



NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, D.C. 20594

November 4, 2019

AIRWORTHINESS GROUP CHAIRMAN'S FACTUAL REPORT
ADDENDUM #1

NTSB No: CEN19FA072

A. ACCIDENT

Operator: Viking Aviation LLC
Aircraft: Bell 407, Registration N191SF
Location: Zaleski, Ohio
Date: January 29, 2019
Time: 0650 eastern standard time

B. GROUP

Group Chairman:	Chihoon Shin National Transportation Safety Board Washington, District of Columbia
Member:	Todd Gentry Federal Aviation Administration Washington, District of Columbia
Member:	Doug Wahl Viking Aviation Little Rock, Arkansas
Member:	Jack Johnson Rolls-Royce Indianapolis, Indiana
Member:	Gary Howe Bell Fort Worth, Texas
Member:	Beverley Harvey Transportation Safety Board of Canada Quebec, Canada
Member:	Dane Immel Woodward, Inc. Santa Clarita, California

LIST OF ACRONYMS

CFR	<i>Code of Federal Regulations</i>
FAA	Federal Aviation Administration
NTSB	National Transportation Safety Board
P/N	part number
RFMS	rotorcraft flight manual supplement
STC	supplemental type certificate

C. SUMMARY

On January 29, 2019, at 0650 eastern standard time, a Bell 407 helicopter, N191SF, collided with forested, rising terrain about 4 miles northeast of Zaleski, Ohio. The helicopter was registered to and operated by Viking Aviation, LLC, doing business as Survival Flight, as a visual flight rules helicopter air ambulance flight under the provisions of 14 *Code of Federal Regulations* (CFR) Part 135 when the accident occurred. The certificated commercial pilot, flight nurse, and flight paramedic were fatally injured, and the helicopter was destroyed. Visual meteorological conditions existed at the departure location, and company flight following procedures were in effect. The flight departed Mt. Carmel Hospital, Grove City, Ohio at 0628, destined for Holzer Meigs Hospital, Pomeroy, Ohio, about 69 miles southeast.

D. DETAILS OF THE INVESTIGATION

1.0 BELL 407 OPERATION IN FALLING AND/OR BLOWING SNOW

The accident helicopter was equipped with snow deflectors with Dzus fasteners¹ that were installed under supplemental type certificate (STC) SR00401DE. The STC is held by Paravion Technology, Inc. According to FAA Form 337 (“Major Repair and Alteration”) for the snow deflector installation on the accident helicopter, the STC was installed on June 8, 2018. The STC installation instructions, document PR-407SD-900M, states the following in step 3.1:

Refer to aircraft Flight Manual and applicable supplement to determine ambient temperature and operations for Snow Deflector use.

STC SR00401DE utilizes Bell-designed snow deflectors with the addition of Dzus fasteners.² Therefore, the operational requirements and limitations for the snow deflectors of the Bell snow deflector kit applied to STC SR00401DE.

In Section 1 (“Limitations”) of the Bell 407 rotorcraft flight manual, paragraph 1-5-B (“Optional Equipment) states the following:

¹ Dzus fasteners are a particular design of quarter-turn fasteners.

² The Bell 407 snow deflector kit, P/N 206-706-208, utilizes snow deflector P/N 206-064-226-101 for the left side installation and P/N 206-064-226-103 for the right side installation. STC SR00401DE utilizes the same snow deflector P/Ns as the Bell 407 snow deflector kit.

The snow deflector kit (BHT-407-FMS-4) shall be installed when conducting flight operations in falling and/or blowing snow.

Refer to appropriate flight manual supplement(s) (FMS) for additional limitations, procedures, and performance data for optional equipment.

In Section 1 (“Limitations”) of Bell 407 Rotorcraft Flight Manual Supplement (RFMS) No. 4 (“Snow Deflector”), paragraph 1-21 contained the following information:

For operation in falling or blowing snow, the following limits apply:

Hover flight in falling and/or blowing snow is limited to 15 minutes duration after which helicopter shall be landed and checked for snow and/or ice accumulation.

Flight operations are prohibited when visibility in falling or blowing snow is less than ½ statute mile.

Chihoon Shin
Aerospace Engineer – Helicopters