



International Civil Aviation Organization

**The Fifth Meeting of ICAO AIS-AIM Implementation Task Force
(AAITF/5)**

Beijing, China, 25 – 26 June 2010

**Agenda Item 5: Review of Recent ICAO Developments and Deliberations in Regard of
the Work of the Aeronautical Information Services-Aeronautical
Information Management Study Group (AIS-AIMSG)**

REPORT ON AIS-AIMSG/2

(Presented by China)

SUMMARY

This paper briefs the summary of the discussion of the first meeting of AIS-AIMSG, which was held at ICAO HQ, Montreal, from 10 to 13 November 2009.

1. BACKGROUND

1.1 The second meeting of the Aeronautical Information Services-Aeronautical Information Management Study Group (AIS-AIMSG) was held at the International Civil Aviation Organization (ICAO) Headquarters in Montréal, Canada, from 10 to 13 November 2009. The full Summary of Discussions and the supporting study notes (SNs), information papers (IPs) and presentations are under the AIS-AIMSG web page for meetings:

<http://www2.icao.int/en/ais-aimsg/Lists/Meetings/AllItems.aspx>

1.2 There were 21 participants attending the second meeting. Mr. Paul Bosman, EUROCONTROL was nominated to be Chairman. The meeting was served by the Secretary of the AIS-AIMSG, David Lewtas, Chief, Aeronautical Information Unit (C/AINF), MET/AIM, of the Air Navigation Bureau (ANB) who was assisted by Jean-Michel Galais and Michael Hohm, Technical Officers, AINF.

1.3 20 study notes and 3 information papers were submitted, most of them focus on the amendments to the current annex 15 or document 8126, 9674, 8697, or developing new documents, such as AIM quality manual, AIS training manual, eTOD guidance material, AMDB guidance material, etc.

1.4 The next meeting of the AIS-AIMSG will be convened in Montreal from 9 to 12 November 2010.

2. MEETING ACTIONS

2.1 ACTIONS CONCERNING ANNEX 15

Action 2/1: Inclusion in Annex 15 of new definitions related to AIM (Amendment 37)

The Roadmap had been published on the ICAO website as a first edition and would be further amended as necessary. During ICAO consultative process, three issues had emerged:

- 1) the definition of AIM;
- 2) the need to include in Annex 15 terms used in the Roadmap; and
- 3) the need to include in Annex 15 a chapter/section on legal and institutional issues.

Concerning the issue of the definition of AIM, the group agreed that definitions should be included both in Annex 15 and in the Roadmap which better define the differences between AIS and AIM and to clearly define information management and system wide information management (SWIM) and their relationship to AIM. Furthermore, it was agreed that the terms “data”, “information”, “product”, and “service” needed to be further clarified in Annex 15.

The ad-hoc group on including AIM in Annex 15 will review, for suitability the inclusion in Annex 15, the terms and definitions in the *Roadmap for the Transition from AIS to AIM*, and present a draft list of definitions to AIS-AIMSG/3, with the objective of including them in Amendment 37.

Action 2/2: Review of the data integrity requirements in Annex 15 (Amendment 37)

It was noted that in the Roadmap, the data quality step referred to how States verified data quality (monitoring), while the data integrity step required a stronger focus to address States’ difficulties encountered when measuring the integrity requirements stated in the SARPs. These requirements needed to be clarified and supported by guidance material. It was pointed out that copyright may be an effective tool for ensuring integrity within a State. It was noted that resources must be placed on verifying the SARPs relating to data integrity in Annex 15.

Therefore, the ad-hoc group on including AIM in Annex 15 will review the data integrity requirements in Annex 15 with a view to clarifying them or developing additional requirements as necessary and submit proposals to the AIS-AIMSG/3 meeting for possible inclusion in Amendment 37 to Annex 15.

Action 2/5: Including AIM in Annex 15 and relevant guidance material (Amendments 37 and 38)

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.

The Secretary informed the group 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 significant implications on all Contracting States and 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 (Amendment 37) would form a parallel activity to the actual restructuring of the Annex (Amendment 38).

The group considered 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 means of compliance with integrity Standards to be established in Annex 15.

Therefore, the ad-hoc on including AIM in Annex 15 group would:

- a) continue to consider the restructuring of Annex 15 to introduce the notion of services and to separate data from publication;
- b) develop digital AIM services guidance material;
- c) take into account additional input outlined during the meeting(appendix C of SoD), and
- d) submit draft proposals to the AIS-AIMSG/3 meeting.

Action 2/8: Proposed note in Annex 15 related to provision of aeronautical data using data link (Amendment 37)

The group reviewed a draft note for inclusion in Amendment 37 to Annex 15 related to supplying aeronautical data directly to flight crews via data link. It was suggested that text supporting the use of data link be included in Chapter 6 of Annex 15 which dealt with the AIRAC system.

But it was suggested that it would be too soon to introduce a Standard for data link into Annex 15, considering the capacity of some States to collect the required data, equipage of current fleets, available bandwidth and so on. However, the group considered a note in Annex 15 would serve to create awareness about it in the AIM community.

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.

The group was asked to provide further comments on the draft note for inclusion in Annex 15 and that the amended version of the note would be presented in a Study Note at AISAIMSG/ 3

Action 2/9: Coordination with the Secretary OPLINK Panel on provisions related to data link (Amendment to Annex 3)

The Secretary assess whether inclusion of a note in Annex 15 related to data link would initiate a similar amendment to Annex 3.

Action 2/19: Inclusion of reference to AIM quality manual in Annex 15(amendment 36)

The Secretary will include a note in Amendment 36 to Annex 15 to refer to guidance on QMS available in the AIS quality manual.

2.2 ACTIONS CONCERNING DOC.8126**Action 2/7: Changes to Amendment No. 2 to Doc 8126**

The changes focus on AIRAC late postponement; harmonization with OPADD 3.0; guidance on AIRAC adherence; update of NOTAM Selection Criteria; Annex 15 Amendments 34, 35 & 36 consequential changes, etc.

The group also noted that one of the current difficulties of the NOTAM format was that it allowed for flight level (FL) to be used in item Q) and another unit of measurement to be used in Items F) and G).

The group noted that the current practice for representing the "@" sign of an e-mail address was not harmonized and that the recommended use of "(A)" in Amendment No. 2 of Doc 8126 would require system changes in those systems using a different convention.

The group also noted the consequential changes to Doc 8126 resulting from amendments to Annex 15, and questioned the relevance and clarity of changing from channel to frequency for navaid information in the AIP.

Also, the addition of information on low visibility procedure in the section AD 2.22 was questioned as the same information was published on a chart.

It was agreed that Doc 8126 should align with the provisions in Annex 15 and the Secretary take into account comments provided during AIS-AIMSG/2 in relation to Amendment No. 2 to Doc 8126.

Action 2/4: Inclusion of guidance material on AIXM in Doc 8126 (Amendment No.3)

The group was reminded that the aeronautical information exchange model (AIXM) was a means of compliance for aeronautical data exchange. It was agreed that a new chapter describing AIXM version 5 (hereafter referred to as AIXM 5), along with a CD-ROM containing complete AIXM 5 documentation, be included in the next amendment to Doc 8126.

The Secretary will include guidance material on AIXM in Amendment No. 3 to Doc 8126

Action 2/6: Review of the draft guidance material on the eAIP (Amendment No.3)

The group reviewed the draft guidance material on the eAIP, and agreed to a proposed schedule for development of the material which included the following action:

- a) the group provide further comments on the draft guidance material to the Secretary by 31 January 2010;
- b) Paul provide the Sample eAIP to the Secretary for review by 30 April 2010;
- c) the Secretary finalize the edited eAIP guidance material and consequential changes to Doc 8126 by 30 June 2010;

- d) Paul provide the Sample eAIP (as revised by the Secretary) and Toolbox CD-ROM by 31 July 2010; and
- e) the Secretary include the material in Amendment No. 3 to Doc 8126.

2.3 ACTION CONCERNING DOC.8697

Action 2/16: New guidance material for inclusion in Doc. 8697

The existing structure and content of Doc 8697 was outlined with potential resources and comments regarding the amendment of individual chapter elements. It was believed that the existing structure was basically suitable to provide guidance on Annex 4 provisions; however, certain text, illustrations and charts required considerable update. In addition, new specimen charts such as for PBN and helicopter point in space (PINS) procedures would be required.

The group was asked to provide the ad hoc group on aeronautical charts further comments on the draft plan for amendment of Doc 8697 by 31 January 2009 and notify the Secretary of any resources available in their administration to assist in the production of material for Doc 8697.

2.4 ACTIONS CONCERNING DOC.9674

Action 2/14: Guidance material on height reference systems

It was 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.

A new ad-hoc group was asked to provide guidance material on height reference systems for inclusion in Doc 9674 by 31 July 2010

Action 2/15: Guidance on the use of coordinates transformation (Amendment No. 2 to Doc 9674

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 which recommended that once WGS-84 coordinates had been obtained the use of transformation be avoided needed to be amended, 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.

The group discussed guidance on the transformation of 1/10 min into degrees, minutes and seconds and suggested wording that “The charting and data publication resolution ranges from the highest resolution requirement of 1/100 sec to the lowest resolution requirement of 1 min (i.e. 1/100 sec, 1/10 sec, sec and min). Applications or messages processing or transmitting coordinates may have different resolution requirements (e.g. flight plan, coordinate entry in FMS by the pilot).”

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 was suggested to adopt “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.”

The Secretary will review the proposed text related to the use of coordinates transformation for inclusion in Amendment No. 2 to Doc 9674

2.5 ACTIONS CONCERNING THE AIM QUALITY MANUAL

The ad-hoc group tasked with developing a draft quality manual had produced a mature document. However, there were few outstanding issues to be addressed.

Action 2/17: Inclusion of SMS in the AIM quality manual

A reference to Doc 9859 — *Safety Management Manual (SMM)* is to be included in the AIS quality manual.

Action 2/18: Inclusion of QMS/SMS models in the AIM quality manual

Members with knowledge of State QMS that incorporate SMS (or vice-versa) would provide information on these models to the ad-hoc group on the AIS quality manual for examination by the group at AISAIMSG/ 3 and subsequent inclusion in the manual.

Action 2/20: Inclusion of means for measuring integrity in the AIM quality manual

The ad hoc group would develop guidance material on the means for measuring integrity for examination by the group at AISAIMSG/3 and subsequent inclusion in the AIS quality manual.

Action 2/21: Final comments on draft AIS quality manual

The group was asked provide final comments on the draft quality manual to the ad-hoc group by 31 January 2010.

Action 2/22: Final draft of the AIS quality manual

The final draft of the AIS quality manual should be submitted to the Secretary by 30 May 2010.

2.6 ACTION CONCERNING THE AIS TRAINING MANUAL

Action 2/25: Guidance material on AIS training

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.

Training material from NAV Portugal was identified as source material to be taken into account in the development. It was also noted that the CAR/SAM Regional Planning and Implementation Group (GREPECAS) had developed training material which could be useful.

An ad-hoc group will:

- a) develop an AIS training manual, taking into account available material on AIS training and aligning with the principles in the PANS-TRG;
- b) ensure, during development of the AIS training manual, coordination with Secretariat members responsible for the PANS-TRG; and
- c) present a draft of the AIS training manual to the AIS-AIMSG/3 meeting.

2.7 ACTION CONCERNING ETOD GUIDANCE MATERIAL

Action 2/23: eTOD guidance material

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.

Paul was asked to provide the eTOD guidance material to the group for comment as soon as the first version is available expected in the first quarter of 2010

2.8 ACTIONS CONCERNING AMDB GUIDANCE MATERIAL

Action 2/13: AMDB guidance material

This is a EUROCONTROL Document Draft which provides AMDB Data Generation Guidance. The group recalled that the *Draft Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information* (Doc 9881) already contained guidance on aerodrome mapping data except for guidance on generation of the data.

The group reviewed the draft aerodrome mapping data base (AMDB) guidance material and agreed that copyright permission related to use of RTCA material by ICAO needed to be verified.

The group was asked to provide comments on the AMDB guidance material to the ad hoc group by 31 January 2010

Action 2/10: Annex provisions related to aerodrome mapping data (Amendments to Annexes 4, 14, 15)

Following AIS-AIM SG 1, an action was assigned to develop, in liaison with the joint EUROCAE/RTCA Committee WG44/SC217, a draft proposal to integrate aerodrome mapping databases into Annexes 4, 14 and 15 provisions.

The group acknowledged that there was a need to include provisions in Annex 15 related to aerodrome mapping data because existing and emerging situational awareness applications requiring such data had a significant potential to enhance safety.

Stéphane Dubet, France acting as liaison between EUROCAE/RTCA Committee WG44/SC217

(Action agreed 1/13 refers), presented a proposal by that group and reported that consensus within the group and with stakeholders had been achieved on the proposal except for the data quality classification. Unresolved concerns related to the stringency of the data quality requirements whereby the stringent requirements that would serve all applications needed at some aerodromes would be too costly to implement or unnecessary to serve other aerodromes.

The group discussed various ways to address these concerns, including providing two levels of accuracy, the less stringent of which would be required (Standard) and the more stringent of which would be recommended (Recommended Practice).

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 was asked to provide the ad-hoc group on aerodrome mapping data bases further comments on the proposed provisions (AIS-AIMSG/2-SN/2, Appendix refers) related to aerodrome mapping data, as well as comments regarding the inclusion of two levels of accuracy by 31 January 2010.

2.9 ACTIONS CONCERNING AIXM GOVERNANCE

Action 2/3: AIXM governance

The group discussed that further development of the AIXM model would require international participation and focus and that governance of the state of the model would be a particular issue. It was observed that the AIS-AIMSG may not offer the required international exposure to provide adequate governance of the model. It was agreed that the group would take the recommendations from Federal Aviation Administration (FAA) and EUROCONTROL as to an appropriate body to govern the further development of the AIXM/AICM model. Such a body would need to represent all appropriate international stakeholders.

The members from EUROCONTROL and FAA were asked to develop a proposal for the establishment of an appropriate body with technical and broad-based representation to support the governance of the evolution of the AIXM model for review by AIS-AIMSG/3.

2.10 ACTION CONCERNING GUIDANCE MATERIAL ON LEGAL AND INSTITUTIONAL ISSUES

Action 2/29: Guidance material on legal and institutional issues

The Secretary coordinated the group's activities on legal and institutional issues with the Airport Economics Panel (AEP) and Air Navigation Services Economics Panel (ANSEP).

The group 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 provided by the Secretariat. The issues were grouped under three main areas concern, namely, cost recovery, liability and copyright/ownership.

With respect to cost recovery the cost base and additional charges need to be explicitly defined especially for commercial third-party data providers acting as the agents for airspace users and that double charging should be avoided.

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

Copyright issues and applications differed considerably from State to State and between civil law and common law jurisdictions. 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.

Although legal and institutional aspects would require further and continuous investigation, no showstoppers had been identified so far which would block the transition from AIS to AIM. 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*.

The ad hoc group on legal and institutional issues was asked to prepare an amendment to the *Roadmap for the Transition from AIS to AIM* to incorporate guidance on legal and institutional issues by 31 July 2010

2.11 ACTIONS CONCERNING INFORMATION ON NEXTGEN AND SESAR

Actions 2/30 and 2/31: Information on NextGen and SESAR

In view of the numerous data domains to be modelled 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.

The members from EUROCONTROL and FAA will provide the information papers concerning SESAR and NextGen to AIS-AIMSG/3

2.12 ACTIONS CONCERNING MET

Action 2/32: Review of draft guidance material on the display of graphical (meteorological) information in the cockpit

Information was presented to the group on data link initiatives in the MET field. The group recognized the need to synchronize the development of SARPs for Annex 15 with potential parallel SARPs for Annex 3.

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 asked to review the draft guidance material on the display of graphical (meteorological) information in the cockpit and provide comments to the Secretary by 31 December 2009

2.13 ACTIONS CONCERNING FUTURE WORK

Action 2/35: Identify data process and procedures that would be required

Identify, for review by AIS-AIMSG/3 the new data process and procedure requirements related to the future provision of new datasets, in addition to the current paper or text products.

Action 2/36 and 2/37: Draft guidance material on integrated briefing

Develop a draft guidance material on the provision of integrated briefing by 31 December 2009. The Secretary will prepare a Study Note for the AIS-AIMSG/3 meeting based on the draft guidance material on the provision of integrated briefing

Action 2/38: Mapping of group activities to deliverables

That the Secretary prepare a table which maps the activities of the group to:

- a) the original expected outputs outlined in the Air Navigation Commission working paper (ANWP/8309) that established the AIS-AIMSG;
- b) the terms of reference included in AIS-AIMSGMemo/1; and
- c) the steps (projects) in the Roadmap for the Transition from AIS to AIM.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:note the contents of this paper

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