Why Now?
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
Redefining what “Safe” Means
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.”
The Human Factor

- 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?

“Common sense is not so common.”
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.
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
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
In Other Words

That sweet spot is too small.
Moving Forward
The New Paradigms

- One injury prevention strategy will not reach all injuries equally
- Reducing frequency is not the way to reduce severity
- Identify the FSI causes and redirect your 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
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
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

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
ANSI/ASSE Z10-2012

1.0 – Scope, Purpose, and Application
2.0 – Definitions
3.0 - Management Leadership and Employee Participation
4.0 - Planning
5.0 – Implementation and Operation
6.0 – Evaluation and Corrective Action
7.0 – Management Review
Appendices A-K
How Does it All Fit Together?

ANSI Z690 – Risk Assessment

ANSI Z590 – PtD

ANSI Z10- Safety Management Systems in place to implement both Z590 and Z690
Drilling it Down – Five Simple Acts

Do you know how to eat an elephant?
Drilling it Down – Five Simple Acts

1. Become the expert on risk in your 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
Drilling it Down – Five Simple Acts

2. Stop saying “OSHA says”…
   • Don’t pivot first to the regulations
   • Help your workforce approach their tasks/controls from a risk-based mindset
   • Develop the new language of risk with your 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 you want to reframe the discussion towards leading indicators you have to find a way to dial back the emphasis on lagging ones (Don’t forget who started this mess.)
   • Slowly wean your organization off of lagging indicators
Drilling it Down – Five Simple Acts

4. Do a Deep Dive into Your Data

- What are your organization's precursors?
- What are the primary causes of your
- How can you begin to identify your highest risks?
Drilling it Down – Five Simple Acts

5. Find your risk champions
   • It’s your internal tribe
   • Often the same people as those who are your 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?