



**NTSB** National Transportation Safety Board

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# **ALPA CARGO & ARFF SAFETY FORUM November 13, 2007**

Debbie Hersman



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# **UPS Flight 1307 Philadelphia, PA**

## **February 7, 2006**



# UPS DC-8 Accident Summary

- February 7, 2006, DC-8-71F
- Initial descent into PHL
- Burning odor
- No fire/smoke system detections until just before landing
- Extensive post-landing fire

# NTSB Investigative Groups

- Hazardous Materials
- Fire
- Survival Factors and ARFF
- Operations
- Systems
- Cockpit Voice Recorder
- Maintenance Records

# UPS Public Hearing

- Main topics:
  - Aircraft Rescue and Fire Fighting
  - Fire detection and suppression
  - Lithium Batteries

Example: ACARS NOTOC

**SPECIAL LOAD NOTIFICATION TO CAPTAIN**

FROM FLIGHT      DATE            A/C REG      EDNO  
ZRH    LX0288      08MAY02      HBIWL            0

**DANGEROUS GOODS**

TO	POS	UN/ID	DRILL	QTY/TI	IMP	DESCRIPTION
JNB	33L	1950	10L	10.5KG	RFG	FLAMMABLE COMPRESSED GAS
JNB	33L	1987	3L	4LT	RFL	FLAMMABLE LIQUID
JNB	22P	1977	2L	280KG	RNG	NON-FLAMMABLE COMPRESSED GAS

**OTHER SPECIAL LOAD**

JNB	33L			219KG	COL	COOL STORAGE 1 TO 5 DEGREES C.
JNB	22P			632KG	COL	COOL STORAGE 1 TO 5 DEGREES C.
JNB	14R			16KG	VAL	VALUABLE CARGO

THERE IS NO EVIDENCE THAT ANY DAMAGED OR LEAKING PACKAGES  
CONTAINING DANGEROUS GOODS HAVE BEEN LOADED ON THE AIRCRAFT  
AT THIS STATION

END NOTOC

08MAY/11.34.26Z



# Fire Detection/Suppression

- Smoke detection system
- Cargo fire suppression system

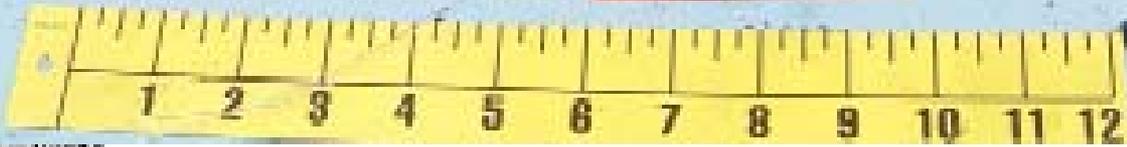


Photo taken by FedEx





NTSB 013  
Container 12 4/1  
Laptop + case



# Lithium Batteries

- Numerous safety recalls of laptop batteries
- Halon effective only against secondary lithium batteries
- August 2007 final rule from PHMSA

# Unalerted Smoke/Fire/Fumes

- Difficult to identify source and location of fire
- Inadequate procedures
- Industry Initiative
  - Checklist template and streamlined procedures created



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# **FedEx Flight 647** **Memphis, Tennessee**

**December 18, 2003**





FedEx

3

N 9866B

180212







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# Significant Findings

- No pre-existing failures
- Weather not a factor
- Excessive right gear loads
- Improper crosswind technique by the first officer
- Improper oversight by the captain

# MEMPHIS ATC ISSUES

- Rural Metro FD was delayed by almost 2 minutes because it did not receive ATC permission to cross runway.
- ARFF not told number of occupants.

# NTSB Recommendations

## A-05-017 and A-05-18

- Recommended that FAA inform all air traffic control tower controllers about the need to ensure that ARFF vehicles are not delayed without good cause when enroute to an emergency, and the need to relay the number of occupants to ARFF responders.
- Recommended that the airport authority and MFD modify their Emergency Procedures to describe protocol for emergency response that includes RMF





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**FedEx Flight 1406  
Newburgh, New York**

**September 5, 1996**











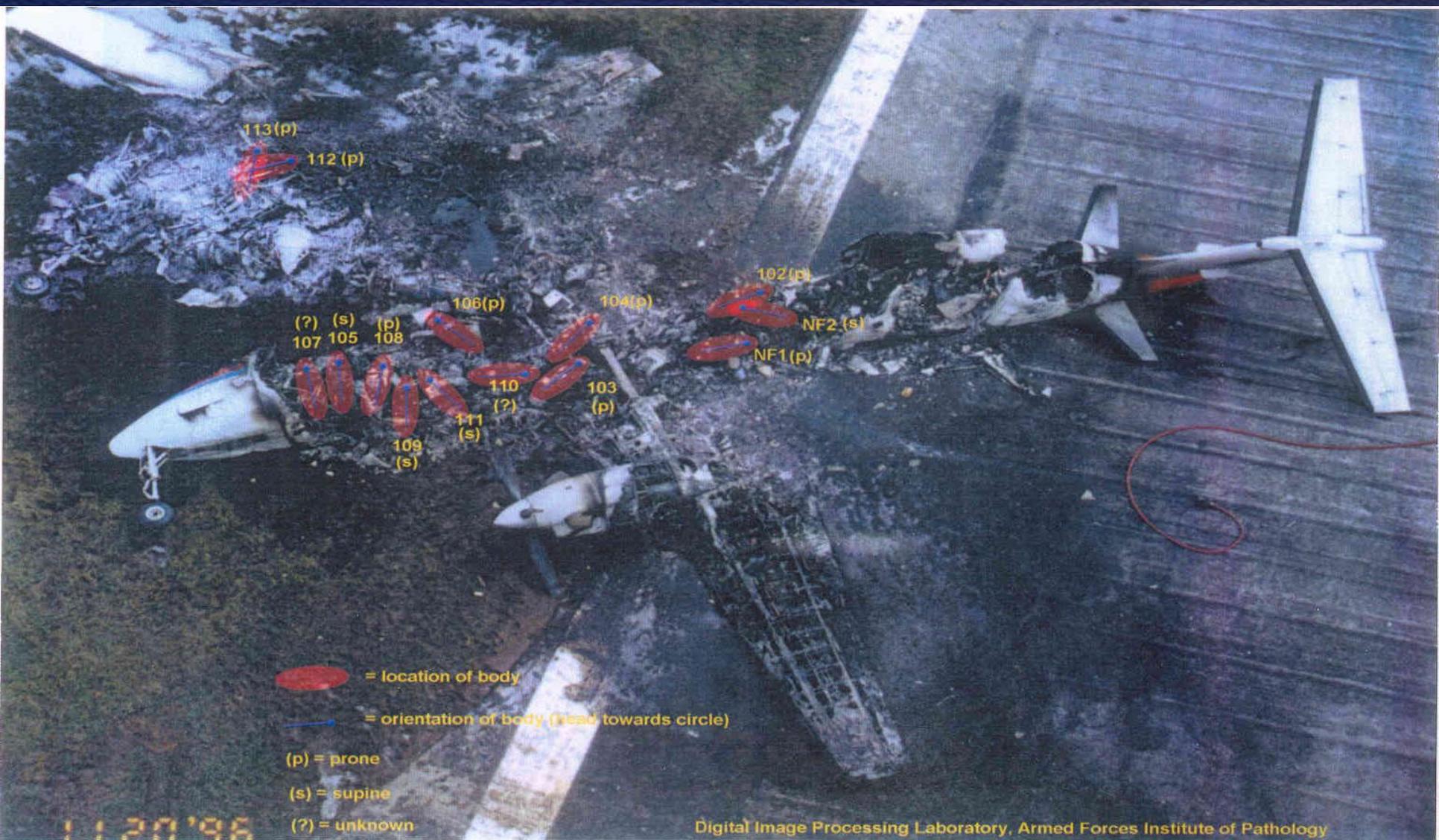


# Safety Issues

- Flight Crew Performance of emergency procedures
- Undeclared hazardous materials in transportation
- Dissemination of hazardous materials information
- Airport emergency response
- Adequacy of aircraft interior firefighting methods

# NTSB ARFF RECOMMENDATIONS

- Recommendation Subjects:
  - Training Programs
  - Vehicle Access Roads
  - Rescue Equipment
  - Hands-on training
  - “Crash Crew” Publications
  - Communications (ATC, Direct Radio, General)
  - Staffing levels to allow rescue
  - Mutual Aid Agreements
  - Proximity Suits
  - Airport Access Gates
  - Discharge Tests
  - Obstructions



113(p)

112(p)

106(p)

104(p)

102(p)

NF2(s)

NF1(p)

103(p)

110(?)

109(s)

111(s)

(?) (s)

107

(p)

105

108

11/20/96

Digital Image Processing Laboratory, Armed Forces Institute of Pathology

-  = location of body
-  = orientation of body (head towards circle)
- (p) = prone
- (s) = supine
- (?) = unknown







# Quincy, Illinois

- The Board concluded that commuter passengers deserved the same degree of protection from post crash fires as air carrier passengers on aircraft with 30+ seats.
- The Board recommended that the FAA should require airports served by scheduled passenger operations on aircraft with 10+ seats should have trained ARFF personnel, capable of timely response, available during computer operations

# FAA Response to Quincy Recommendations

- 2004 Amendment to Part 139 required ARFF for scheduled passenger operations with 10+ seats.
- Safety Recommendation A-97-107 was “Closed-Acceptable Action” in 2004

# ARFF and NTSB

- ARFF support during investigations
  - Photographs
  - Participate as a “Party to the investigation”
    - Help us investigate the accident
    - Provide your expertise



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