



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

Log 2581A

---

Date: December 1, 1995

In reply refer to: A-95-137

Honorable Marvin Runyon  
Postmaster General  
United States Postal Service  
475 L'Enfant Plaza S.W.  
Washington, D.C. 20260

---

The National Transportation Safety Board has had a longstanding interest concerning aviation safety in Alaska. One segment of Alaska aviation, the air taxi industry, was the subject of a special study published in September 1980.<sup>1</sup> The Safety Board concluded in the study that three factors contributed most to the high air taxi accident rates in Alaska: (1) the "bush syndrome," defined as an attitude of air taxi operators, pilots, and passengers ranging from their casual acceptance of risks to their willingness to take unwarranted risks; (2) inadequate airfield facilities and inadequate communications of airfield conditions; and (3) inadequate weather observations, inadequate communications of the weather information, and insufficient navigation aids.

As a result of the air taxi study, the Safety Board issued safety recommendations to the Federal Aviation Administration (FAA), the State of Alaska, and the Alaska Air Carriers Association (AACA) concerning the planning and development of Alaska's aviation system and infrastructure; weather observation and dissemination of weather information; and regulatory surveillance and operator safety oversight. Actions taken by the recipients in response to the recommendations combined with other safety developments during the 15 years since the Board's 1980 study have brought many improvements to aviation safety in Alaska. Despite the improvements, however, the Safety Board's investigations of aviation accidents in Alaska indicate that the safety issues identified in the 1980 study remain areas of concern.

Flight operations in Alaska are diverse, and they are responsive to the State's challenging aviation environment and its unique air transportation requirements. Some characteristics of Alaska, such as rough terrain, adverse weather, and extreme isolation, increase the risks to safe flight operations. The risks associated with these characteristics can be managed, to varying

---

<sup>1</sup> National Transportation Safety Board. 1980. Air taxi safety in Alaska. Special Study NTSB-AAS-80-3. Washington, DC.

degrees, by the operating practices of pilots and companies, and by the infrastructure of airports, navigational aids, air traffic control facilities, and weather facilities. The potential for managing the risks associated with aviation in Alaska is particularly high now, because of developments in navigation and communications technologies. The Safety Board conducted its recent study<sup>2</sup> to examine Alaska's current aviation environment and air transportation activities, to identify the associated risk factors and safety deficiencies, and to recommend practical measures for managing the risks to safe flight operations given the reality of Alaska's aviation environment and the potential of new technologies.

The Safety Board's review of commuter airline, air taxi, and general aviation accidents in Alaska highlighted two accident types of major consequence: (1) accidents during takeoff and landing, and (2) accidents related to visual flight into instrument meteorological conditions (IMC). Of the 172 commercial and private aviation accidents that occurred in Alaska during 1993, these two types accounted for 131 (76 percent). Of the 21 accidents that resulted in fatalities, the two types accounted for 9 (43 percent). Takeoff and landing accidents are relatively frequent in Alaska, but few of them result in fatalities. Accidents related to visual flight into IMC are less frequent, but they account for a large share of the fatal accidents among commuter airline and air taxi operations in Alaska.

Information obtained through the Safety Board's public forums,<sup>3</sup> surveys of pilots and managers,<sup>4</sup> interviews with aviation personnel, and accident investigations highlighted several factors affecting the safety of operations conducted under visual flight rules (VFR) in Alaska: risk-taking behavior of pilots and operators; operational pressures; pilot decisionmaking; management attitudes; FAA safety programs; flight/duty time limitations; navigational aids; and weather information. The Safety Board examined these factors to identify methods for enhancing the safety of current VFR operations, particularly methods for reducing the occurrence of accidents related to VFR flight into IMC. Improvements made in these areas, plus improvements in the reporting of airport and runway conditions, would benefit all commercial and general aviation operations performed under VFR in Alaska.

### **Risk-Taking in Alaska's Aviation Operations**

In the Safety Board's 1980 study on air taxi safety in Alaska, a number of pilots and air carriers operating under Title 14 Code of Federal Regulations Part 135 (commuter airlines and air taxis) reported the existence of a mindset of risk-acceptance and a willingness to take risks.

---

<sup>2</sup> National Transportation Safety Board. 1995. Aviation safety in Alaska. Safety Study NTSB/SS-95/03. Washington, DC.

<sup>3</sup> As part of its study, the Safety Board held public forums on aviation safety in Alaska in Juneau on May 22, 1995, and in Anchorage on May 24 and 25, 1995.

<sup>4</sup> Between March and August 1995, the Safety Board obtained information about aviation operations through structured, on-site interviews of 50 pilots and managers of commercial operations (commuter airlines and air taxis) in Alaska.

Such risk-taking commonly has been called the bush syndrome. At the Safety Board's 1995 public forums in Alaska, a representative of the AACCA suggested that there was no longer any evidence of the bush syndrome in Alaska. He explained, "Most of the pilots that fly for air taxi/air commuter operations here are highly experienced and they don't have an agenda to prove anything...they already have the respect of their peers and they don't need to go out with any macho type attitude. So I'd say I really haven't seen [the bush syndrome] in many years."<sup>5</sup>

However, information about risk-taking behavior abounds in the Safety Board's records for accidents occurring in Alaska in recent years; these were the flights in which the risks taken by pilots were demonstrably excessive. Risk-taking attitudes and risk-taking behavior were also evident from pilot and operator responses to the Safety Board's survey: 22 (50 percent) of the 44 respondents for whom information was available stated that, in response to operational pressures, they had flown in IMC on a VFR flight, and 29 (84 percent) of the 35 persons responding reported that they had inadvertently entered IMC on a VFR flight. The incidence of VFR flight in IMC among the survey group suggests that the possibilities of inadvertent<sup>6</sup> and intentional operation of VFR flights in IMC are accepted and that VFR flights in IMC are not unusual. Thus, risk-taking has not been eliminated from Alaska's commercial operations, and the potential consequences of risk-taking is reflected in the fatal accidents related to VFR flight into IMC.

The demands for reliable air service in Alaska can easily place pressures on pilots and operators to perform. An underlying factor in risk-taking, or "bush syndrome," is a response by pilots and operators to powerful demands for reliable air service in an operating environment and aviation infrastructure that are often inconsistent with those demands.

### **Operational Pressures Reported by Pilots and Managers**

About 70 percent of the 50 respondents to the Safety Board's survey reported that they perceive inherent pressures in their flight operation. The pressure was most frequently reported as self-induced, although other sources, listed in the tabulation below, may have been factors in the pressures reported as self-induced:

---

<sup>5</sup> Transcript of proceedings before the National Transportation Safety Board, in the matter of: Forum on aviation safety in Alaska, in Juneau on May 22, 1995, and in Anchorage on May 24 and 25, 1995, p. 425.

<sup>6</sup> The Board's review of VFR into IMC accident sequences in Alaska indicates that most inadvertent VFR operation into IMC followed intentional operation in marginal visual meteorological conditions.

<u>Source of pressure</u>	<u>Number of respondents ranking source as most significant</u>
Self-induced	18
Other pilots	2
Management	4
Passengers	5
U.S. Postal Service	9
Did not rank	12

The most frequently reported external (not self-induced) source of operational pressure was the United States Postal Service.

During the winter months, many of the air taxi operators in Alaska depend heavily on revenues obtained by transporting U.S. mail. Between 50 and 70 percent of the annual revenue generated by many air carriers comes from mail transportation.<sup>7</sup> The United States Postal Service (USPS) annually moves more than 150 million pounds of mail in Alaska and provides more than \$100 million in revenue. Between 1986 and 1991 the volume of mail to the bush communities grew by almost 43 percent.<sup>8</sup>

In their responses to the Safety Board's survey, several commuter airline pilots and managers stated that the current policies of the USPS applied pressure on air carriers to transport the mail in adverse weather conditions. To evaluate the extent and nature of this pressure, the Safety Board examined USPS policies and requirements for the transportation of "bypass mail" from distribution hubs to the remote villages of Alaska. The bypass mail program, unique to Alaska and closely resembling air cargo transportation in the remainder of the United States, involves the delivery by air of U.S. mail shipments of at least 1,000 pounds from the mailer via air carrier directly to the recipient, bypassing Postal Service processing.

The USPS requires air carriers to notify the airport mail facility (AMF) manager or representative at any time mail is not transported on the flight for which it is accepted within 15 minutes after the scheduled departure time of the flight. Notification is required regardless of the reason; for example, cancellation of a flight, mechanical problems, mail exceeding the capacity, weather delay. After being notified about backlogged mail, the AMF manager or representative directs the air carrier concerning the disposition of the mail. Disposition may include transfer to another carrier, returning the mail to the AMF, or holding it for a later flight.

Bypass shipments must be transported in accordance with the "36/24-hour" rule. This rule requires a carrier to transport bypass mail from Anchorage or Fairbanks to a regional hub/bush point by the end of the day following the day of tender (36 hours). A carrier is required to

---

<sup>7</sup> Data from U.S. Department of Transportation Form 298-C.

<sup>8</sup> United States Postal Service. 1993. Alaska parcel post. Task force report [mimeo].

transport bypass mail from the regional hub to the bush point within 24 hours after the mail was transported from Anchorage or Fairbanks.

USPS Handbook 508, "Intra-Alaska Certificated Air Carrier Instructions," defines the Postal Service policies concerning the movement of mail by certificated air carriers within the State of Alaska. The handbook does not specifically address inclement weather that restricts the movement of aircraft. In February 1993, the USPS issued a policy letter to clarify its position on weather-related mail delays. The letter stated, "The Postal Service does not condone any action on the part of any of its employees that would require an air carrier to operate when to do so would clearly be in conflict with safe aviation practice."<sup>9</sup>

The Safety Board did not identify specific pressures related to bypass mail shipments in any of the accidents it has investigated involving Alaska commuter airlines authorized to transport U.S. mail. The Board notes that in four (67 percent) of the six fatal commuter airline accidents related to VFR flight into IMC from 1989 through 1993, the flights were carrying U.S. mail as cargo.<sup>10</sup>

Because of the prevalence of mail shipments among commuter airlines in Alaska, the presence of mail aboard these accident flights could have been incidental to the accident. Nevertheless, respondents to the Safety Board's survey indicate that some operators perceive pressures to operate in conditions they believe to be contrary to safety. Further, an FAA representative at the Board's public forums reported that pressure from Postal Service bypass mail requirements was a topic that came up frequently in the agency's discussions with the operators.<sup>11</sup>

Despite the general policies of the USPS, specific elements of Postal Service requirements may be responsible for the perceived operational pressure. The USPS representative stated at the public forum that the bypass mail "transportation window," with its embedded 24- or 36-hour limit until the operator's revenue is lost, does not begin until weather and airport conditions make flight operations possible. The USPS representative also stated that the 24- or 36-hour clock begins to run for all operators at an air facility as soon as the first operator decides to fly.<sup>12</sup> The Safety Board notes, however, that in some cases, the first operator's decision to transport the mail could put pressure on other operators at the same air facility to fly in conditions not conducive to safety: one operator's decision to accept greater risk could place pressure on other mail-transporting operators at the airport to do the same.

---

<sup>9</sup> United States Postal Service, Western Distribution Networks Office, Seattle Branch. Unpublished memorandum dated February 9, 1993, on Postal Service policy.

<sup>10</sup> One other flight was carrying cargo, but accident records did not specify whether the cargo included U.S. mail.

<sup>11</sup> Transcript of proceedings, p. 418.

<sup>12</sup> Transcript of proceedings, p. 417.

In 1992, a task force comprising representatives of the USPS, FAA, Alaska State Government, Alaska Chamber of Commerce, university researchers, and the AACCA held open meetings attended by shippers, merchants, air carriers, and the general public. As an outcome of these meetings and subsequent deliberations, the task force recommended modifications to the 36/24-hour rule, and suggested other changes to the bypass mail program that would reduce peak load demands on air carriers by distributing shipments more evenly among the air carriers serving each route. Although these recommendations were primarily intended to increase the efficiency of the bypass mail program and obtain lower transportation rates from the air carriers, the task force also considered the potential safety enhancements from reducing the pressure to fly in bad weather.<sup>13</sup> The USPS has not taken action on the task force's recommendations.

The performance standard resulting from the current 36/24-hour rule for bypass mail is very specific in that it applies to each individual flight. Consequently, each flight is under specific pressure to perform, lest that flight's mail and revenue be awarded to a competitor. The information reviewed by the Safety Board suggests that application of the current bypass mail performance standard exerts pressure on at least some portion of the operators in Alaska. Alternatives to the current standard could, however, maintain essential delivery performance while relieving the pressure on individual flights. These alternatives include broader performance standards, such as those based on monthly average delivery rates, and more flexible standards, such as those encouraging a more even distribution of bypass mail among operators. Although the Safety Board recognizes the need for and benefits to the public of the prompt delivery of mail, the Board believes that the USPS should establish and implement a broader and more flexible performance standard for bypass mail transportation in Alaska that relieves the direct performance pressure on individual flights.

Therefore, the National Transportation Safety Board recommends that the United States Postal Service:

Establish and implement a broader and more flexible performance standard for bypass mail transportation in Alaska that relieves the direct performance pressure on individual flights. (Class II, Priority Action) (A-95-137)

The Safety Board also issued safety recommendations to the Federal Aviation Administration, the State of Alaska, and the National Weather Service.

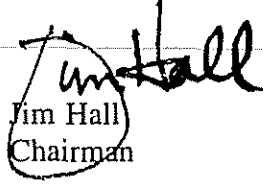
---

<sup>13</sup> United States Postal Service. 1993. Alaska parcel post. Task force report [mimeo].

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "...to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendations and would appreciate a response from you regarding action taken or contemplated with respect to the recommendation in this letter. Please refer to Safety Recommendation A-95-137 in your reply.

Chairman HALL, Vice Chairman FRANCIS, and Members HAMMERSCHMIDT and GOGLIA concurred in this recommendation.

By:



Jim Hall  
Chairman