



The Big Switch: Why OSH Professionals Need to Shift Their Organizations from Compliance to Risk

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How “Safe” Are We?

- Incident rate reductions slowing down
- Fatality and serious incident (FSI) rates steady (increasing in some areas)
- Traditional focus on injury rate reduction forces an after-the-fact approach
- Incorrect assumption that incidents are caused primarily by unsafe acts of employees
- Low level controls not effective in preventing FSIs



Risk Transformation

“Reliance on traditional approaches to fatality prevention has not always proven effective. This fact has been demonstrated by many companies, including some thought of as top performers in safety and health, as they continue to experience fatalities, while at the same time achieving benchmark performance in reducing less-serious injuries and illnesses.”

Lon Ferguson
Chair – IUP Safety Sciences Department
2012 Fatality Prevention Forum

Risk Transformation

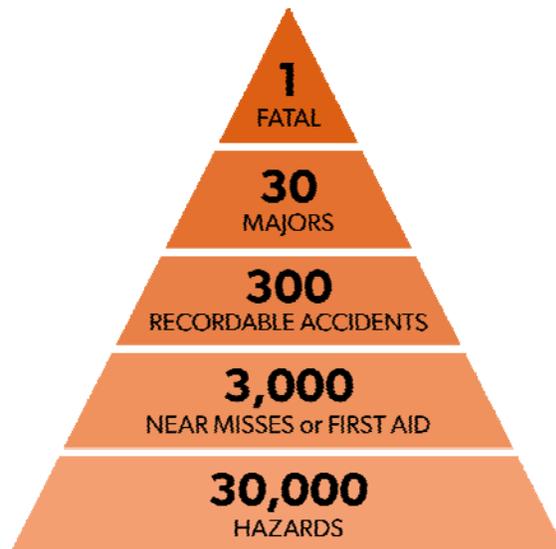
OSH professionals are working to redefine what “safe” means

- Heinrich’s Pyramid is not the complete answer.

Poor Heinrich

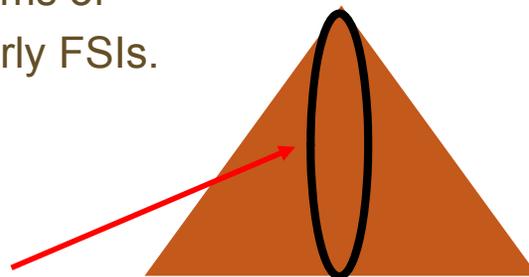
The triangle is:

- Accurate descriptively regarding incident type ratios
- Correct that a single incident can be significant



But it isn't...

Accurate predictively in terms of potential for injuries, particularly FSIs.



21% of all types of incidents have the potential to become a FSI, based on known precursors

Risk Transformation

OSH professionals are working to redefine what “safe” means

- Most incidents are NOT caused by “operator error.”

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The Human Factor

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- A factor in nearly every incident, but it is not the only one and it is never the true “root” cause.
- Flawed incident investigations reinforce this concept
 - Limited understanding of multi-causal analysis
 - Frequency of “operator error” as the first (last and only) cause identified

“Operator Error”?

Expecting 100% of your workers to behave safely 100% of the time?



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Risk Transformation

OSH professionals are working to redefine what “safe” means

- OSHA Incident Rates do not provide the data needed to effectively drive safety performance initiatives.

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2007 Rand Study

- No relationship between OSHA injury rates and FSIs
- Absence of minor injuries is NOT predictive of the absence of future FSIs
- Presence of minor injuries is NOT predictive of the presence of future FSIs



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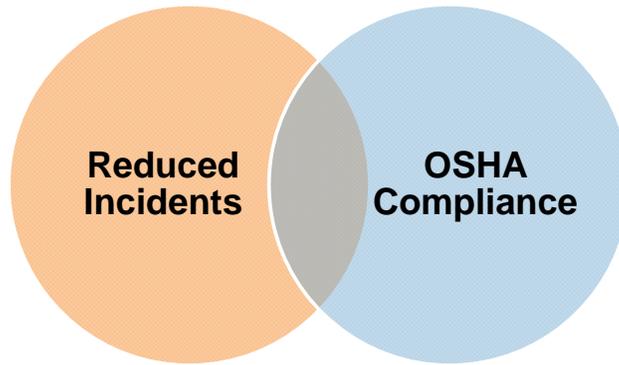
2014 Rand Study



- The fatality rate in the UK is about 1/3 of the US rate.
 - 1/4 the rate in construction
- Lower rates are associated with management attention to safety and a risk management approach

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In Other Words



That sweet spot is too small.

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Moving Forward

The New Paradigms

- One injury prevention strategy will not reach all injuries equally
- Reducing frequency is not the way reduce severity
- Identify the FSI precursors and causes and redirect OSH program efforts and resources

Common FSI Precursors

1. Unusual and non-routine work
2. Non-production activities
3. In-plant modification/construction operations
4. Outage work – repair, maintenance, start-ups
5. High energy sources are present
6. Upsets occurring

Common FSI Causes

1. Struck by/crushed by objects
2. Operation of/interaction with mechanical equipment
3. Falls from height or same level
4. Electrical contact
5. Contact with non-electrical hazardous energy
6. Explosions and fires

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Become a Risk-Centric Organization

“The entirety of purpose of those responsible for safety, regardless of their titles is to identify, evaluate, and eliminate or control hazards so that the risks deriving from those hazards are acceptable.” (emphasis mine)

Fred Manuele

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Risk is the Word

- Risk-based approaches provide the best way forward toward preventing FSIs
- Hazard and risk analysis techniques must be embedded into an organization's culture
- Employees must have a risk analysis mindset – they must be skilled at it

The New Normal

- ▶ Risk management approaches embedded in safety management systems → Plan (Plan, Do, Check, Act)
- ▶ ISO/ANSI
 - Risk Management Standards
 - Safety Management Systems Standards
 - Prevention through Design Standards

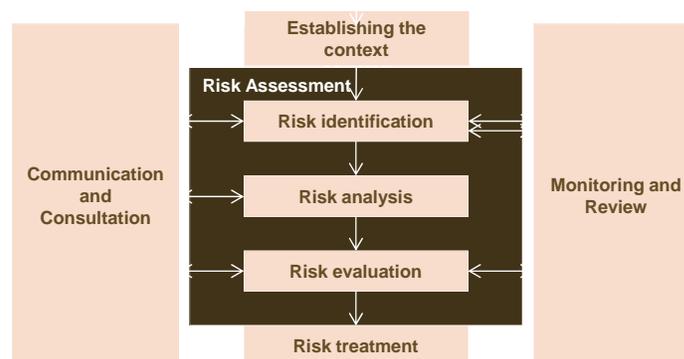
ANSI/ASSE Z690

Principles and Guidelines

1. Characterizing Risk – facilitates making informed choices and prioritizing items for action
2. Risk Management principles – creates value for organization
3. Risk Management framework – embeds the process into how organizational decisions are made

Risk Management Model

- This is the process that helps us define “acceptable risk”
- Provides a clear framework through 30 separate tools



ANSI/ASSE Z590.3



Safety by Hazard

- Looks at the system in pieces on a case-by-case basis
- Hazards-based approach to minimizing workplace injuries
- Procedures and processes that rely almost exclusively on worker behavior

ANSI/ASSE Z590.3



Safety by Design

- Risk assessment approach to managing workplace incidents
- Assessing risks and designing systems to reduce them to an acceptable level.
- Emphasis on preventing incidents through designing them out

ANSI/ASSE Z590.3

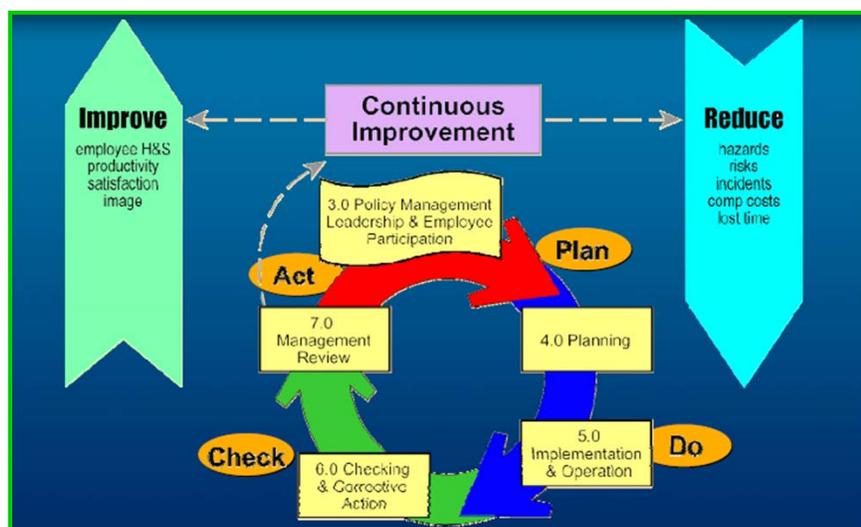
The only controls that will reduce risk severity.

Hierarchy of Controls

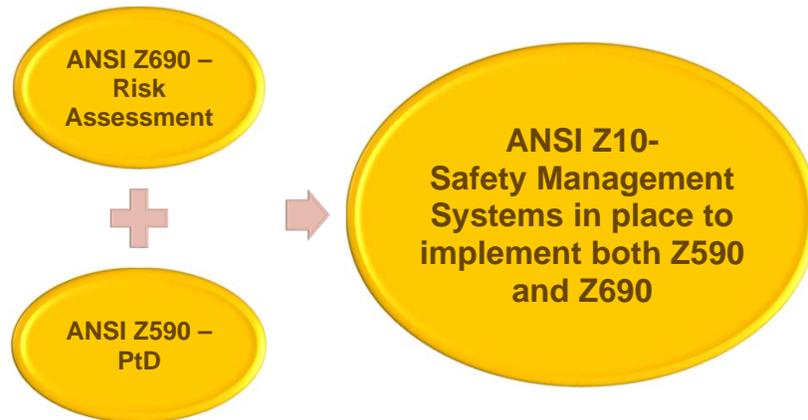
1. Risk avoidance
2. Eliminate or reduce in design and redesign process
3. Reduce risk by substitution

- ✓ Preventative actions
- ✓ Rely least on performance of personnel
- ✓ Difficult to defeat

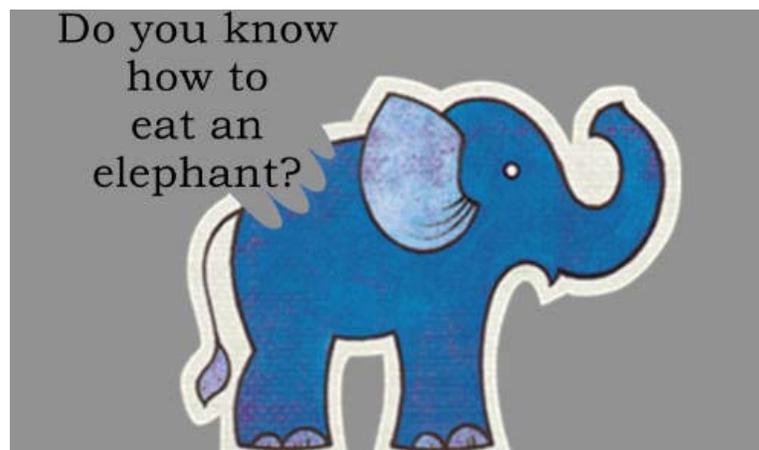
Continuous Improvement – ANSI Z10



How Does it All Fit Together?



Drilling it Down – Five Simple Acts



Drilling it Down – Five Simple Acts

1. OSH professional must become the expert on risk in their organization
 - Buy and read the standards
 - ANSI/ASSE Z690; ANSI/ASSE Z590.3-2011; ANSI/ASSE Z10-2012
 - Find your tribe
 - Professional Safety, LinkedIn, Conferences
 - Safety Differently, Ron Gantt, Carsten Busch, Rick Pollock

Drilling it Down – Five Simple Acts

2. Stop saying “OSHA says”...
 - Don’t pivot first to the regulations
 - Help the workforce approach tasks/controls from a risk-based mindset
 - Develop the new language of risk with the C-Suite – they know this language already
 - OSH Risk Management is Business Risk Management

Drilling it Down – Five Simple Acts

3. Find and promote a leading metric

- If we want to reframe the discussion towards leading indicators we have to find a way to dial back the emphasis on lagging ones
(Don't forget who started this mess.)
- Slowly wean organizations off of lagging indicators

Drilling it Down – Five Simple Acts

4. Do a Deep Dive into the Data

- What are the organization's precursors?
- What are the primary causes of FSIs
- How to begin to identify the highest risks and manage them?

Drilling it Down – Five Simple Acts

5. Find risk champions

- The “internal tribe”
- Often the same people as the organization’s Safety Champions
- Risk work from previous employment or other types of risk – financial, supply chain, etc.

We Have to Start Somewhere



Closing Thought

What's the definition of insanity?

