Establishing a Safety Culture Through Human Performance Improvement

Panel Session # 6

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Waste Management Symposia

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Safety Culture - Client & Regulator Perspective

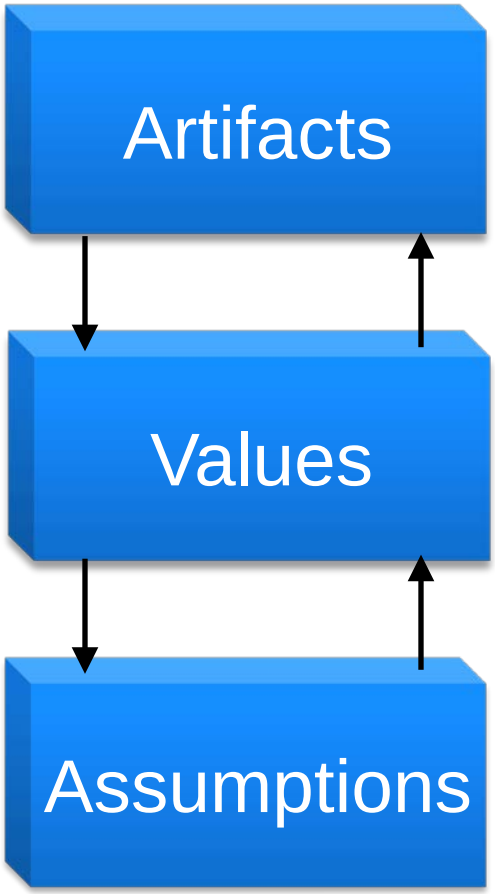
US DOE *An organization's **values and behaviors** modeled by its leaders and internalized by its members, which serve to make safe performance of work the overriding priority to protect workers, the public, and the environment.*

US NRC ***Core values and behaviors*** *resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment.*

OSHA (DOL Website) *Attitudes, **behaviors, beliefs, values** and ways of doing things, and other shared characteristics of a particular group of people.*

International Nuclear Advisory Group (INSAG) *that assembly of **characteristics and attitudes** in organizations and individuals which establishes that, as an overriding priority**, nuclear plant safety issues** receive the attention warranted by their **significance.***

Three Simple Attributes



What is Culture?

Visible organizational structures and processes

Strategies, goals, philosophies focused on values

Unconscious, taken for granted beliefs, perceptions, thoughts and feelings (the ultimate source of values and action)

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Cultures Impact Performance & Safety

A Combination of "Culture(s)" in a Government Contract Environment Can Directly Impact Performance & Safety

Competitors, Third Parties, Interveners, Other

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Does Safety Culture Co$t (Or $ave)?

- **Productivity Related Costs** – Source: Marketwire

  Human errors cost US/UK businesses **more than $37 billion** in lost productivity

- **Injury Related Costs** – Source: US Dept of Labor

  2012 – **4,383** workers were killed on the job **(4,693 in 2011)**

  - Average fatality ~ $4 million

  2012 – **1,153,980 (1,177,530 in 2011)** non-fatal days-away-cases

  - Average Non-fatal days-away ~ $37,000

- **Deepwater Horizon Event** – Sources: New York Times, New Orleans Times-Picayune

  2010 – **Eleven fatalities; 5 million gallons of oil**

  2012 – **$37.2 Billion** "Writeoff"; and **$7.8B "Settlement" for economic loss and medical claims**

  2014 – 5th US District Court Rejects BPA Request to deny Settlement

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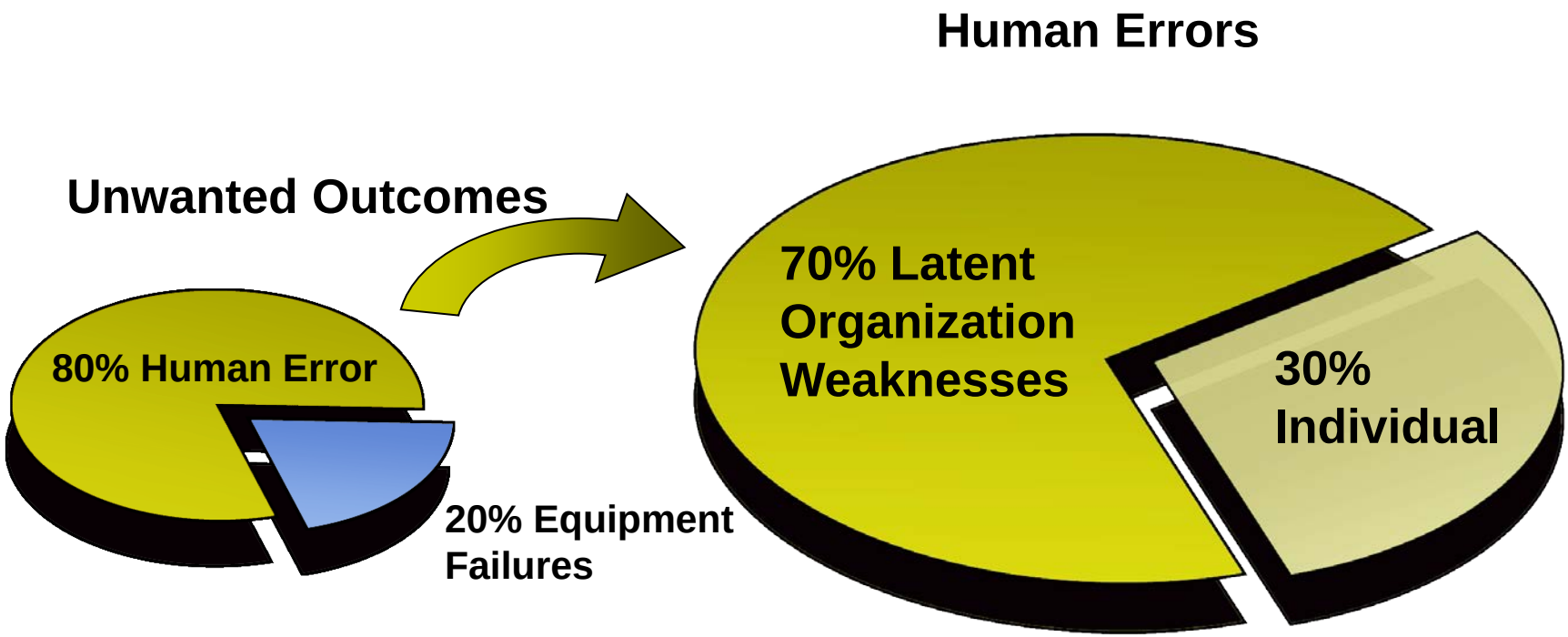
Why Use a Human Performance Improvement Approach?



WHY WE FAIL

Behavior Can Change With Time and Create "Latent Organizational Weaknesses"

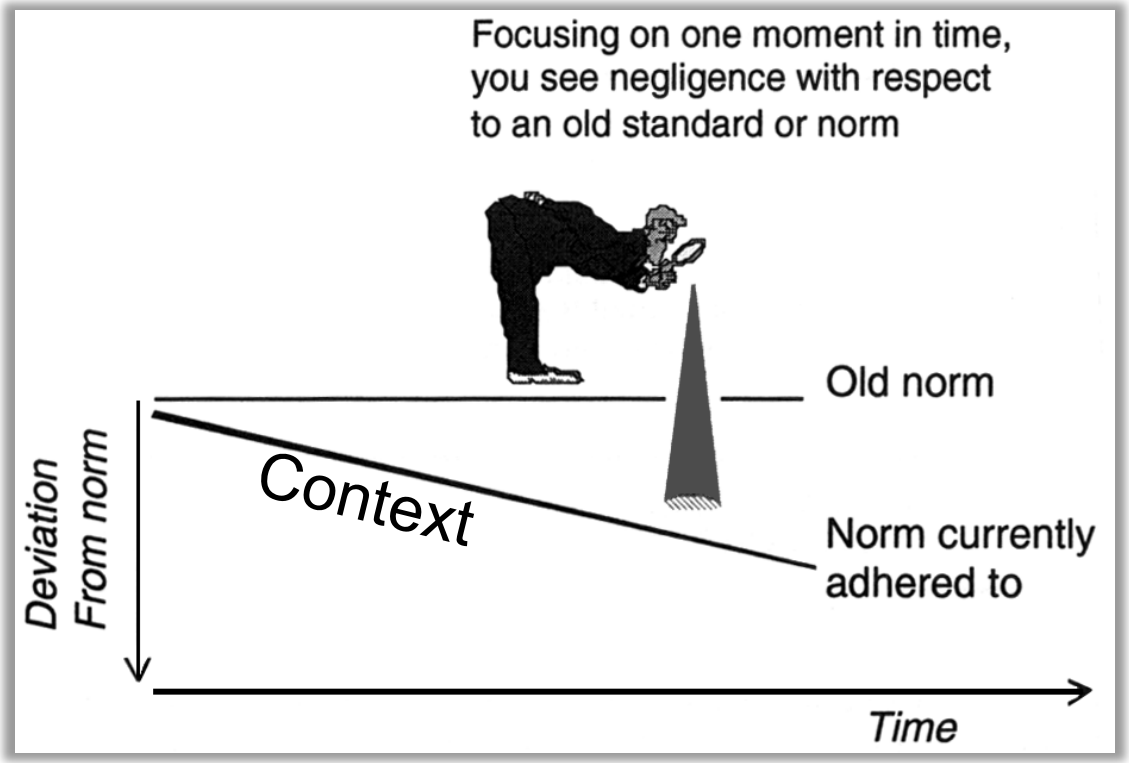


Illustration from: ***The Field Guide to Human Error Investigations; Sidney Dekker***

Behavior that does not meet the "Old Norm" may look like an individual person's negligence.

But the Organization may have adopted a "current norm"; creating **"Latent Organizational Weakness."**

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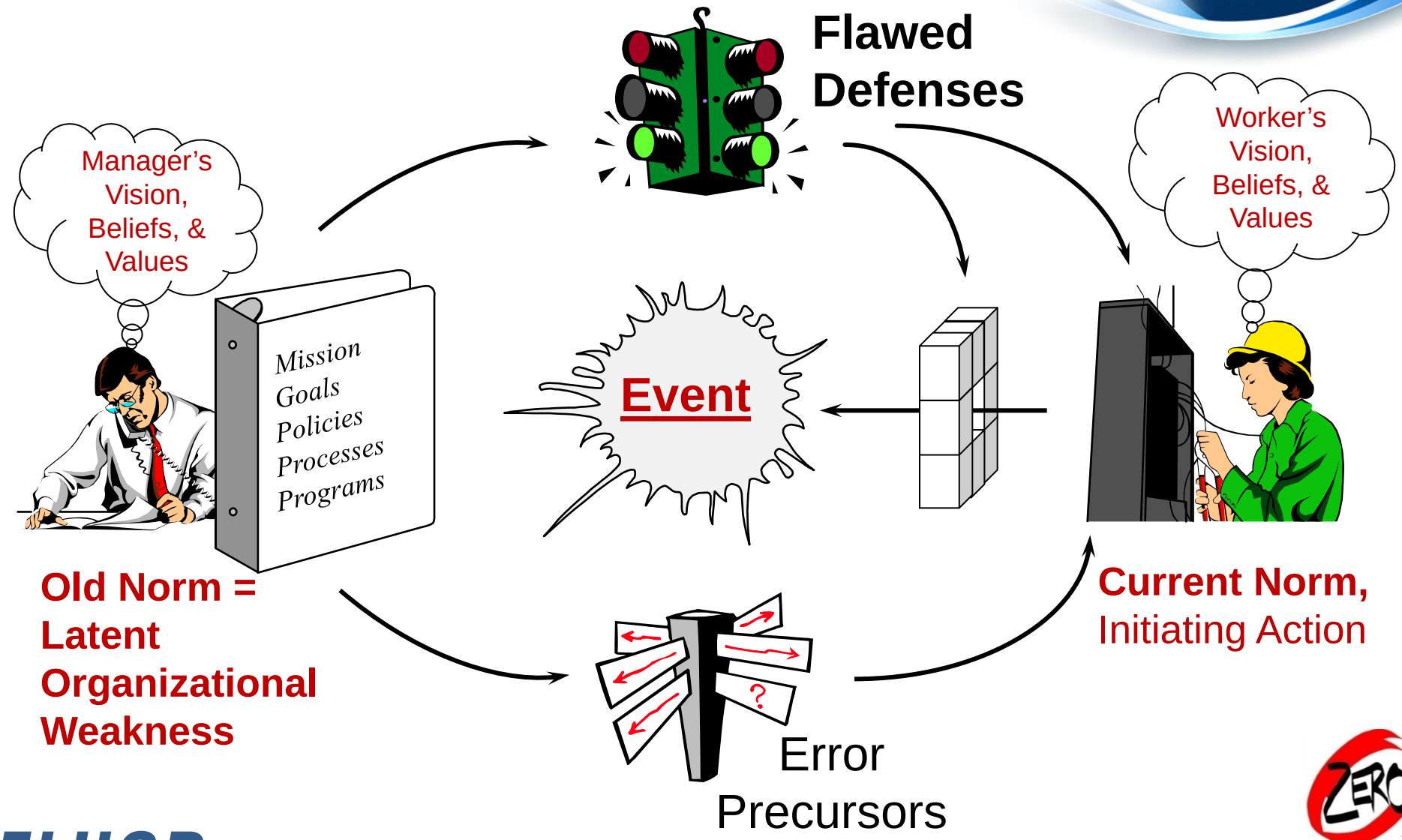
Anatomy of an Event (aka Incident)



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Some HPI Lessons Learned

Consider ALL interrelationships

- workers – equipment – conditions – feedback

Understand the current culture (current norm)

There is no substitute for training & experience on complex tasks

Do not assume an “inspector” will detect ALL errors made by the original worker

During an Abnormal Event, DO NOT assume everyone understands how to immediately respond, or to recover. The “devil is in the details”

Do not assume people will follow instructions, provide defense in depth

- they MAY have adapted to a “New Norm” & perceive their actions as “Correct” at that time, under those circumstances

Communicate, communicate, communicate…..

Some HPI Successes in Fluor Federal Contracts

- **Fluor Hanford, Inc - DOE Contract 1996 – 2008**
  1996 – TRC was 5.37; some improvements
  2004 – Fluor introduced HPI; step improvement
  2008 – Received National Safety Council RW Campbell Award (1st DOE Contractor)
  Multiple DOE VPP Star Awards
- **Savannah River Nuclear Solutions (SRNS) – DOE Contract 2008 – present**
  2008 – BBS was in place; HPI being discussed, not implemented
  2010 – Achieved "first" 11 million safe hours
  2014 – National Safety Council recognizes SRNS "CEO Who Gets IT"
  Repeat DOE VPP "Legacy of Stars" Award
- **Fluor Federal Services (Richland, WA) Ongoing Federal Contracts**
  2010-2013 – 3 years without a TRC or Restricted or Lost Work Day
  2013 – DOE awards office exec DOE VPP Champions Award
  Repeat DOE VPP "Legacy of Stars" Award

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Conclusion: 6 Steps to Leverage HPI

1. **Conduct mandatory HPI training for ALL:** management, workers and bargaining unit leadership; and **when appropriate, invite customers**
2. **Develop a "Safety Culture Baseline"** (e.g., National Safety Council) **- to identify needed improvements**
3. **Target HPI where specific improvements are needed and can be measured (avoid a "shotgun" approach**)
4. **Integrate HPI into what is already in use & working**; e.g., STOP, START, BBS; avoid "throwing out the baby"
5. **Recognize positive improvements regularly, publicly and celebrate successes** (focus on successes/solutions as well as problems)
6. **Continuously** monitor performance**, pro-actively i**ntervene**; then repeat as necessary**

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