International Civil Aviation Organization

The Twentieth Meeting of the APANPIRG ATM/AIS/SAR Sub-Group (ATM/AIS/SAR/SG/20)

Singapore, 05 – 09 July 2010

Agenda Item 6: Review of ATS coordination group meetings

REPORT ON THE OUTCOMES OF THE 5TH MEETING OF THE ARABIAN SEA/INDIAN OCEAN ATS COORDINATION GROUP (ASIOACG/5)

(Presented by the Secretariat)

SUMMARY

This paper presents a report of the outcomes of the fifth meeting of the Arabian Sea/Indian Ocean ATS Coordination Group (ASIOACG/5) which was hosted by Emirates Airline in Dubai, UAE on 19th to 21st April 2010.

1. INTRODUCTION

1.1 The fifth meeting of the Arabian Sea/Indian Ocean ATS Coordination Group (ASIOACG/5) was hosted by Emirates Airline in Dubai, United Arab Emirates from 19th April to 21st April 2010.

1.2 ASIOACG/5 was conducted as an informal meeting of ANSPs, airspace users, military and regulatory authorities and other stakeholders to support and expedite the goals and objectives of ICAO, especially in regard to CNS/ATM initiatives within the Oceanic airspace of the Arabian Sea and Indian Ocean.

1.3 The meeting was attended by 24 participants from Australia, India, Maldives, Oman, South Africa, Sri Lanka, United Arab Emirates, United States of America, IATA and Boeing. ICAO was represented by the Regional Officer (ATM) from the Asia and Pacific Regional Office.

2. DISCUSSION

Update from ANS Providers

2.1 Airservices Australia confirmed that RNP4 had been implemented throughout all Oceanic Airspace within the Brisbane and Melbourne FIRs. User Preferred Routes (UPRs) are now operational within the Melbourne FIR (Indian Ocean area) and procedures are established under Letters of Agreement with Etihad Airways, Emirates Airline and Qatar Airways.

2.2 The Airports Authority of India (AAI) is working to meet the government deadlines for the implementation of the AUTOTRAC3 system at Mumbai and Delhi, with testing having been completed. Trials are likely to start shortly for AIDC connections and messaging between Mumbai OCC and Muscat ACCs.

2.3 AAI also reported that in the area of Navigation, the first phase of the PBN implementation program is being rolled-out, with several major Aerodromes to be approved during 2010. RNAV-5 is being considered on a number of sector routes between major city pairs.

2.4 With regard to Surveillance facilities, AAI has approved the installation of 8 en-route radars to provide additional surveillance. These new Radars will be fully integrated with FDP and RDP systems.

2.5 Maldives Airports Company Ltd (MACL) informed the meeting that with effect from 1st January 2010, radar service is being provided daily between 0100 to 1400 UTC, within the operational coverage of 200NM from radar head of Male' SSR. With the completion of ongoing radar validation and licensing by 1st June 2010, Male' ATS will be able to provide 24hrs radar service.

2.6 To maintain radio communication with all flights in Male' FIR, 7 VHF relay stations in 7 remote islands have been established to extend radio coverage throughout the FIR. This is expected to cover 90% of Male' FIR, most of which is oceanic airspace. Trials are ongoing, and out of 7 stations, currently 4 stations are fully functional and the rest is expected be in service before the end of May 2010.

2.7 To enable full benefit of data link operation and the implementation of reduced lateral and longitudinal separations in the Male' FIR, the Maldives commenced implementation of ADS-C and CPDLC data link services in the Male' FIR in 2009.

2.8 Oman DGMAN/CAA informed the meeting that 4 regional Airports are being planned. There was also a major study of upper airspace restructuring currently being undertaken which may result in a requirement for new FIR Entry/Exit points – which will require coordination and agreement from neighbouring FIRs.

2.9 A Raytheon "Auto-Trac II" ATM system has been installed and 4th Area Control sector. Plans for a 5th sector are to be completed by the end of 2010. The Auto-Trac II system includes the Short Term Conflict Alert (STCA), Minimum Safe Altitude Warning (MSAW) and Flight Plan Conflict Probe system (FPCP).

2.10 Oman is ready to test AIDC with Mumbai FIR whenever they are ready, as Mumbai has also upgraded its Raytheon ATM system to Auto-Trac II. A new AFTN system based on the latest technology has been introduced for use between Muscat, Mumbai and adjacent ACCs. The system is capable of receiving and transmitting 64kbps.

2.11 With regard to PBN, draft plans have been developed in cooperation with the airlines and a target date of 2013 has been set for implementation once the regulations and training are in place.

2.12 The meeting was also informed that Oman is ready for the introduction of 50/50 separation standards or 30/30 once India is ready for implementation.

2.13 The meeting was informed that the Airport & Aviation Services (Sri Lanka) Limited (AASL) has already taken steps to modernise the existing Colombo ACC/FIC with a new and fully integrated ATM system (Radar, ADC-C, ADS-B, etc). It is expected that this project will be completed by the end of 2010. The AASL is also in the process of obtaining ISO certification for Colombo International Airport (VCBI) during this year.

2.14 AASL advised that the two Fixed Connector Routes between the Colombo and Male FIRs (as discussed during ASIOACG/4) had been implemented during 2009. Additional fixed connector routes within the Colombo FIR would be considered following further discussions with other concerned ASIOACG members, including Mumbai and Male ATC and Airline operators.

2.15 The meeting was informed that the Government of Sri Lanka had decided to construct the 2nd International Airport in the southern part of Sri Lanka (90NM south/east of VCBI). AASL has already commenced the work of this new airport and planning to complete by the end of 2011.

2.16 The representative from "Air Traffic and Navigation Services South Africa" (ATNS) informed the meeting of ATM planning initiatives which had been introduced ahead of the FIFA World Cup (11th June – 11th July 2010). These included the establishment of a Central Air Traffic Flow Management Unit and the installation of CAT II ILS on all runways at Johannesburg.

2.17 A 5NM radar separation standard was now being used within all Johannesburg and Cape Town airspace, providing for much greater operating efficiencies. The next stage would be to implement a 3NM separation standard within the Johannesburg TMA later in 2010.

2.18 With regard to PBN, ATNS will be hosting a workshop in September 2010, with an expectation that it would take a year to implement PBN for Johannesburg and Cape Town, with a target date of September 2011.

2.19 ATNS is working with Airservices Australia for the enhancement of AIDC messaging between the two ATS Centres. In addition to its involvement with Oceanic operating procedures in the Indian Ocean, ATNS is also directly involved with Oceanic operations in the South Atlantic and it was expected that the outcomes of ASIOACG would eventually flow into discussions within the South Atlantic forum.

CNS/ATM Working Group

2.20 The CNS/ATM Working Group was established at ASIOACG/4 (Jan 2009) with the objective to *"Deliver ATM in support of COM /NAV/SUR capabilities of aircraft operating in the ASIOACG area"*.

2.21 The meeting was provided with a summary of the CNS/ATM Working Group meeting which was hosted by Emirates Airline in Dubai on 7th – 8th October 2009. Discussions covered Data Collection, ATM initiatives and CNS issues with most progress in aircraft routing through the Malé FIR. The concept of the Indian Ocean Strategic Partnership to Reduce Emissions (INSPIRE) was also considered by the working group.

Free Route Airspace Concept

2.22 MACL (Maldives) presented the meeting with a Working Paper on the "Free Route Airspace Concept" and called on ASIOACG to support for the Maldives ATM initiative for efficient operations across the MALE FIR, in accordance with ICAO Global Plan Initiatives (GPI's) 5, 7, 8, and 17.

2.23 In this context, "Free Route Airspace" means a specific airspace within which users shall freely plan their routes between an entry point and an exit point without reference to the Air Traffic Services (ATS) route network. In this airspace, flights will remain subject to air traffic control.

2.24 The aim of Free Route Airspace is to remove the constraints imposed by the fixed route structure and through the optimized use of all the airspace obtains benefits of capacity, flexibility, flight efficiency, cost savings, and reduction of CO2 emission, while maintaining safety standards.

2.25 Under this proposal, the Maldives would implement a series of Waypoints separated by 50 nm around the FIR allowing free entry, exit and direct routing between boundary Fixes based on RNAV10 Separation Standards above FL285. These Fixes on the boundary will enable Free Route flight planning between any entry and exit Waypoint, with a mileage breakdown crossing Waypoint on Longitude E075 for fuel check purposes by flight crew. They also will enhance connectivity and optimization possibilities with the existing Flex Tracks or UPRs already in place in neighbouring FIRs, where applicable.

2.26 Sri Lanka informed the meeting that the Colombo ACC had introduced 2 new connector routes to assist with the efficient flow of traffic across the Indian Ocean airspace. Other adjacent FIRs were also asked to identify and implemented appropriate connector routes. In this regard, it was agreed that Airservices Australia, Emirates Airline and Etihad Airways would work with Mumbai ATS in the development of connector routes before proceeding with a Paper Trial.

2.27 Airservices Australia confirmed that Melbourne and Male are progressing the development of the free route airspace proposal and will need 6 months to resolve some issues between the Male, Mauritius and Melbourne ACCs. It was expected that a report will be made to the next meeting of the CNS/ATM Working Group (September/October 2010).

2.28 With regard to the development and trial of Track Definition Messages (TDMs), it was agreed that Colombo, Male, Mumbai and Chennai ATS Units would provide AFTN addresses to Airservices Australia for the distribution of Track Definition Messages (TDM). It was also agreed that the implementation of "Free Route Airspace" would be reviewed at the next meeting of ASIOACG (1st quarter, 2011).

User Preferred Routes (UPRs) in the Indian Ocean

2.29 IATA presented the meeting with a Working Paper on UPRs for the Indian Ocean and called on ASIOACG to establish a core group to develop and guide implementation of UPRs.

2.30 The meeting noted that UPRs represented the most efficient form of routing for aircraft and that the ability to optimise the route based on prevailing environmental conditions and the actual aircraft configuration of the day can deliver enormous benefits on a per flight basis. Not only can there be a reduction in fuel burn and a reduction in environmental emissions but also a potential increase in payload.

2.31 It was recognised that the principle of UPRs was a well established principle of ICAO, identified under Global Plan Initiative GPI 7 in the ICAO Global Air Navigation Plan (GANP). The meeting also noted that the implementation of UPRs was also a cornerstone of many of the environmental programs currently in effect (e.g. ASPIRE and AIRE).

2.32 In considering IATA's paper, the meeting was reminded that UPRs had been a topic at ASIOACG since its inception with specific discussions papers having been presented at almost every meeting.

2.33 In addition to supporting the introduction of UPRs within the Indian Ocean, the meeting also agreed to the inclusion of Dynamic Airborne Reroute Procedures (DARP) as a longer term benefits/component of the overall program.

2.34 The meeting agreed to refer the implementation of UPRs to the CNS/ATM Working Group, emphasising the need to involve all of the neighbouring FIRs. In considering the list of Open Action Items, the meeting agreed to merge Action Item 02-04 into a broader UPR Action Item, designated as 05-04 with the following inclusions:

- Review all ASIOACG papers relating to the implementation of UPRs;
- Identify a geographic UPR region;
- Draft operational requirements and procedures for UPRS;
- Develop a timeline for paper trial and operational trial; and
- Give consideration to the need for fixed routes in the UPR region.

Indian Ocean Strategic Partnership to Reduce Emissions (INSPIRE)

2.35 Airservices Australia provided the meeting with background information on the successful "*Asia and South Pacific Initiative to Reduce Emissions"* (ASPIRE) and presented a Working Paper on a proposal to establish the "*Indian Ocean Strategic Partnership to Reduce Emissions*" (INSPIRE).

2.36 The meeting recognized that the ASIOACG forum presented a great opportunity for the INSPIRE program to leverage from a common resource expertise and suitable regional linkage. In this case it was seen as a prime environment to plan the formalization of the INSPIRE partnership.

2.37 It was agreed that INSPIRE initiatives should be directed across 3 traffic flows within the Indian Ocean/Arabian Sea area, namely:

- Arabian Gulf – Australia;
- Southern Africa – Australia / South East Asia; and
- South West Indian Ocean – Arabian Gulf.

2.38 It was also agreed that the initial INSPIRE partners would include:

- Airservices Australia;
- Airports Authority of India;
- Air Traffic and Navigation Services (of South Africa) ATNS;
- Directorate General of Meteorology and Air Navigation (DGMAN) Oman;
- General Civil Aviation Authority (GCAA) – UAE;
- Serco;
- Emirates Airline; and
- Etihad Airways.

2.39 Future partners may also include other ANSPs and Airlines such as Oman Air and Qatar Airways etc. IATA confirmed its full support for the INSPIRE program and will work with member airlines to ensure successful outcomes.

2.40 The meeting supported Airservices Australia's suggestion that the INSPIRE program should aim for an initial trial involving 3 flights across the 3 Indian Ocean traffic flows on the same day.

Central Reporting Agency (CRA) Services for the Arabian Sea & Indian Ocean

2.41 IATA (Asia/Pacific Office) presented a paper on CRA services for the Arabian Sea and Indian Ocean airspace, highlighting the need for CRA services beyond the scope of those already available.

2.42 The meeting recalled that the establishment of a CRA meets the ICAO Annex 11 Safety Monitoring Requirements to enable separation services provided by datalink and that this principle had led to the establishment of the CRA services provided by Boeing Co supporting the Bay of Bengal and Arabian Sea areas. The Boeing CRA has now been in effect since late 2008 and is fundamental in supporting the implementation of reduced separations such as 50nm longitudinal and RNP4 30/30 planned to commence from early 2011.

2.43 Several of the States involved in the ASIOACG region are beyond the scope of the current CRA arrangements provided by Boeing. However to meet the requirements for the provision of separation services, this CRA service must be met to enable harmonised standards across the whole Indian Ocean/Arabia Sea airspace.

2.44 The meeting recognised that the provision of CRA services required the allocation of special technical and human resources which currently, could only be provided through the Boeing or Airbus technical departments.

2.45 While individual states may fulfil their own CRA requirements, it will be necessary to ensure that coordination between adjacent CRA's is available. Because of the trans-regional nature of the ASIOACG region encompassing AFI, MENA and ASPAC regions, establishing effective CRA coordination across the broader Indian Ocean/Arabian Sea airspace will be difficult to achieve.

2.46 The issue of States/ANSPs and FIRs and required CRA services for the ASIOACG area can be clearly illustrated through the following table:

STATE	FIR	ANSP	ICAO REGION	CRA
Australia	Melbourne	ASA	Asia & Pacific	ISPACG FIT-CRA
India	Mumbai	AAI	Asia & Pacific	BBACG FIT-BOB
Maldives	Male	MACL	Asia & Pacific	?
Sri Lanka	Colombo	AASL	Asia & Pacific	?
Mauritius	Mauritius	CAD	Eastern & Southern African	-
Seychelles	Seychelles	CAA	Eastern & Southern African	-
South Africa	Johannesburg	ATNS	Eastern & Southern African	-
Oman	Muscat	DGMAN	Middle East	-
Yemen	Sana'a	CAMA	Middle East	-

2.47 The meeting recognised that a mechanism must be established to facilitate sharing of performance data between ANSPs and to ensure that cross FIR boundary monitoring is completed in accordance with Annex 11 safety monitoring requirements for the provision of separation services via datalink. In the case of South Africa, the meeting noted that ATNS requires CRA services not only for the Indian ocean to the East, but also for the South Atlantic oceanic airspace to the West.

2.48 The meeting formed the view that a sub-regional or trans-regional CRA may provide an effective solution for the ASIOACG area of operation. In considering the possibility of establishing a sub-regional CRA within ASIOACG ANSPs, the meeting was referred to an example of where two CRAs could effectively operate within the one ATS Coordination group as is the case within IPACG, where both the JCAB CRA (Japan) and FAA CRA (United States of America) provide CRA services.

2.49 It was recognised that traffic levels had increased significantly within the Indian Ocean/Arabian Sea area since the first meeting of ASIOACG in 2006 and that traffic was expected to further increase as Middle East carriers and other operators continued with their fleet expansion plans.

2.50 The meeting formed the view that the establishment of CRA services across the broader Indian Ocean/Arabian Sea airspace was an issue that should be highlighted and addressed not only through ASIOACG but also through the formal ICAO processes – especially in terms of global harmonisation of the ATM system and improved operating efficiencies.

2.51 Accordingly, the meeting agreed that the requirement for CRA services across the Indian Ocean/Arabian Sea should be referred to APANPIRG and MIDANPIRG through individual state and IATA representations.

Next meeting

2.52 It was agreed that the next meeting of the CNS/ATM Working Group would be held over 2 days during the latter part of 2010 and that ASIOACG/6 would convene during March or April of 2011.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the work being undertaken by ASIOACG.

3.2 The meeting is also invited to note the concerns raised during ASIOACG/5 with regard to the requirement for CRA services in accordance with Annex 11 safety monitoring requirements for the provision of separation standards via Datalink facilities.
