ASSP Region VI Webinar Series

1 - Managing Your Risk Assessment Data - **March 6th**

2 – Surviving a Deposition – **April 3rd**

3 – W, X, Y & Z. Opening Communication and Mentorship Through Generational Differences – **May 1st**

Welcome!

⭐ Each Webinar will be 50 min in length, with 10 Q&A.   Submit your question on the Chat.

⭐ Attend all Three Webinars, receive 0.3 CEUs

(Sorry, no CEUs for attending just 1 or 2)

⭐ We will send a survey after the webinar. Please let us know what you liked and what may need to improve.

⭐ Copies of the slides will be placed on the Region VI ASSP Web site.

Thank you for participating!

Managing Your Risk Assessment Data

Presented by:

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Presented at:

ASSP Region VI
Friday, March 6th, 2020

Learning

★ Know how to measure your Risk Assessment Inputs and Outputs

★ Develop an implementation strategy by examining some common pitfalls

★ Translate these Risk Assessment metrics into Practice for Management Accountability and Worker Recognition

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 40 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.
- ✯ Lead instructor for ASSP's Risk Assessment Certificate Program.

What Is Risk?

★ Factors

    ★ Severity   X   Likelihood

    (Consequence)   (Probability)

★ Uncertainty of objectives (ISO - 31000)

★ Residual Risk

    ★ Severity X Likelihood **X Control Effectiveness**

                         (Reliability)

Control <u>Reliability</u> = Risk Factor Reduction + Escalation Factor

Is There a Risk?

Is the Risk Acceptable?

Risk Management

* ISO 31000 (2018)
  * Risk Management – Guidelines
* ISO 31010
  * Risk Assessment
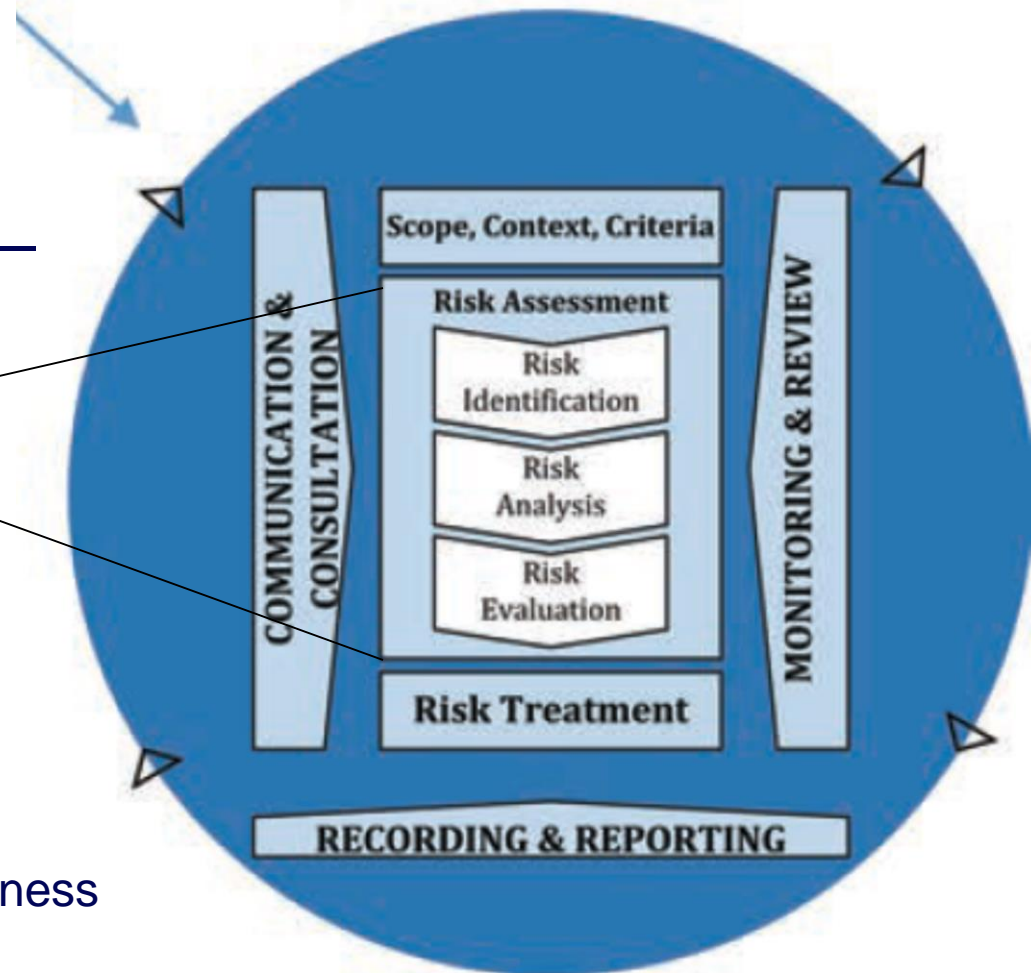   * Identification
      – Consequence
    * Analysis
      – Likelihood
      – Control Effectiveness
    * Evaluation
      – Risk "Acceptable"
      – Prioritize for Additional Controls

Are Companies Getting Smarter?

★ OSHA finds improperly equipped furnace led to deadly explosion at TIMET's Morgantown, Pennsylvania, manufacturing plant - $42K

★ AmeriGas Propane LP flouts safety standards designed to prevent catastrophe = $135K

> "The employer clearly knew the potential for serious harm existed, but chose NOT to control."

Fatal Injuries Up in Since 2014

⭐ BLS Data: 2014 - 2017

⬆ ⭐ **28%** in Mining, Quarrying and Oil and Gas Extraction

⬆ ⭐ **14%** in agriculture, forestry, fishing and hunting

⬆ ⭐ **9%** in Manufacturing
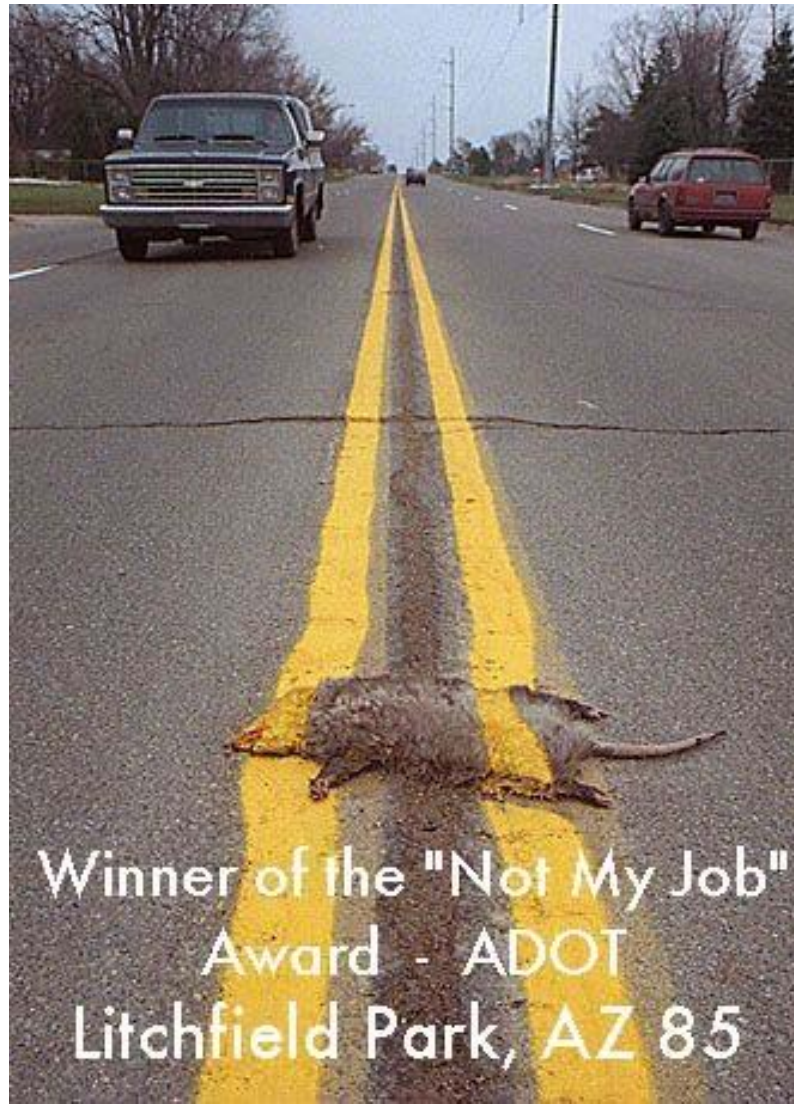
⬆ ⭐ **6%** in Construction

Workers Are Also Part of the Equation!

Winner of the "Not My Job" Award - ADOT Litchfield Park, AZ 85

Traditional vs. Risk-Based

Transformative approaches move us towards a risk-based paradigm shift

Matrix

Risk Rating/Levels

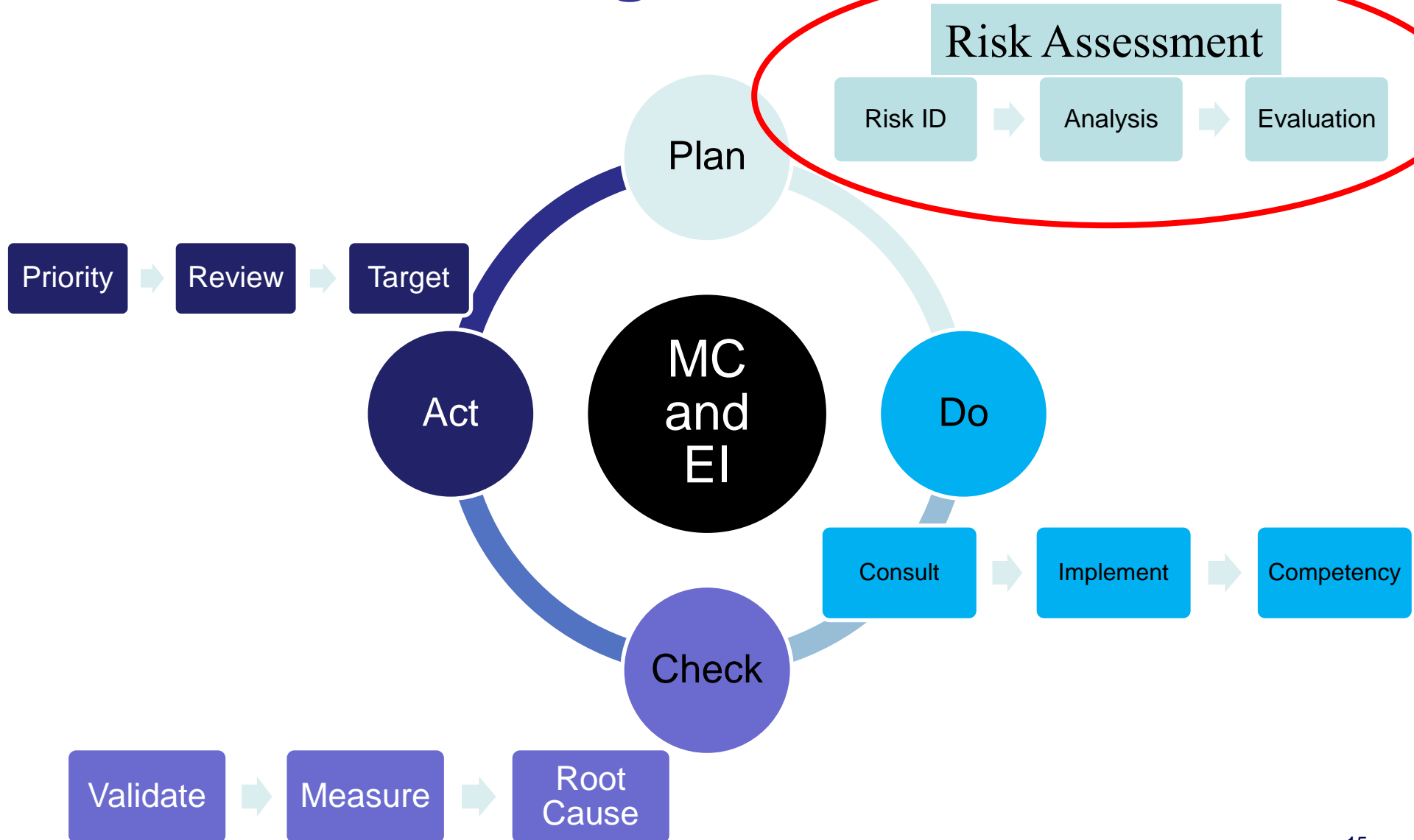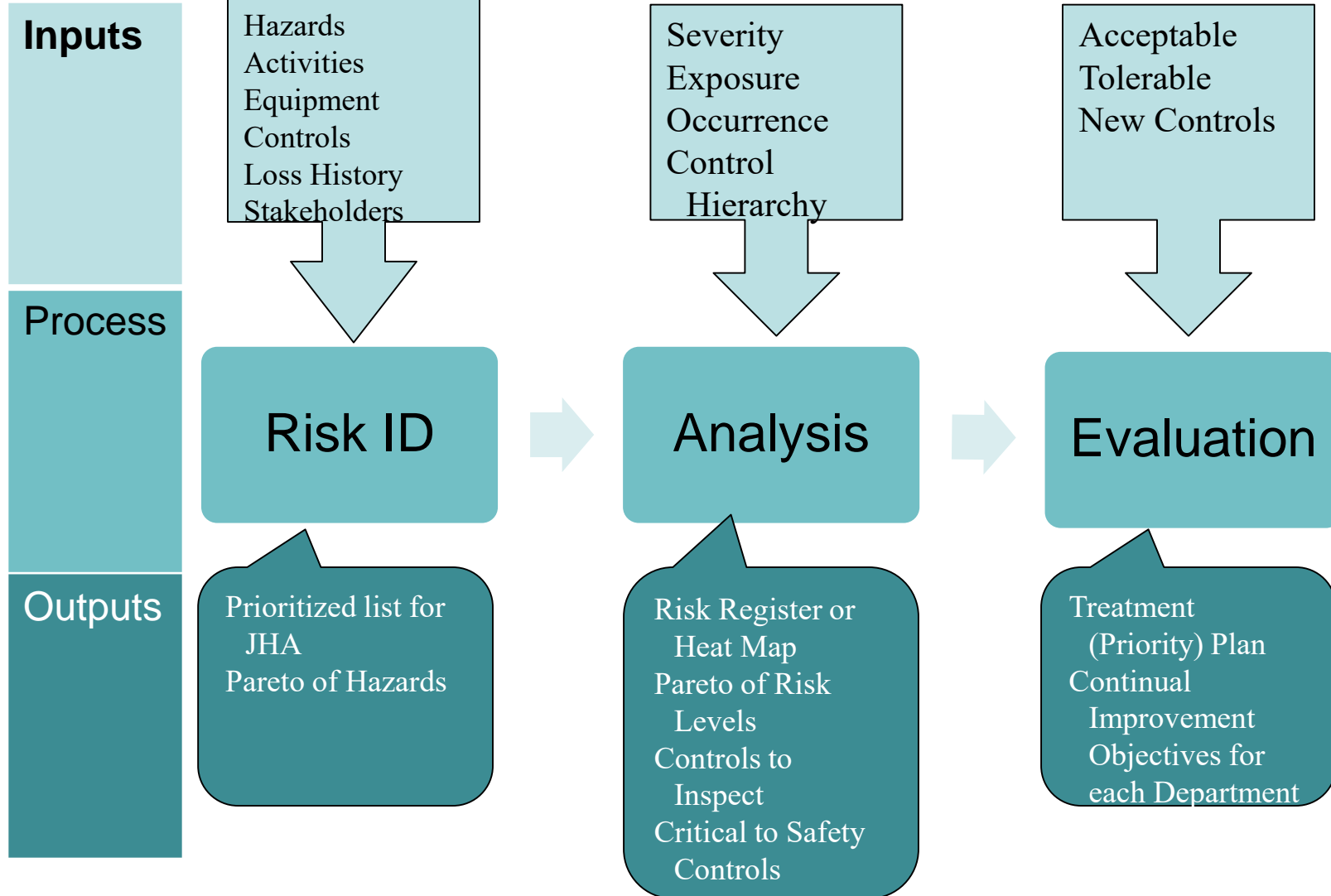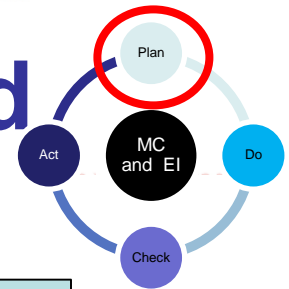|	Level	Range	Remedial Action	Description
L	Low Acceptable	1–3	Remedial Action may not be necessary	These risks may rely more on warnings, administrative, PPE and other devices that may require operator intervention.
M	Medium Tolerable	>3–>7	Remedial Action at an Appropriate time	Controls such as elimination, substitution, isolation and barriers are still preferable. These risks may rely more multiple Administrative and PPE controls.
S	Serious Tolerable	>7–11	Remedial Action on a Priority Basis	Controls such as elimination substitution and engineering controls are preferable. If reliance on warnings and administrative, these should be redundant to additional controls, or additional barriers, guards and other protective devices. (Also, monitor controls based on severity levels)
H	High Not Acceptable	>11	Immediate Remedial Action is Expected	Use controls or multiples of controls (defense in depth), such as elimination, substitution or engineering controls, controls with built in redundancies, physical devices that do not require adjustment or operator intervention, or provide positive, ongoing indicators of operation. (monitor controls)

Risk Matrix

Likelihood/Probability of Occurence or Exposure		4	3	2	1
Frequent (F)	5	High 20 Operation not permissble	High 15 Operation not permissble	Serious 10 High Priority Remedial Action	Medium 5 Take Remedial action at appropriate time
Probable (P)	4	High 16 Operation not permissble	High 12 Operation not permissble	Serious 8 High Priority Remedial Action	Medium 4 Take Remedial action at appropriate time
Occasional (O)	3	High 12 Operation not permissble	Serious 9 High Priority Remedial Action	Medium 6 Take Remedial action at appropriate time	Low 3 Risk Acceptable, Remedial action discretionary
Remote (R)	2	Serious 8 High Priority Remedial Action	Medium 6 Take Remedial action at appropriate time	Medium 4 Take Remedial action at appropriate time	Low 2 Risk Acceptable, Remedial action discretionary
Improbable (I)	1	Medium 4 Take Remedial action at appropriate time	Low 3 Risk Acceptable, Remedial action discretionary	Low 2 Risk Acceptable, Remedial action discretionary	Low 1 Risk Acceptable, Remedial action discretionary

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Risk Management Process

Risk Assessment

Risk ID → Analysis → Evaluation

Plan

Priority → Review → Target

MC and EI

Act

Do

Consult → Implement → Competency

Check

Validate → Measure → Root Cause

"Plan" Inputs, Process and Outputs

Inputs

Hazards	Severity
Activities	Exposure
Equipment	Occurrence
Controls	Control
Loss History	Hierarchy
Stakeholders	

Acceptable
Tolerable
New Controls

Process

Risk ID → **Analysis** → **Evaluation**

Outputs

Prioritized list for
   JHA
Pareto of Hazards

Risk Register or
   Heat Map
Pareto of Risk
   Levels
Controls to
   Inspect
Critical to Safety
   Controls

Treatment
   (Priority) Plan
Continual
   Improvement
Objectives for
   each Department

Risk Register

☆ A risk register (or risk profile) is often used to:

  ☆ Collect & summarize risk assessment data by organization

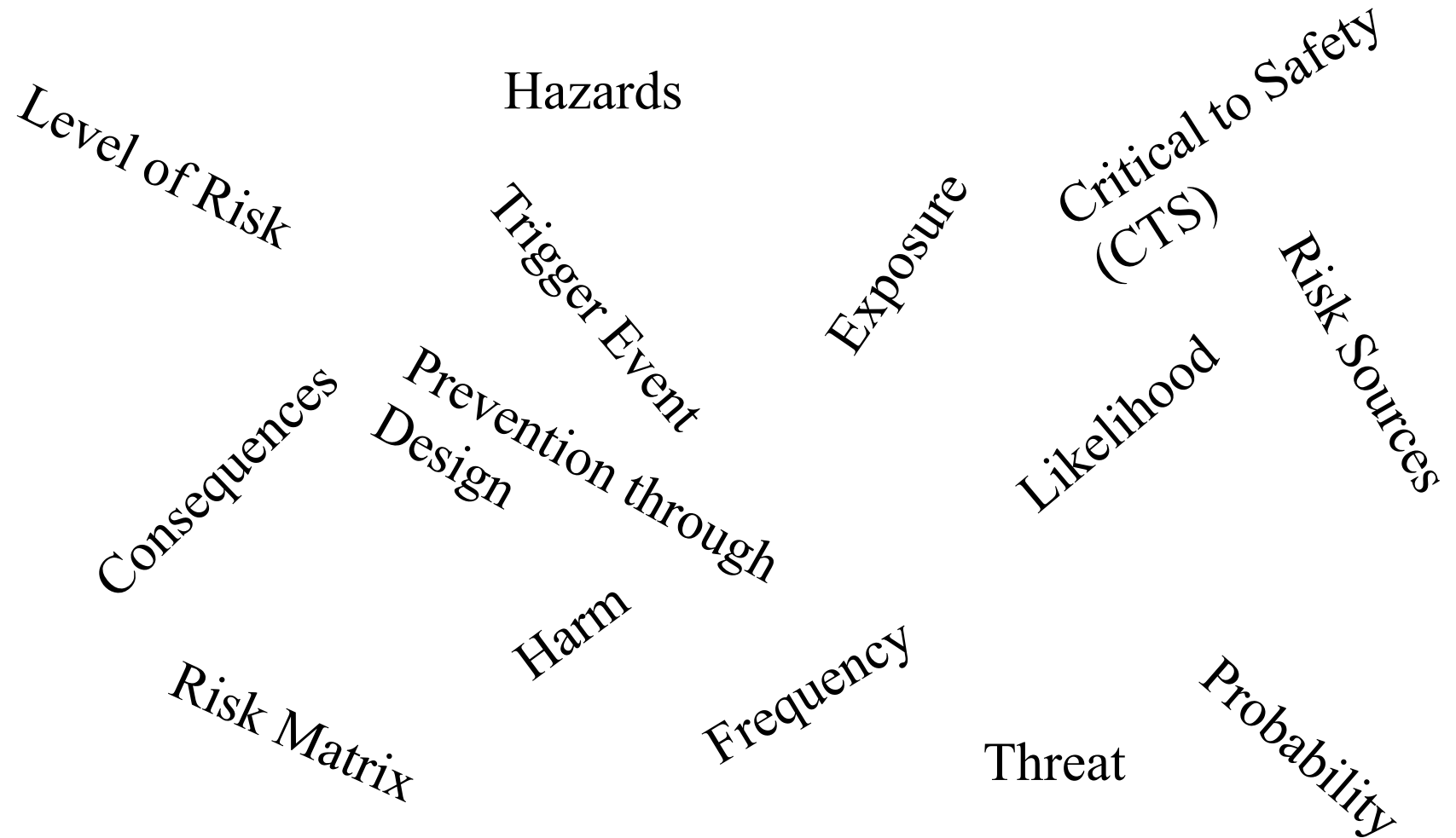| Department	Task (Activity / Equipment)	Hazard Aspect	Residual Risk Score	Target for reduction?	Target achevied	Revised Residual Risk Score	Critical to Safety?
S&R	Delivering Corrosive Chemica	(S) Corrosive	14.6	Y	Completed	11.4	Y
S&R	Delivering Corrosive Chemica	(C) Design	14.6	Y	Completed	11.4	Y
S&R	Delivering Corrosive Chemica	(G) Slips & trips (working surf	15.0	Y	Completed	9.0	N
Maint	Using a ladder - 7 feet off the	(G) Objects at Heights	21.0	Y	Completed	11.4	Y
Maint	Using a ladder - 7 feet off the	(X) One time exertion Acute	17.0	Y	Completed	9.8	Y
Warehouse	Stacking Cases	(X) One time exertion Acute	25.5	Y	Completed	13.8	N
Warehouse	Stacking Cases	(X) Repetitive Motion – chroni	25.5	Y	Completed	13.8	N
Maint	Using a Grinder	(M) Failure	10.9	Y	Completed	7.6	N
Maint	Using a Grinder	(M) Struck / Caught By	10.9	Y	Completed	7.6	N
name of dept	Charging a Car Battery (12 V	(S) Corrosive	16.2	Y	Completed	16.2	N
name of dept	Charging a Car Battery (12 V	(E) Shock, short circuit	17.0	Y	Completed	17.0	Y
name of dept	Charging a Car Battery (12 V	(E) Over pressurization	25.2	Y	Completed	22.0	Y
name of dept	Charging a Car Battery (12 V	(E) Over pressurization	25.2	Y	Completed	22.0	Y
dpt	Using Powered Machine	(M) Failure	35.0	Y	Completed	16.3	Y

Learning

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What Can We Do?

★ Use of Language

★ Emphasize Hierarchy of Controls

★ Change our Goals
  ★ Reduce Energy, and thus, Severity

> Move away from Zero Based Goals to
> Risk Based Goals

New Language of Safety

Hazards

Level of Risk

Critical to Safety (CTS)

Trigger Event

Exposure

Risk Sources

Consequences

Prevention through Design

Likelihood

Harm

Risk Matrix

Frequency

Threat

Probability

Use of Language

Severity and Energy   vs.   ~~Injuries~~

Severity and Risk   vs.   ~~Zero's~~

Continual Improvement   vs.   ~~Compliance~~

Discretionary Effort   vs.   ~~Behavior Observations~~

Recognition   vs.   ~~Reward~~

Hierarchy of Controls

HIGHEST

Level of health and safety protection

LOWEST

Avoidance or elimination

Substitution

Engineering

Administrative

Personal Protective Equipment (PPE)

MOST

Reliability of control measures

LEAST

Acceptable Risk: Its About the Controls

- Frequency/likelihood (population, exposure, events) and Severity (consequence)
- ANSI B11.0 Table

Hierarchy of Controls	LIkelihood	Severity
Elimination	X	X
Substitution	?	X
Engineering	X	-
Admin/warnings/training	X	-
PPE	x	-

It is about the "Energy"

How Do You Measure Safe?

✫ In the US, the OSH Act says

"Provide a safe and healthful workplace"

✫ So this means:

  ✫ Amount and degree of risk vs # of injuries

  ✫ Conformance to controls, standards and procedures

  ✫ % age of higher level controls!

Accountability to Prevention efforts.

Learning

- ✪ Know how to measure your Risk Assessment Inputs and Outputs

- ✪ Develop an implementation strategy by examining some common pitfalls

- ✪ Translate these Risk Assessment metrics into Practice for Management Accountability and Worker Recognition

Risk Assessment Scorecard

Organization Name	Validate Site Level Risk Assessment		ID Risk Reduction Targets		Business Concurrence on Targets		Status of Acton Plans		Critical Control Verification Rate	
	%	↑	#	↑	%	↑	%	↑	%	↑
A	100%		3		y		100%		N/A	
B	100%		2		y		50%	↑	97%	↑
C	100%		0	↑	n		N/A		97%	↑
D	100%		1		y		0%		N/A	
E	100%		2	↑	y		50%	↑	N/A	
F	100%		3	↑	y		67%		95%	↓
G	100%		1		y		100%	↑	88%	↑
H	100%		2		y		50%		N/A	
Total	100%		14	↑			88%		96%	

Risk Assessment Metrics

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

Additional Metrics

★ Culture
  ★ Perception survey scores
  ★ Action plan completions
  ★ Employee engagement
★ Incidents
  ★ Hazardous energies
  ★ Control level failure
★ Continuous Program Improvement
  ★ Program element scores - SMS Assessments
  ★ Action Plan Completions

When to Do Risk Assessment?

★ Setting Goals

  ★ Does management know the top three risks?

★ Determining Operating Guidelines and Safe Work Procedures

★ Design Review

★ Inspections / Observations

★ Investigations

★ Others?

The Biggest Myth?

★ You can transfer the risk at no cost!

★ Major companies have proven 60-80% reduction in Worker's Compensation with

   ★ Management Systems

      ➤ Risk Management

   ★ Risk Focus

      ➤ Metrics,

      ➤ Accountability

      ➤ Recognition for new and better control suggestions

   ★ Cultural Integration

      ➤ Part of Every Organization's Strategic Plan

Just because we say it, does that take away the risk?

Remember

Thank You For Your Interest!

Questions?

Please get in touch with me at

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Visit Region 6 Web for a copy.

Visit ASSP Risk Assessment Institute for Videos.

http://www.oshrisk.org/videos/

Take ASSP's Risk Assessment Certificate Course