NTSB National Transportation Safety Board

Does Your Gas Operations Have a Culture of Safety?

Robert L. Sumwalt
Vice Chairman

SGA Safety and Health Round Table

Bergenfield, NJ
Dec 13, 2005

NTSB

Probable Cause

- Failure of American Tank Service Company to adequately protect the natural gas service line from shifting soil during excavation

- Contributing to accident was failure of Public Service Electric and Gas Company (PSE&G) to conduct effective oversight of the excavation activities
  - and to be prepared to promptly shut off the flow of natural gas after the service line was damaged

Contributing to Casualties

- Bergenfield Fire Department's failure to evacuate the apartment building despite the strong evidence of a natural gas leak

San Juan, Puerto Rico
November 21, 1996

NTSB

South Riding, Virginia
July 7, 1998

Recommendation to PHMSA

Require that excess flow valves be installed in all new and renewed gas service lines, regardless of a customer's classification, when operating conditions are compatible with readily available valves.

PIPES Act

Requires the installation of excess flow valves in most new and renewed single family residence gas service lines by June 1, 2008.

St. Cloud, Minnesota
December 11, 1998

Recommendation to OSHA

Require excavators to:

1) notify the pipeline operator immediately if their work damages a pipeline, and
2) call 911 if the damage results in a release of natural gas or other hazardous substance or potentially endangers life, health, or property

NTSB

PIPES Act

Requires excavators who damage a pipeline, that may endanger life or cause serious bodily harm or damage to property, to 1) promptly notify the pipeline operator and 2) call 911 if the damage results in a release of flammable, toxic, or corrosive gas or liquid

NTSB Perspective on Corporate Culture

Symposium on Corporate Culture and Transportation Safety

- April 1997

"We've found through 30 years of accident investigation that sometimes the most common link is the attitude of corporate leadership toward safety."

- Honorable Jim Hall

NTSB Perspective on Corporate Culture

Symposium on Corporate Culture and Transportation Safety

- April 1997

"The safest carriers have more effectively committed themselves to controlling the risks that may arise from mechanical or organizational failures, environmental conditions and human error."

NTSB

Do you have a safety culture?

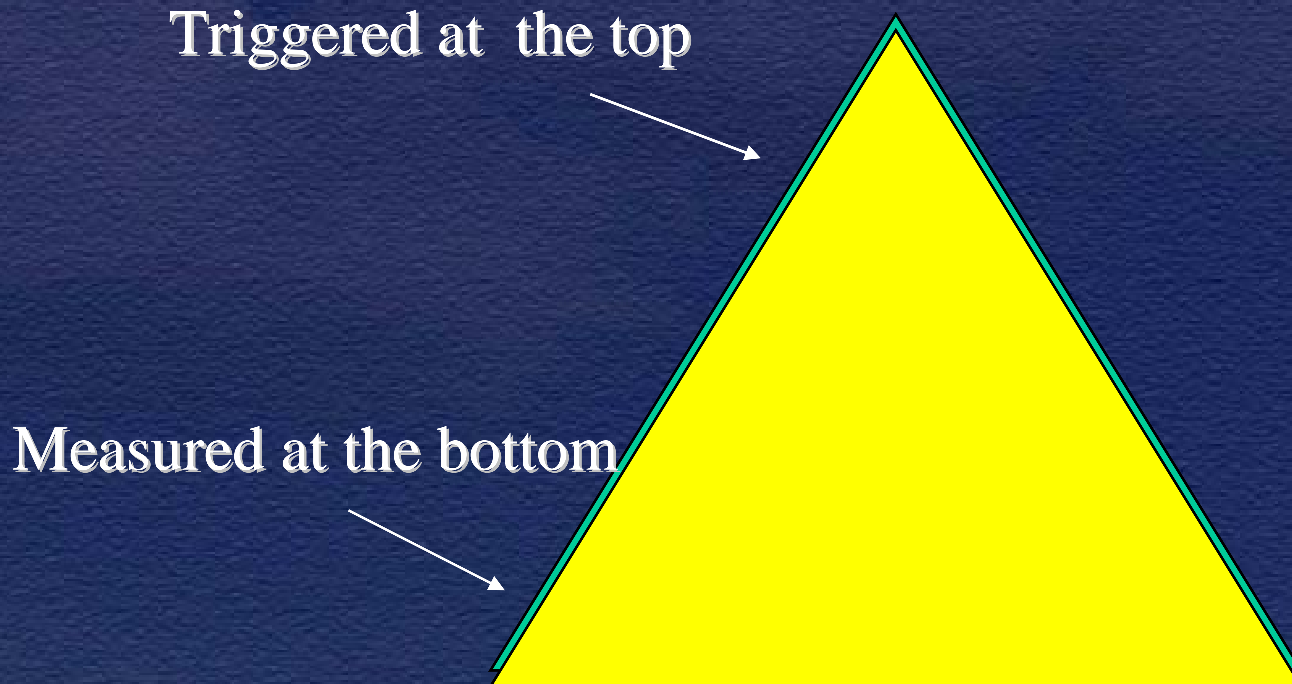
NTSB

Do you have a Safety Culture?

- "… it is worth pointing out that if you are convinced that your organization has a good safety culture, you are almost certainly mistaken."
- " … a safety culture is something that is striven for but rarely attained…"
- "…the process is more important than the product."

\- James Reason, "Managing the Risks of Organizational Accidents."

Corporate Culture is:



Corporate culture starts at the top of the organization and permeates the entire organization.

Culture Defined

- Culture is a set of established beliefs, values, norms, attitudes and practices of an organization.

“Culture” Simplified

“The way we do things here!”

Safety Culture

- Doing the right thing, even when no one is looking.
  - Integrity
  - Core values

Roadmap to Safety Culture

- Lautman-Gallimore Study
- James Reason

Lautman-Gallimore Study

NTSB

Lautman-Gallimore Study

- Looked at the worldwide Boeing fleet for a 10 year period (1975-1984)
- 16 percent of the operators account for over 80 percent of the accidents.

NTSB

Lautman-Gallimore Findings: Best Practices

- Management emphasis on safety
  - Safety begins at top of organization
  - Safety permeates the entire operation

Lautman-Gallimore Findings: Best Practices

Standardization and discipline

- Management stresses need for these items
- Cockpit procedural compliance, callouts, and checklist usage are tightly controlled.

Lautman-Gallimore Findings: Best Practices

- Flight Operations quality control programs
  - conducted safety audits
  - confidential incident reporting systems

NTSB

Lautman-Gallimore Findings: Best Practices

- Training
  - Strong quality control program of training
  - Accomplished their own training so that positive control of standardization and discipline are maintained

NTSB

Lautman-Gallimore Findings: Best Practices

- Management emphasis
- Standardization and discipline
- Flight Ops quality control
- Training

Professor James Reason

NTSB

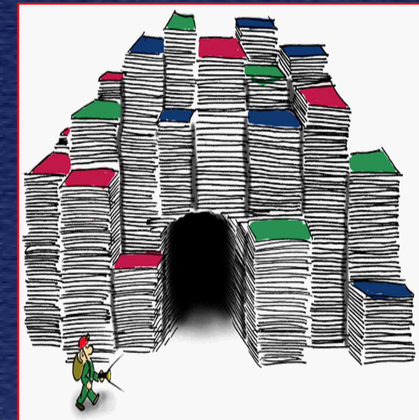
Components of Safety Culture

- Informed Culture
- Reporting Culture
- Just Culture
- Learning Culture

Source: James Reason, Ph.D.

Informed Culture

- Informed culture – the organization collects and analyses "the right kind of data" to keep it informed of the safety health of the organization
  - Creates a safety information system that collects, analyzes and disseminates information on incidents and near-misses, as well as proactive safety checks.



Reporting Culture

- Employees are open to report safety problems
  - They know they will not be punished or ridiculed for reporting
    - Non-reprisal policy signed by CEO
  - Confidentiality will be maintained or the data are de-identified
  - They know the information will be acted upon

Non Reprisal Policy
December 2005

SCANA Aviation Department is committed to the safest flight operation possible. Therefore, it is imperative that we have uninhibited good faith reporting of any hazard, occurrence or other information that in any way could enhance the safety and efficiency of our operations. It is each employee's responsibility to communicate any information that may affect the integrity of flight safety.

SCANA Aviation Department has developed a format for reporting information, hazards and safety concerns, whether in the air, on the ground or related to passenger or crew safety. [Reference is hereby made to "SCANA Flight Operations Manual," Section 7.11 Information, Safety and Hazard Reporting Procedure.]

To promote a timely, uninhibited flow of information, this communication must be free of reprisal. SCANA will not use this reporting system to initiate disciplinary proceedings against an employee who discloses in good faith a hazard or occurrence involving flight safety which is the result of conduct which is inadvertent, unintentional or not deliberate.

We urge all employees to use this program to help this Department be a leader in providing our passengers and our employees with the highest level of flight safety.

_______________________ _______________________

William B. Timmerman
Chief Executive Officer

Robert L. Sumwalt, III
Manager – Aviation

“Just” Culture

- Basically, this means that employees realize they will be treated fairly
  - Not all errors and unsafe acts will be punished (if the error was unintentional)
  - Those who act recklessly or take deliberate and unjustifiable risks will be punished
- Substitution test

www.flightsafety.org

Flight Safety
DIGEST

MARCH 2005

A Roadmap to a Just Culture:

Enhancing the Safety Environment

NTSB

Just Culture

- “An atmosphere of trust in which people are encouraged (even rewarded) for providing safety-related information, but in which they are also clear about where the line must be drawn between acceptable and unacceptable behavior. “

Engineering a Just Culture

The term "no blame culture" flourished in the 1990s and still endures today.

Compared to the largely punitive cultures that it sought to replace, it was clearly a step in the right direction. It acknowledged that a large proportion of unsafe acts were "honest errors" (the kinds of slips, lapses and mistakes that even the best people can make) and were not truly blameworthy, nor was there much in the way of remedial or preventative benefit to be had by punishing their perpetrators. But the "no blame" concept had two serious weaknesses. First, it ignored — or, at least, failed to confront — those individuals who willfully (and often repeatedly) engaged in dangerous behaviors that most observers would recognize as being likely to increase the risk of a bad outcome. Second, it did not properly address the crucial business of distinguishing between culpable and nonculpable unsafe acts.

In my view, a safety culture depends critically upon first negotiating where the line should be drawn between unacceptable behavior and blameless unsafe acts. There will always be a gray area between these two extremes where the issue has to be decided on a case-by-case basis. This is where the guidelines provided by "A Roadmap to a Just Culture" will be of great value. A number of aviation organizations have embarked upon this process, and the general indications are that only around 10 percent of actions contributing to bad events are judged as culpable. In principle, at least, this means that the large majority of unsafe acts can be reported without fear of sanction. Once this crucial trust has been established, the organization begins to have a reporting culture, something that provides the system with an accessible memory, which, in turn, is the essential underpinning to a learning culture. There will, of course, be setbacks along the way. But engineering a just culture is the all-important early step; so much else depends upon it. ■

— James Reason

NTSB

October 2004 Kingman, KS

- Company did not discipline the pipeline controller

Learning Culture

- In short, the organization is able to learn and change from its prior mistakes

NTSB

Learning Culture

"Learning disabilities are tragic in children,

but they are fatal in organizations."

– Peter Senge, "The Fifth Discipline: The Art and Practicing of the Learning Organization"

Do you have a safety culture?

NTSB

"Safety culture is about having the will to do something – not the money."

– The Honorable Debbie Hersman

NTSB