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NAACS White Paper: The Changing Role of Air Medical
Communication Specialist

(12 Pages)

The Changing Role of Air Medical Communication Specialists

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Abstract

To reduce helicopter emergency medical service (HEMS) accidents, the Federal Aviation Administration (FAA) has initiated new federal requirements regarding ‘operational control’ of Part 135 operations. These requirements are changing the role and responsibilities of the air medical communication specialist. This paper describes the events leading to these changes, the 2006 NAACS Safety Summit, and how the NAACS Board is creating an Advanced Certified Flight Communicator curriculum to specifically address ‘operational control.’

INTRODUCTION

In 1989, the National Association of Air-medical Communication Specialists (NAACS) was established as a not-for-profit, professional organization. Its mission is to enhance and standardize the role of air medical communication specialists through education and certification. NAACS serves as the national voice for air medical communication specialists in the field of air medical transport (AMT).

Since the inception of NAACS, the role of the air medical communication specialist (ACS) has undergone a significant evolution. No longer are the early days of a “dispatcher” whose primary role was merely the coordination of personnel and equipment necessary for providing an air medical transport. The modern day air medical communication specialist is seen as an integral link to lowering the incidence of air medical accidents.

This paper describes the recent history of federal AMT recommendations and mandates regarding ‘operational control’, the 2007 NAACS Safety Summit, and how the NAACS board is responding to ensure that its members are properly prepared to meet the changing role of the air medical communication specialist.

FEDERAL RECOMMENDATIONS and MANDATES

Following a series of tragic helicopter emergency medical service (HEMS) accidents, the National Transportation Safety Board (NTSB) met and made several recommendations to the Federal Aviation Administration (FAA) to reduce the occurrence of HEMS accidents.¹

In response to these NTSB recommendations, the FAA released several notices to its inspectors.

- *FAA Notice 8000.29 Helicopter Emergency Medical Services Operations; January 28, 2005.* This document states that Helicopter Emergency Medical Services have to (1) strengthen operational control, (2) increase pilot skill in adverse weather operations, particularly as it relates to the avoidance and recovery from inadvertent meteorological conditions (IMC), (3) initiate a pre-flight mission risk assessment tool, (4) foster collaborative decision-making between ground and flight personnel, and (5) develop a safety culture in HEMS operations.²
- *FAA Notice 8000.301 Operational Risk Assessment Programs for Helicopter Emergency Medical Services; August 1, 2005.* This notice mandates that HEMS

develop and use an operational risk assessment tool. The purpose of this tool is to enable pilots to objectively measure the risk of flying by scoring factors that may adversely or favorably affect the safety of flight.³ (Table 1)

- *FAA Notice 8000.307 Special Emphasis Inspection Program for Helicopter Emergency Medical Services; September 27, 2005.* This notice mandates FAA inspectors to increase their emphasis on HEMS program inspections.⁴

AIR MEDICAL COMMUNITY RESPONSE

At the 2005 Air Medical Transport Conference (AMTC), FAA representatives met with air medical community leaders to discuss proposed Handbook Bulletin for Air Transportation (HBAT) changes specifically directed at HEMS operations.⁵ These changes would require HEMS to establish controlled flight into terrain and loss of control avoidance programs. HEMS Part 135 operators would now be required to provide operational control during all phases of the transport. Air medical transport communication specialists providing operational control would be required to receive training so as to assume responsibility for the direct dispatch of air medical missions. No longer would it be only the pilot's decision regarding the acceptance or denial of an air medical mission. The decision would now be a collaborative and concurring effort between operational control and HEMS pilots. On January 23, 2006, these HBAT 06-02 changes were officially released.⁶

On January 25, 2006, the NTSB released the Aviation Special Investigation Report on EMS Operations. The NTSB concluded that many of the HEMS accidents were the result of *"...less stringent requirements for EMS operations conducted without patients on board, a lack of aviation flight risk evaluation programs for EMS operations, a lack of consistent, comprehensive flight dispatch procedures for EMS operations, and no requirements to use technologies such as terrain awareness and warning systems to enhance EMS flight safety."*⁷ The NTSB further recommended that all air medical EMS operations be required to (1) comply with Part 135 operation specifications during the conduct of all flights with medical personnel on board, (2) develop and implement flight risk evaluation programs that include training to all employees involved in the operation, (3) create formalized dispatch and flight following procedures that include up-to-date weather information and assistance in flight risk assessment (4) install terrain awareness and warning systems on their aircraft and (5) provide adequate

training to ensure that flight crews are capable of using the systems to safely conduct EMS operations.

On March 9, 2006, the NAACS executive board met with FAA representatives Larry Buehler and Harlan Sparrow to discuss the January 25, 2006, NTSB recommendations' effect on HEMS communication centers. The intent of the meeting was to develop an open communication channel between the FAA and NAACS in an effort to foster safer air medical transports within the communication center. During that meeting, the board had the opportunity to show the FAA its Certified Flight Communicator (CFC) curriculum to Mr. Buehler. The curriculum was well received and the FAA was pleasantly surprised to see that there was a structured curriculum currently available within the air medical transport industry.

In March of 2006, the FAA held a weather summit at the National Center of Atmospheric Research in Boulder, Colorado. Although several HEMS-related issues were discussed, two areas of focus were brought to light with respect to the air medical communications centers. First, a certified weather training curriculum was needed for improving the proficiency of air medical communication specialists to obtain and provide weather information to pilots prior to and during air medical transports. Second, air medical programs needed to address the issue of ground EMS agencies and hospitals shopping for an air ambulance to respond, when other air services have turned down the request due to weather issues.⁸

In December of 2006, the FAA published OpSpec A008 – Operational Control. This document made all Part 135 operators accountable for full operational control over all flights conducted under each operator's certificate. Specific requirements for elements of the HEMS operation were also addressed.⁹

NAACS 2006 SAFETY SUMMIT

At the 2006 AMTC, the National Association of Air-medical Communication Specialists sponsored a Safety Summit to address the implication these FAA requirements may have upon air medical communication centers. A panel of recognized "industry experts" was assembled. (Table 2) The summit was open to attendance to all air medical community members. In addition to the 10 expert panelists, 125 members of the air medical community participated in the conference.

The Summit began with a welcome introduction by Shelly Sholl, then president of NAACS. Tom Judge followed with a talk about the AAMS Vision Zero initiative to reduce HEMS accidents. Next Garet Hickman, a current NAACS board member and the communications manager for Flight for Life Colorado, spoke about the events leading up to the Summit and noted that the goal of the NAACS Safety Summit was to seek opinion from the expert panel and attendees as to:

- The impact new operational control FAA mandates would have on air medical communication centers.
- What changes would have to occur to reduce aviation accidents within the air medical community.
- What procedures air medical communication centers could employ to enhance safety.
- What additional training the communication specialist could complete to enhance safety.

To reach these goals, members of the expert panel were asked to respond to several questions. Following expert panel testimony, the floor was opened to questions and comments by the attending participants. The following represents a summary of the views given at the 2006 NAACS Safety Summit:

- In general, experts and summit participants agreed that communication specialists could be trained to access weather information and that this information would be helpful to pilots, particularly in rural areas lacking FAA weather reporting stations.
- Although a majority of the expert panelists agreed that a formalized dispatch system, similar to that of the airlines, was unlikely, all the panelists opposed its implementation. Larry Buehler, from the FAA HEMS committee, stated in the meeting that a formalized dispatch was not going to be pursued by the FAA at this time.
- In general, the participants felt that there was enough uncertainty about a formalized HEMS dispatch system to preclude any understanding of its potential impact on the air medical community.
- Answers from all members of the panel were supportive toward a system of better training rather than restructuring into formalized dispatch. The panel felt that a restructured system would not be cost effective or enhance safety. Training of the

stakeholders using the existing system would be more beneficial. However, to be effective, a relentless measurement and enforcement of current standards would be necessary. Good standards are often written, but not always measured or adjusted to better serve the issues they are supposed to address.

- The panel felt that CAMTS combined with a NAACS Certified Flight Communicator would enhance the overall safety of HEMS operations. Several experts felt it was unfortunate that both CAMTS and NAACS are mostly voluntary and that both should be a requirement of HEMS programs.
- During the discussions, the experts and participants identified the following as measures that could be employed to enhance safety in the communication center:
 - a. Increase technology so as to provide HEMS operations with satellite tracking, messaging, and visual displays of enroute weather.
 - b. Initiate a safety culture that actualizes, rather than just verbalizes, safety practices.
 - c. Create staffing levels that ensure communication specialists do not become over tasked with workload.
 - d. Create uniform standards to evaluate safety in the communication center.
- At the weather summit in Boulder, Colorado, it was suggested that communication specialists take an independent course certifying their knowledge in aviation weather, including a periodic recertification process. When asked about such a course, the panel concluded that the curriculum is critical and that the NAACS CFC curriculum can employ more specific weather curriculum without the need for an independent course. It was suggested that this be a separate curriculum with a new weather-based curriculum directed specifically at ‘Operational Control’ and that pilots assist in the development of this extended curriculum.

NAACS ADVANCED CERTIFIED COMMUNICATOR FLIGHT CURRICULUM

Since the NAACS Safety Summit in September of 2006, many changes have taken place in the HEMS Community. The air medical community has seen the implementation of ‘operational control’. This places more emphasis on weather, risk assessment, pilot, aircraft and vendor airworthiness and the safe optimization of air medical transport resources.

As an answer to the NAACS Safety Summit and the many changes across the HEMS community, the NAACS board will initiate an NAACS Advanced Certified Flight Communicator (NAACS-ACFC) curriculum. This curriculum goes beyond the current NAACS Certified Flight Communicator curriculum (NAACS-CFC) by providing greater training in aviation policy and regulation, weather, navigation, flight following, air traffic control, information specific to operational control of helicopter, fixed wing and ground operations, aviation communication, crew resource management (CRM), medical terminology as it specifically relates to operational control. (Tables 3)

SUMMARY

The implementation of 'Operational Control' presents new challenges to the present day air medical communication specialist. Responding to these challenges is critical factor in reducing the HEMS accident rate. The new NAACS core curriculum offers air medical transport communicators the tools necessary to meet the new challenges of 'operational control'.

The NAACS Legislative Committee would like to offer a special thank you to Cindy Hayes, current NAACS President, Shelley Sholl, past NAACS President, and both Boards of Directors that served under them. We would also like to recognize Larry Buehler of the Federal Aviation Administration for his guidance.

References

- 1) National Transportation Safety Board NTSB/SIR 06-01, PB2006-917001 Special Investigation Board on Emergency Medical Services Operations; January 2006.
- 2) Federal Aviation Administration Notice N8000.29 Helicopter Emergency Medical Services Operations; January 28th, 2005.
- 3) Federal Aviation Administration Notice N8000.301; Operational Risk Assessment Programs for Helicopter Emergency Medical Services; August 1st, 2005.
- 4) Federal Aviation Administration Notice N8000.307; Special Emphasis Inspection Program for Helicopter Emergency Medical Services; September 27th, 2005.
- 5) Federal Aviation Administration Order 8400.10, Appendix 3, HBAT 06-01; Helicopter Emergency Medical Services; OpSpec A021/A002 Revisions; January 23rd, 2006.
- 6) Federal Aviation Administration Order 8400.10 Appendix 3, HBAT 06-02A; Helicopter Emergency Medical Services (HEMS) Loss of Control (LOC) and Controlled Flight into Terrain (CFIT) Accident Avoidance Programs; January 23rd, 2006.
- 7) Executive Summary. National Transportation Safety Board NTSB/SIR 06-01, PB2006-917001 Special Investigation Board on Emergency Medical Services Operations; January 2006. p vii
- 8) Federal Aviation Administration, Fact Sheet, March 7, 2007;
http://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=6763
- 9) Federal Aviation Administration Notice N8000.347; Operational Control: Revised Operation Specifications A008 and A002; December 28, 2006

GO/NO-GO DECISION MATRIX

STATIC RISK FACTORS

SCORE

< 6 mos. on Current Job	+1	
< 1 yr. in EMS	+1	
< 200 hrs. in Type	+1	
> 500 hrs. in Type	(-1)	
Last Flight > 30 Days	+1	
Last Night Flight > 30 Days (night requests only)	+1	
6 mos. Since Check Ride	+2	
Cockpit Not Configured for Inadvertent IMC	+1	
Navigation or Radio Item on MEL	+1	
Back-up Aircraft	+1	
Newly-installed Equipment (i.e., satellite phone, avionics, GPS)	+1	
Night Vision Goggles (NVG) Equipped	(-1)	
< 3 NVG Flights in the Last 120 Days	+1	
Medical Crew < 1 yrs. Experience (both crew members)	+1	
IFR Program	(-4)	
VFR Program	+1	
External Stresses (divorce, illness, family/work issues/conflicts)	+1	
A. Total Static Score		

DYNAMIC RISK FACTORS

Ceiling within 200' of Program Minimums	+1	
Visibility within 1 Mile of GOM Minimums	+1	
Precipitation with Convective Activity	+1	
Convective Activity with Frontal Passage	+1	
Deteriorating Weather Trend	+1	
High Wind or Gust Spread Defined by Operations Manual	+2	
Moderate Turbulence	+2	
Temperature/Dew Point < 3 Degrees F	+1	
Forecast Fog, Snow, or Ice	+2	
Weather Reporting at Destination	(-1)	
Mountainous or Hostile Terrain	+1	
Class B or C Airspace	+1	
Ground Reference Low	+1	
Ground Reference High	(-1)	
Night Flight	+1	
90% of Usable Fuel Required (not including reserve)	+1	
Flight Turned Down by Other Operators Due to Weather (if known)	+4	

CONTROL MEASURES

Delay Flight	(-1)	
Avoid Mountainous/Hostile Terrain	(-1)	
Utilize Pre-Designated Landing Zones for Scene Requests	(-1)	
Plan Alternate Fuel Stop	(-1)	
Familiarization Training (self-directed)	(-1)	

B. Total Dynamic and Control Measure Score

RISK CATEGORY	COLOR CATEGORY	ACTION	(A + B) Total Score
NORMAL	Green	Pilot Approval	0 – 14
FLIGHT MANAGER LEVEL	Yellow	Call Manager	15 – 18
UNACCEPTABLE	Red	Cancel Flight	19 or Greater

Adapted from FAA Notice N 8000.301 Operational Risk Assessment Programs for Helicopter Emergency Medical Services; August 1st, 2005

Table 1

2006 NAACS Safety Summit Expert Panel

Ira Blumen MD, Author-2002 AMPA Safety Report

Larry Buehler, Federal Aviation Administration

Ron Fergie, President-National EMS Pilots Association

Jeff Heffernan, Chairman-Air Medical Safety Advisory Council

Tom Judge CCT-P, President-Association of Air Medical Services

Don Looper EMT-P, NAACS Representative

Ed McDonald, Air Medical Safety Advisory Council

Table 2

NAACS Advanced Certified Flight Communicator Course (ACFC)

- ❖ **Aviation Policy and Regulation**
 - Operations Specifications
 - Enhanced Operational Control Policies
 - Aeronautical Decision Making and Risk Management
 - Lost Procedures
 - Emergency Procedures / Search and Rescue
- ❖ **Aviation Weather**
 - General Meteorology
 - Prevailing Weather
 - Adverse and Deteriorating Weather
 - Wind shear
 - Icing Conditions
 - Use of Aviation Weather Products (e.g. METARS, HEMS Tool, AWOS, ADDS etc.)
 - Weather Minimums
- ❖ **Navigation**
 - Navigation Aids
 - Instrument Approach Procedures
 - Navigational Publications
 - Navigation Techniques
- ❖ **Flight Following**
 - Available Flight Following Procedures
 - Alternate Flight Following Procedures
 - Practical Applications
- ❖ **Air Traffic Control**
 - Airspace
 - ATC Procedures
 - Aeronautical Charts
 - Aeronautical Data Sources
- ❖ **Aviation Communication**
 - Available Aircraft Communications Systems
 - Normal Communication Procedures
 - Abnormal Communications Procedures
 - Emergency Communications Procedures
- ❖ **Crew Resource Management**
 - Concepts and Practical Application
- ❖ **Safety and the Air Medical Communications Specialist**
 - Importance of training and continuing education for ACS
 - Safety Culture
 - Auditing and Measuring for Improvement
- ❖ **Operational Control Terminology**

Table 3