INTERNATIONAL CIVIL AVIATION ORGANIZATION

TWENTY NINTH MEETING OF THE ASIA/PACIFIC AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG/29)

Bangkok, Thailand, 3 to 5 September 2018

Agenda Item 2: Global and Inter Regional Activities

ICAO WORKSHOP ON AERONAUTICAL SURVEILLANCE SYSTEMS THAILAND 05 - 06 NOVEMBER 2018

(Presented by Secretariat)

SUMMARY

ICAO is organizing a workshop on Aeronautical Surveillance Systems in Bangkok, Thailand, from 05 to 06 November 2018. The workshop will provide participants with a unique opportunity to learn about current and future surveillance solutions such as ADS-B, ACAS and ADS-B IN applications, and how these solutions can contribute to improvements in the safety and efficiency of aircraft operations. The member States in the APAC region are encouraged to take advantage of this forum and to plan for attendance.

Strategic Objectives:

A: ***Safety*** *– Enhance global civil aviation safety*

B: ***Air Navigation Capacity and Efficiency****—Increase the capacity and improve the efficiency of the global aviation system*

E***: Environmental Protection*** *— minimize the adverse environment effects of civil aviation activities.*

1. INTRODUCTION

1.1 ICAO is organizing a workshop on the Current and Future Aeronautical Surveillance Systems in Bangkok, Thailand, from 05 to 06 November 2018. The event is jointly hosted by Aeronautical Radio of Thailand Limited (AEROTHAI) and ICAO APAC Regional Office with the support of ICAO Surveillance Panel members. To maximize the benefits for participants, this workshop will be held in conjunction with the fourteenth meeting of the Southeast Asia and Bay of Bengal Sub-regional ADS-B Implementation Working Group (SEA/BOB ADS-B WG).

1.2 Invitation to this event and SEA/BOB ADS-B WG will be circulated to ICAO APAC Member States and international organizations by the APAC regional office.

2. DISCUSSION

2.1 The ICAO Surveillance Panel (SP) was tasked by the Air Navigation Commission to undertake specific studies and develop technical and operational ICAO provisions for aeronautical surveillance systems including ADS-B and their applications as outlined in the Global Air Navigation Plan. It is important to acknowledge that aeronautical surveillance technology is a dynamic field with constantly emerging technologies that promise significant benefits. SP strives for the ongoing investigation and development of existing and emerging technologies such as Satellite based ADS-B and new ACAS systems designed to provide aircraft operators and air traffic controllers with the systems capable of supporting the operational requirements and benefits anticipated by stakeholders.

2.2 In order for States to implement and operate systems effectively based on provisions developed by SP, this workshop is designed to bring together experts from the entire aviation industry worldwide, to further strengthen and advance the development and implementation of current and future aeronautical surveillance systems in the Asia and Pacific (APAC) Regions, which faces significant challenges brought by constant increases in traffic demand.

2.3 The workshop will try to illustrate the current and future operation of those aeronautical surveillance systems as well as to provide with best practices from APAC and other regions. The workshop also will provide an overview of the latest developments in standards, technical provisions and guidance materials related to Surveillance Panel activities such as Amendment 90 of Annex 10 Volume IV, relevant outcomes of the 13th Air Navigation Conference, and upcoming SARPs or ICAO material amendments based on the outcome of the third meeting of the SP. Topics will include ADS-B's various versions, satellite-based ADS-B, ACAS-Xa/Xo, interoperability between ACAS X and TCAS 7.1, ADS-B-In applications, etc.

2.4 Member States are invited to take advantage of this unique forum that will provide an opportunity to learn new developments and lessons learned, focusing on effective and efficient use of aeronautical surveillance systems.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to note the content of the paper.

— — — — — — —

Workshop on Aeronautical Surveillance Systems

Objective of the Workshop

This workshop will illustrate:

- ICAO plan for ASBU threads related to surveillance systems described in the GANP;
- Current and future ADS-B operation;
- Development and operation of the future aeronautical surveillance systems;
- Development and standardization of new airborne collision avoidance systems; and
- Sharing experiences and challenges

Draft Agenda

Workshop on Aeronautical Surveillance Systems	
DAY 1 – MONDAY, 5 NOVEMBER 2018	
9:00-9:15	**Opening** Welcome remarks
9:15-09:40	**Familiarization of the work conducted/to be conducted by Surveillance Panel** • ASBU's threads related to Surveillance Panel • Surveillance Technology Roadmap • Standardization and guidance materials
09:40-10:40	**Current ADS-B implementation and operation** • Standards for avionics and follow-up changes to ground stations/system to support them and backwards compatibility • Different mandate concepts (forward fit and retrofit) and/or an airspace mandate
10:40- 12:00	**Space based ADS-B Implementation and Operation** • Status updates of deployments and standardization • ANSP perspective and experience of the implementation of Space based ADS-B • Safety assessment • Future perspective of Space based ADS-B
12:00-13:00	**Lunch break**
13:00-14:30	**Current and future Surveillance Systems (SSR Mode S, MLAT, WAM and development of Multi Static Non-Cooperative Surveillance Radar)** • Implementation and Operation of SSR Mode S • Implementation and Operation of MLAT and WAM • Issue on management of 24-bit aircraft address • Introduction of Multi Static Non-Cooperative Surveillance Radar
14:30-15:10	**Spectrum issues** • Frequency management perspective related to surveillance systems such as SSR/WAM, ADS-B, DAPS use, etc. • Potential impact of small UAS using ADS-B
15:10-16:30	**Use of the data from surveillance and other systems** • Practical application status of DAPs • Planning on how to interrogate transponders for DAPS
16:30-17:00	**Regional activities**

Workshop on Aeronautical Surveillance Systems	
DAY 2 – TUESDAY, 6 NOVEMBER 2018	
9:00-9:05	**Opening**
9:05-10:30	**Current and future operation of Airborne collision avoidance systems (ACAS)** • An introduction on future ACAS system (ACAS X) • Interoperability between current ACAS and future ACAS • ACAS X and ADS-B • Towards ACAS X deployment
10:30-11:20	**Technical development of ADS-B (Future ADS-B)** • Development and standardization of new version of ADS-B
11:20-12:00	**Development of new required surveillance (RSUR) specifications** • Status updates on the development of required surveillance specification
12:00-13:00	**Lunch break**
13:00-16:30	**Airborne Surveillance Application (ADS-B IN application) operation** • Airborne Surveillance Capability (AIRB, VSA, SURF and ITP) • Interval Management • Validation activities related to ADS-B IN applications • Operator perspective • Manufacture perspective
16:30-17:00	**WRAP UP and NEXT STEPS**

— END —