



Safety Management System

Developed for
Mercy Medical Airlift
Angel Flight Mid-Atlantic
Airlift Hope

October 30, 2009



PURPOSE. The purpose of establishing a Safety Management System is multifold:

- To facilitate the identification of hazards and risks.
- To create and maintain a positive culture of safety.
- To incorporate safety as the major component of Mercy Medical Airlift, Angel Flight Mid-Atlantic and Airlift Hope operations.
- To combine performance standards with safety standards.
- To talk the talk and walk the walk.
- To provide top-down support and bottom-up implementation

GOALS. The goals are interrelated, as follows:

- To instill a positive culture of safety at every level of the organization.
- To create and maintain an environment that promotes continuous improvement, training and safety awareness.

VISION: To provide safe, free air transportation for needy ambulatory patients requiring long-distance medical treatment, evaluation, diagnosis or clinical trial participation.

MISSION: To utilize qualified, safety-conscious Volunteer Pilots meeting high standards and qualifications.

DEFINITIONS

Safety Policy: Outlines the methods and processes to be utilized to achieve desired goals that the Safety Policy establishes in order to promote a positive culture of safety throughout the organization.

Risk, Hazard Management: A process that identifies and analyzes hazards and risks, and creates controls to manage those risks.

Safety Assurance: Used to ensure developed risk and hazard controls to achieve intended objectives. These monitoring processes may help to reveal risks and hazards not previously identified. The process includes program information acquisition, analysis, continuous assessment, and development of preventive, corrective action for nonconformance. Tracking and measuring the results of safety-related activities and training is a component of the process.

PROGRAMS

Safety Policy will establish:

1. Volunteer Pilot minimum qualifications, standards, recommended operating procedures and expectations
2. Continuous hazard and risk assessment
3. Volunteer Pilot list of best practices

4. Incident occurrence and hazard reporting
5. Occurrence investigation and analysis
6. Periodic safety audits
7. Non-punitive reporting policy
8. Volunteer Pilot follow-up and accountability
9. Continuous safety-related education and communication
10. Identification of leadership role in the safety process
11. Emergency preparedness and response
12. Measurement of performance and continuous improvement
13. Regular distribution of safety newsletter
14. Annual Volunteer Pilot affirmation
15. Creation of the position of Director of Safety

Risk, Hazard Management

Risk, Hazard Identification

- Accident trends and factors for General Aviation fixed wing under 12,500 lbs.
- 2008 Air Safety Foundation Nall report.

High Risk Phases of Flight

- Takeoff and climb
 - Takeoff Stall/Settling
 - Loss of airspeed resulting in non-recoverable stall or sink rate
 - Loss of control
 - Crosswinds /Other conditions leading to loss of directional control
- Maneuvering
 - Stall or loss of control
 - Loss of airspeed resulting in stall/spin
- Descent/Approach: Beginning of descent from cruise altitude to Missed Approach Point or Runway Threshold
 - Stalls/Spins
 - Loss of airspeed
 - Collisions with objects, terrain
 - Loss of engine power
 - Carburetor icing
 - Incorrect fuel mixture
 - Wind gusts or wake turbulence
- Landing

- Loss of directional control
 - Crosswinds
- Inadequate airspeed control
 - Stalls, hard landing, short-long touchdown
- Runway conditions
 - Runway contamination
- Flight planning, decision-making
 - Flight planning
 - Improper pre-flight planning
 - Insufficient fuel reserves
 - Inadequate in-flight monitoring of ground speed
 - Systems operation
 - Improper operation of fuel system
 - Fuel contamination
 - Improper fueling
- Weather
 - Continued VFR into IMC
 - Deficient IFR technique
 - Failure to follow appropriate IFR procedures
 - Descending below MDA on approach
 - Thunderstorm
 - Flying too close or penetrating
 - Turbulence
 - High winds
 - Mountainous terrain
 - Icing
 - Loss of lift and performance
 - Instrument malfunction
- Other factors
 - Single pilot IFR
 - Night operations at unfamiliar airports
 - Mission mentality
 - Get-there-itis
 - Distractions
 - Missed approach/Go around
 - Incomplete/Stale weather briefings

Regular training, briefing, and awareness of these and other risks and hazards will help us achieve our goal of creating a positive culture of safety.

Safety Assurance

The Safety Assurance program will use several different processes to verify that the safety goals of our organizations are being met and are keeping up with current trends and information. These include the following:

- Establish a non-punitive reporting program for Volunteer Pilots.
- Create a database of known and previously unknown risks and hazards.
- Regularly review pilot post-mission reports.
- Conduct random pilot flight de-briefings.
- Conduct regular follow-up with patients/passengers.
- Solicit input and communication from pilots.
- Solicit input and communication from coordination staff.

Volunteer Pilot Requirements

Minimum Pilot in Command (PIC) Qualifications

- For the operation of any single-engine piston aircraft, the pilot shall have a minimum total time of **500** hours with no less than **400** hours as Pilot in Command (PIC). Minimum of **50** hours in make and model.
- For the operation of any multiengine aircraft, the pilot shall have a minimum total time of **1,000** hours as Pilot in Command (PIC). Minimum of **250** hours in multiengine and a minimum of **50** hours in make and model.
- For the operation of any turbine powered aircraft, the pilot shall have a minimum total time of **1,000** hours as Pilot in Command (PIC). Minimum of **100** hours turbine and a minimum of **50** hours make and model.
- Minimum of **50** hours as PIC shall have been flown and logged within the 12 months immediately preceding the flight.
- Minimum of **12** hours flown and logged during the previous 90 days. *(This requirement can be waived if the pilot completes 2 hours of dual training with a certificated flight instructor prior to flying an angel flight.)*
- Pilot shall have a currently valid medical certificate, a current flight review, and an instrument rating applicable to the aircraft to be flown by said pilot, and shall be current with applicable flight times and rules as set forth in the FARs.
- Minimum of one million dollars (\$1,000,000) liability insurance with not less than \$100,000 per seat shall be in force on any aircraft to be used for angel flights.
- Aircraft must be properly registered, licensed, and airworthy. It is recommended that aircraft engine be overhauled prior to reaching manufacturer's recommended Time Between Overhaul (TBO).

- No pilot of 75 years of age or older shall be permitted to fly an angel flight.
(*This requirement can be waived with approval of the VPO's Safety Council.*)

In addition to above listed qualifications, the following actions have been implemented:

- Mandatory annual recertification by Volunteer Pilot (must certify that minimum standards are met to remain an active pilot).
- Mandatory affirmation that all qualifications are met prior to date of a flight you have accepted. This will be built into our flight coordination system.

Developing a Culture of Safety

Besides the Volunteer Pilot Requirements listed above, the following actions will be taken to develop a culture of safety within our organizations:

- Establish safety page on website.
- Add a safety article to each newsletter.
- Establish Pilot Mentorship program where veteran pilots are teamed with new pilots.
- Increase emphasis on safety during pilot orientation.
- Promote Air Safety Foundation (ASF) website (www.ASF.org) where safety courses, quizzes, and advisories are readily available.
- Encourage new pilots to fly with a veteran angel flight pilot prior to accepting their first flight as PIC.

Update terminology to remove undue pressure on pilots.

Volunteer Pilot Standards

- Patient legs will only be flown by pilots meeting minimum requirements established by MMA/AFMA/ALH.
- Co-pilots, when required, must meet minimum pilot requirements.
- Pilots must be IFR current.
- Pilots must be day and night current to carry passengers.
- Pilots must hold current medical certificate.
- Aircraft utilized for patient transport must be airworthy as defined by FAA regulations and, to the pilot's best knowledge, be free of any and all defects that

could in any way compromise the safety of the flight.

- Pilots must have competent knowledge of aircraft systems, emergency procedures, avionics operation, etc., for aircraft used for patient transport.
- NGF call sign is only to be used for patient legs of flight.
- Pilots must complete Go/No-Go checklist; patient, passenger, co-pilot release forms, and post-flight report.
- Pilots are requested to use non-punitive report process to communicate any and all situations where, when safety of flight was compromised.
- Pilots are requested to provide feedback on weather, airports, ATC, other pilots, etc., that could compromise safety for future flights.
- Patient legs must only be flown under an IFR flight plan except for Visual Approach IFR cancelation.
- Passengers and crew of all patient transport flights must be restrained by FAA-approved seat belts or FAA-approved child safety seat. The only exception shall be change of seat position, quick access to luggage, care and/or feeding of child or use of lavatory.
- Pilots will consult available weather products, wind sock, etc., to verify departure will be from correct runway relative to wind conditions.
- Pilots will utilize computer devices and reading material only as these are pertinent to safe operation of the flight, and will refrain from any and all distractions that could compromise safety of flight.
- Pilots will utilize and brief passengers that a sterile cockpit condition exists during taxi and takeoff until reaching cruise altitude and also during descent from cruise altitude, descent, approach, landing and taxi to ramp.

Volunteer Pilot Best Practices

- Be well rested and healthy for flight.
- Set aside plenty of time—don't be rushed.
- Cancel if you don't feel right or feel stressed out.
- Verify in advance that parent/guardian has approved safety seat for child/infant.
- In IMC conditions, plan to land at airport, with a precision approach.
- Add 100 feet to all approach minimums, especially at night.
- Night landing should only be to runways with functional vertical guidance (VASI, PAPI, ILS, GPS).
- Do not attempt circling approaches at night.

- Utilize qualified co-pilot when destination is busy Class B airspace with potential high workload. If not available, be thoroughly briefed and organized.
- Add 50% to POH runway length to clear the obstacle for take-off and landing under ambient conditions.
- IMC take-off: add 50% to approach landing minimums. (Example: FDK minimums 200/1/2, take-off should be at least 300/1)
- If destination is unfamiliar, obtain briefing from pilot with experience with that airport prior to flight.
- Expect the unexpected.
- Thoroughly brief passengers on what to expect during flight.
- If in doubt or have lack of confidence, cancel.
- Fly safe or don't fly.

Volunteer Pilot Go/No-Go Checklist

	EXCELLENT	OK	MARGINAL	POOR
<u>Pilot</u>				
Physical health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mental health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prepared/Confident	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Well rested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Aircraft</u>				
Maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel reserve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pre-flight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equipment sufficient for flight conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Weight and balance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Weather

Current & Forecast
Conditions

Departure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Destination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Return	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explain if "Marginal" or "Poor": _____

Other

	YES	NO
Child safety seat	_____	_____
Passengers briefed	_____	_____
Pre-departure weather briefing	_____	_____
Verify departing on correct runway	_____	_____
Release forms signed	_____	_____

Flight # _____

Pilot Signature _____

Date _____



Angel Flight Mid-Atlantic/Airlift Hope Annual Pilot Affirmation

Angel Flight Mid-Atlantic/Airlift Hope believes that its pilots should maintain a certain level of proficiency in their flying to function as Pilot in Command.

Angel Flight Mid-Atlantic/Airlift Hope does not conduct recurrent training or proficiency flight checks, but does expect the Pilot in Command to maintain proficiency. Angel Flight Mid-Atlantic/Airlift Hope has set the following proficiency standards that must be affirmed by the Pilot in Command annually:

- I hold a current and valid private Pilot's certificate and a current and valid medical certificate.
- I meet the minimum total time requirements per published standards: (500 hours for single engine – 1,000 hours for multi engine)
- I will accept flights only when I have flown at least 12 hours within the previous 90 days or I have completed at least 2 dual training hours with a CFI.
- I am Instrument Rated
- I have insurance coverage in effect (liability minimum \$1,000,000).
Name of Insurance Company: _____ Policy #: _____
- I agree to abide at all times by applicable FAA Rules and Regulations in the conduct of flights, and to provide transportation in an "airworthy" aircraft, as defined by the FAA Rules and Regulations.

Signature Date

NAME (Last/First/Middle): _____
Please Print

DATE OF BIRTH: ____/____/____

STREET ADDRESS: _____

CITY _____ STATE _____ ZIP _____

DAY PHONE: () ____-____ CELL PHONE: () ____-____

EMAIL: _____