



REASSESSMENT OF THE RESPONSES FROM TRANSPORT CANADA TO AVIATION SAFETY RECOMMENDATION A03-03

INTERPRETATION OF MATERIAL FLAMMABILITY TEST REQUIREMENTS

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.

The Board concluded its investigation and released report A98H0003 on 27 March 2003.

Board Recommendation A03-03 (27 March 2003)

The certification of a newly manufactured aircraft is a complex endeavour, which includes the certification of many types of materials. The Board expected that, as a result of its previous recommendations, regulatory authorities would not only develop improved testing but also simplify the interpretation of the regulations and guidance material so as to prevent the approval of flammable materials. Without such a concerted and focused effort, manufacturers and those responsible for the certification of aircraft materials will continue to operate in an environment where it is possible to misinterpret the regulatory requirements. In such circumstances, materials that exhibit inappropriate flammability characteristics can continue to be approved for use in aircraft. Therefore, the Board recommended that:

Regulatory authorities take action to ensure the accurate and consistent interpretation of the regulations governing material flammability requirements for aircraft materials so as to prevent the use of any material with inappropriate flammability characteristics.

A03-03



Response to A03-03 (29 October 2003)

In response to Recommendation A03-03, on 29 October 2003, Transport Canada (TC) provided the following comments:

- TC agrees with TSB's objective to achieve consistent and accurate application of flammability standards.
- TC states that it will continue to monitor this issue and raise awareness including, as necessary, the development of advisory material.
- TC states that the International Aircraft Materials Fire Test Working Group is focusing on this issue.

Board Assessment of the Response to A03-03 (29 October 2003)

TC's response states that it intends to monitor the issue and pursue efforts to improve the interpretation and application of material flammability requirements. Additionally, it will, as appropriate, develop advisory material for regional personnel and delegates. Consequently, the response is assessed as **Satisfactory Intent**.

Next TSB Action (29 October 2003)

The TSB Air Branch will monitor TC's efforts to improve and ensure the consistent and proper interpretation of flammability standards.

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

Response to A03-03 (14 December 2005)

In its update of active recommendations dated 14 December 2005, TC indicated that an update to Recommendation A03-03 was not available due to scheduling conflicts for some Swissair Recommendation team members. Furthermore, TC indicated that an update will follow as soon as team members can meet and draft updates.

Board Reassessment of the Response to A03-03 (23 June 2006)

In its initial response received 13 June 2003, TC outlined several initiatives to raise awareness regarding this deficiency including using advisory material directed at TC regional personnel and delegates. TC's letter to the TSB dated 14 December 2005 did not include an activity update with respect to Recommendation A03-03.

It is the Board's understanding that TC remains committed to providing an update to its original action plan, which, if fully implemented, will substantially reduce or eliminate the deficiencies as described in Recommendation A03-03.

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

Next TSB Action (23 June 2006)

TSB staff will liaise with TC to solicit an activity update with respect to the deficiency described in Recommendation A03-03.

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

Response to A03-03 (07 February 2007)

TC's response reviewed previously known Federal Aviation Administration (FAA) activities to upgrade flammability standards for materials used in hidden areas of large transport aircraft and to develop advance fire-resistant materials for use in the aviation industry. TC also states that it has issued a policy letter permitting the "Use of the FAA Materials Fire Test Handbook" (Policy Letter 525-002) dated 31 July 2003 as a means of achieving consistent and accurate application of the flammability test standards by TC regional personnel and its delegates.

Board Reassessment of the Response to A03-03 (24 July 2007)

TC's previously stated initiatives, its ongoing efforts to raise awareness regarding material flammability, and the publication of the policy letter entitled *Use of the FAA Aircraft Materials Fire Test Handbook* will provide a more accurate and consistent interpretation of the applicable flammability regulations. The actions taken will substantially reduce the risks associated with the deficiency identified in Recommendation A03-03.

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

Next TSB Action (24 July 2007)

Because the Board considers this safety deficiency to be rectified, no follow-up action is required and this deficiency file is assigned an **Inactive** status.