuttle Pilot on 3 missions

“The second quickest way to get you killed is to always follow standard operating procedure”

THANK YOU!

Questions?
A parting gift…

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Steve Reid

Former COO: Goldcorp
Director of companies:
• ProconSAFE
• Silver Standard
• Eldorado

What Sort of Company is This?

• Does NOT communicate Safety Statistics
• Never talks “Zero” as a target
• Tells people “Safety is Second” priority
• Never discusses Cost of Safety
What Sort of Company is This?

The Numbers, but without a focus on the numbers ……

Most Safety Programs are Ineffective because of LACK OF LEADERSHIP

But you can be different if YOU …

1. Adopt a Modern Safety Approach
2. Be aware / Beware of 7 Delusions
ACTIONS to Adopt Modern Safety Approach

1. Bring Yourself: CARE!
2. Be clear about Management vs. Leadership
3. Watch for the Subtleties / Delusions

They’re Subtle but Important: People’s lives are in your hands!
Accidents WILL happen...
Suspicious of success...
Obsessively loyal...
Seek dissent...
Potency and power
Invisible...
No limits...beyond zero