MIA08MA203

ATTACHMENT 6

MSP AVIATION COMMAND OPERATIONS MANUAL (EXCERPTS)

b. On occasions damage to the aircraft has been discovered after a demonstration. These type accidents are dangerous, expensive and may result in temporarily restricting the capabilities of the particular helicopter. All damages will be reported as required by command and departmental policy.

c. As a preventative measure, a Static Demonstration Checklist has been developed, and will be placed in the rear of the Aircraft Checklist binder.

Static Demonstration Checklist

All Items on this checklist will be complied with prior to permitting non-command personnel to approach and/or enter the aircraft.

1. Secure all loose equipment in the cockpit and HSA.
2. Verify MISSION selector switch - OFF (If the hoist is activated, keep personnel away from the cockpit. Turn MISSION selector switch off after the demo.)
3. Check HSA for loose medical equipment, fluids - secure/clean as necessary.
4. Verify all medications and sharps containers secured.
5. Conduct safety briefing regarding conduct around the aircraft and/or while in the aircraft.
6. No running.
7. No hanging on any aircraft component.
8. No touching of cockpit/HSA controls or switches, etc.

All static demonstrations will be conducted with an MSP Aviation command member present. If a demo is conducted by one command member, it is recommended that one side of the aircraft be secured (doors closed). If two or more command members are present, both sides of the aircraft should be monitored.

Crowd control at static demos is probably the most important item to consider. When possible, physical barriers should be set up as necessary to limit access to the aircraft.

L. AIRCRAFT EQUIPMENT

1. Radar Altimeter –

a. No flight at night over water less than 500 ft will be flown unless the pilot's radar altimeter is operational and the decision height bug is set at an altitude which will give warning in sufficient time to prevent an inadvertent decent into the water.

b. The Decision Height bug will be set on command aircraft Radar Altimeters to an altitude that will provide appropriate response time to alert crew members if they should have an unintentional descent near the water or ground. Decision Height bugs will not be set to zero in an attempt to disable the aural warning feature of the device.

The pilot will ensure his hands are on the controls anytime anyone is approaching or departing turning rotor blades or anytime someone is entering or exiting the cockpit. Should the Force Trim fail, the rotor blades will dip decreasing the safety clearance from the personnel. For obvious reasons, controls can be bumped by personnel entering or exiting the cockpit.

IX. WEATHER

A. DEFINITIONS AND ABBREVIATIONS:

1. IFR - means Instrument Flight Rules: rules governing the procedures for conducting instrument flight. Also a term used by pilots and controllers to indicate type of flight plan.

2. VFR - means Visual Flight Rules; rules that govern the procedures for conducting flight under visual conditions. VFR is also a term used to indicate weather conditions that are equal to or greater than the minimum VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan.

3. IMC - means Instrument Meteorological Conditions; meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling less than the minima specified for visual meteorological conditions.

4. VMC - means Visual Meteorological Conditions; meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling equal to or better than specified minima.

5. PIC - means Pilot In Command; the pilot responsible for the operation and safety of an aircraft during flight time.

6. Command Authorized Single Pilot IFR – Pilot employed by the Maryland State Police Aviation Command that has received authorization from the Aviation Commander to fly Single Pilot in command Helicopter in IMC conditions intentionally.

7. Inadvertent IMC – Command Helicopter during VFR mission accidentally penetrates IMC conditions and is unable to maintain VFR conditions after entry.

B. WEATHER BRIEFINGS - F.A.R. 91 requires that "each Pilot-in-Command" shall, before beginning a flight, familiarize himself with all available information concerning that flight. To assure that pilots are staying informed on weather conditions, thereby providing the safest utilization of our aircraft, the following procedures will be followed:

1. At the beginning of each shift, the pilot will obtain a full weather briefing, to include current and forecasted weather, all NOTAMS, PIREPS and forecasted winds aloft. In addition to obtaining an overall briefing, the pilot will ensure that he/she gathers all information available to make him/her familiar with the weather situation throughout the state, as well

as adjoining areas of neighboring states.

2. The pilots will obtain, as necessary, sufficient weather information to ensure that the original weather briefing remains valid. The frequency of these additional weather checks will be determined by the severity of existing or forecasted weather. However, if the section is call by call or weather down, a check of the weather should be conducted at a minimum every two hours.

3. Section supervisors will insure that the completed forms are kept for a period of 90 days, and are available for review by the Federal Aviation Administration, National Transportation Safety Board, department personnel and any other authority approved by the aviation commander.

C. AVIATION COMMAND WEATHER MINIMUMS FOR DEPARTMENT AIRCRAFT - All flights will be made in accordance with Aviation Command weather minimums. No flight should be initiated unless the weather condition (current and forecasted) are such that the mission can reasonably be expected to be completed safely. The safe completion of mission does not require an aircraft to return to home base.

D. No helicopter **VFR FLIGHTS** will be initiated when the reported or observed weather at the departure, enroute and/or destination is below the following:

1. **Daylight Operations** - Sunrise to Sunset if the ceiling is less than 600 feet A.G.L. and/or the visibility is less than two mile.

2. **Night Operations** - Sunset to Sunrise if the ceiling is less than 800 feet A.G.L. and/or the visibility is less than three miles.

3. In all cases, the helicopter must be capable of maintaining an altitude of at least 500 feet above ground level when operating under VFR, unless otherwise directed by Air Traffic Control or mandated by helicopter route charts.

4. The above minimums are in no way a must respond situation. Each crew will apply the Risk Assessment Matrix as it pertains to Type Mission Requested, Aircraft MEL Status, All Weather Factors, Terrain the Mission is to be flown over (i.e. mountains), and Human Factors of crew on duty. Based on the crews Risk Assessment, **visibility** and/or **ceiling minimums** will be **increased** to the crews comfort level prior to accepting the mission.

E. FINAL AUTHORITY - It shall be the final responsibility of the pilot-in-command to accept or decline a mission on the basis of current and forecasted weather conditions.

1. In the interest of safety, both pilot and flight paramedic must be in agreement with any decision made while working as a crew. Anytime either crew member is in disagreement

about accepting or continuing a mission, for safety related reasons, the flight should be refused or immediately terminated.

2. In those instances where crew members are in disagreement concerning the acceptance or termination of a mission, the disagreement will be documented by each crew member and forwarded to flight operations via normal chain of command for review. This sub-section does not preclude a crew member from filing an A.S.R. where appropriate or contacting a member of Risk Management to help mediate and provide guidance concerning the disagreement.

F. INSTRUMENT FLIGHT - When the Aviation Command VFR weather minimums are not present, all flights will be initiated only under IFR in accordance with the Federal Aviation Regulations (Part 91), the aircraft flight manual, and the Aviation Command Operations Manual regarding instrument flight. These flights will be conducted only by Command Authorized Single Pilot IFR Pilots.

1. It is recommended that when possible, consistent with safety, emergency missions should be flown under VFR. When the current weather for the area of the flight becomes marginal (ceilings < 1000' AGL and/or visibility < 3 miles), but is still above command VFR minimums, the Command authorized IFR pilot has the option to operate under VFR or IFR. If the mission is planned under IFR, the flight crew must use good judgment to ensure that the mission can be completed in a timely fashion, and that any potential or known delays due to operating in the IFR system are understood by all parties. All medevac missions being initiated IFR from the section must be approved by the Officer of the Day via the SYSCOM Duty Officer. Any intentional IMC mission with a patient on Aviation Command Aircraft will be a mutual Crew decision between the PIC and the Flight Paramedic. All intentional IMC missions will receive an ATC clearance prior to entering IMC conditions.

G. INTENTIONAL FLIGHTS INTO IMC in Department helicopter's are approved under the following conditions without Flight Operations Officer approval:

1. Compliance with all Federal Aviation Regulations Part 91 the rotorcraft flight manual and Aviation Command policy and procedures regarding IMC flight.

2. For single pilot IFR operations in IMC, the PIC has a current IPC checkride for the calendar year, or within the proceeding year pending a checkride for the current year.

3. Pilots who have been authorized by the Commander for single-pilot IFR, may conduct IFR recovery flights to their sections during actual IMC conditions when returning from missions. These pilots may also fly routine flights IMC (I.E. Flights to Martins for 25 hr/100 hr inspections). All flights conducted IFR will remain in accordance with FAR's and the Operations SOP.

4. IMC Training Flights – A Training Section Instrument Instructor Pilot must approve single Pilot IMC flights generated specifically to maintain Instrument currency.

H. RESTRICTIONS TO IMC FLIGHT OPERATIONS –

1. Inadvertent IMC Flight Operations – Helicopters:

When an Aviation Command Aircraft encounters Inadvertent IMC and an instrument recovery is required; the PIC will obtain an IFR clearance from ATC. The flight will not continue beyond the next landing unless the weather conditions are at or above the Aviation Command weather minimums. However, if the PIC is Command authorized for IFR, the PIC may obtain a clearance prior to entering IMC condition and continue the flight to the final destination in compliance with FARs.

I. OPERATIONS IN SNOW OR POTENTIAL ICING CONDITIONS - The pilot will adhere to the restrictions imposed in the respective aircraft's flight manual and the Risk Assessment Matrix in the Aviation Command's Health and Safety Plan. The crew will be cognizant of the additional inherent risks associated with operating in a snow and/or potential icing environment.

X. PASSENGER MANAGEMENT

A. BRIEFING PASSENGERS - All passengers will be properly briefed prior to approaching the aircraft. The briefing will include, but is not limited to, the following:

1. Proper approach to the aircraft from quartering the front or side, in the pilots line of vision. An approach should never be made from the rear of the aircraft out of the pilot's sight, or directly from the front, due to the potential of a low flying rotor.

2. Hold firmly to hats and other articles.

3. Protect eyes from dust or blowing objects by shielding with a hand or squinting. The action to take if suddenly blinded by dust or blowing objects is to stop where you are and sit on the ground. Eye protection (e.g. safety glasses) should be used whenever available.

4. Pre-take off briefings will include advising passengers of the location and use of flotation gear for flights over water. Instruction will be given on how and when to abandon the aircraft if necessary, as well as the action the passenger(s) will take in the event of a forced landing. The passenger(s) will also be advised on the proper procedure for departing and walking away from the aircraft.

5. Doctors or other medical personnel will be instructed as to the location and use of all medical gear on board to ensure that patient care is maintained at the highest level without interruption.

following procedures are established.

a. The word **"TROOPER"** will be used in identifying Agency helicopters and airplanes with F.A.A. air traffic control, law enforcement and MIEMSS communications networks.

b. The number following the **"TROOPER"** designation will indicate which Section the aircraft is assigned to:

TROOPER 1	Baltimore Section
TROOPER 2	Washington Section
TROOPER 3	Frederick Section
TROOPER 4	Salisbury Section
TROOPER 5	Cumberland Section
TROOPER 6	Centreville Section
TROOPER 7	Southern Maryland Section
TROOPER 8	Norwood Section
TROOPER 9	Single Engine Airplane F/W Section
TROOPER 11	Twin Engine Airplane F/W Section (No discrete code assigned)
TROOPER 14	Training Section (No discrete code assigned)
TROOPER 17	Maintenance Section
TROOPER 18	Maintenance Section (No discrete code assigned)

c. For purposes of Air Traffic Control (ATC) communications, any time the aircraft is conducting any portion of a medevac operation, the Trooper call sign will be preceded by **"LIFEGUARD"** (i.e.; **Lifeguard Trooper One**). Once the medevac operation is completed, the call sign will revert to **"Trooper"**.

2. The United States Park Police have been incorporated into mission dispatching by the SYSCOM duty officer. The Park Police aircraft will be identified by the call sign **"Eagle" 1 or 2**. The Maryland Natural Resources Police aircraft will utilize the call sign of **"Natural 1"**.

3. 123.025 is the discrete multicom frequency for helicopter air to air communications.

F. FLIGHT FOLLOWING SYSTEM

1. The function of the flight following system is to provide status, location, mission, altitude, speed and course of the aircraft. This information assists the MSP SYSCOM duty officer in fleet management. It also enables the MSP SYSCOM duty officer to provide the crews with GPS coordinates of hospitals, airports, landing zones, etc. While flight following performs many functions and provides useful information, its primary purpose is to ensure the safe operations of all aircraft participating in the system.

Unqualified - a flight or maneuver demonstrated by a pilot who fails to meet minimum acceptable standards. Any unsafe act or dangerous flight procedure will be just cause for a grade of unqualified, and the evaluation flight may be terminated by the evaluator. An individual receiving an unqualified grade shall not fly as pilot-in-command in department aircraft until he has achieved a grade of qualified.

d. The ground phase will consist of a series of oral and written examinations to ensure a full knowledge of the aircraft and procedures. The oral exam will be compromised of a number of questions to be determined by the evaluator which are designed to test the pilot's general overall working knowledge. Questions may be taken from the flight manual, Aviation Command Manual, FAR's, weather handbook, or drawn from the background experience of the evaluator. The written exam may be comprised of both open and closed book questions. Exams must be completed with a minimum numerical grade of 70%. A closed book limitations exam must be passed with 100% accuracy. Questions will be chosen from published material available to the pilot, from any training the pilot has experienced, or information he is considered to have knowledge.

e. The flight phase shall require the safe execution of normal, and emergency procedures as well as in-flight mission planning. The flight will be conducted on a formal, professional and unbiased basis in order to preclude any concept of favoritism in its execution.

f. The training section maintains a set of questions for the purpose of refresher training in an effort to facilitate a more substantial awareness of individual training needs. The questions will be revised as necessary. Members are expected to contribute meaningful information or subject areas to the training section for inclusion into the refresher training program.

2. The Instrument Proficiency Check

a. **The instrument proficiency check** will be conducted in accordance with the FAA practical standards guide.

b. All pilots will be expected to maintain instrument proficiency in the following manner:

Instrument Proficiency - FAR's:

Each pilot must perform at least six (6) actual or simulated instrument approaches, holding procedures and intercepting and tracking courses through the use of navigation systems during the calendar months January through June and then again from July through December of any given year. All approaches will be conducted in accordance with FAR's to include a second safety pilot when in VFR conditions. A vision restriction device should be utilized as long as a supplemental observer is available in the HSA.

Instrument Proficiency - Aviation Command:

In addition to the above, each pilot will perform at least six (6) VFR instrument approaches during the calendar months of January through June and then again from July through December of any given year. These approaches can be conducted single-pilot VFR, and are intended to occur while returning from existing missions. PIC is still responsible to "see and avoid". The intent of this procedure is to allow practice of flight management and instrument procedures as a crew.

3. Failure of a Competency Check or an IPC by a pilot

a. Upon failure of a flight evaluation, the pilot will be placed in a non-flight status until assigned another instructor for a minimum of two days of ground and flight Extra Training.

b. Upon the completion of the Extra Training, the pilot will then be evaluated by the instructor that provided the Extra Training.

c. Should that pilot fail his second flight evaluation, a Peer Advisory Board will be convened to make recommendations to the Commander.

4. Peer Advisory Board

a. The following personnel will be designated to the board depending on the individual under consideration being a pilot, medic, or aircraft maintenance Technician.

For a pilot: Instructor Pilot – Chairman of the Board
Two Line pilots from another section

For a Medic Instructor Paramedic – Chairman of the Board
Two Line Medics from another section

For aircraft maintenance Technicians Inspector Supervisor-Chairman of the Board
Two maintenance technicians from another crew.

Should the incident involve both crew members, all of the above individuals will be present for the Advisory Board.

b. The Peer Advisory Board will be utilized by the Aviation Commander to advise him and make recommendations. The board will be called at the discretion of the Commander when an Aviation incident merits further opinion by professionals with a similar background and level of expertise. The Peer Advisory Board will apply their knowledge of Command procedures, regulations and operational considerations and provide the Commander with a recommendation concerning the performance and

Guidance from the Commander, Flight Operations Officer, or Officer of the Day
Reasonable recommendations from Syscom Operators / MSP Crewmembers
Reasonable judgment of the SDO

C. DUTIES/RESPONSIBILITIES OF THE SDO

A comprehensive list of all duties and responsibilities would be almost endless. All actions of the SDO must focus on one guiding principle: The effective mitigation of risk in support of mission success.

The SDO is driven by safety mindedness, translating policy into practice as aircrews are given direction, guidance, and time critical information necessary for completion of all flight missions.

1. Aircraft/Crew Accountability: Te SDO is primarily responsible for the whereabouts of helicopters and crew members at all times. While the GIS Flight Tracking System, ADS-B, RightCad, or other tools may assist in this process, technical errors do not relieve the SDO of this responsibility.

2. Mission Progress Tracking: This is accomplished on all missions using RightCad software or mission tracking sheets. Once the call is entered by the call taker, the continuous updating is primarily the responsibility of the duty officer although Syscom Operators are welcomed to assist in this process.

3. Airspace Coordination: The SDO will proactively coordinate any required airspace approvals that may be required to ensure the most efficient completion of flight missions. The National Capital Region Coordination Center (NCRCC) of Hearndon, VA has representatives on duty from the FAA, US Secret Service, US Customs and various military components. The SDO will contact NCRCC on every flight mission involving operation into the Flight Restricted Zone (FRZ), Air Defense Identification Zone (ADIZ), Prohibited Areas (ie. P40), or areas of Temporary Flight Restriction (TFR) related to presidential transport. This notification is required to complete missions without interruption and is related to national defense. Contact for entrance into Restricted Areas (ie R-4001) will be made with the "controlling agency" listed on the tablature of FAA Sectional or Terminal Charts, unless a Memorandum of Understanding has been otherwise established, in such case, the MOU will be followed.

4. Section Status Monitoring: Upon receiving notification from aircrews, maintenance section, or the flight operations officer, the SDO will use the "Section Down Time" database to track the operational status of each helicopter section with the following criteria:

DOWN WEATHER - Reported WX is below minimums (600-2 day; 800-3 night).
CALL BY CALL - Reported/Observed WX is close to minimums.
DOWN MAINTENANCE – Section not available due to maintenance.
DOWN CREW – Unexpected period without staffing (Not 0300-0700 hrs at T5 & T7).

5. Weather: Pilots are required to monitor weather and Notice to Airman (NOTAM)

reports that may effect operations. Dynamic conditions do not always enable aircrew reference immediately prior to an assigned mission, especially if already airborne on a prior mission. The SDO will assist pilots in monitoring weather. In addition to receiving Section Readiness Status updates from the aircrews, the DO will obtain a statewide weather forecast at the beginning of each duty shift, and should update as necessary. The National Weather Service updates forecasts at 0000, 0600, 1200, 1800 Zulu Time.

Weather: Internet sites:

http://adds.aviationweather.noaa.gov
www.insidebaltimore.com
www.duat.com (requires password)

A DigiWx monitoring station has been installed on the Shock Trauma Helipad (University of Maryland) and provides real time weather observation to the SDO workstation by reference to the handheld monitor device or internet monitoring at:

www.digiwx-stc.com

Recorded Automated Surface or Weather Observation Systems (ASOS / AWOS)

Martin State	MTN	410-682-8848	AWOS III
Baltimore	BWI	410-691-1278	ASOS
Cambridge	CGE	410-228-7559	AWOS III
College Park	CGS	301-864-5497	AWOS III
Cumberland	CBE	304-738-0451	AWOS III
Easton	ESN	410-822-2817	AWOS III
Frederick	FDK	301-694-1457	AWOS III
Gaithersburg	GAI	301-977-2971	AWOS III
Hagerstown	HGR	301-745-3497	ASOS
Oakland	2G4	301-746-8443	AWOS III
Ocean City	OXB	410-213-1530	ASOS
Ridgely	RJD	410-634-1072	AWOS III
Salisbury	SBY	410-341-0868	ASOS
Stevensville	W29	410-643-8795	AWOS III
Westminster	DMW	410-876-1281	AWOS III

6. Radio Transmissions: All Syscom personnel will be expected to answer the radio, however, it is not within the scope of this SOP to establish a specific precedent for when this duty will be carried out by each employee. Principles of Crew Resource Management and interagency cooperation are vital in sharing this workload. Personnel are encouraged to request and to offer such assistance when it appears that the operational workload is increasing. All transmissions are logged by digital recording.