



National Transportation Safety Board

Washington, DC 20594

Safety Recommendation

Date: May 9, 2017

In reply refer to: A-17-35 through -43
A-16-36, A-13-12, and
A-13-13 (reiteration)

The Honorable Michael P. Huerta
Administrator
Federal Aviation Administration
Washington, DC 20591

On April 25, 2017, the National Transportation Safety Board (NTSB) adopted its report concerning the June 25, 2015, accident in which a single-engine, turbine-powered, float-equipped de Havilland DHC-3 (Otter) airplane, N270PA, collided with mountainous, tree-covered terrain about 24 miles east-northeast of Ketchikan, Alaska.¹ Additional information about this accident and the resulting recommendations may be found in the report of the investigation, which can be accessed at our website, <http://www.nts.gov>, under report number NTSB/AAR-17/02.

As a result of this investigation, we issued 10 new recommendations, including 1 to the Cruise Lines International Association and the following 9 recommendations to the Federal Aviation Administration:

A-17-35

Implement ways to provide effective terrain awareness and warning system (TAWS) protections while mitigating nuisance alerts for single-engine airplanes operated under 14 *Code of Federal Regulations* Part 135 that frequently operate at altitudes below their respective TAWS class design alerting threshold.

A-17-36

Discuss at the next Ketchikan Air Safety meeting the database and software considerations for legacy Chelton systems and encourage operators to use the most current terrain database and electronic flight instrument system software.

¹ National Transportation Safety Board, *Collision with Terrain, Promech Air, Inc., de Havilland DHC-3, N270PA, Ketchikan, Alaska, June 25, 2015*, NTSB/AAR-17/02 (Washington, DC: NTSB, 2017).

A-17-37

Work with members of the Ketchikan air tour industry to improve existing training programs aimed at reducing the risk of weather-related accidents involving continuation of flight under visual flight rules into instrument meteorological conditions, with special attention paid to the human factors issues identified in this investigation, including (1) the need to help pilots better calibrate what constitutes safe weather conditions to conduct flights based on objective standards and requirements, such as set criteria for what landmarks must be clearly visible from which locations in order to proceed on a particular route; (2) the need to help pilots who are new to the area recognize dynamic local weather patterns that can place them in a dangerous situation; and (3) operational influences on pilot decision-making.

A-17-38

Expand the application of Federal Aviation Administration Order 8900.1, volume 3, chapter 19, section 6, "Safety Assurance System: Flight Training Curriculum Segments," paragraphs 3-1251(B) and 3-1252, which address controlled flight into terrain-avoidance training programs for 14 *Code of Federal Regulations* (CFR) Part 135 helicopter operations, to all 14 CFR Part 135 operations.

A-17-39

Establish minimum initial and recurrent training requirements for personnel authorized to exercise operational control, including, but not limited to, approved subject knowledge areas, training hours, subject hours, and qualification modules.

A-17-40

Publish an advisory circular that provides guidance on operational control best practices, including, but not limited to, such areas as risk mitigation strategies, joint flight safety responsibilities, prior experience of operational control personnel, and operational control personnel duty time limitations.

A-17-41

Revise Federal Aviation Administration Order 8900.1 to include guidance for inspector oversight of operational control training program subject areas, including, but not limited to, the criteria for a qualification module.

A-17-42

Analyze automatic dependent surveillance-broadcast data from Ketchikan air tour operations on an ongoing basis and meet annually with Ketchikan air tour operators to engage in a nonpunitive discussion of any operational hazards reflected in the data and collaborate on mitigation strategies for any hazards identified.

A-17-43

Develop and implement special operating rules for the Ketchikan air tour industry that include en route visual flight rules weather minimums that are tailored to the industry's unique requirements and are more conservative than those specified in 14 *Code of Federal Regulations* Part 135.

The NTSB also reiterates the following safety recommendations:

A-16-36

Require all 14 *Code of Federal Regulations* Part 135 operators to establish safety management system programs.

A-13-12

Require the installation of a crash-resistant flight recorder system on all newly manufactured turbine-powered, nonexperimental, nonrestricted-category aircraft that are not equipped with a flight data recorder and a cockpit voice recorder and are operating under 14 *Code of Federal Regulations* Parts 91, 121, or 135. The crash-resistant flight recorder system should record cockpit audio and images with a view of the cockpit environment to include as much of the outside view as possible, and parametric data per aircraft and system installation, all as specified in Technical Standard Order C197, "Information Collection and Monitoring Systems."

A-13-13

Require all existing turbine-powered, nonexperimental, nonrestricted-category aircraft that are not equipped with a flight data recorder or cockpit voice recorder and are operating under 14 *Code of Federal Regulations* Parts 91, 121, or 135 to be retrofitted with a crash-resistant flight recorder system. The crash-resistant flight recorder system should record cockpit audio and images with a view of the cockpit environment to include as much of the outside view as possible, and parametric data per aircraft and system installation, all as specified in Technical Standard Order C197, "Information Collection and Monitoring Systems."

Acting Chairman SUMWALT and Members HART, WEENER, and DINH-ZARR concurred in these recommendations.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate receiving a response from you within 90 days, as required by 49 *United States Code* section 1135, detailing the actions you have taken or intend to take to implement them. When replying, please refer to the safety recommendations by number and submit your response electronically to correspondence@ntsb.gov.

By:

[Original Signed]

Robert L. Sumwalt, III
Acting Chairman

