



**NTSB** National Transportation Safety Board

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*Offices of Research and Engineering and Aviation Safety*

# Overview of HEMS Safety Issues

Dr. Joseph Kolly

Acting Director, Office of  
Research and Engineering

# Joint Office Product – RE and AS

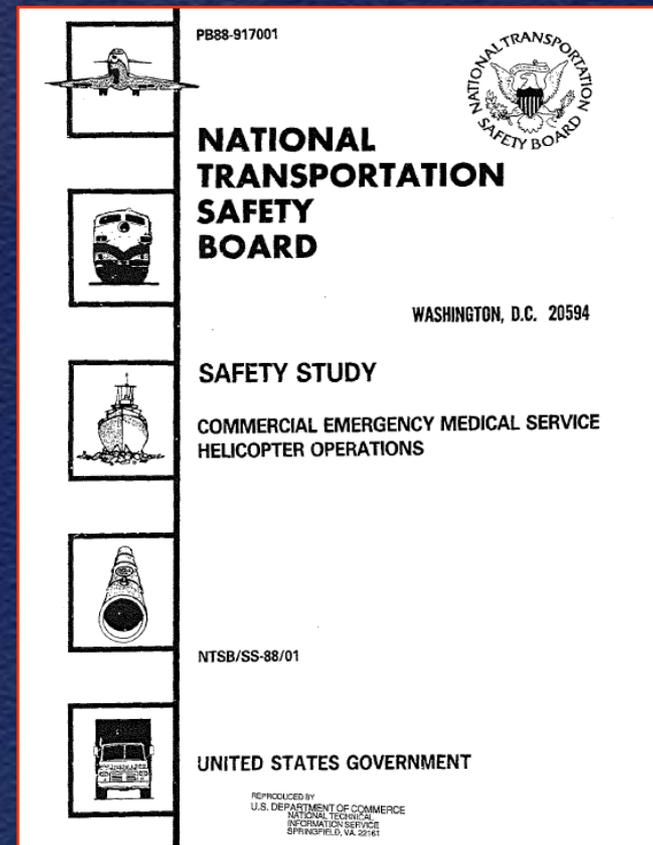
- AS and RE investigators of HEMS accidents
- AS and RE staff for the public hearing
- Writers of the recommendation package
  - Dr. Robert Dodd
  - Jeffery Guzzetti
  - Dr. Vernon Ellingstad
  - Sally Bennett

# The HEMS Industry

- Provides important service, 24/7
- 750 helicopters
- 70 commercial operators
- 60 hospital-based programs
- 40 public operations
- 400,000 patients transported annually
- Increased risk for accidents when compared to other commercial ops

# NTSB has Longstanding Concern for HEMS Safety

- 1988 Safety Study
  - Evaluated 59 HEMS accidents
  - Issued 19 safety recommendations to FAA, NASA, and 2 associations



# 2006 Special Investigation Report (SIR)

- Increase in EMS accidents
- SIR adopted January 25, 2006
- Analyzed 55 EMS accidents
  - 41 HEMS accidents
  - January 2002 - January 2005
- 54 fatalities, 19 serious injuries
- 29 of 55 accidents preventable with corrective actions



# Safety Recommendations Issued

- Conduct all EMS flights with medical personnel on board in accordance with Part 135 regulations **A-06-12** (Open-Unacceptable)
- Develop and implement flight risk evaluation programs **A-06-13** (Open-Unacceptable)
- Require formalized dispatch and flight-following procedures including up-to-date weather information **A-06-14** (Open Acceptable)
- Install terrain awareness and warning systems **A-06-15** (Open-Unacceptable)

# Fatal HEMS Accident Data

- In 2006: 3 fatal accidents (*5 killed*)
- In 2007: 2 fatal accidents (*7 killed*)
- In 2008: 8 fatal accidents (*29 killed*)



**La Crosse, Wisconsin**

**Huntsville, Texas**



**Aurora, Illinois**



**S. Padre Island,  
Texas**



**District Heights,  
Maryland**



**Flagstaff, Arizona**



# Recent Fatal EMS Accidents

- ***S. Padre Island, Texas*** – *Feb 5, 2008*
  - Eurocopter AS350; loss of control in IMC; 3 fatalities
- ***La Crosse, Wisconsin*** – *May 10, 2008*
  - Eurocopter EC135; struck ridge after night takeoff; 3 fatalities
- ***Huntsville, Texas*** – *June 8, 2008*
  - Bell 407; CFIT at night; 4 fatalities
- ***Flagstaff, Arizona*** – *June 29, 2008*
  - Two Bell 407s collided while approaching helipad; 7 fatalities
- ***District Heights, Maryland*** – *Sept 27, 2008*
  - Aerospatiale AS365N; crashed during approach; 4 fatalities
- ***Aurora, Illinois*** – *Oct 15, 2008*
  - Bell 222; struck radio tower; 4 fatalities

# Recent EMS Accident Fatalities

- **S. Padre Island, Texas** – Feb 5, 2008 (night operation)
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# Recent EMS Accident Fatalities

- **S. Padre Island, Texas** – Feb 5, 2008 (night/reduced visibility)
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# NTSB Public Hearing on HEMS Safety

- February 3 – 6, 2009
- 41 expert witnesses
  - 8 HEMS operators
  - 12 associations
  - 6 manufacturers
  - 4 hospitals
- Parties to the Hearing
  - FAA, HAI, AAMS, PHPA/OPEIU, NEMSPA, Air Methods, CareFlite
- Summary of testimony posted at [www.nts.gov](http://www.nts.gov)

# Public Hearing Testimony

- EMS Models & Reimbursement Structures
- State Oversight & Competition
- Patient Transport Request Process
- Flight Dispatch Procedures
- Safety Equipment & Flight Recorders
- Flight Operations Procedures & Training
- Corporate Oversight
- Safety Management Systems
- FAA Oversight

# Safety Issue Areas

- Pilot Training
- Collection of Flight Operations Data
- Use of Flight Recording Devices and Data
- Safety Management Systems
- Weather Information
- Use of Autopilots or Dual Pilots
- Night Vision Imaging Systems
- Reimbursement Rate Structures
- Federal Policy and Guidelines

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