Applying Force to Deliver Desired Safety Results

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Scott Gaddis was named Global Safety Capability Leader for Kimberly-Clark Professional in August 2007. Prior to that, he served as manager of the Corporate Occupational Safety and Hygiene (OS&H) team. From 2000 to 2006, Mr. Gaddis was the Kimberly-Clark Professional Sector Safety Leader for North America. Mr. Gaddis also spent six years as the Safety Team Leader for the Owensboro Tissue Mill in Owensboro, Ky.

In his current role he is responsible for leading the global development of safety capability throughout the Kimberly-Clark Professional Product Supply Organization, working with the Regional Safety Leaders and mill safety teams. In addition, Mr. Gaddis also serves as a consultant and resource to the Kimberly-Clark Professional Safety Business, supporting internal and customer capability development, and providing technical consultation and industrial safety insights to the business team.

In 2008, Mr. Gaddis received a regional Mentor of the Year award at a Voluntary Protection Programs Participants’ Association (VPPPA) regional conference in Louisville, Ky.

Before joining Kimberly-Clark in 1993, Mr. Gaddis was an Environmental Safety and Health Manager for General Electric Industrial Power Systems in Owensboro, Ky. While employed there he received several internal as well as external awards for his Occupational Safety and Health and loss-reduction achievements.

Mr. Gaddis received a bachelor’s of science degree in occupational safety and health from Murray State University in Murray, Ky. He is based in Roswell, Ga.

Kimberly-Clark Professional, located in Roswell, Ga., is one of Kimberly-Clark Corporation’s (NYSE: KMB) four business segments and can be visited on the web at www.kcprofessional.com. The Safety Business website is at www.kc-safety.com.
Session Objectives

• Deviance in the Safety Process
• Organizational and work process models used to guide work and test safety processes
• Error flow logic
• Extending organizational safety success
• Summary
“Our job as safety leaders is to force employees into making correct decisions by removing variables from their work that can lead to making wrong/unsafe decisions”

— Scott Gaddis
The Ever-Changing Focus of OS&H

- **1970’s** started a focused drive toward better physical workplace control
- **1980’s** saw an evolution of BBS thinking and resulting programs
- **1990’s** saw a resurgence of knowledge and capability training with new methods of transferring information
- **2000–present** has many of us combining or layering approaches in effort to mitigate risk
Understanding Deviance
Colonel Mike Mullane was selected by NASA in January 1978 and became an astronaut in August 1979. He flew on three Space Shuttle missions, serving as a mission specialist on the crew of STS-41 in August 1984, on STS-27 in December 1988, and on STS-36 in March 1990.
On a January 27 teleconference, Thiokol engineers and managers discussed weather conditions with NASA managers. The low temperature had prompted concern from engineers at Morton Thiokol, the contractor responsible for the construction and maintenance of the shuttle's SRBs.

Several engineers had voiced concerned on previous missions without any positive response from NASA.

Within a second of the January 28 Challenger launch, the first signs of joint failure in the right SRB were visible. Puffs of black smoke, color of which suggested 5800-degree gases were eroding the O-rings, spewed out of that joint 3-4 times/second. At the end of the first minute, a small flame was evident.

Atmospheric and aerodynamic forces directed the flame and breached the external fuel tank, promptly breaking up the orbiter.

Structure of the field joint showing tang, clevis, and O-rings. (Commission Report, vol. 1, p. 37)
• The contractor knew the risks and made a recommendation NOT to launch
• Engineering knew the risks and made a recommendation NOT to launch
• Management had enough data, understood the level of risk outcome and still MADE the decision to launch
• The Astronauts accepted the risk

NASA put the burden of proof on those individuals that believed it was too risky to launch the shuttle rather than on those who felt it was safe to fly the mission.
“...when small changes in behavior begin to occur, expanding the boundaries that allow additional deviations to become acceptable. In essence, when deviant events are tolerated, the potential for error grows and events are overlooked, misinterpreted or simply allowed without question.”
Heinrich’s Domino Theory

- Social Environment & Ancestry
- Fault of Person
- Unsafe Act and/or Condition
- Accident
- Injury

Heinrich Theory (basically) unchanged from 1926-1976.
Bird Model

Management
Loss of Control

Causal Factors
Personal/Job

Immediate Causes
Symptoms

Contact

Loss

Frank Bird Model, ILC Institute, 1976
• There is ample evidence to suggest that we struggle to identify core causal factors of incidents
  – We continue to see corrective actions directed toward worker behavior committing an unsafe act
• There is also ample evidence to suggest that it is critical to view worker error as at-risk behavior, as opposed to unsafe acts
  – If decision-making is regarded as at-risk behavior, we’re able to recognize the errors within the management system that’s allowing loss to occur
• **Latent Errors** – errors in design, management decisions, organizational, training, or maintenance-related errors that lead to operator errors
  – The negative consequences of these mistakes often lie dormant in the system for long periods of time
• **Armed Errors** – errors in position that affect persons, property or process
• **Active Errors** – errors made and the resultant effects realized
Hazard becomes active when the Titanic strikes an iceberg, tearing the hull and sinking an unsinkable ship.

Hazard becomes armed as the Titanic steams full speed at night where icebergs congregate.

Iceberg floating in the Ocean
Zero Incidents through error-free worker performance is not a sustainable goal.

Rarely, if ever, are incidents (losses) caused by a single factor within the safety system.

- Multiplicity and complexity of accident causation, especially the interrelation of individual, organizational, and job variables are among the many factors that could determine why loss occurs.
Swiss Cheese Model

What are the holes in the cheese?

Latent Failures
- Inadequate Leadership
- Inadequate Conditions
- Inadequate Practices
- Inadequate Capability

Active Failures
- Substandard Acts

(Reason, 1990; Shappell & Wiegmann, 1997a; Heinrich, Peterson, & Roos, 1980; Bird, 1974).
System Factors

Environment
- Equipment
- Tools
- Procedures
- Purchasing
- Work Design
- Engineering

People
- Knowledge
- Skill
- Training
- Intelligence
- Stress
- Motivation
- Hiring

Behavior
- Mentor
- Lead
- Coach
- Follow
- Expect

Leadership
- Support
- Communicate
- Discipline
- Recognize
- Evaluate
- Analyze
- Create
- Motivate
- Value
Applying “Lean Thinking” to Safety

• Level One
  – Ensure the three “E’s” of Safety: Engineer, Educate and Enforce
    • Your process toolbox must be full enough to ensure the basic safety mechanics are covered
      – Work orders, safety rules, injury investigations and compliance programs
    – This level represents the ability to sustain the reactive, predominately condition-based process
Applying “Lean Thinking” to Safety

- **Level Two**
  - Ensure programs are in place to observe and give feedback on the work system
    - Control include observation programs, job safety analyses (JSA), and near-miss reporting
    - As errors decrease, more observations are needed to detect incorrect activities
  - A challenge is to add monitoring/observation programs without bogging down the work (still reactive in approach)
Applying “Lean Thinking” to Safety

• Level Three
  – Define responsibilities and accountabilities to provide predictable results on a regular basis
    • When the safety process extends throughout the organization, success occurs.
  – Embracing accountability and personal responsibility is a critical factor in achieving a workplace that is on step closer to “injury-free”
• Level Four
  – Concentrate proactively on the non-observable, “What we believe” in workplace safety
  – Employ methods to survey the organization’s safety culture and identify safety-belief gaps for management, supervisors and front-line employees
    • Drive to a conclusion of “Where do our people believe we are weak (and strong)?” and “Where do they agree and disagree?”
• All the foundational mechanics – Engineer, Educate, Enforce, Observe, Investigate, Accountability Principles, and Thought Patterns – are necessary to establish sustainable growth.

• The challenge is to create a sustainable Safety Culture where heightened safety decisions happen without thinking too deeply about them – “business as usual”

• Good data is also necessary. In order to get world-class safety performance, we need to implement a similar approach to what zero-error quality cultures use in manufacturing.
Path to Safety Success

Vision

Objectives

0 Fatalities and Disabling Events
25% Improvement in metrics package for leading and trailing indicators

Strategies

Desired Results

- Standards & Procedures
- Physical Conditions
- Support Systems & Tools
- Visual Leadership & Behavior

Measurements

Business Success

SAFETY Quality Asset Mgmt Production Environment
• Identify where the problem (error) resides within the safety system to diagnose larger systemic issues
  – People, Behavior, Environment, Leadership Factors
• Determine level of control of your current safety process
• Determine probably solutions and consider consequences of outcomes
• Promote solutions to your shareholders and gain endorsement
• Monitor for compliance – revise, if needed
Defining FORCE

The powerful ability to INFLUENCE

To move against RESISTANCE or INERTIA

To move, open or make clear a change in direction

The INFLUENCE on a body that causes it to accelerate

To gain MOMENTUM in an effort to seek balance
“At the end of the most grandiose plans and strategies is a soldier walking point.”

Anonymous Soldier
1991 Gulf War
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