



## REASSESSMENT OF THE RESPONSES FROM TRANSPORT CANADA TO AVIATION SAFETY RECOMMENDATION A99-01

### FLIGHT RECORDER DURATION AND POWER SUPPLY: DURATION OF COCKPIT VOICE RECORDER INFORMATION

#### Background

On 02 September 1998, Swissair Flight 111, a McDonnell Douglas MD-11 aircraft, departed John F. Kennedy Airport in New York, New York, en route to Geneva, Switzerland. Approximately one hour after take-off, the crew diverted the flight to Halifax, Nova Scotia, because of smoke in the cockpit. While the aircraft was manoeuvring in preparation for landing in Halifax, it struck the water near Peggy's Cove, Nova Scotia, fatally injuring all 229 occupants on board. The investigation revealed that the flight crew had lost control of the aircraft as a result of a fire in the aircraft's ceiling area, forward and aft of the cockpit bulkhead.

One of the shortcomings identified during the investigation was the limited recording capacity of the aircraft's cockpit voice recorder (CVR). The CVR was able to record only 30 minutes, and therefore did not capture the timeframe when the fire started.

On 09 March 1999, the Board released interim safety recommendations as part of its investigation (A98H0003) into this occurrence.

#### Board Recommendation A99-01 (09 March 1999)

A lack of recorded voice and other aural information can inhibit safety investigations and delay or prevent the identification of safety deficiencies. Given the need for longer periods of recorded sound to capture the initiating events of aviation accidents, and the availability of two-hour CVRs, the Board believed that such recorders should be mandated by regulatory authorities worldwide. However, it also recognized that a period of several years may be reasonably required for manufacturers and operators to implement this change. Therefore, for newly manufactured aircraft, the Board recommended that:

As of 01 January 2003, any CVR installed on an aircraft as a condition of that aircraft receiving an original certificate of airworthiness be required to have a recording capacity of at least two hours.

A99-01



## **Response to A99-01 (07 June 1999)**

In Transport Canada's (TC) response received by the TSB on 07 June 1999, TC indicated that it fully supports the recommendation and notes that it is similar to an amendment to International Civil Aviation Organization (ICAO) Annex 6 proposed by the ICAO Flight Recorder Panel to the Air Navigation Commission. TC stated that a Notice of Proposed Amendment (NPA) encompassing this recommendation will be made to the Canadian Aviation Regulation Advisory Council.

## **Board Assessment of the Response to A99-01 (17 March 2000)**

TC intends to initiate its process towards the promulgation of regulations that would encompass the Board's recommendation, which, when fully implemented, will substantially reduce or eliminate the safety deficiency on which the Board's recommendation was based.

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

## **Next TSB Action (17 March 2000)**

TSB staff will monitor TC's activity with respect to the risks associated with Recommendation A99-01.

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

## **Response to A99-01 (04 March 2004)**

TC advised that the NPA resulted in Section 625.33, II - Cockpit Voice Recorders (CVRs), (3), of the *Canadian Aviation Regulations* being amended such that a CVR installed on board an aircraft manufactured after 31 December 2002 shall record at least the last two hours of the aircraft's operation.

## **Board Reassessment of the Response to A99-01 (09 June 2004)**

The regulatory change will substantially reduce or eliminate the safety deficiency as described in Recommendation A99-01.

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

## **Next TSB Action (09 June 2004)**

No further action is required.

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