Predicting Occupational Fatalities: The Common Fatality Factors

OSHA New England Roundtable

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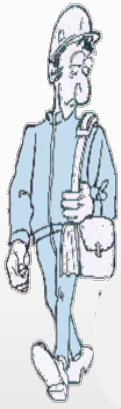
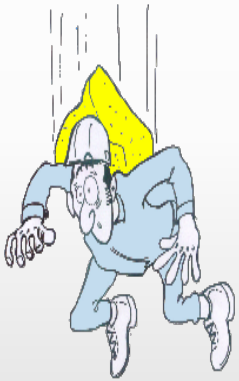
Connecting The Dots – Before a Fatality

Organizational Factors within the Company	Operational Factors at The Mine	Management System Weaknesses	Work Process and Safety Program Issues	No / Weak Controls	HIGH RISK Situation (Near Miss)	OUTCOME
• EBITDA is the forcing measure • Not investing in equipment • Loss of employees to other companies due to low salary • Cuts in SG&A – reduced staffing • Task assignment system is flawed • Training not geared to social and cultural environment • No new manager training • Poor two-way communication	• Delay in preparation of reserves (more produced than prepared for) • Poor peer to peer support • Loss of experienced personnel • **Insufficient degassing process** • Weak system of geological forecasting and planning	• Low capacity of safety staff • Poor accountability for safety • Poor performance of behavioral audits • Insufficient training on the safety program • Risk assessment processes not consistently in place	• Poor hazard recognition /knowledge • Individuals assigned lack training • New employees • Employees afraid to bring serious safety issues to supervisor • No risk assessment prior to start of work • No one inspects to ensure proper work performance • Supervisor allows work to continue without proper safety controls	• 35 employees regularly exposed to high gas hazards • Monitors not inspected • Personal alarms missing or turned off • Poor ventilation • Employees used to working in high gas levels	8 workers working at 110% of the Methane LEL	**4 workers die from gas explosion**

Has Anyone In Senior Management Asked This Question?

What Are We Really Measuring?





Hazard ***Risk*** ***Near Miss/Hit*** ***Injury*** ***Fatal Injury***

The Common Fatality Factors

Our experience has found that the following 6 factors are always in play prior to a fatality:

1. Fatality hazard(s)
2. Exposure or potential exposure

What's The Business Value?

3. No, low level or ineffective controls
4. The organization is not effectively assessing and respecting #'s 1-3
5. Change creates a tipping point
6. The organization has problematic Management Systems, and Organizational & Operational Factors

Note: This is based on acute exposure and acute harm events

What Is A Fatality Hazard?

A practice, situation or condition (present or future) that possesses a fatal level of energy.

Look for a fatal level of Energy!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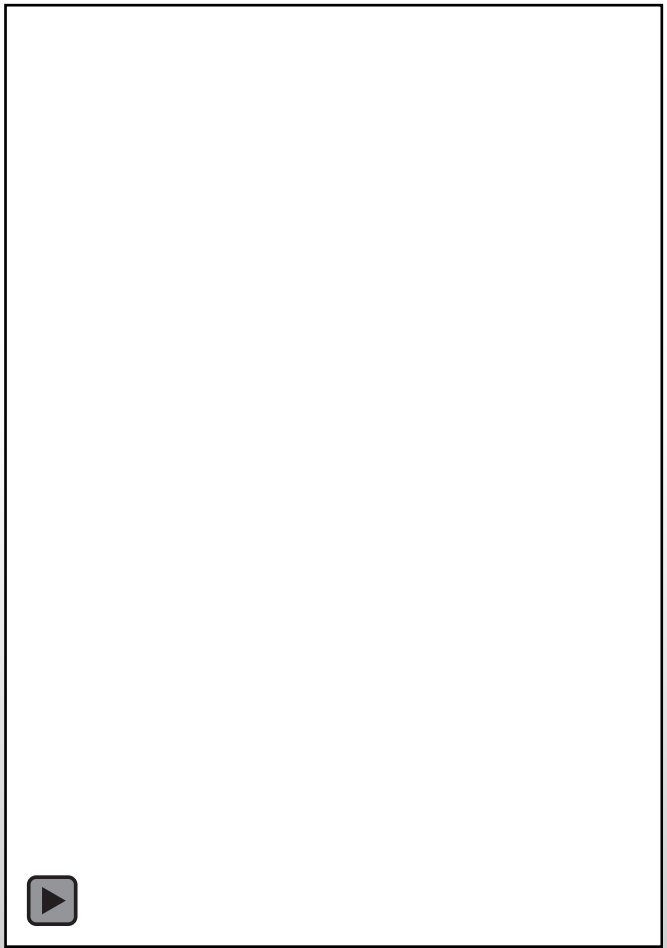
#1 Fatality Hazard(s)

How effective is the organization's ability to commonly see, respect and communicate their fatality hazards?

- Common definition?
- Hazard vs. Risk
- What fatality hazards do the leaders know?
- Entry/exit points & responsibilities
- Conditions and practices (not static)

#2 Exposure or Potential Exposure



Are/could people be exposed?

- Processes – practices - variation
- Business / operational value of exposure
- It's dynamic

#3 Control - None, Low Level or Ineffective

What is the capacity and health of the control(s)?

- Good Day vs. Bad Day
- Does the control really achieve your "safe enough" standard?
- Fatality control status – how is this assessed?

#3 Control: None, Low Level or Ineffective

#4 The Organization Lacks The Capability To See And Appreciate #'s 1-3

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Why **doesn't** your organization see these?

1. Fatality hazard(s)
2. Exposure or potential exposure
3. No, low level or ineffective controls

#5 CHANGE – The Tipping Point

"Change" presents itself in many forms

- Process
- Priorities
- Staff
- Tools/Equipment
- Problems – jams, difficulties, etc.
- Personal "distractions"
- Etc.,

#6 Culture – Organizational and Operational Factors

Organizational Factors

Operational Factors

Imbalanced Decision-making

Where Do You Start?

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2. Exposure or potential exposure
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Thank You!

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