NTSB National Transportation Safety Board

A Practical Look at Developing and Maintaining a Safety Culture

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Do you have a safety culture?

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."

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Safety Culture

Doing the right things, even when no one is watching.

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Roadmap to Safety Culture

- Management Commitment and Emphasis

- Standardization and Discipline

- Training

- Data Collection and Quality Assurance Programs

Roadmap to Safety Culture

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

NTSB Perspective

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

NTSB Perspective

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

- Cessna 310 owned by NASCAR
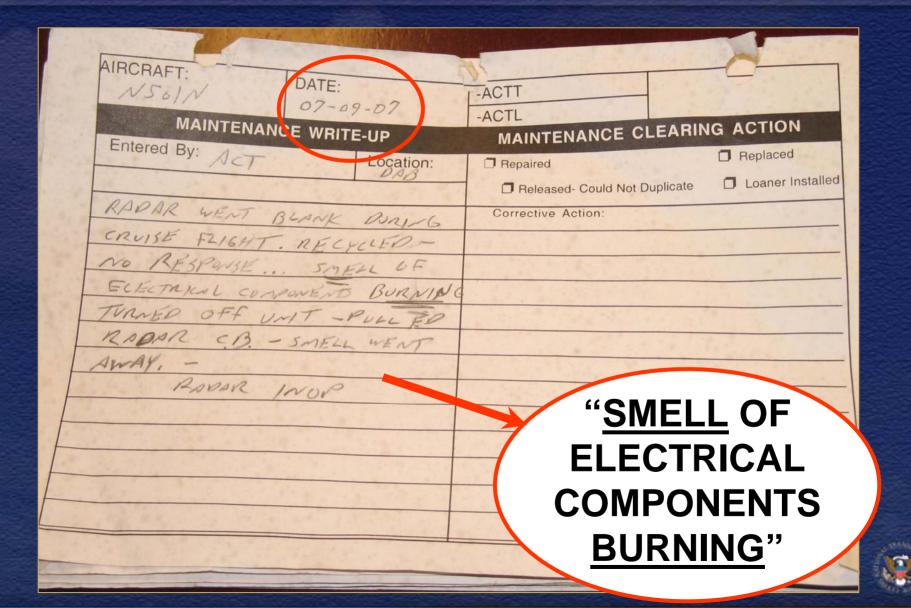- Inflight emergency, crash
- 5 fatalities

Pictures from Terry A. Boyd

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Declared Emergency

"Smoke in the cockpit."

"Shutting off radios, elec."

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Maintenance Discrepancy Entry

Probable Cause

- Actions and decisions by NASCAR's corporate aviation division's management and maintenance personnel to allow the accident airplane to be released for flight with a known and unresolved discrepancy…

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Roadmap to Safety Culture

Standardization and Discipline

- Management provides well thought-out policies and procedures
- Stresses need for strict compliance with Standard Operating Procedures

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Standardization

- Maneuvers Guide – contained key procedures for briefing and conducting instrument approaches
  - Pilots were expected to adhere to procedures in Maneuvers Guide
  - Maneuvers Guide was only issued to the chief pilot and instructors

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Standardization

- Company check airman: rated company's standardization as "6"
- Company pilot: "Fair to good"
- Lead ground instructor: "Fair"
  - Suspected that some pilots were following SOPs while others were not
  - Aware that some pilots used their own checklists, instead of company checklists
- Another pilot: never seen any standardized callouts documented in any company manual
  - To compensate, she used callouts she used at another company

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Roadmap to Safety Culture

- Training
  - Strong commitment to training and provide oversight of their training
  - Ensure training standardization and discipline are maintained

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Southwest Airlines

Contributing to the accident:

- Southwest Airlines':
  - failure to provide its pilots with clear and consistent guidance and training regarding company policies and procedures related to arrival landing distance calculations
  - plan to implement new autobrake procedures without a familiarization period.

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Roadmap to Safety Culture

- Data Collection and Quality Assurance Programs
  - data-driven risk management
  - safety audits
  - confidential incident reporting systems

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Data collection and analysis

- The organization collects and analyzes "the right kind of data" to keep it informed of the safety health of the organization

  – collects, analyzes
    and disseminates information
    on incidents and near-misses,
    as well as proactive safety checks.

  - James Reason, Ph.D.

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Pinnacle Airlines

- Jefferson City, MO
- October 14, 2004
- Bombardier Regional Jet
- Repositioning flight
- Both flight crewmembers killed

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What the investigation discovered

- Intentional activation of stall warning
- Swapping crew seats
- Rudder mishandling
- Climb to FL 410
  - "have a little fun"
- Automation mismanagement
- Airspeed loss, stall, loss of control, double engine failure
- Did not maintain proper speed for engine failure
- Did not fully disclose real problem with ATC

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Why was the crew at 41,000?

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Did the airline …

- Did the airline know about "410 Club?"

- How did airline monitor adherence to SOPs?

- Did they have a FOQA program?

- Did they have an ASAP program?

- Did anyone use their safety hotline?

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Data collection and analysis

- How do you keep your finger on the pulse of your operations?

- Are you taking proactive measures to protect your employees and passengers?

- Do you have multiple data sources?

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Employees

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Are employees comfortable reporting?

- Employees are open to report safety problems, if they receive assurances that:
  - The information will be acted upon
  - Data are kept confidential or de-identified
  - They will not be punished or ridiculed for reporting
    - Non-reprisal policy signed by CEO

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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.

We will not use this reporting system to initiate disciplinary proceedings against an employee who discloses in good faith a hazard or occurrence involving safety which is the result of conduct that 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

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"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

Just Culture

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

- James Reason, Ph.D.

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