Transportation Safety Board of Canada | Bureau de la sécurité des transports du Canada

REASSESSMENT OF RESPONSE TO AVIATION SAFETY RECOMMENDATION A00-14

STANDARD OF MAINTENANCE FOR HELICOPTERS USED BY PRIVATE OPERATORS

Background

On 28 April 1999, an Aerospatiale AS 355 F1 Twinstar helicopter had completed a routine gas pipeline patrol and was returning to Fairview, Alberta, with the pilot and 1 passenger on board. During a shallow cruise descent into Fairview, at about 800 feet above ground, the red battery temperature light illuminated on the warning caution advisory panel. The pilot observed that the voltmeter and ammeter indications were normal and turned off the battery. About 3 minutes later, at approximately 500 feet above ground and as the pilot was contemplating a precautionary landing, the helicopter lost all electrical power and the cabin and cockpit began to fill with smoke and fumes. The pilot and passenger opened the side windows to ventilate the cabin, and the pilot accomplished an emergency landing at once on an available farm field. After landing, the pilot shut down the engines and both occupants evacuated the helicopter without further incident or injury. Flames were observed to be emanating from the vicinity of the right baggage compartment, and the helicopter was subsequently destroyed by an intense ground fire.

The Board concluded its investigation and authorized the release of report A99W0061 on 01 June 2000.

Board Recommendation A00-14 (24 August 2000)

Canadian air regulations require that a private operator that transports passengers in a turbine-powered, pressurized airplane or a large airplane comply with the conditions and specifications in either a private operator certificate (OC) or an air OC. Under these provisions, the operator is required, as a condition of the OC, to maintain the airplane in accordance with an approved maintenance control system. However, no regulations require private helicopter operators, carrying passengers as above, to operate under the authority of an OC or to maintain the helicopters in accordance with an approved maintenance control system. Moreover, there is no provision for an operator to voluntarily apply for or obtain an OC.

The company was operating 4 complex, high-performance, twin-engine helicopters to transport company employees throughout Alberta. The company maintenance organization structure, policies, and guidelines would not have met TC standards for a maintenance control system. Such a system is designed to minimize the probability of maintenance errors. The Board is concerned that passengers are regularly being carried in helicopters that are not subject to the more stringent maintenance standards required for fixed-wing aircraft that carry passengers, and it recommends that:

The Department of Transport ensure that helicopters used by private operators to transport passengers receive a standard of maintenance equivalent to that for fixed-wing aircraft for the same type of operation.

A00-14

Transport Canada's Response to A00-14 (21 November 2000)

Transport Canada (TC) has reviewed the TSB Recommendation and understands that the intent of the recommendation is that helicopters used by private operators, such as the AS 355, be maintained under the provisions of a maintenance control system as required by the regulation governing the carriage of passengers in privately owned, turbine-powered, pressurized or large aeroplanes under *Canadian Aviation Regulation*s (CAR) 604. This requires that an operator have a private operator certificate, which in turn requires that a maintenance control system be in effect.

TC's safety oversight philosophy is based on risk management principles, with consideration given to the size of the aircraft, the number of passengers carried onboard, the technical sophistication of the aircraft and the complexity of the environment in which the aircraft operates under.

The AS 355 is turbine powered, carries a maximum of 5 passengers and operates under visual flight rules. The AS 355 would not be considered to meet the criteria, which would require the acquisition of a Private Operator Certificate, even if helicopters were to be included in the regulations governing corporate aeroplanes.

There have been no demonstrated systemic safety deficiencies in this type of helicopter operation that would justify increasing regulatory requirements and the level of oversight by TC.

TC believes that enhanced safety awareness of the necessity to follow proper maintenance procedures would be the best approach to addressing the safety concern raised by the TSB in this recommendation. An article highlighting the safety lessons learned from this occurrence will be published in the *Aviation Safety Letter* and the *Aviation Safety Maintainer* newsletter.

Board Assessment of Transport Canada's Response to A00-14 (21 March 2001)

In its response, TC stated that it recognizes that the intent of the recommendation is that helicopters used by private operators be maintained under the provisions of a maintenance control system as required by the regulation governing the carriage of passengers in privately owned, turbine-powered, pressurized or large aeroplanes under CARs 604.

TC also stated that its safety oversight philosophy is based on risk management principles, that the AS 355 would not be considered to meet the criteria, which would require compliance with CARs 604, and that there has been no demonstrated systemic safety deficiencies in this type of helicopter operation that would justify increasing regulatory requirements. In lieu of changing regulatory requirements TC will publish an article that highlights the safety lessons learned from this occurrence in the *Aviation Safety Letter* and the *Aviation Safety Maintainer* newsletters.

Given that no regulatory change will be forthcoming, but that a safety article will be published in TC literature, the response is considered **Satisfactory in Part**.

Board Reassessment of A00-14 (09 June 2004)

There have been no recorded helicopter accidents involved in corporate operations where maintenance has been implicated as a contributory factor. This supports TC's position that there has been no systemic safety deficiency.

Consequently, the assessment is changed to **Fully Satisfactory**.

Next TSB Action (09 June 2004)

Further action is unwarranted.

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