



INTERNATIONAL CIVIL AVIATION ORGANIZATION

A35-WP/111  
EX/41  
25/8/04

## ASSEMBLY — 35TH SESSION

### EXECUTIVE COMMITTEE

- Agenda Item 14: Aviation security**  
**14.1: Developments since the 33rd Session of the Assembly**

#### VISUALIZATION OF EMERGENCY SITUATIONS ON BOARD AIRCRAFT

(Presented by the Russian Federation)

##### SUMMARY

This paper provides information on the use of television equipment to monitor emergency situations on board aircraft. It is proposed that this paper be taken into consideration in the establishment of common international requirements for such airborne television monitoring systems.

Action by the Assembly is in paragraph 3.

##### REFERENCES

Doc 8973  
AVSECP/15 Report

## 1. INTRODUCTION

1.1 The use of a television system to monitor the situation in the passenger cabin and other compartments of aircraft in emergency situations opens up new possibilities in the implementation of ground and in-flight preventive security measures on board aircraft, taking into account new and emerging threats of terrorist activities.

1.2 It has been officially recognized that using such an airborne television system significantly broadens the surveillance capability within the aircraft, further reduces “the element of surprise,” and improves the quality of preventive measures by providing comprehensive monitoring of situations in the area adjacent to the door of the flight crew compartment and in the passenger cabin of the aircraft. When required, such a system can transmit video images to ground control centres.

1.3 In addition to the possibility of providing surveillance over the situation in the passenger cabin of the aircraft in the event of an act of unlawful interference, the airborne television system can also monitor the conduct of unruly and potentially disruptive passengers, as well as document their activities which can pose a threat to the safe conduct of the flight.

1.4 However, the technical characteristics and legal aspects concerning the use of these systems require further development in order to ensure their standardized application at the international level.

## 2. DISCUSSION

2.1 The purpose of this paper is to bring to the attention of States the need for cooperation in both the development of standardized technical requirements for these systems and the preparation of guidance material on their application at the international level. In addition, consideration should be given to the possibility of applying such systems universally throughout the various Contracting States in accordance with the conditions of a video image transmission mode on a global channel protected against cyberterrorism.

2.1.1 The corresponding concept which determines the fundamental principles of airborne television monitoring systems must be available to ensure their global application.

2.1.2 A draft model outline of the required concept is presented the Appendix to this paper.

2.2 It is obvious that the airline industry may perceive the concept of global application of television systems in a variety of ways considering the potentially significant expenses related to equipping new aircraft and re-equipping aircraft already in operation with these systems. When making decisions on this matter, priority should be placed on the security of passengers and flight crew, and ultimately, on increasing aviation security as a whole.

2.3 When developing security measures and procedures, it is also important to consider that the thought process of terrorists is diametrically opposed to that of the overwhelming majority of people, and that they are capable of committing the most unexpected, at times wildest and unpredictable actions. Human life, including their own, has no value for them.

2.4 It is known that a number of developers and manufacturers of aircraft television monitoring systems are already offering different versions of such systems. In particular, the "Obzor" airborne television system has been developed in the Russian Federation to allow the in-flight and ground surveillance of the situation on board the aircraft and the real-time transmission of images to the ground control centre.

2.5 A Resolution of the Russian Federation passed in May 2003 foresees equipping all long-range civil aircraft under development with airborne television monitoring systems.

2.6 Standardization in equipping aircraft with such systems is the basis for their successful implementation. We consider that the standardization process for the development and implementation of these systems must be carried out under the aegis of ICAO. Only in that instance can it be possible to equip all types of aircraft with systems that satisfy common international technical requirements, which in turn, will cut training expenses for flight and ground personnel who operate these systems.

3. **ACTION BY THE ASSEMBLY**

3.1 The Assembly is invited to request the Council to:

3.1.1 Develop the concept of a standardized approach to the development of airborne television monitoring systems used to monitor situations on board aircraft and to transmit images to ground control centres;

3.1.2 Examine national and international legal aspects of the implementation of such systems;

3.1.3 Conduct a study on the development of common international requirements for such airborne television systems and, when required, develop corresponding guidance material.

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## APPENDIX

### OUTLINE OF A MODEL CONCEPT FOR THE GLOBAL APPLICATION OF A TELEVISION SYSTEM FOR MONITORING THE SITUATION ON BOARD AIRCRAFT

1. Provision of monitoring of the situation on board aircraft during flight, and provision of addressed transmission of television images from a solid-state storage device between ground control centres.
2. Coordination with control centres can be provided through a common satellite communication system on one of the international channels.
3. The frequency range of the global video information transmission channel must be selected in light of the possibility of using already developed equipment in each country interested in its implementation.
4. Airborne equipment must be fitted out for providing encoded recording at the ground terminal.
5. Video cameras must transmit video signals under minimal illumination.
6. The frequency range of the global video information transmission channel must be different than the frequency of national mobile communication providers.
7. Communication connections and interface attachments must be standardized in accordance with international standards.

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