

assessing the dangers of all situations and may decline to perform any maneuver which is considered unsafe or not in conformance with the requirements of the FAA or the Aircraft Operations Manual.

7. The Area First Sergeant will be responsible for scheduling flight assignments in their area of responsibility.
 - a. Med-flight demonstration flights limited to training pre-hospital ground personnel may be approved and scheduled by the Area Supervisor.
 - b. Demonstration flights for the purpose of displaying the aircraft to the public must be approved by the Director of Field Operations.
8. All flight assignments must be approved by a supervisor. Pilots directly receiving a request for a mission shall forward this information to their supervisor prior to departing on the mission.
 - a. Med-flight requests are exempt from this requirement.
 - b. If making contact with the area supervisor prior to departure will adversely delay response to the mission (i.e. pursuit in progress or other exigent circumstances), the pilot will depart and immediately contact the respective Division dispatch. A request will then be made for dispatch to contact the supervisor and advise him/her of the circumstances for the flight.
9. Pilot schedules: All pilots will be scheduled to work a 40 hour week in accordance with GO ADM 4.01
 - a. The Aviation Division is a 24 hour response unit and as such will provide 24 hour coverage for aviation services.
 - (1) Med-flight bases will have a pilot and medical crew on duty at the base at all times.
 - (2) All bases will have a pilot on-call each day. This pilot will cover all requests that cannot be completed by on-duty staff.
 - b. Pilots assigned the med-flight shift will work a 24.3 hours shift
 - (1) The Med-Flight shift will be 24.3 hours
 - (2) Shifts will begin at 0800 on the first day and end at 0820 on the second day
 - (3) The last 8 hours of the 24.3-hour shift will be excluded for sleep time.

- (4) Each member will be compensated for call-outs that would interrupt the 8-hour sleep period.
 - (5) If the 8-hour sleep period is interrupted to such an extent that the member cannot get at least 5 hours uninterrupted sleep, the entire period will be considered as work hours.
- c. In order to prevent fatigue, pilots should be scheduled 2 days off per week with no calls or other responsibilities.
 - (1) It is important for supervisors to be aware of pilots becoming fatigued during the work week. It is preferable that pilots not be scheduled to be on call or work directly following a 24hr Med-flight shift. If a supervisor is aware that a pilot has become fatigued due to work load, the supervisor will reschedule to allow that pilot relief from duties for at least 8 hours.
 - (2) If during a Med-Flight shift, a pilot is tasked in excess of 10 hours, the Base Commander will be contacted and will reschedule to allow the pilot relief from duties for at least 8 hours. Tasked hours are defined as those hours necessary to complete a flight assignment including the departure, the actual assignment, the return to base, and post flight of the aircraft/paperwork. With approval from an Aviation Division supervisor AND agreement with the pilot, the 10 hour limit may be extended to 12 hours. At no time will the 12 hour limit be exceeded under normal circumstances.
 - (3) If during a police shift, a pilot is tasked in excess of 12 hours, the Base Commander will be contacted and will reschedule to allow the pilot relief from duties for at least 8 hours. Tasked hours are defined as those hours necessary to complete a flight assignment including the departure, the actual assignment, the return to base, and post flight of the aircraft/paperwork. With approval from an Aviation Division supervisor AND agreement with the pilot, the 12 hour limit may be extended to 14 hours. At no time will the 14 hour limit be exceeded under normal circumstances.

Purpose: To establish guidelines for preflight requirements.

1. Pilots will be familiar with the inventory of all equipment assigned to the aircraft and ensure that all equipment is accounted for.
2. All pilots will obtain a weather briefing before departing on any flight which is not to be conducted in the proximity of the airport of departure.
3. All pilots will be thoroughly familiar with the aircraft manual of the aircraft to be flown.
4. Prior to start-up, the pilot will conduct a preflight inspection of the aircraft to assure that the aircraft is airworthy and within the weight limits.
5. Prior to each departure an aviation risk assessment shall be conducted.
 - a. The following risk factors will be totaled to determine overall risk factor for flight operations. This is not intended to be the final authority for a go-no go decision as every situation is different.
 - b. Supervisor notification is necessary for all helicopter flights below Division published weather minimums or when the sum total exceeds 10. The supervisor and the pilot must agree that the mission can be conducted safely prior to continuing mission.

Night Unaided.....+5
Night NVG.....+2

Ceiling w/i 200' of mins.....+2
Visibility w/i 2 SM of mins.....+3
Temp/Dewpoint w/i 2 dgrs.....+1

High Winds.....+2
Unimproved or Unfamiliar LZ.....+2
Mountainous terrain.....+2
Mission Tasked in excess 8 hrs.....+2
Mission Tasked in excess 10 hrs...+3

<u>TOTAL</u>	<u>RISK LEVEL</u>
0-5	Normal Ops
6-10	Elevated- Be Vigilant
11-15	Supervisor notification required
15+	Extreme-Consider CX Flight Supervisor approval required

- a. Pilots will be responsible for tracking their currency on NVGs as defined in FAR 61.57(f). Pilots will maintain currency as to allow the carrying of passengers.
- 3. Operating Limitations
 - a. The use of night vision goggles will be at the discretion of the pilot. Consideration of light conditions, both natural and artificial, should be weighed in the decision process to use night vision goggles. Pilots should be aware of the potential limitations of NVG devices in various lighting conditions.
 - b. No pilot may takeoff from or land onto a helicopter landing dolly while utilizing NVGs.
 - c. Due to the additional workload of flying on NVGs, the maximum hours a pilot may fly on goggles is limited to 5 hours in one shift. This may be waived by a supervisor if the pilot and supervisor agree that safe operations can continue.
 - d. Only aircraft with FAA certified lighting configurations will be flown under night vision goggle operations.
- 4. Observers/ Medics
 - a. To prevent inadvertent damage and improper use of NVG equipment, no persons may operate Department NVGs as an observer/ flight medic unless they have completed the approved NVG training.
- 5. NVG Availability
 - a. NVG units will be physically located on the aircraft 3 hours prior to sunset or any time that operations are forecasted to extend past sunset.
- 6. Proper handling of NVGs
 - a. NVGs shall be stored in their supplied protective containers with the batteries removed from the power unit. When handled outside of their supplied container, NVG lanyards shall be worn around the neck at all times. Lens covers shall be utilized when goggles are not being used. Only approved lens cleaning paper shall be used to clean the lens.
- 7. Pre-flight
 - a. Pre-flight operational checks and maintenance shall be complied

- (2) The flight crew cannot accept custody of the prisoner. DOC must arrange for security at the departure and arrival facility.
- (3) If a guard is requested to fly with the patient, weight limits of the aircraft must be carefully considered.

7. Pilots

- a. All medevac pilots will attend an initial orientation course consisting of, but not limited to:
 - (1) Aircraft performance and limitations
 - (2) Orientation to the hospital or health care system associated with the local area.
 - (3) Orientation to infection control, medical systems installed on the aircraft, and patient loading and unloading procedures.
 - (4) Orientation to the EMS and public service agencies to the specific coverage area.
 - (5) Night medevac operations, demonstrations, and evaluations of on-scene operations.
- b. Duty hours shall be monitored closely to ensure the pilot's mental and physical ability and readiness to safely conduct medevac missions.
 - (1) Pilots will be provided adequate rest periods and facilities.
 - (2) If the pilot becomes fatigued during flight operations, he will notify his supervisor who will provide relief.
 - (1) If during a Med-Flight shift, a pilot is tasked in excess of 10 hours, the Base Commander will be contacted and will reschedule to allow the pilot relief from duties for at least 8 hours. Tasked hours are defined as those hours necessary to complete a flight assignment including the departure, the actual assignment, the return to base, and post flight of the aircraft/paperwork. With approval from an Aviation Division supervisor AND agreement with the pilot, the 10 hour limit may be extended to 12 hours. At no time will the 12 hour limit be exceeded under normal circumstances.

As a part of any investigation, we develop a history of recent activities for all individuals involved. The NTSB Human Performance Specialist is requesting that the questions on the following pages be answered to the best of your ability. If you have any questions, you can contact the investigator-in-charge anytime, Adam Gerhardt, [REDACTED]

Pilot in Command: Trooper Jason L. Barney

[48 hours before accident]

Question	Answer
What time did you wake up?	0630
How would you rate your sleep quality?	GOOD
Did you feel rested when you woke up?	YES
What were your activities (including times) during the day? (for example, "left for work at 0700, off-call, on-call, ate lunch at noon and returned home at 1800; did family activities with family until 2000")	LEFT FOR WORK AT 0715 ON CALL MED-FLIGHT SHIFT 0800 RESPONDED TO MED-FLIGHT CALL @ 1215 RETURN TO BASE @ 1339 RESPONDED TO SECOND MED-FLIGHT CALL @ 1653 RETURNED TO BASE @ 2021 RESPONDED TO THIRD MED-FLIGHT CALL @ 2110 CALL WAS CANCELLED AND RETURNED BACK TO BASE @ 2132
Did you nap at all during the day? If yes, when did you fall asleep and when did you wake up?	NO
What time did you go to sleep?	2300
Did you have any trouble falling asleep? If yes, why?	NO
Were there any interruptions to your sleep? If yes, what were they (e.g., bathroom use, dog barking)?	YES BATHROOM USE.

[24 hours before the accident]

Question	Answer
What time did you wake up?	0700
How would you rate your sleep quality?	FAIR
Did you feel rested when you woke up?	YES
What were your activities (including times) during the day? (for example, "left for work at 0700, ate lunch at noon and returned home at 1800; did family activities with family until 2000")	LEFT WORK @ 0900 ARRIVED HOME @ 0940 FAMILY ACTIVITIES UNTIL 2300
Did you nap at all during the day? If yes, when did you fall asleep and when did you wake up?	NO
What time did you go to sleep?	2300
Did you have any trouble falling asleep? If yes, why?	NO
Were there any interruptions to your sleep? If yes, what were they (e.g., bathroom use, dog barking)?	BATHROOM USE

[Date of the accident]

Question	Answer
What time did you wake up?	0630
How would you rate your sleep quality?	GOOD
Did you feel rested when you woke up?	YES
What were your activities (including times) prior to the accident occurring? Naps during shift, when?	ARRIVE FOR MED-FLIGHTS SHIFT @ 0800 1ST CALL @ 0900 AND RETURNED TO BASE @ 1018 2ND CALL @ 1343 AND RETURNED TO BASE @ 1536 3RD CALL @ 1656 AND RETURNED TO BASE @ 1825 4TH CALL @ 1919 AND RETURNED TO BASE @ 2040 5TH CALL @ 2215 AND RETURNED TO BASE @ 2355
What did you eat and/or drink prior to the accident occurring? What times did you do this?	DO NOT RECALL

When not working, what time do you normally go to sleep at night and wake up in the morning? ____

2300 TO 0800

How long is the commute from your home to your workplace? 37 TO 40 MIN.

In the 72 hours before the accident occurred, did you take any medications, prescription or non-prescription (including vitamins and/or herbals)? If yes, what medications and what was the amount?

[REDACTED]

[REDACTED]

In the 72 hours before the accident occurred, did you drink any alcoholic beverages? If yes, when, what and how much?

NO

Have you ever seen a doctor for problems sleeping or been diagnosed with a sleep disorder? If yes, when and what was the diagnosis?

NO



COMMONWEALTH OF VIRGINIA

Colonel Gary T. Settle
Superintendent

Lt. Colonel Kirk S. Marlowe
Deputy Superintendent

DEPARTMENT OF STATE POLICE

November 1, 2022

Adam Gerhardt
Senior Aviation Accident Investigator
National Transportation Safety Board (NTSB)
490 L'Enfant Plaza SW
Washington, DC 20024

Dear Mr. Gerhardt,

The Virginia State Police is in receipt of your letter regarding your team's suggestions on possible ways to improve aviation safety within our organization. Below are responses to each item you have listed in your letter:

- The Virginia State Police has eliminated 24 hour pilot shifts. We are in the process of implementing 12 hour shifts at each Med-Flight base. The Abingdon Aviation Base has already employed 12 hour pilot shifts. Due to staffing levels, the Chesterfield Aviation Base is unable to schedule 12 hour shifts at this time. While additional pilot staffing is being hired, the pilot shifts have been reduced to 16 hour shifts and the base gets put out of service for 8 hours every day. I expect that base to re-institute 24 hour coverage with 12 hour pilot shifts in early spring 2023 after more pilots are hired and trained.
- The Aviation Division has a fatigue policy in place which has been successful in mitigating pilot fatigue. Pilots are limited in the time that they can be tasked with missions. Additionally, at any time that a pilot states that he/she is tired, they are immediately removed from flight status and another pilot will be contacted to finish the shift. If no pilot is available then that respective Med-Flight program will be shut down until the next pilot's shift begins.
- There have been discussions with the pilot staff regarding crew rest and fatigue. Pilots are overall satisfied with the current policies in place. As new ideas come about, they will be considered and reviewed on a case by case basis.

I appreciate the suggestions that you and your team have come up with. The Virginia State Police Aviation Division puts the utmost priority on the safety of our people and our equipment.

Sincerely,


Shawn T. Rivard
Virginia State Police
Aviation Division Commander