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)
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

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Recent EMS Accident Fatalities

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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.ntsb.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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