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NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C.

FAA NOTICE 8000-307
Special Emphasis Inspection Programs for HEMS

(7 Pages)

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

N 8000.307

9/27/05

Cancellation
Date: 9/27/06

SUBJ: SPECIAL EMPHASIS INSPECTION PROGRAM FOR HELICOPTER EMERGENCY MEDICAL SERVICES

1. PURPOSE. This notice was developed to provide guidance for aviation safety inspectors (ASI) in all specialties on the Special Emphasis Inspection Program for Helicopter Emergency Medical Services (HEMS) operated under Title 14 of the Code of Federal Regulations (14 CFR) part 135.

2. DISTRIBUTION. This notice is distributed to the division level in the Flight Standards Service in Washington headquarters; to the branch level in the regional Flight Standards divisions; to the Flight Standards District Offices, and to the Regulatory Standards Division at the Mike Monroney Aeronautical Center. This notice is also distributed electronically to the division level in the Flight Standards Service in Washington headquarters and to all regional Flight Standards divisions and district offices. This information is also available on the Federal Aviation Administration's (FAA) Web site at:
http://www.faa.gov/library/manuals/examiners_inspectors/8000/media/N8000-307.doc.

3. BACKGROUND.

a. Introduction. HEMS operate in a demanding environment. They provide an invaluable service to the public by providing crucial, safe, and efficient transportation of critically ill and injured patients to tertiary care medical facilities. While the contribution of HEMS is profound as a component of the nation's medical infrastructure, from an operational standpoint, it is a commercial aviation activity performed by FAA certificated air carrier operators. HEMS, therefore, must be conducted with the highest level of safety. In order to support compliance with this standard, a special emphasis inspection program has been developed for Fiscal Year (FY)-06. These inspections are to be accomplished in addition to the established National Program Guidance (NPG) inspection program. These inspections are expected to be included in the FY-07 and subsequent NPG.

b. HEMS Operational Environment. HEMS operations are conducted according to a variety of business models and operating configurations. Typically, a customer hospital contracts with an air carrier certificate holder to conduct HEMS operations in support of the customer's medical program. In this business model, the HEMS flight operation is based out of the customer's facility (the hospital) and is often remote from the certificate holder's main base, main maintenance facilities, and management. This complicates the management and operational control of flight operations and maintenance activities. It also complicates FAA

oversight of such operations when locations exist outside the certificate-holding district office's (CHDO) geographic area of responsibility. Such configurations require significant coordination between the CHDO and the geographic Flight Standards District Office (FSDO). Other HEMS configurations include a hospital-owned certificate holder, which accomplishes the HEMS function for that hospital. Cooperative systems exist in which a consortium of hospitals share ownership of a certificate holder. While these configurations are often contained wholly within the CHDO's area, operational control issues may exist between the customer (hospital) and the service provider (certificate holder).

c. Each state and territory in the United States has a lead Emergency Medical Services (EMS) agency. These agencies are usually a part of the state health department, but in some states they are part of the public safety department, or are an independent state agency. A list is available from the National Association of State EMS Directors at <http://www.nasemsd.org/index.php?option=content&task=view&id=72>. Inspectors assigned to surveillance activities involving HEMS operators are encouraged to contact the appropriate state or territory EMS agency and to coordinate efforts and to use those agencies as a resource.

NOTE: Additional background information may be found in FAA Notice N 8000.293, Helicopter Emergency Medical Services Operations.

4. SPECIAL EMPHASIS AREAS FOR THIS HEMS INSPECTION PROGRAM.

a. This Special Emphasis Inspection Program focuses on areas identified as causal factors in a review of HEMS accidents from 1999-2004. For all specialties, the areas of special emphasis include:

(1) Operational control, including policies, procedures, training, communications, and management.

(2) Safety culture development, including policies, procedures, and training.

b. Within the operations specialty, areas of special emphasis include:

(1) Weather information access and use by flightcrews, management, and in-flight communications specialists.

(2) Operator's knowledge of terrain, obstructions, airspace, and special weather considerations for operating in the specific geographic area, especially at night, and in periods of reduced visibility.

(3) Operator's knowledge of the certificate holder's risk assessment and management procedures, including crewmember and management duties, responsibilities, and authorities as related to assigning, accepting, declining, and canceling flight assignments, and the continuation, diversion, or termination of flights once underway.

(4) Pilot and flightcrew knowledge of all installed aircraft equipment, including communications, navigation, and any special equipment such as Night Vision Goggles (NVG), terrain awareness and warning systems (TAWS), radar altimeters, etc.

(5) Safety procedures in and around the heliport and off-site landing zone, especially at night.

(6) Coordination with local EMS, law enforcement, and fire services for off-site landing zone preparation, including weather estimation, obstruction and other hazard evaluation, lighting, and other operational considerations.

(7) Procedures for use of non-pilot flight crewmembers for situational awareness during flight operations (clearing the aircraft for obstructions, keeping a lookout for traffic, monitoring checklist functions), especially at night and in periods of reduced visibility.

c. Within the airworthiness specialties (maintenance and avionics) areas of special emphasis include:

(1) A review of aircraft records for helicopter airworthiness status, regulatory compliance (Airworthiness Directives, Bulletins, or any other required compliances), Minimum Equipment List (MEL) compliance, maintenance record retention procedures, and any other reviews deemed necessary.

(2) A review of maintenance procedures used on-site. This could include inspection of special equipment, technician qualifications/experience/training, and maintenance program for each make/model helicopter at base.

(3) A review of technical data such as maintenance manuals, service bulletins, manufacturers manuals, illustrated parts catalogs, etc., used for on-site maintenance.

(4) Proper tools, equipment and materials for the conduct of maintenance and inspections.

(5) A review of the Weight and Balance program being used at each operational site. Many HEMS programs have special weight and balance procedures for the various configurations used depending on the specific type of mission (i.e., litter, isolate, additional litter, patient weight, etc.).

(6) A review of the NVG maintenance program and FAA installation approval if applicable.

(7) Inspection of refueling facility if located at the helicopter base of operations.

5. ACTION.

a. Regional Flight Standards Divisions.

(1) Identify a resource within the region's operations and airworthiness inspector workforce to serve as the Regional Helicopter Emergency Medical Services Resource, and forward the names of the selected inspectors to AFS-250. An operations and airworthiness candidate should be selected. The candidates should meet the following requirements, as appropriate:

(a) Operations ASIs: Hold a commercial or airline transport pilot certificate with a rotorcraft-helicopter rating, and have pilot experience in HEMS operations. If no candidate exists with HEMS operations experience, a helicopter rated operations inspector should be selected.

(b) Airworthiness ASIs: Have experience in the maintenance of helicopters used in Emergency Medical Services Operations. If no candidate exists with HEMS maintenance experience, an inspector with helicopter maintenance experience should be selected.

(2) Regional HEMS resources will serve as the focal point for standardization of regional HEMS certification and surveillance efforts. Assigned inspectors must be able to participate in monthly telecons and meetings with other regional resources and headquarters HEMS personnel.

b. Flight Standards District Offices. Accomplish the following inspections, with emphasis on the specific areas identified with each inspection and the general emphasis on the areas discussed in paragraph 4:

(1) Operations.

(a) Principal operations inspectors (POI) assigned to HEMS operators should accomplish the following inspections on assigned certificate holders:

1. Conduct one Training Program Inspection (PTRS Code 1626) for each approved training program for each HEMS operator. Emphasis should be placed on night and low visibility operations training and procedures, controlled flight into terrain (CFIT) avoidance, and recovery from inadvertent instrument meteorological conditions (IMC).

2. Conduct one Base Inspection (PTRS Code 1618) for each HEMS base of operations within the CHDO's geographic area. Emphasis should be placed on operational control, management, communications, crew rest areas, weather and aeronautical data collection and dissemination systems, maintenance control, and crew scheduling.

3. Conduct one Flight Locating Inspection (PTRS Code 1636) for each HEMS flight locating system within the CHDO's geographic area. Emphasis should be placed on operational control, coordination with management, communications, weather and aeronautical data availability and use, and risk assessment and decision making procedures.

4. Conduct one Ramp Inspection (PTRS Code 1622) for each make and model of EMS helicopter operated at each HEMS base in the CHDO's geographic area. Emphasis should be placed on internal and external lighting (including cockpit windshield and window glare at night), night flying equipment, aeronautical information (charts, airport/facility directories, etc.), communications and navigation equipment, attitude flight instruments, medical equipment installation, use of minimum equipment lists (MEL), maintenance discrepancy reporting, and special equipment (radio altimeters, NVGs, TAWS, etc.).

5. Conduct one facility inspection (PTRS Code 1635) for each HEMS base hospital heliport within the CHDO's geographic area. Emphasis should be placed on safety

equipment, communications equipment, access to weather information, heliport security, marking and lighting, approach and departure paths, and obstructions. (It is recommended that this inspection include a night evaluation of heliport and nearby obstruction lighting.)

NOTE: If the POI is not helicopter rated, it is recommended that he/she be assigned a helicopter rated ASI to assist in the inspections. For inspections of operations using NVGs, it is recommended that the POI consult with an NVG National Resource Inspector (NVG NRI). Contact AFS-820 at (202) 267-8212 for the list of NVG national resource inspectors.

(b) FSDOs with HEMS operations conducted by certificate holders based outside their area (another FSDO is the CHDO) shall ensure that the following inspections are accomplished by helicopter-rated Operations ASIs on certificate holder facilities located within the FSDO's geographic area.

NOTE: For inspections of operations using NVGs, see the NVG NRI guidance above.

1. If training is conducted away from the certificate holder's main base, conduct one Training Program Inspection (PTRS Code 1626) for each approved training program conducted in the FSDO's geographic area, for each HEMS operator. Emphasis should be placed on night and low visibility operations training and procedures, CFIT avoidance and recovery from inadvertent IMC.

2. Conduct one Base Inspection (PTRS Code 1618) for each HEMS base of operations within the FSDO's geographic area. Emphasis should be placed on operational control, management, communications, crew rest areas, weather and aeronautical data collection and dissemination systems, maintenance control, and crew scheduling.

3. Conduct one Flight Locating Inspection (PTRS Code 1636) for each HEMS flight locating system within the FSDO's geographic area. Emphasis should be placed on operational control, coordination with management, communications, weather and aeronautical data availability and use, and risk assessment and decision making procedures.

4. Conduct one Ramp Inspection (PTRS Code 1622) for each make and model of EMS helicopter operated at each HEMS base in the FSDO's geographic area. Emphasis should be placed on internal and external lighting (including cockpit windshield and window glare at night), night flying equipment, aeronautical information (charts, airport/facility directories, etc.), communications and navigation equipment, attitude flight instruments, medical equipment installation, use of the MELs, maintenance discrepancy reporting, and special equipment (radio altimeters, NVGs, TAWS, etc.).

5. Conduct one facility inspection (PTRS Code 1635) for each HEMS base hospital heliport within the FSDO's geographic area. Emphasis should be placed on safety equipment, communications equipment, access to weather information, heliport security, marking and lighting, approach and departure paths, and obstructions. (It is recommended that this inspection include a night evaluation of heliport and nearby obstruction lighting.)

(2) Airworthiness.

(a) Principal maintenance inspectors (PMI) and principal avionics inspectors (PAI) assigned to HEMS operators should accomplish the following inspections on assigned certificate holders:

1. Conduct one Training Program Inspection (PTRS Code 3306/5306) for each program for each HEMS helicopter make/model being operated. Emphasis should be placed on the type of technical training being provided for each make/model helicopter (in-house, on-the-job training (OJT), manufacturers, etc.) to the maintenance technicians for which they have responsibility.

2. Conduct one Base Inspection (PTRS Code 3619 or 5619) for each HEMS base or subbase of operations within the CHDO's geographic area of responsibility. Emphasis should be placed on aircraft maintenance control procedures, controls for maintenance records, inspection procedures including scheduling and unscheduled procedures, technical data, equipment, and general operations manual procedures relating to maintenance activities.

3. Conduct one Ramp Inspection (PTRS Code 3627/3628 or 5627/5628) for each make/model helicopter being operated at each base within the CHDO's geographic area. Emphasis should be placed on type of inspection program for aircraft, conformity approvals for equipment installed (Supplemental Type Certificate (STC), Field Approval, etc.), weight and balance program for each make/model, MEL procedures, maintenance technical data used at each base for adequacy and currency (applicable to each make/model maintained at base), and a review of the aircraft records. If NVGs are used, inspect for FAA approval (STC) for NVG compatible cockpit lighting and NVG Instructions for Continued Airworthiness (ICA) being used to maintain the goggles and cockpit lighting. Additional ASI guidance is provided in Order 8300.10, Volume 3, Chapter 7, Inspect Aircraft Used for Air Ambulance.

4. Conduct one Spot Inspection (PTRS Code 3628/5628) on one helicopter at each base within the CHDO's geographic area. Emphasis should be on observation and analysis of in-progress maintenance operations for compliance with the specific methods, techniques, and practices in the operator's inspection and maintenance programs.

(b) FSDOs with HEMS operations conducted by certificate holders based outside their area (another FSDO is the CHDO) shall ensure that the following inspections are accomplished by Airworthiness (Avionics and Maintenance) ASIs on certificate holder facilities located within the FSDO's geographic area.

1. Conduct one subbase inspection (PTRS Code 3619/5619) for each HEMS subbase of operations within the FSDO's geographic area of responsibility. Emphasis should be placed on aircraft maintenance control procedures, controls for maintenance records, inspection procedures including procedures for scheduled and unscheduled maintenance, technical data, equipment, and general operations manual procedures relating to maintenance activities and refueling if used at base.

2. Conduct one Ramp Inspection (PTRS Code 3627/5627) for each make/model EMS helicopter operated at each HEMS base in the FSDO geographic area of

responsibility. Emphasis should be placed on type of inspection program for aircraft, conformity approvals for equipment installed (STC, Field Approval, etc), weight and balance program for each make/model, MEL procedures, maintenance technical data used at each base for adequacy and currency (applicable to each make/model maintained at base), and a review of the aircraft records. If NVGs are used, inspect for FAA approval for NVG compatible cockpit lighting and NVG ICAs being used to maintain the goggles and cockpit lighting.

NOTE: Additional ASI guidance is provided in Order 8300.10, Volume 3, Chapter 7, Inspect Aircraft Used for Air Ambulance.

6. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS). For each specific inspection required by this notice,

- a. Open a PTRS record using the code appropriate for the inspection.
- b. Enter "N8000HEMS" in the "National Use" field (without quotes).
- c. Close the PTRS record when the inspection is completed.

7. DISPOSITION. This notice will be incorporated into FAA Order 8300.10, Airworthiness Inspector's Handbook; and Order 8400.10, Air Transportation Operations Inspector's Handbook. Questions concerning this notice should be directed to the Commuter, On Demand, and Training Center Branch, AFS-250, at (202) 267-3437; or the Aircraft Maintenance Division, AFS-300, (202) 267-3546.

/s/

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