



*International Civil Aviation Organization*  
**Asia Pacific Regional Aviation Safety Team - Third Meeting of the  
Accident Investigation Ad hoc Working Group (APRAST-AIG AWG/3)**  
*(Bangkok, Thailand, 11-12 March 2013)*

**Agenda Item 6: Other Business**

**Improving Fire Detection Systems of Aircraft Cargo Compartment**

(Presented by Singapore)

**SUMMARY**

This paper discusses possible improvements to the fire detection systems of aircraft cargo compartment.

**1. INTRODUCTION**

1.1 At the Second Meeting of the RASG-APAC (RASG-APAC/2), the Republic of Korea (ROK) presented a working paper to invite the RASG-APAC/2 to:

- a) consider the effects of the installation of the fire surveillance camera system in cargo compartment; and
- b) request APRAST to evaluate the operational safety effectiveness of the fire surveillance camera system in cargo compartment and deliberate on the need for development of guidance in this area.

1.2 The RASG-APAC/2 decided to submit the ROK working paper to the APRAST-AIG AWG for discussion in consultation with manufacturers and other relevant entities.

**2. DISCUSSION**

2.1 The U.S. National Transportation Safety Board (NTSB) has also been concerned with in-flight cargo fires aboard cargo aircraft. A cargo container fire study was conducted recently by the NTSB to better understand the characteristics of cargo container fires, the threats these fires pose to the aircraft and whether the current fire protection strategy is suitable for those threats. The NTSB viewed that the current fire suppression system based on oxygen deprivation and fire resistant material is insufficient. Subsequently, the NTSB made the following safety recommendations in a Safety Recommendation Letter dated 28 November 2012 to the U.S. Federal Aviation Administration (FAA):

- a) Develop fire detection system performance requirements for the early detection of fires originating within cargo containers and pallets and, once developed, implement the new requirements;
- b) Ensure that cargo container construction material meet the same flammability requirements as all other cargo compartment materials; and
- c) Require the installation and use of active fire suppression systems in all aircraft cargo compartments or containers, or both, such that fires are not allowed to develop.

2.2 Although the cargo container fire study was undertaken by the NTSB which is an investigation agency, it is the FAA as the U.S. civil aviation regulatory agency which has the responsibility to decide on and enforce any safety requirements. It has to be noted that investigation agencies do not have the power to mandate the regulatory agencies to adopt safety recommendations.

2.3 Thus, while there appears to be merits in the proposal by the ROK to have a fire surveillance camera system installed in the cargo compartment of aircraft, the feasibility and effectiveness of such a system will have to be evaluated by the civil aviation regulatory authorities. It is appropriate for APRAST, as a body comprising representatives from the civil aviation authorities and having the participation and support of the industry (including the manufacturers), to pursue the suggestions made by the ROK in its Working Paper WP/10 presented to the RASG-APAC/2.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to propose that APRAST discuss, in consultation with manufacturers and other relevant entities, the following suggestions made by the ROK in its Working Paper WP/10 presented to the RASG-APAC/2:

- a) Consider the effects of the installation of the fire surveillance camera system in cargo compartment; and
- b) Evaluate the operational safety effectiveness of the fire surveillance camera system in cargo compartment and deliberate on the need for development of guidance in this area.

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