



National Transportation Safety Board

Washington, DC 20594

Safety Recommendation

Date: April 13, 2017

In reply refer to: A-17-16 through -28

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

On March 29, 2017, the National Transportation Safety Board (NTSB) adopted its special investigation report titled “Improving Pilot Weather Report Submission and Dissemination to Benefit Safety in the National Airspace System.”¹ Additional information about related incidents and accidents and the resulting recommendations may be found in the special investigation report, which can be accessed at our website, <http://www.nts.gov>, under report number NTSB/SIR-17/02.

In this special investigation report, we issued 19 new recommendations, including one to the Aircraft Owners and Pilots Association Air Safety Institute; one to the Aviation Accreditation Board International, the National Association of Flight Instructors, and the Society of Aviation and Flight Educators (each, respectively); two to the National Weather Service (NWS); one to the National Air Traffic Controllers Association (NATCA); one to the Cargo Airline Association; and the following 13 recommendations to the Federal Aviation Administration:

A-17-16

Review the process by which federal and contract flight service station specialists receive verbal pilot weather reports and then simplify procedures to reduce the amount of time the specialists take to obtain the necessary information from pilots.

¹ National Transportation Safety Board, *Improving Pilot Weather Report Submission and Dissemination to Benefit Safety in the National Airspace System*, NTSB/SIR-17/02 (Washington, DC: NTSB, 2017).

A-17-17

Develop and distribute information that emphasizes the safety importance of hazardous-weather pilot weather reports (PIREPs) and explains examples of regulatory violations in which the Federal Aviation Administration may use PIREPs in enforcement action, as well as the potential protection from sanction under the aviation safety reporting system.

A-17-18²

In collaboration with the National Weather Service, (1) revise and harmonize the pilot weather report (PIREP) guidance in the *Aeronautical Information Manual* (AIM) and Advisory Circular (AC) 00-45H, including but not limited to the guidance and criteria for reporting low-level windshear (to specify airspeed gain or loss), turbulence (to specify in-cloud or out-of-cloud), and fair weather; and (2) revise the AIM to either include comprehensive PIREP-coding guidance or to clearly reference AC 00-45H as the source of this information.

A-17-19³

In collaboration with the National Weather Service, revise the *Aeronautical Information Manual* and Advisory Circular 00-45H to define standard criteria for reporting mountain wave activity in pilot weather reports (PIREPs) that include (1) consideration that not all hazardous mountain wave encounters involve turbulence; (2) airspeed fluctuation range, altitude fluctuation range, and any other information needed to adequately describe the effects of the mountain wave activity on the aircraft; (3) parameters for classifying the intensity level of the conditions for a turbulent wave encounter and a smooth wave encounter; and (4) the threshold at which the PIREP for each type of encounter (turbulent or smooth) should be coded as urgent.

A-17-20⁴

In collaboration with the National Air Traffic Controllers Association, develop and distribute to all air traffic control (ATC) facilities best practices guidance for the solicitation and dissemination of pilot weather reports for each type of ATC facility.

A-17-21

Provide air traffic controllers with automated pilot weather report (PIREP) data-collection tools that incorporate design elements to prevent input errors, increase quantity, and improve the timeliness of PIREPs disseminated to the National Airspace System.

² We issued a coordinating recommendation (A-17-29) to the NWS.

³ We issued a coordinating recommendation (A-17-30) to the NWS.

⁴ We issued a coordinating recommendation (A-17-31) to NATCA.

A-17-22

Incorporate automation technology that captures data elements from air traffic controllers' displays, including aircraft type, time, location, and altitude, to automatically populate these data into a pilot weather report (PIREP)-collection and -dissemination tool that will enable controllers to enter the remaining PIREP elements and disseminate PIREPs through a common exchange model directly to the National Airspace System.

A-17-23

Revise Federal Aviation Administration Orders JO 7110.65W, "Air Traffic Control"; JO 7110.10Y, "Flight Services"; and JO 7210.3Z, "Facility Operation and Administration," to ensure that the chapters of the orders that address pilot weather reports (PIREPs) include improved and consistent guidance about PIREP coding, handling, solicitation, and dissemination.

A-17-24

Review and revise air traffic controller training to ensure that it provides scenario-based education, relevant to the controller's specific facility type and location, that includes real-world examples that demonstrate the value of both fair-weather and adverse-weather pilot weather reports (PIREPs) to weather forecasters and that shows how location inaccuracies and common collection and dissemination errors, including the consolidation of multiple PIREPs, adversely affect the usefulness of the reports to all National Airspace System users.

A-17-25

Encourage industry safety efforts, such as the Commercial Aviation Safety Team and the General Aviation Joint Steering Committee, to identify, develop, and implement incentives for 14 *Code of Federal Regulations* Part 121, 135, and 91K operators and the general aviation community to freely share pilot weather reports (PIREPs), including braking action or runway condition reports filed as PIREPs, to the National Airspace System to enhance flight safety.

A-17-26

Provide a reliable means of electronically accepting pilot weather reports directly from all users who are eligible to submit reports, and ensure that the system has the capacity to accept and make available all such reports to the National Airspace System.

A-17-27

Remove the 1-hour age limitation for accepting pilot weather reports.

A-17-28

Maintain a database of pilot weather reports that archives the data for at least 1 year and that provides search and retrieval capabilities to support meteorological, research, and other uses.

Acting Chairman DINH-ZARR and Members HART, SUMWALT, and WEENER concurred in these recommendations.⁵

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

⁵ Board Member T. Bella Dinh-Zarr was acting chairman of the NTSB when the special investigation report was adopted on March 29, 2017. Effective March 30, 2017, Board Member Robert L. Sumwalt, III is acting chairman.

