



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 5: Consider problems and make specific Recommendations concerning the provision of ATM/AIS/SAR in the Asia/Pacific Region

**AIS UPDATE
FROM THE SECOND MEETING OF ICAO AIS-AIM STUDY
GROUP**

(Presented by the Secretariat)

SUMMARY

The Second Meeting of ICAO AIS-AIM Study Group (AIS-AIMSG/2) was held at ICAO Headquarters in Montréal, Canada from 10 to 13 November 2009. This paper summarizes the important issues raised and discussed at AIS-AIMSG/2.

This paper relates to

Strategic Objectives:

A: Safety – Enhance global civil aviation safety

D: Efficiency – Enhance the efficiency of aviation operations

Global Plan Initiatives:

GPI-18 Aeronautical information

1 BACKGROUND

1.1 The Second Meeting of the Aeronautical Information Services-Aeronautical Information Management Study Group (AIS-AIMSG/1) was held at the ICAO headquarters in Montréal, Canada, from 10 to 13 November 2009.

2. THE SECOND MEETING OF AIS-AIMSG

Global Strategy/Roadmap

2.1 A summary of the amendments to the *Roadmap for the Transition from AIS to AIM* was provided which were made since AIS-AIMSG/1 (December 2008, Montreal) based on the consultative process undertaken with members, States and ICAO Regional Offices. It was noted that the Roadmap had been published on the ICAO website as a first edition and would be further amended as necessary.

2.2 The group recognized that there was a need to consider strengthening Annex 15 – *Aeronautical Information Services* provisions related to legal and institutional issues, and to add guidance to the *Aeronautical Information Services Manual* (Doc 8126) to provide a framework on which decisions on legal and institutional issues could be based. It was also suggested that an overview of what States may need to consider when addressing legal and institutional issues be included in the Roadmap.

2.3 Concerning the CANSO AIM Working Group activities, the group agreed that the development of a Glossary which would aim to achieve a common terminology and definitions with respect to AIM should re-use existing material including the result of the international Aeronautical Information Harmonization Working Group (AIHWG). It was agreed that a careful consideration should be undertaken of definitions, both broad and highly technical, being developed by the various groups.

Guidance Material on Digital Data Exchange

2.4 The group noted that many States had expended significant resources to develop their aeronautical data exchange systems using Aeronautical Information Exchange Model version 4.5 (AIXM 4.5) and may not be in a position to quickly transition to AIXM 5. It was noted that there were no operational systems that were fully using AIXM 5.

2.5 While it was considered that States would benefit from stability in the application of an AIXM model, the group was of the opinion that it was not expected that implementation of a single version of the data exchange model could be synchronized across the entire industry. It was recognized that the target for implementation should be AIXM 5 but that some States would continue to use AIXM 4.5.

2.6 It was agreed that guidance material on AIXM would be included in Doc 8126, but that it would not refer to any particular version of AIXM, and that the AIXM 5 would be described as general “performance” requirements. AIXM 5 would then be mentioned as a possible means of compliance and presented on a CD-ROM.

Including AIM in Annex 15

2.7 It was noted that an incremental approach to the transition to AIM was inevitable. The group realized that in the future data-driven environment, users would have the option to specify the data items needed and download them to their applications. This option would also be available for deriving paper products as long as these were required.

2.8 The group was informed that the objective of the MET/AIM Divisional Meeting planned for 2014 would be to present a restructured Annex 15. The restructuring of an Annex was considered to have so significant implications on all Contracting States that an international consensus should be sought. It could not be included in a routine amendment. Amendment 37, scheduled for applicability in 2013, would need also to include AIM elements. Some key elements may be included as Recommended Practices which may be upgraded to Standards in a subsequent amendment after consideration by the divisional meeting. It was further considered that the need to include elements of AIM in Annex 15 would form a parallel activity to the actual restructuring of the Annex.

2.9 The group noted that the ad-hoc group on including AIM in Annex 15 had looked into ways and means to restructure the Annex to fully reflect the move to AIM. In an effort to provide assistance with this task, the group considered which elements and features a future restructured Annex 15 should contain. The elements submitted were examined for the ones deemed most significant and were combined into three areas of further development as follows:

- 1) definition of AIM services and the scope of AIM within the context of SWIM;
- 2) provision of data — legal and copyright effects on data ownership; and
- 3) data handling processes including the integrity to be established in Annex 15.

2.10 The group examined all three areas with a view that it would provide additional input to the ad-hoc group. The group adopted Action agreed 2/5 — Including AIM in Annex 15 and relevant guidance material.

Electronic AIP (eAIP)

2.11 During review of draft guidance material on the eAIP, the group noted that the Secretariat would undertake, during the editorial review, the aligning of terms of necessity, e.g. “should”, “may”, “shall” and “must”, with the related Standards and Recommended Practices (SARPs) in Annex 15 and with the technical demands of the guidance material. It was considered that whatever editorial criteria used should be consistent and made clearly evident to the reader. The group agreed to a proposed schedule for development of the material which included Action agreed 2/6 — Review of the draft guidance material on the eAIP.

AIS-MET Data Link Services

2.12 The group reviewed a draft note for inclusion in Amendment 37 to Annex 15 relating to supplying aeronautical data directly to flight crews via data link. Discussion centred on aligning such a note with specifications for AIRAC. It was suggested that text supporting the use of data link be included in Chapter 6 of Annex 15 which deals with the AIRAC system.

2.13 It was noted that provision of aeronautical data via data link was also being considered by groups concerned with the provision of MET information. It was agreed that the note required refining, and that a provision may also need to be drafted for inclusion in Annex 3, resulting in Actions agreed 2/8 — Proposed note in Annex 15 related to provision of aeronautical data using data link and 2/9 — Coordination the Secretary OPLINK Panel on provisions related to data link.

Amendments to Annexes 4, 14 and 15 Related to Aerodrome Mapping

2.14 It was noted that the terminology to be used to describe aerodrome mapping should be aligned with terminology used in Annex 15 and in guidance material, i.e. introduce terms such as data dictionary and dataset, and that explanatory text may need to be included in Annex 15 to explain why a data product specification had been included in the provisions. It was concluded that the provisions needed to be aligned with related provisions in Annex 14 and that the group must develop the provisions working closely with the aerodrome community of ICAO, the regions and with other groups. The group adopted Actions agreed 2/10 — Annex provisions related to aerodrome mapping data and 2/11 — Coordination with Aerodrome Panel.

World Geodetic System — 1984 (WGS-84) Manual (Doc 9674)

2.15 The group reviewed a proposed amendment to the *World Geodetic System — 1984 (WGS-84) Manual* (Doc 9674). It was noted that the proposed new wording needed to be amended which recommended that once WGS-84 coordinates had been obtained, the use of transformation be avoided, since it was considered that coordinates would continued to be transformed for survey purposes. It was agreed that the Secretary would study this matter further and provide new text.

2.16 While the group acknowledged that the addition of guidance on resolution for the conversion of coordinates from degree, minutes and seconds to the decimal degrees representation was valuable, it considered that the proposed text did not address problems raised by rounding of calculated values. The suggested new wording would state instead that “For applications processing

coordinates in decimal degrees, the resolution is expressed in terms of the number of significant digits of decimal degrees as specified in Table 2-8. For example, a coordinate published in degrees, minutes and seconds when converted into decimal degrees will have a resolution value of 4 (e.g. a latitude of 355418N is converted into a decimal of 35.9050). Note that when calculations are done on decimal values and depending on the rounding process (single final application or intermediate applications), end results may differ slightly.”

2.17 It was also noted that additional guidance material on height reference systems was required in the Doc 9764 to respond to the note to paragraph 3.7.2.2 in Annex 15. It was agreed that such material, recently discussed at the EUROCONTROL eTOD Working Group, should be provided to the Secretary for inclusion in Doc 9674 once mature. The group adopted Actions agreed 2/14 — Guidance material on height reference systems and 2/15 — Guidance on the use of coordinates transformation.

AIM Quality Management System

2.18 The group concurred that a mature document had been produced. It was suggested that guidance to States be included on how to manage the quality of data originating with a provider outside the State AIS. In response, it was pointed out that States’ comments on Amendment 36 to Annex 15 had already raised this concern. The final review of the amendment by the Air Navigation Commission (ANC) included two proposed notes indicating that quality management may be provided by serial quality systems and that letters of agreement may be used to manage aeronautical information data chain, i.e. service agreements with the information provider. It was also pointed out that Appendix 6 of the draft quality manual included information on service agreements. It was suggested that the Secretariat replace the word “distributor” in the proposed Note 2 with “AIS provider”.

2.19 It was explained that guidance material for measuring integrity was foreseen for Chapter 8. There was also a suggestion about including a reference to safety management systems (SMS) and text describing how quality management systems (QMS) operate within SMS or vice versa. The group noted that it had been agreed to proceed with development of an AIS training manual that would be amended to include AIM elements at a later stage. The group agreed to take a parallel approach to the AIM quality manual. The group agreed to take Actions agreed 2/17 — Inclusion of SMS in the AIS quality manual, 2/18 — Inclusion of QMS/SMS models in the AIS quality manual and 2/19 — Inclusion of reference to AIS quality manual in Annex 15.

2.20 It was also noted that while the quality manual would be based on ISO 9000:2008, State QMS used as examples may be based on ISO 9000:2000. The group determined that this was acceptable for the first edition of the quality manual, since there were few differences between ISO 9000:2000 and ISO 9000:2008. The group adopted Actions agreed 2/21 — Final comments on draft AIS quality manual and 2/22 — Final draft of the AIS quality manual.

Electronic Terrain and Obstacle Data (eTOD)

2.21 The group reviewed the progress made on proposals for amendment of Chapter 10 of Annex 15 since their original presented at AIS-AIMSG/1. The group was briefed on the results of parallel consultations carried out by ICAO and EUROCONTROL, and informed that the results of the ICAO consultation with States and international organizations would be considered by the ANC in mid-November 2009.

2.22 The group was informed that EUROCONTROL was developing eTOD guidance material which would be made available to ICAO in the second half of 2010. The guidance material was expected to include advice on implementation planning, data quality, metadata, assessment of

obstacle representation, determination of areas for specific aerodromes, and data collection techniques. The group adopted Action agreed 2/23 — eTOD guidance material.

AIM Staff Training Guidance

2.23 The group noted the progress underway to develop AIM staff training guidance and that an ad-hoc group under the CANSO AIM Working Group had been formed to address this task. It was considered that the best way to proceed would be to first address existing AIS training issues. Therefore, the group agreed to develop an AIS training manual that would be amended to include AIM elements at a later stage. The group noted that the guidance material was to apply the competency framework of the *Procedures for Air Navigation Services — Training* (PANS-TRG, Doc 9868) to EUROCONTROL's Common AIS Staff Profiling (CASP) and AIS Training Development Guidelines.

Legal and Institutional Issues Related to AIM

2.24 The group then reviewed a number of legal and institutional issues to be considered in the context of AIM that had been identified by the ad-hoc group, and the comments thereon. The issues were grouped under three main areas concern, namely, cost recovery, liability and copyright/ownership.

2.25 It was noted that the State's responsibility for the provision of aeronautical information was already included in Annex 15. The group was informed that the resolution of liability issues rested with States and it was not within ICAO's purview to address liability through Annex material.

2.26 The group noted the explanation that copyright issues, and applications differed considerably from State to State and between civil law and common law jurisdictions. It was noted that there were concerns that copyright may be extended in some jurisdictions to limit access to information in a manner detrimental to flight safety, and the need to provide airspace users with timely and complete information.

2.27 The group agreed that the issues identified by the ad-hoc group should be developed into guidance material, in coordination with the CANSO AIM Working Group, for inclusion in the *Roadmap for the Transition from AIS to AIM*. It was further agreed that examples of State policies on legal and institutional issues would assist the ad-hoc group in carrying out this task. The group adopted Action agreed 2/27 — Examples of State policies on legal and institutional issues, 2/28 — Coordination with AEP-ANSEP and 2/29 — Guidance material on legal and institutional issues.

Information on NextGen and SESAR

2.28 The meeting took note of SESAR information management. In view of the numerous data domains to be modeled and possible spill over into AIXM, concern was expressed that AIXM should not be allowed to expand to an unmanageable extent. There was also discussion on the total cost of SESAR and associated cost savings including those that may be brought about by enterprise architecture methodology. The meeting recognized that it should monitor developments concerning NextGen and SESAR, and that members should endeavour to share information in this regard with the group at the next meeting. Accordingly the meeting agreed to Action agreed 2/30 — Information on SESAR and 2/31 — Information on NextGen.

Consideration of the MET Component

2.29 The group recalled the discussions which recognized the need to synchronize the development of SARPs for Annex 15 with potential parallel SARPs for Annex 3. The group was informed that there were already specifications related to meteorological information for aircraft in flight in Annex 3. In addition, draft Amendment 75 to Annex 3, applicable in November 2010, would introduce an enabling clause for the provision of any other meteorological information in alpha-numeric or graphical form as agreed between the meteorological authority and the operator concerned. The group noted that draft guidance material in support of this provision had been developed by the former Meteorological Information Data Link Study Group (METLINKSG) and was awaiting publication pending adoption of Amendment 75 in February 2010. The group was invited to review this guidance material, which had been placed on the AIS-AIMSG secure website, and provide comments to the Secretary. The group adopted Action agreed 2/32 — Review of draft guidance material on the display of graphical (meteorological) information in the cockpit.

Flight and Flow Information for a Collaborative Environment (FF-ICE)

2.30 The group was briefed on the FF-ICE concept developed by the ATM Requirements and Performance Panel (ATMRPP) as a follow-up to their work on developing the conceptual framework for the future ATM system. The group was further informed that the ATMRPP was interested in receiving feedback from other panels and study groups on whether:

- a) these groups were aware of the current work of the ATMRPP;
- b) the work of these groups was affected by the FF-ICE concept;
- c) the FF-ICE concept was consistent with the work being undertaken by these groups
- d) issues and elements relevant to the concept existed that had not be included; and
- e) the FF-ICE concept document was clear.

2.31 The group noted that aircraft performance information would be a very large issue involving both reference information and dynamic data elements. It was further noted that operators' fleets may include aircraft types in multiple configurations which would further complicate the process of providing and using performance information.

2.32 The group concluded that there was little overlap between the FF-ICE concept and the work of the AIS-AIMSG at the current level of conceptual development expressed in the draft FF-ICE concept document. However, once FF-ICE would be progressed beyond concept and into systems development, there could be a considerable impact, and that the systems envisioned by FF-ICE would need to be aware and interoperable with AIM systems and information management principles. In this regard, the group was interested in knowing how the work on the concept was intended to be further progressed. It was agreed that that members should contact their counterparts on the ATMRPP. The group adopted Action agreed 2/34 — Review of FF-ICE concept document.

Future Work Programme of the Group

2.33 It was agreed that Action agreed 1/30, to identify data process and procedures that would be required for the provision of new datasets, would be completed by 31 July 2010. The group adopted Action agreed 2/35 — Identify data process and procedures that would be required for the provision of new datasets.

2.34 The group considered that the next meeting should be convened in Montreal from 9 to 12 November 2010. It was agreed that 8 November 2010 could be used by the ad-hoc groups for informal meetings.

Any Other Business

2.35 The group was informed that the next Global AIM Congress would take place in Beijing from 22 to 24 June 2010, preceded by a workshop on 21 June. It was indicated that group members attending the Congress who would wish to take the opportunity to convene ad-hoc group meetings should contact Amy so that she may reserve meeting rooms.

4. ACTION BY THE MEETING

4.1 The meeting is invited to:

- a) note the activities and summary of significant points of AIS-AIMSG/2; and
- b) consider matters arising and identify any further action to be taken by the meeting.

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