



**National  
Transportation  
Safety Board**

# **Update on Pilot Monitoring Project**

## **Safety Leadership**

Robert L. Sumwalt

59th annual Business Aviation Safety Summit



**National  
Transportation  
Safety Board**

**Ineffective Pilot Monitoring:**

**The Problem that Never Went Away**

# Era, March 2004. Gulf of Mexico



**Sikorsky S-76A++**



**NTSB**

# Era, March 2004. Gulf of Mexico

“The flight crew was not adequately monitoring the helicopter’s altitude...”

Sikorsky S-76A++



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# Jetstream BAE-32, October 2004. Kirksville, MO



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# Jetstream BAE-32, October 2004. Kirksville, MO

“The pilots failed to ... effectively monitor the airplane’s descent rate and height above terrain...”



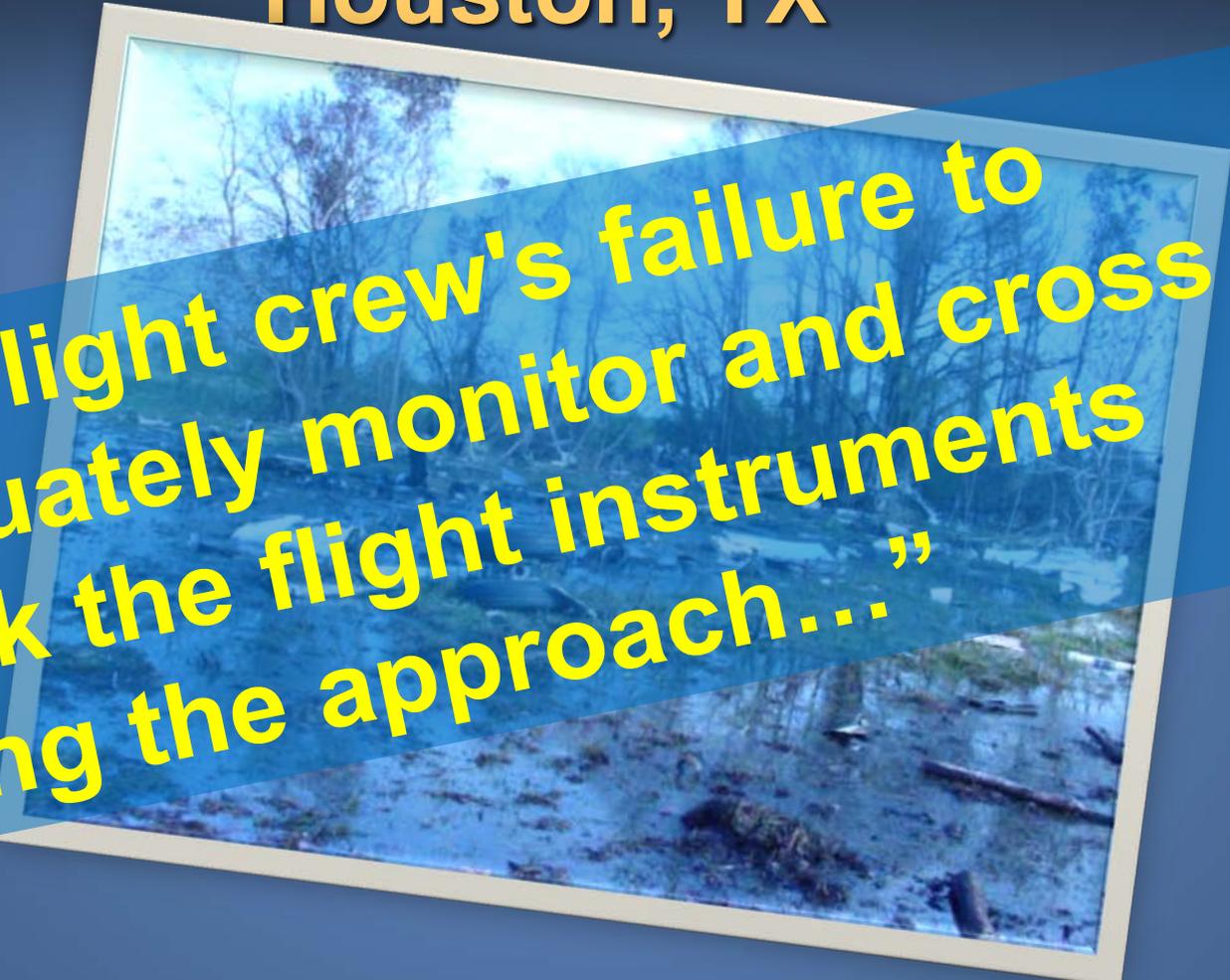
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# G-III, November 2004. Houston, TX



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# G-III, November 2004. Houston, TX



**“The flight crew's failure to adequately monitor and cross check the flight instruments during the approach...”**



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# Circuit City, CE 560, February 2005. Pueblo, CO



# Circuit City, CE 560, February 2005. Pueblo, CO

**“Flight crew’s failure to effectively  
monitor and maintain airspeed...”**



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# Comair, August 2006. Lexington, KY



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# Comair, August 2006. Lexington, KY



**“their failure to cross-check  
and verify that the airplane was on  
the correct runway before  
takeoff...”**



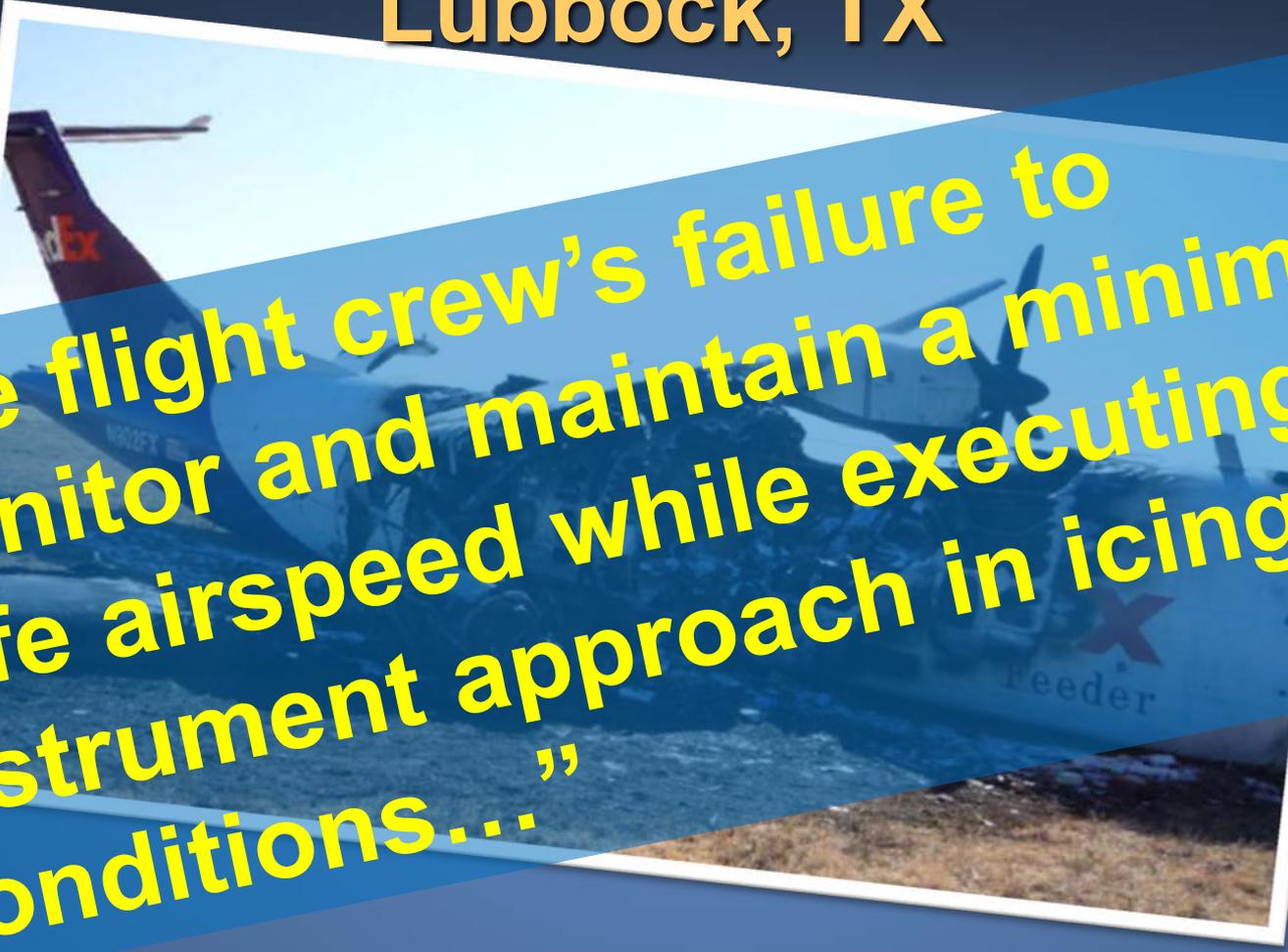
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# Empire Airlines, January 2009. Lubbock, TX



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# Empire Airlines, January 2009. Lubbock, TX

A photograph of an Empire Airlines aircraft on a runway. The aircraft is white with a red tail and a red star logo on the fuselage. The word "Feeder" is visible on the side of the aircraft. The photograph is tilted and has a blue overlay with yellow text.

“the flight crew’s failure to monitor and maintain a minimum safe airspeed while executing an instrument approach in icing conditions...”



# Colgan Air, 2009



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# Colgan Air, 2009

**“The flight crew’s failure to monitor airspeed...”**



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# NTSB Finding

“All operators would benefit from an increased focus on providing monitoring skills in their training programs...”

## **NTSB Recommendation A-07-13 to FAA:**

Require pilot training programs be modified to contain modules that teach and emphasize monitoring skills and workload management and include opportunities to practice and demonstrate proficiency in these areas.



# Bad News / Good News

## Bad News

- Humans are not naturally good at monitoring highly reliable / highly automated systems over periods of time.

## Good News

- Monitoring performance can be improved significantly through improved procedures and training.



FLIGHT SAFETY FOUNDATION  
AUGUST-NOVEMBER 2009

# FLIGHT SAFETY DIGEST

SPECIAL ISSUE

# ALAR

Approach-and-landing Accident Reduction

## Turboprop Propulsion System Malfunction



### Recognition and Response

## Controlled Flight Into Terrain

Education and Training Aid



Production: Volume 1 Section 1 - 4

Message from the President of ICAO

Volume 2 Section 5 Index

Disclaimer

# AIRPLANE UPSET RECOVERY

Industry Solutions for Large, Single-Wing Turboprop Airplanes Typically Seating More Than 100 Passengers

Training Aid  
Revision 2

ABSA, Inc.  
A.M. Center for Airline  
Publications & Training  
Air Transport Association  
Airbus  
Air Line Pilots Association  
Alaska Airlines  
All Nippon Airways Co., Ltd.  
Allied Pilots Association  
Alma Airlines, Inc.  
American Airlines, Inc.  
American Trans Air, Inc.  
Aviation Australia  
Overseas Aerospace Training Center  
(Regional Jet Training Center)  
British Airways  
Cathay Pacific Airways Limited  
Cathay Pacific Airways Limited

Boeing Airplane, Ltd.  
Boeing Aviation Services  
Continental Airlines, Inc.  
Delta Air Lines, Inc.  
Deutsche Lufthansa AG  
EVA Airways Corporation  
Federal Aviation Administration  
Flight Safety International  
Flight Safety Foundation  
Hawaii Airforce  
International Air Transport Association  
Japan Airlines Co., Ltd.  
Lufthansa German Airlines  
Midwest Express Airlines, Inc.  
National Transportation Safety Board  
Northwest Airlines, Inc.  
Oneworld Airlines, Ltd.  
QANTAS Flight Academy  
Southwest Airlines  
The Boeing Company  
Tara Airline, Inc.  
United Air Lines, Inc.  
West Coast Training Institute  
US Airways, Inc.  
Verifone

# ALAR

## Approach-and-landing Accident Reduction

# Tool Kit

## OFF

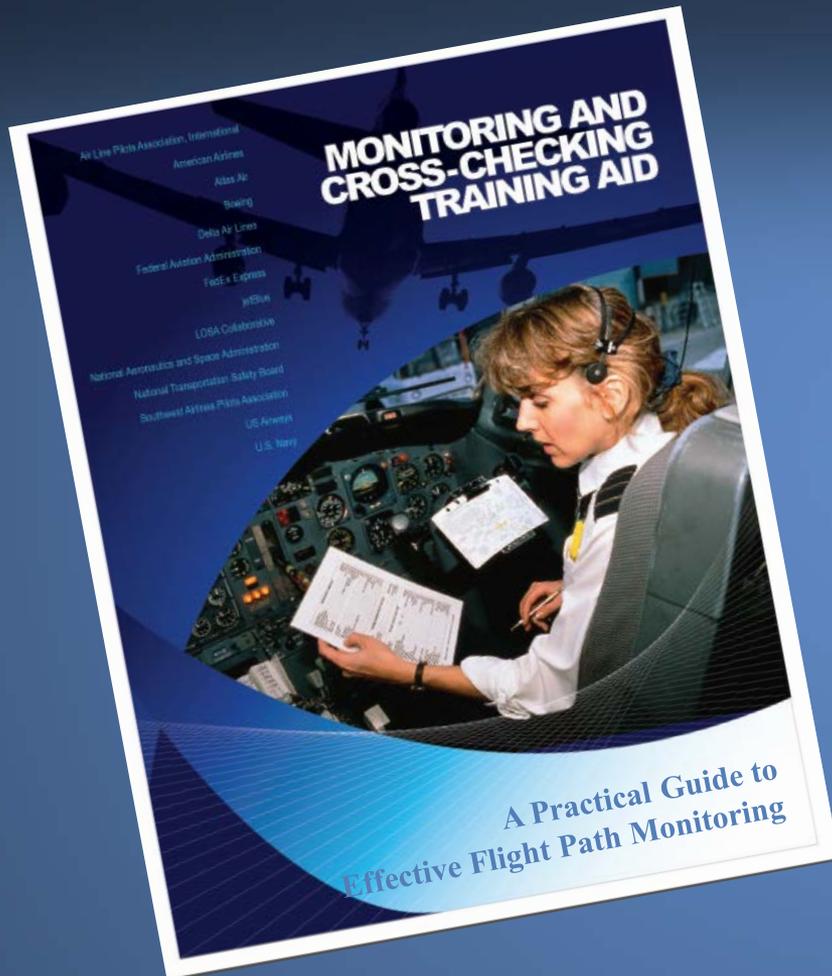
# SAFETY

## TRAINING AID



U.S. Department of Transportation  
Federal Aviation Administration

# Participants



Airbus  
ALPA  
American Airlines  
Boeing  
Delta Air Lines  
FAA  
Flight Safety Foundation  
IFALPA  
jetBlue  
LOSA Collaborative  
NASA  
NBAA  
NTSB  
Regional Airlines Assn.  
Southwest Airlines Pilots Assn.  
United Airlines  
US Airways

A collaborative FSF project

The goal of this document  
is to provide practical ways to  
improve  
flight path monitoring.



A collaborative FSF project



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# National Transportation Safety Board

## Safety Leadership

# What is Leadership?

**“Leadership is about influence.  
Nothing more. Nothing less.”**

- John Maxwell



# Safety Leadership



Your job as leaders of the business aviation community is to use your influence to ensure this doesn't happen on your watch.



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# Failure of Leadership



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# Three leadership questions

- 1) Are you on the right track?
- 2) Is safety the top priority of your organization?
- 3) Do you have a good safety culture?



# Three leadership questions

- 1) Are you on the right track?
- 2) Is safety the top priority of your organization?
- 3) Do you have a good safety culture?



**It appears you're on the right track.**

**“Even if you're on the right track, you'll get run over if you just sit there.”**

- Will Rogers



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A Word of Caution:

**NEVER EVER BELIEVE GOOD  
NEWS**



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Monday's Headlines  
January 12, 2009



Friday's Headlines  
January 16, 2009



4 Weeks Later  
February 12, 2009

# “Good can be Bad”

- With good safety performance, people/organizations can easily become complacent.
- Don't ever believe that a lack of accidents means you are “safe.”
- To counter this complacency, there must be a leadership obsession with continuous improvement.

- Courtesy of Jim Schultz



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# Three leadership questions

- 1) Are you on the right track?
- 2) Is safety the top priority of your organization?
- 3) Do you have a good safety culture?



# Priority or Core Value?

- Is safety a priority or a core value?



# Three leadership questions

- 1) Are you on the right track?
- 2) Is safety the top priority of your organization?
- 3) Do you have a good safety culture?



# Do you have a good 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.”



Influencing Safety :

# LEADERSHIP PROCESSES

- *Demonstrate*
- *Instill*
- *Insist*
- *Avoid*



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# ***Demonstrate: Safety*** in all that you do.

“The safety behaviors and attitudes of individuals are influenced by their perceptions and expectations about safety in their work environment, and they pattern their safety behaviors to meet demonstrated priorities of organizational leaders, regardless of stated policies.”

- Dov Zohar, as cited in NTSB accident report

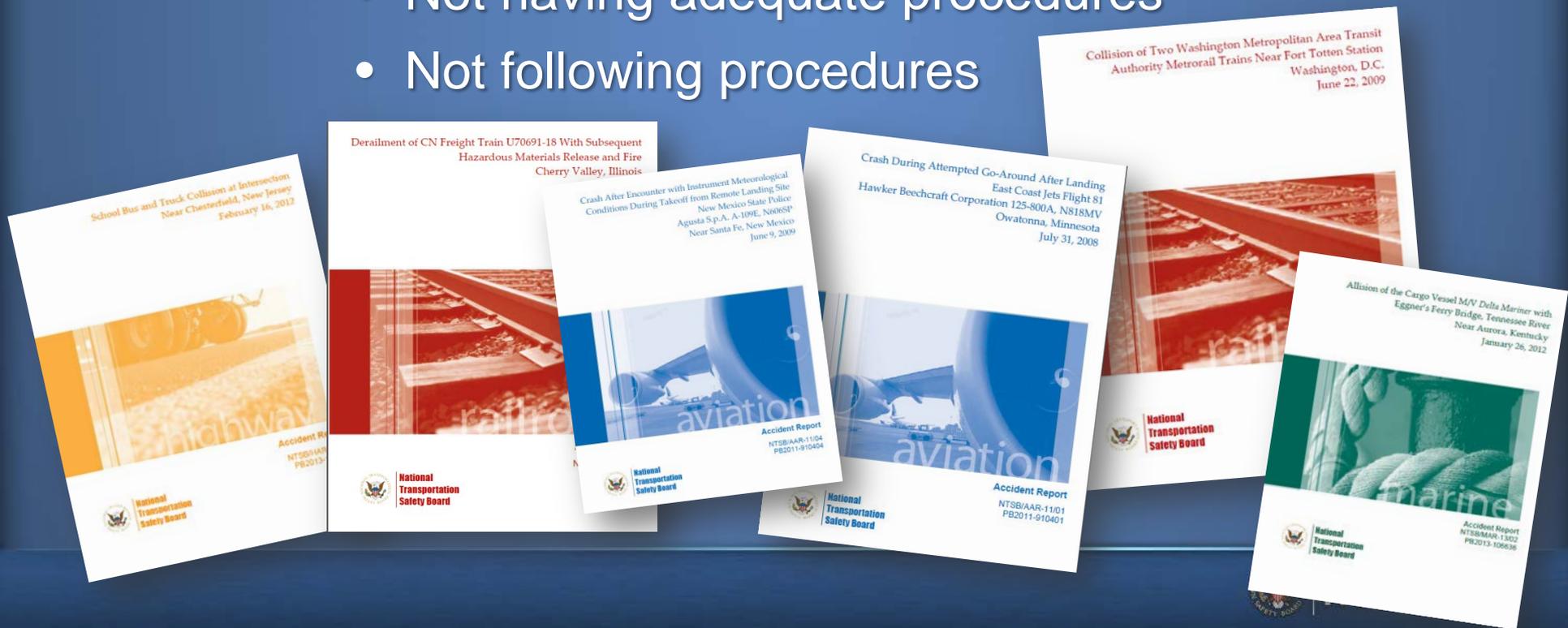
# *Instill: Just Culture*

- 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



# Insist: Standardization and Discipline

- One of the most common factors in accidents investigated by NTSB:
  - Not having adequate procedures
  - Not following procedures



# Avoid: Selective Compliance



- “That is a stupid rule.”
- “I don’t have to comply with that one.”





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