



REASSESSMENT OF THE RESPONSES FROM TRANSPORT CANADA TO AVIATION SAFETY RECOMMENDATION A99-05

LOW-WEATHER APPROACHES

Background

Air Canada Flight 646, C-FSKI, departed Toronto/Lester B. Pearson International Airport, Ontario, at 2124 eastern standard time on a scheduled flight to Fredericton, New Brunswick. On arrival, the reported ceiling was 100 feet obscured, the visibility one-eighth of a mile in fog, and the runway visual range (RVR) 1200 feet. The crew conducted a Category I instrument landing system approach to Runway 15 and elected to land. On reaching about 35 feet, the captain assessed that the aircraft was not in a position to land safely and ordered the first officer, who was flying the aircraft, to go around. As the aircraft reached its go-around pitch attitude of about 10 degrees, the aircraft stalled aerodynamically, struck the runway, veered to the right and then travelled—at full power and uncontrolled—about 2100 feet from the first impact point, struck a large tree and came to rest. An evacuation was conducted; however, seven passengers were trapped in the aircraft until rescued. Of the 39 passengers and 3 crew members, 9 were seriously injured and the rest received minor or no injuries. The accident occurred at 2348 Atlantic standard time.

The Board concluded its investigation and released report A97H0011 on 26 May 1999.

Board Recommendation A99-05 (26 May 1999)

To compensate for the risk associated with landing an aircraft in conditions of low ceiling and visibility, extra aids and defences should be in place. These can take the form of special operating requirements for equipment, training, experience, and procedures. Section 1.18.2.1 of the investigation report details the demanding operating requirements applicable to Category II approaches. As demonstrated by this accident, however, Canadian regulations permit Category I approaches to be conducted in weather conditions equivalent to or lower than Category II landing minima without the benefit of the operating requirements applicable to Category II approaches. Therefore, to reduce the risk of accidents in poor weather during the approach and landing phases of flight, the Board recommended that:

The Department of Transport reassess Category I approach and landing criteria (re-aligning weather minima with operating requirements) to ensure a level of safety consistent with Category II criteria.

A99-05



Response to A99-05 (06 August 1999)

In its response of 06 August 1999, Transport Canada (TC) indicates that the Department has assessed the approach and landing criteria. Draft regulatory amendments to strengthen the standards for instrument low weather approaches will be submitted without delay to the Canadian Aviation Regulatory Advisory Council (CARAC) for consultation with the goal of implementing changes as soon as possible.

Board Assessment of the Response to A99-05 (17 March 2000)

TC has made considerable progress towards the promulgation of regulations that would address the Board's recommendation. On 15 February 2000, TC technical committees reviewed the Notice of Proposed Amendment (NPA) associated with the TSB recommendation and recommended that the CARAC adopt the NPA.

TSB staff has reviewed the NPA. Had the proposed regulations been in force at the time of the Fredericton accident, the flight crew would not have been permitted to conduct the instrument approach because the operating requirements associated with the existing weather would not have been met (centreline lighting or a heads-up guidance system would have been required to land in the existing RVR 1200 visibility conditions; without this equipment, RVR 1600 would have been required in order to land). The NPA addresses the Board's concern and should result in associated changes to the *Canadian Aviation Regulations* (CARs) sometime near the end of this year.

Therefore, the response is assessed as **Satisfactory Intent**.

Next TSB Action (17 March 2000)

The TSB staff will monitor TC's activity with respect to the risks associated with Recommendation A99-05.

This deficiency file is assigned an **Active** status.

Response to A99-05 (14 December 2005)

In its response of 14 December 2005, TC indicated that the changes to the existing approach ban regulations were consulted with industry through the CARAC process. The proposed changes will largely affect commercial aeroplane operations. The changes will not affect general aviation and private passenger transportation operations, or commercial helicopter operations. The proposed changes to the approach ban were pre-published in Part I of the *Canada Gazette* on 20 November 2004, which allowed for a 60-day public comment period. Thirty-one (31) comments were received. The objections to the proposed approach ban cited the following issues: no safety justification; restricts aerodrome access, especially in the north and for medical evacuation flights; increases costs; need for increased enforcement action; does not recognize new global positioning system approach procedures; and is not internationally harmonized.

As a result of the comments received and the completion of a more detailed benefit-cost analysis by TC, an amended NPA was published. The changes to the approach ban will be reflected in Part II of the *Canada Gazette*. These changes include: application of the approach ban imposed by ground visibility only at aerodromes south of 60 degrees north latitude; provisions for new approach procedures with vertical guidance such as Wide Area Augmentation System procedures and Required Navigation Performance procedures; and provisions for an operator compliance transition period.

The legal draft is undergoing final review with the Department of Justice, with the goal of publishing the proposed changes in Part II of the *Canada Gazette* in the fall of 2006.

Board Reassessment of the Response to A99-05 (23 June 2006)

On 14 December 2005, TC stated that its proposed changes to the approach ban were published in Part I of the *Canada Gazette* on 20 November 2004, and as a result of comments received and a more detailed cost-benefit analysis and industry consultation, TC published an amended NPA. TC's proposed action, if fully implemented, will substantially reduce or eliminate the safety deficiency underlying Recommendation A99-05.

Therefore, the assessment remains at **Satisfactory Intent**.

Next TSB Action (23 June 2006)

TSB staff will monitor TC's activities to determine if the action plan addresses the deficiency associated with Recommendation A99-05.

This deficiency file is assigned an **Active** status.

Response to A99-05 (07 February 2007)

In its response, TC indicated that, as a result of the comments received and the completion of a more detailed benefit-cost analysis by TC, which focused specifically on northern operations, changes to the approach ban regulations were reflected in Part II of the *Canada Gazette*, as published on 20 September 2006. These changes include application of the approach ban imposed by ground visibility only at aerodromes south of 60° North latitude and provisions for new approach procedures with vertical guidance (APV) such as Wide Area Augmentation System (WAAS) procedures and Required Navigation Performance (RNP) procedures. The changes to the approach ban regulations came into effect on 01 December 2006.

Board Reassessment of the Response to A99-05 (24 July 2007)

The regulatory action taken by TC will substantially reduce the deficiency identified in Recommendation A99-05.

Therefore, the assessment is **Fully Satisfactory**.

Next TSB Action (24 July 2007)

The deficiency has been rectified and the file assigned an **Inactive** status.