



Human Performance Tools Related to Safety

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**This session is eligible for
1 Continuing Education Hour and 1 Contact Hour.**

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- Have your badge scanned at the door
- Attend 90% of this presentation
- Fill out the online evaluation for this session: www.necanet.org/2017Seattle

Learning Objectives

- Identify the current safety programs available to employers
- Understand the principles of Human Performance
- Identify common traps that are a result of Human Performance
- Learn how to use tools to manage Human Performance in the workplace

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Agenda

- Managing Workplace Safety
- Principles of Human Performance
- Common Human Performance Traps
- Tools for Managing Human Performance
- Integrating Steps for Optimization

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Every organization is perfectly aligned (perfectly tuned) to get the results it is getting.

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History of Safety

- Experience
- Education
- Engineering
- Enforcement
 - Motivational
 - De-motivators

“Good judgement is the result of experience and experience the result of bad judgement.”

Mark Twain

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Compliance

- Federal Acts
- Regulations
 - OSHA, DOE,
- Standards (Consensus)
 - NFPA (70,70E,101), A-10, Z-10
- State and Local Codes and Requirements

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Safety Management Systems

- OSHA's 18001 (2007)
- ANSI Z-10 (2012)
- ISO 45001, 9001, 14001
- OSHA VPP Star (1989)
- OSHA Recommended Practices (2016)
- NSC Journey to Safety Excellence (2013)

Invent Your Own!

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Safety Management Systems

- Management, Leadership and Policies
- Planning, Assessments and Identification
- Hazard Prevention and Implementation
- Safety and Health Training
- Evaluation and Improvement
- Coordination and Communication
 - Multi-employers, (Host, Contractor, Employee)

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Safety Management Systems

- Clear defined Policies
- Clear Roles & Responsibilities
- Job Planning and Job Hazard Analysis
- Safety Committees
 - Labor/Management
 - Union/Employers
- Incident Investigation and Accountability

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Common Reasons for Incidents/Accidents

- Hurrying through the task
- Frustration
- Exhaustion
- Complacency
- Lack of training and experience
- New processes and techniques

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Human Performance Principles

- People are fallible
- Error-likely situations are predictable
- Individual behaviors are influenced
- Operational upsets can be avoided
- People's achievements are based on encouragement and reinforcement
- Events (incidents) "Are" avoidable

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Individual

***People are fallible and even
the best make mistakes***

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Predictability

***Error prone situations are predictable, can be
managed and ultimately prevented***

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Individual Behavior

Individual behavior is influenced by organizational processes and values

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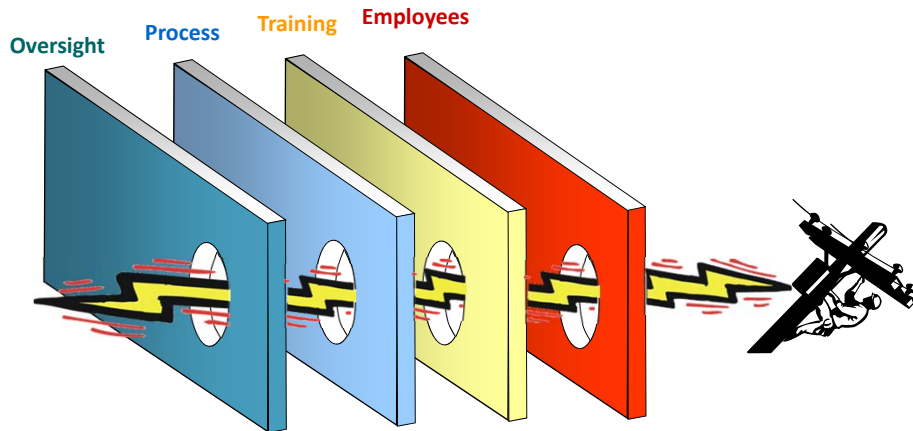
Human Error Origins

- Operational Error
 - 90% Human Error
 - 10% Equipment Error
- Human Error
 - 70% System Induced
 - 30% Slip, trip or lapse of concentration

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Errors Occurs When Barriers and Frontline Protections Fail



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Human Performance Errors

What is correct?

- 1) Accidents are caused by human error
- 2) Human error is a sign of system failure

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Human Performance Errors

What is correct?

- 1) Investigations must seek human failure in order to explain outcome
- 2) Do not try to explain failure by finding fault with individuals, look for root cause and other contributing factors

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Human Performance Errors

What is correct?

- 1) It was the person's inaccurate assessment and bad decision that lead to the undesirable outcome.
- 2) The person acted on the best of his ability, knowledge and experience given the circumstances

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Human Errors

- Errors are mistakes – “Unintentional”
- Violation – Deliberate and intentional
- Incident Investigations
 - Biased
 - Incomplete
 - Inaccurate
- Reaction is Key – Determines Outcome
- Instrumental in Learning

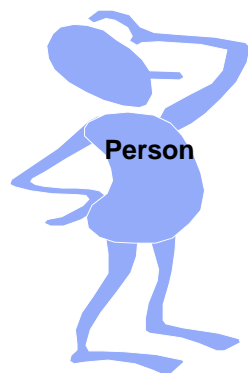
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Behavior Based Safety

Activator

Conditions that affect



Person



Behavior

What is normal?



Consequence

Results

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Behavior Based Safety

- Activators
 - What side of the bed did you get up on today?
 - Are you running late?
 - What is the weather today?
 - How is traffic?
 - Who are you with?
 - How is your health?
 - What is going on personally and professionally?

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Behavior Based Safety

- Behaviors
 - Irritable, tired
 - Happy go lucky
 - Distracted
 - Rushing/Speeding
 - Reckless
 - Focused
 - Attentive

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Behavior Based Safety

- Consequences

Undesirable

- Speeding
- Ticket
- Accident
- Outside Influences

Desirable

- Safe travel
- Arrive on time
- Productive

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Behavior Based Safety

- What activators controlled your behavior today that impacted your consequence of being here this morning?
 - Missed wake up call, overslept?
 - Missed transportation or bus was crowded?
 - Missed your morning cup of Coffee?
 - Woke up on time, enjoyed coffee and quiet time, had breakfast, arrived early to get the seat in the back of the room!

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Behavior Based Safety

What are you going to change for tomorrow?

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Safety Climate/Safety Culture

- Defined

“The safety culture of an organization is the product of the individual and group with respects to the **values, attitudes, competencies and patterns of behavior** that determine the commitment to and the style and proficiency of an organization’s health and safety programs.”

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Safety Climate/Safety Culture

- Top Down Safety Leadership
 - Chief Executives
- Employee Involvement and Commitment
 - Their value and buy in to the organization
- Clear Communication and Clear Objectives
 - Two-way communication
 - Defined goals
- Mutual respect and appreciation

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Safety Climate/Safety Culture

- What can we do to improve the safety climate and safety culture of our places of employment?
- Do we have the right approach and ability to question how we do things with the intent of improving safety, health and productivity?

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Human Performance

- Path of least resistance
- Normalization of deviance
- Obstacles
 - Coaching
 - Barriers, (Communication, Experience, Cultural, Education)
 - Safety versus Productivity
- Organizational Weakness
- Implementation of change

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Path of Least Resistance

- Do we cut across the grass or do we stay on the sidewalk to the corner?
- Do we make two trips carrying material or do we overload ourselves to make it in one?
- Is it easier to ask forgiveness than permission?

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Normalization of Deviance

- How did things get like this?
Because we let them?
***“Things are the way they are because they got that way” –
Gerald Weinberg***
- Do we acknowledge trouble alarms and not investigate them?

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Normalization of Deviance

- Defined
“The gradual process through which unacceptable practice or standards become acceptable. As the deviant behavior is repeated without catastrophic results, it becomes the social norm for the organization.”
- BP Texas City Plant Explosion (2005)

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Normalization of Deviance

- Time Constraints
- Distractions
- Complacency
- Overconfidence
- Incomplete Instructions
- Change in Conditions
- Peer Pressure
- Change in Schedule
- Personal Stress
- Lack of proper tools
- Limited resources
- Mental block
- Inability to recognize limitations
- Lack of Focus
- Fatigue

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Normalization of Deviance

- Famous Last Words

***“I’ve done it this way a 1000 times, trust me!”
(Anonymous)***

- Remember – it only takes less than a second for an incident/accident to occur!

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***What are some of the ways
we can avoid these traps?***

What tools can we use?

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Fundamental Tools

- Pre-Job Briefings
- Situational Awareness
- Self-Checking
- Proper Procedures and Compliance
- Proper Communication
 - Sender and Receiver
- Accountability

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Fundamental Tools

- Job-Briefing

A pre-job meeting of workers and/or supervision conducted before the performance of a job to discuss the tasks involved, hazards and related safety precautions.

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Fundamental Tools – JSA/JHA

- **EXPLORE**

Explore the work area. Look for potential hazards and identify whether conditions are what is expected.

- **TALK**

Talk with team members about the work, potential hazards and steps to mitigate the hazards.

- **ELIMINATE**

Eliminate the hazards. Install appropriate defenses or develop plans before proceeding.

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Fundamental Tools

- S.A.F.E.
 - **S**afety **A**nalysis and **F**unctional **E**valuation
(Oil and Gas Industry)
- S.T.A.R.
 - **S**top, **T**hink, **A**ct, **R**eview
- S.A.F.E.R.
 - **S**ummarize, **A**nticipate, **F**oresee, **E**valuate, **R**eview

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Effective Communication

- Three Way Communication – Verbal and Non-Verbal
 - Sender sends message
 - Receiver listens and repeats message to sender
 - Sender acknowledges or corrects
- Phonetic Alphabet
- Phonetic Numbers

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Phonetic Alphabet and Numbering

Phonetic Alphabet	
A - alpha	N - november
B - bravo	O - oscar
C - charlie	P - papa
D - delta	Q - quebec
E - echo	R - romeo
F - foxtrot	S - sierra
G - golf	T - tango
H - hotel	U - uniform
I - india	V - victor
J - juliet	W - whiskey
K - kilo	X - x-ray
L - lima	Y - yankee
M - mike	Z - zulu

Numeral	Spoken As
0	ZE RO
1	WUN
2	TOO
3	TREE
4	FOW ER
5	FIFE
6	SIX
7	SEV EN
8	AIT
9	NIN ER



Accountability

- Signatures
 - Verify
 - Sign
 - Write



Bad Attitudes and Attributes

- Pride – “I know what I am doing!”
- “Superman” – “I will do whatever it takes”
- Denial – “It will never happen to me”
- Fatalistic – “ Why bother, it wont change”

Nothing ever goes wrong!

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Human Performance Action Items

- Communicate to Executives
- Understand Human Performance Issues
- Educate Workforce on Human Performance
- Adopt Practices and Procedures
- Utilize Human Performance Tools
- Drive Accountability Where Possible
- Implement Quality Control and Verification


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It doesn't matter how many resources you have...


If you don't know how to use them, it will never be enough.

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Every organization is perfectly aligned (perfectly tuned) to get the results it is getting.

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References

- Todd Conklin – PhD,
 - Human Performance Association
 - Los Alamos National Laboratory
- Bill Whelan – CIH, CSP
 - Principles of Human Performance
 - UtiliCon Solutions Ltd.
- INPO, *Excellence in Human Performance*. 1997

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Questions?

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Don't forget...

- 10:15 am – 11:30 am – General Session with Jim Donald
- 11:30 am – 4:00 pm – NECA Show Hours

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