The Power of Risk Assessment
Debunking the 5 Myths of Safety

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Presented at:
ASSE
STAR

> Overview

- STAR has been in business since 1997
  - Safety Through Accountability and Recognition
- STAR specialized is
  - Culture
  - Management Systems
  - Risk Assessments
  - Leading Metrics
  - Strategic Planning
  - HSE Coaching
- Paul Esposito is a CIH and CSP, with over 35 years of experience.
- Mr. Esposito has been a VP with ESIS, a global leader in HSE Consulting worldwide, leading their Management Systems and Assessments Practice.
Why identify and manage risk?

- OSH excellence underpins business excellence
- Risks produce incidents that are harmful and costly to businesses and people
- Compliance does not ensure incidents are prevented
Why Now?

- Incident rate reductions slowing down
  - Fatality and serious incident (FSI) are steady
  - Even the safest organizations still experience FSIs
- 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 proving to be effective in preventing FSIs
Why Now?

US Fatality Rates

Fatality Rate

Year

Why Now?

In past 10 years, **52,346** work-related deaths occurred in the United States.

Average College Football Stadium
Holds 55,000 people
Why Now?

DART = days away from work, job transfer, or restriction case
Myth No. 1

Reducing injury frequency will also reduce severity of harm.
A reduction of injuries at the bottom, does not always correspond to an equivalent reduction of FSI.

Only 21% of OSHA recordable cases have the potential to be serious or fatal.

Fatalities were NEVER part of the Heindrich Triangle.
Myth No. 2

Unsafe acts are the principle cause of incidents.

Behavior-based safety approach suggests 80% of incidents caused by employee error

★ In reality employee error is:
  ★ A symptom, but never the root cause
  ★ Driven by poorly designed processes and work systems
Myth No. 3

Compliance alone assures FSI prevention.

What we have learned:

- Compliance assurance is required and necessary with the ultimate goal being that of achieving an acceptable level of risk (ALOR)
- Severity of harm “potential” must be taken into consideration when looking at incident data and assessing workplace exposures.
Myth No. 4

Low level controls have a major impact on reducing severity of harm.

★ What we have learned:

★ Risk avoidance, hazard elimination and substitution impact severity of harm potential. Controls must match the level of risk.

★ Low level controls support higher level controls.

★ Incident data from risk centric organizations highlight effective level of controls not in place at time of FSI incidents or near miss events.
Myth No. 5

Low injury rate equates to low risk.

What we have learned:

- Each year highly respected organizations with low injury rates report fatal or serious events.
- Taking a business-as-usual approach or making only minor adjustments to the operational safety and health management system will not advance FSI prevention.
Let’s change the way we practice safety!

Would you like to be able to:

☆ Design a facility to use **NO** ladders?
☆ Design a process to do **NO** lifting?
☆ Design a process so hazardous chemicals are **NOT** handled?
☆ Design or purchase safer grinders?
☆ Or just change the safety mindset to **eliminate** rather than control serious hazards and risks?
Transformative approaches move us towards a risk-based paradigm shift.
What Is Risk?

• Both:
  Frequency/likelihood (population, exposure, events) and Severity (consequence)

• ANSI B11.0 Table – It’s about the controls!

<table>
<thead>
<tr>
<th>Hierarchy of controls</th>
<th>Frequency</th>
<th>Severity</th>
</tr>
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<tbody>
<tr>
<td>Elimination</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Substitution</td>
<td>?</td>
<td>X</td>
</tr>
<tr>
<td>Engineering</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Admin/warnings/training</td>
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<td>-</td>
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<tr>
<td>PPE</td>
<td>x</td>
<td>-</td>
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</tbody>
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It is about the “Energy”
When to do Risk Assessment?

1. Setting Goals
   • Does management know the top three?

2. Design Review

3. Inspections / observations

4. Investigations

5. Others?
Risk Assessment Metrics

Star ANSI Z 10 suggests three goals for safety based on the policy of creating a “safe and healthful workplace”

- Program specific continual improvements (e.g., Risk Assessment)
- Culture
- Risk Reduction

Key Metrics can include:
- Risk Reduction
- Conformance Rates (esp. Critical to Safety = CTS)
- Number of new Engineering controls / less PPE
Additional Metrics

öm Culture
★ Perception survey scores
★ Action plan completions

★ Continuous program improvement
★ Program element scores - SMS assessments
★ Action Plan completions
Thank You For Your Interest!

Questions?
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