



AERONAUTICAL INFORMATION SERVICES-AERONAUTICAL INFORMATION MANAGEMENT STUDY GROUP (AIS-AIMSG)

SIXTH MEETING

Buenos Aires, Argentina 21 to 25 May 2012

SUMMARY OF DISCUSSIONS

1. HISTORICAL

1.1 The sixth Meeting of the Aeronautical Information Services-Aeronautical Information Management Study Group (AIS-AIMSG/6) was held from 21 to 25 May 2012 in Buenos Aires, Argentina at the Panamericano Hotel.

1.2 Mr. Fernando Lopez, President of the International Federation of Aeronautical Information Associations (IFAIMA), and Mr. João Mendonça, IFAIMA treasurer welcomed the group. The participants expressed their gratitude to IFAIMA for hosting the meeting and their satisfaction with the arrangements as well as the very good venue for the meeting.

1.3 The meeting was opened by Michael W. Hohm, Technical Officer, Aeronautical Information Management (TO/AIM), of the ICAO Air Navigation Bureau (ANB). He thanked the group for their valuable work and continued support.

1.4 The meeting welcomed Christopher Bray of the United Kingdom, advisor to the UK member and Mr Cedric Tedesco, advisor to the member from France.

1.5 Paul Bosman, acted as Chairman of the meeting in accordance with his appointment established at AIS-AIMSG/2. The meeting was served by the Secretary of the AIS-AIMSG, Michael Hohm. The names and addresses of the participants are listed in Appendix A.

1.6 After considering the list of papers to be presented and the provisional agenda outlined in AIS-AIMSG/6-SN/1, the meeting adopted the following agenda:

Opening of the meeting

Working arrangements

Agenda Item 1: Review and status of current work

- 1.1. Status of work programme and review of follow-up action items
- 1.2. Status of Annex 15, Amendment 37

Agenda Item 2: Development and implementation of AIS-AIM transition

- 2.1 Global AIM operational concept
- 2.2 Annex 15 and PANS-AIM development
- 2.3 Roadmap development

Agenda Item 3: AIM responsibilities and functions

- 3.1 AIM domain functions
- 3.2 Legal and institutional issues

Agenda Item 4: AIM processes and requirements

- 4.1 AIM Quality
- 4.2 Data integrity

Agenda Item 5: Aeronautical data and information collection

- 5.1 eTOD
- 5.2 AMDB
- 5.3 Numerical requirements (including resolution)

Agenda Item 6: Aeronautical information and data assembly, exchange, and promulgation

- 6.1 Digital NOTAM
- 6.2 NOTAM/SNOWTAM/ ASHTAM
- 6.3 Charting

Agenda Item 7: Integration with other services

- 7.1 SWIM
- 7.2 MET integration
- 7.3 FIXM

Agenda Item 8: Any other business

Agenda Item 9: Future work and Activities

- 9.1 Divisional meeting
- 9.2 Work program

Review of draft summary of discussions

Next meetings

1.7 A list of study notes and information papers issued for the meeting is given at Appendix B and are available on the AIM website at <http://www2.icao.int/en/ais-aimsg/>.

1.8 The group agreed that the working hours would be from 0900 and 1700 hours with a break of 1 hour for lunch.

AGENDA ITEMS: OPENING OF THE MEETING; WORKING ARRANGEMENTS

1.9 The agenda items, opening of the meeting and working arrangements are covered under Section 1: Historical.

AGENDA ITEM 1: REVIEW AND STATUS OF CURRENT WORK

2. AGENDA ITEM 1.1: STATUS OF WORK PROGRAMME AND REVIEW OF FOLLOW-UP ACTION ITEMS

2.1 The Chairman provided an overview of the status of the work program and follow-up action items. The follow-up actions from AIS-AIMSG/5 were reviewed and the group was pleased to note that the majority of items were completed.

2.2 The meeting noted the outcome of the EANPG/53 meeting and recommendations pertaining to potential future work of the AIS-AIMSG. In particular, EANPG/53 conclusions 53/8 and 53/10 as noted below:

EANPG Conclusion 53/8 – Certification of the AIM Services

That the ICAO Regional Director, Europe and North Atlantic, in order to improve the level of compliance with the Standards and Recommended Practices of Annex 4 and Annex 15 and pave the way for the transition from AIS to AIM, undertake necessary action, in coordination with ICAO Headquarters, consider the inclusion of a requirement for the certification of AIM Services in Annex 15.

EANPG Conclusion 53/10 - Inclusion of appropriate provisions related to eTOD in Annex 14

That, in order to expedite the Electronic Terrain and Obstacle Data (eTOD) implementation, the ICAO Regional Director, Europe and North Atlantic undertake necessary action, in coordination with ICAO Headquarters, to consider the inclusion of appropriate provisions related to eTOD in Annex 14, including in the minimum requirements for aerodrome certification.

2.3 The Chairman provided background on the proposal for AIS provider certification. The proposal was intended to strengthen the ability of states to exert regulatory control of AIS activities and especially with reference to the implementation of quality management systems as well as other required implementations. It was noted by the Secretary that the development of a certification program was a significant undertaking and that the related provisions would not be easily accomplished. Moreover, it

was stated that many states are having a difficult time certifying quality management systems and that the introduction of another certification program may not serve to achieve the desired result.

2.4 The meeting also discussed the proposal to include eTOD requirements in Annex 14. There was support in principle to incorporate requirement provisions that would be directed to the “source” of information, in this case the aerodrome operator and regulator. However the Secretary explained that AMDB provisions for Annex 14 were a consequential part of the current amendment proposal of Annex 15. The definition of the datasets comprising AMDB and eTOD comprise a number of overlapping features. It was emphasised by the Secretary that eTOD and AMDB were conceived as product specifications and as such would not together provide a unique data specification appropriate to a source requirement applicable to an aerodrome operator. This does not preclude that such a specification could be developed and that indeed, it was considered that this would be a natural evolution. Nevertheless, the meeting supported the inclusion of the relevant Annex 15 requirements for eTOD in Annex 14.

3. **AGENDA ITEM 1.2: STATUS OF ANNEX 15, AMENDMENT 37**

3.1 The meeting received a briefing by the Secretary on the status and progress of Amendment 37 to Annex 15 and the consequential changes to other Annexes. The Secretary informed the meeting that despite being removed from the agenda of the 189th session of the Air Navigation Commission (ANC), the preliminary review by the Commission was scheduled for the 190th session on June 19th.

3.2 The secretary informed the meeting that the original scheduling of the preliminary review was affected by the schedule of work associated with the 12th Air Navigation Conference and was considerably in advance of the amount of time normally considered necessary to prepare the amendment and to properly coordinate consultation within the Secretariat. The secretary further stressed that while it may be the intention during the development of an Annex amendment to meet a specific target application date, the actual date of applicability could be influenced by other factors, including ANC schedule, and ultimately would be set by the ANC. The group expressed its hope that a State letter may be available by late July.

3.3 The meeting observed that the Study Group should be informed of the progress of work to implement AIM in the various regions. Responding to this, the secretary informed the meeting of a Secretariat initiative to develop a GIS “dashboard” to display the global progress of roadmap implementation. The website is still at a “beta” stage and most critically, needs more information as to actual implementation by States.

3.4 The group affirmed that the work on AIM is scrutinised at various levels within States and in particular, that there is a need for more guidance from ICAO. The secretary acknowledged this and informed the group that commensurate with availability of editorial resources, the 3rd amendment to Doc 8126, the quality manual, the training manual, and the eTOD manual were intended to be issued by 3rd quarter of this year.

AGENDA ITEM 2: DEVELOPMENT AND IMPLEMENTATION OF AIS-AIM TRANSITION

4. AGENDA ITEM 2.1: GLOBAL AIM OPERATIONAL CONCEPT

4.1 The group was presented with the latest draft of the *Aeronautical Information Management Operational Concept*. The meeting noted with satisfaction that the draft incorporated many improvements and acknowledged that it had been a difficult task to assemble. The group was satisfied that the document now represented a form that could be collaboratively improved to a final draft.

4.2 The meeting observed that the current document did not include a transition plan. It was explained that as an operational concept it represented a view of future functions, benefits and operating modalities and that the transition plan for implementation would be a natural outcome. Furthermore, it was explained that the transition in part would be covered by the application of the *Aviation System Block Upgrades (ASBU)*. Nevertheless, it was accepted that transition considerations could be incorporated once the concept was considered mature and that the transition would extend from the end of the current roadmap and be in coordination with the ASBUs.

4.3 The meeting considered that to fully achieve the objective of the document, there is a need to fully articulate the scope of the AIM information and data domain, the role that AIM is intended to fulfil, and the functions that AIM is required to perform. The meeting spent some time on this and developed material to be added to the document.

4.4 Another aspect that was considered desirable for the document to express is that the document should be able to give the reader a fuller understanding of the change that would be in place once a change to AIM is in place. That is to say, what will be different from today and what additional capabilities, efficiencies, and functions to be provided after fully integrated transition?

4.5 It was emphasised in the meeting that “AIM includes the arrows”. That is to say, that for any schematic of AIM functions showing the relationship to other entities (e.g. information sources), the “arrows” providing a functional connection between entities and representing processes and procedures connecting the data and information flows are processes that are essentially part of AIM.

4.6 Considerable discussion revolved around the use of the term “single authoritative source” in the document to signify the central source of information and data compiled from multiple diverse origins that fell under the aegis of state accountability prior to distribution. The group was uncomfortable with the use of “single” as it might be misconstrued and recommended that the document refer to “authoritative source” as opposed to “single authoritative source”.

Action agreed 6/1 — AIM Operational Concept

That the **Study group** will review the draft AIM Operational Concept and provide comments for improvement by June 15, 2012.

Action agreed 6/2 — AIM Operational Concept

That the **Secretary** will provide a final draft of the AIM Operational concept for group review by July 5, 2012.

5. AGENDA ITEM 2.2: ANNEX 15 AND PANS-AIM DEVELOPMENT

5.1 The meeting was presented with AIS-AIMSG/5-SN/3 which outlined the progress made by the Ad-hoc group on AIM development at their meeting in Brussels, Belgium 13 to 15 February.

5.2 The group extended its appreciation for the scope of the work accomplished thus far. The meeting noted that after Amendment 37, the focus on annex 15 would be the re-development of chapters 4 to 11 with the objective of restructuring the annex and creating the structure to accept new material. It was proposed by the group that the future structure of Annex 15 to be incorporated could be realigned with new chapters 4 to 6 as follows:

- Chapter 4 - Data and Information Scope
- Chapter 5 - Temporality and distribution
- Chapter 6 - Information Services

5.3 The group noted that in the process of developing the future chapters for Annex 15 and corresponding provisions in the new PANS-AIM, that work on fundamental issues would be required to advance the new material to be incorporated. While it was understood that the process of incorporating the AIM focus into Annex 15 is part of an evolutionary transition of traditional AIS to AIM, it was nevertheless recognised that this would involve more than a modification of existing provisions or extensions to the current document. Some of these issues were categorised by the group as “big questions” which needed to be addressed as part of the work of the group to complete the evolution of Annex 15 and associated material. These “big questions include:

- What is the Scope of AIM ?
- What is the role of AIM ?
- What are the functions of AIM ?
- What are the Products and Services of AIM ?
- What is the future of messaging and operational reporting?
- What is the future of the AIRAC cycle ?

5.4 The group agreed that work on these conceptual issues was relevant to the vision under development in the AIM Operational concept but needed to be resolved in a manner that was appropriate to outline provisions for the next amendment of Annex 15, scheduled for 2016. The meeting agreed to divide some of this development work among the following groups:

- i. Scope
Rapporteur: Greg/Marvin. Support: Steve, Stephane, Francois, Paul, Bill and Tony
- ii. Products and services
Rapporteur: Stephane. Support: Steve, Paul
- iii. Temporality and Distribution
Rapporteur: Paul. Support: Steve, Stephane, Francois, Yochi, Elena

iv. Institutional Issues

Rapporteur: Kelly-Ann. Support: Cedric, Bill Kellog, Steven Hill, Stephane Dubet, Paul Bosman, John Synott, Jose (Cledi) Lima Figueiredo, and Francois Coetzee

5.5 The meeting made some progress with an initial collection of elements that would be included in the future chapters 4, 5, and 6 of Annex 15, the new PANS-AIM, and what would be the role of Doc 8126 after the creation of PAN-AIM. The group recalled that it is a matter of ICAO assembly resolution that the provisions contained in the Annexes become more performance oriented while the more technical specifications, to the extent that they are needed would be found in other documents. The need for harmonised processes, for example NOTAM, forms a primary justification for PANS-AIM.

ACTION AGREED 6/3 — SCOPE OF CONTENT

That **Marvin** will incorporate additional material created during meeting to update the proposed content specification for a new Annex 15 Chapter 4, PANS-AIM, and revision to 8126 and distribute to the group

ACTION AGREED 6/4 — REVIEW OF AIM SCOPE

That the Study Group will review the material from Action agreed 6/3 and provide comments for additions and changes.

ACTION AGREED 6/5 — UPDATE FOR REVIEW

That Marvin will provide updated Annex 15 Chapter 4 content, PANS-AIM suggested coverage, and 8126 changes to the Ad-hoc Group meeting at ATIEC

5.6 The meeting considered -AIMSG/5-SN/8, which reported the outcomes of the discussions held by the Ad-hoc Group on AIM Development meeting in Brussels, Belgium 13 to 15 February 2012, with respect to their work on defining the scope of aeronautical data and information considered to be in the AIM domain.

5.7 The meeting extended their appreciation for the work accomplished and in particular to the rapporteur for the work on the documenting the elements extracted from the AIP template and AIXM model. The meeting recalled Action agreed 3/4 that an updated priority list of issues to be considered to by the Ad-hoc group would be developed and maintained for consideration when developing the new provisions intended for Annex 15, Amendment 38. The group reviewed the list of issues compiled and assigned priorities for their resolution. The updated list is attached as Appendix D.

6. AGENDA ITEM 2.3: ROADMAP DEVELOPMENT

6.1 No paper was presented on this subject. The meeting was informed by the secretary that the AIM roadmap originally envisioned to be developed for and presented at the 12th Air Navigation Conference had be expanded to an IM roadmap . The Chairman was able to present the current IM roadmap to the Group. The development of a broader IM roadmap instead of an AIM roadmap was a

result of an observation by the technical team developing the Aviation System Block Upgrades that information was a core enabler throughout the future AIM system and that this needed to be outlined in a broader framework. It was noted that the ad-hoc group on AIM development had the opportunity to provide input to the broader IM roadmap.

6.2 The meeting discussed the need for an AIM roadmap. It was observed that the current roadmap contained in the *Roadmap for Transition from AIS to AIM* had an intended implantation horizon of 2013. Moreover, it was noted that the activities associated with the current roadmap fall short of a full AIM capability, instead providing a path to digital provision of current AIS products and services. It was emphasised that the articulation any new roadmap should serve as an extension to the current roadmap and that it was not to represent a change in direction. In this connexion, the current roadmap serves as the evolutionary beginning of an eventual full transition to an AIM service fully integrated with other ATM services and functions.

AGENDA ITEM 3: AIM RESPONSIBILITIES AND FUNCTIONS

7. AGENDA ITEM 3.1: AIM DOMAIN FUNCTIONS

7.1 The meeting was presented with AIS-AIMSG/5-SN/6 which reported the outcome of an ad-hoc group established to investigate the appropriateness, usage and impact of the description of the function stages specified in Annex 15 paragraph 3.1.7 (amendment 36) with particular reference to the inclusion of the term “and/or originate” in conjunction with “receive”. The meeting recalled that the precise meaning of the current paragraph 3.1.7 within the context of define the scope of functions and responsibility of AIS received considerable debate at AIS-AIMSG/5, leading to action agreed 5/2.

7.2 The concern expressed by the meeting and explored in the study note is that the phrase “receive and/or originate” incorporated in paragraph 3.1.7 could infer an obligation on AIS to acquire information directly, for example by aerodrome survey, if it was not in “receipt” of such information. The Study noted concluded that “the term ‘originate’ is out of place in Para 3.1.7, and it is unsupported within Annex 15”.

7.3 The meeting discussed the proposed removal of the term “and/or originate” at length and while there was general agreement with the conclusions reached by the ad-hoc group, there was concern that re removal of the term could also generate undesirable consequences. Specifically, it was expressed that if “originate” was not included in the list of AIS functions, it could be interpreted in some States that functions assigned to an AIS could not include origination and that this could be problematic in some States. There was general agreement that the required functions of an AIS could be augmented by additional activities assigned to an AIS organizational unit. While this infers that an AIS would not be prohibited from additional activities including the origination of data and information, it was considered necessary that any change to the function list in paragraph 3.1.7 be accompanied by a note explicitly recognising that origination could be performed by an AIS.

7.4 Since the amendment 37 proposal is still undergoing review in the ICAO Secretariat and has not yet been presented to the commission, the Secretary undertook to investigate whether a change to 3.1.7 dealing with “and/or originate” could be accomplished for amendment 37. In addition to the potential deletion of “and/or originate” the meeting agreed that this should be accompanied by a note stipulating that “AIS may include origination functions”.

7.5 Another issue raised by the Study note was that of the geographic area of responsibility outlined in paragraph 3.1.7. The Secretary reported that this same responsibility area is outlined in (existing) paragraph 3.1.1.2. Specifically, the area of responsibility is described as “entire territory of the State as well as areas in which the State is responsible for air traffic services outside its territory”. The Secretary reported that in addition to the issue raised in AIS-AIMSG/5-SN/6 the potential for confusion was also raised from within the secretariat. The concerns with this coverage include the potential conflict with the State responsibilities outlined in paragraphs 3.1.1 and 3.1.1.1. A specific observation is that the use of the phrase “areas in which the State is responsible for air traffic services outside its territory” could be interpreted to infer that where a FIR boundary extended across State borders, it could be inferred that the responsibility for AIS information could reset with the State providing the FIR service. This could produce that consequence that the FIR State could be responsible for reporting “facts on the ground” information in the territory of another state.

7.6 The meeting discussed several existing scenario where there are FIRs that extend beyond state borders into other states and where there are aerodromes located on state borders or very close. There was general agreement that there is no intention to make a State responsible for information originating within the territory of another State unless there is an agreement facilitating the scenarios allowed for in paragraphs 3.1.1 and 3.1.1.1. It was considered by the meeting that the geographic responsibility areas outlined in Paragraphs 3.1.1.2 and 3.1.7 were intended to incorporate areas other than other State territory (e.g. over the high seas). It was also observed that Annex 3 contained language that was more specific in this regard.

Action agreed 6/6 — State AIS responsibility

That the **Secretary** will investigate the amendment of the Annex 15 change proposal to incorporate geographic responsibility description similar to a description used in Annex 3.

8. AGENDA ITEM 3.2: LEGAL AND INSTITUTIONAL ISSUES

8.1 The meeting recalled that Action agreed 5/30 concerning outstanding legal and institutional issues proposed that an ad-hoc group develop from the existing material a list of issues for discussion at the next meeting. As a response, the meeting agreed that the outstanding issue requiring resolution was still a definitive approach as to how Annex 15 will handle copyright and cost recovery.

8.2 The meeting noted that copyright and cost recovery was an issue that would likely not be resolved in a consistent manner given the variation in the way that ANS (including AIS) providers have been commercialized and the financial framework they operate in. Moreover, the meeting recalled that during AIS-AIMSG/2 it was confirmed that the differing legislative approaches that States had to copyright would need to be accommodated in any consideration for change to Annex 15.

8.3 The meeting discussed whether the current provisions regarding copyright and cost recovery in Annex 15 still served their intended purpose. A proposal that they could be deleted in favour of expanded guidance was discussed but no clear consensus was reached concerning their deletion.

8.4 The meeting also recalled that Action agreed 2/29 proposed that guidance material on legal and institutional issues would be developed by an an-hoc group in coordination with the CANSO AIM Working Group, for inclusion in the *Roadmap for the Transition from AIS to AIM*. The meeting

noted that this was still outstanding and that the placement of the guidance material should also include Doc 8126.

8.5 The group also was of the opinion that guidance concerning cost recovery for AIS services should be incorporated in ICAO Doc 9802, *ICAO's Policies on Charges for Airports and Air Navigation Services*. In this connexion, the group determined that the issue of cost recovery be referred to the Air Navigation Services Economics Panel (ANSEP).

Action agreed 6/7 — Draft material on legal and institutional issues related to the transition from AIS to AIM

That Kelly-Ann will proposed draft text for incorporation in Doc 8126 using AIS-AIMSG/2 SN3 as basis.

8.6 The group concluded that it was still necessary to review and validate the current 3.4 and 3.5 in Annex 15 and that this issue should be added to the AIM development (amendment 38) priority list. The group also concluded that the issue of copyright and cost recovery, if not handled with care could act as an obstacle to the flow of aeronautical data and information and would potentially act as an obstacle to the implementation of SWIM.

AGENDA ITEM 4: AIM PROCESSES AND REQUIREMENTS

9. AGENDA ITEM 4.1: AIM QUALITY

9.1 The group was informed by the secretary that the Quality Management Manual was still undergoing review and that this work had been interrupted by other priorities within the Secretariat. The meeting recalled that Action Agreed 5/27 requested the Secretary to update Chapter 8 of the *Manual on Quality Management Systems for Aeronautical Information Management* to take into account latest data integrity changes. The secretary reported that this work was still undergoing and could be influenced by the progress of Amendment 37 to Annex 15.

9.2 A discussion ensued concerning the importance of the quality management guidance and evolving to the need to assist some States in implementing quality management systems. It was observed that while most States were embracing the shift from AIS to AIM, was it was considered fundamental to the evolution that phase 1 of the *Roadmap for the Transition from AIS to AIM* be fully implemented. In particular, it was observed that AIRAC compliance, WGS-84 implementation, and the implementation of quality management systems where elements that still persisted in some states as requiring attention. It was acknowledged that the implementation of these changes was fundamental and required for the migration of AIS to AIM.

9.3 It was recognised that much of the difficulty experienced by some States stemmed from the expense involved in implementing a recognised QMS system particularly one requiring external registration and certification authorities and auditors as required by ISO 9000. The meeting discussed ways of providing guidance to states wishing to implement QMS and with emphasis on mechanisms to do so with greatly reduced cost. It was noted that QMS implementation was not restricted to ISO 9000 and that some states may benefit from taking a “home grown” approach or through collaboration and sharing

of resources with neighbouring states. In this connexion, it was observed that EUROCONTROL had developed an AIS Quality checklist that could serve as an entry point for States to implement a QMS capability. The Secretary undertook to receive the checklist and to incorporate it into the Quality Manual.

Action agreed 6/8 — Incorporation of quality management checklist material into QMS manual

That the Secretary will incorporate quality management checklist material provided by Eurocontrol into the draft Quality Management Manual.

9.4 A related observation is that many states have difficulty assigning the resources necessary to implement QMS. This was attributed to the lack of support from Senior and executive management in Civil Aviation Administrations and provider organizations. The group suggested that ICAO might outreach to States at this level in order to encourage the implementation of an organised QMS system. It was also expressed that EUROCONTROL, CANSO and IFAIMA could be approached for expertise and communication with AIS management.

9.5 The meeting considered AIS-AIMSG/6-SN/7, which discussed the definitions of validation and verification in Annex 15 and the proposed development of procedures for the correct application of validation and verification processes throughout AIM operations.

9.6 The meeting discussed the meaning of validation and verification and contrasted their use in ensuring quality and integrity in a data chain. The group re-affirmed the importance of validation and verification procedures and the central role they play in quality management systems. The group expressed its view that there is a need for guidance with respect to validation and verification procedures and the relevance within a quality management system.

Action agreed 6/9 — Development of Validation and Verification Guidance

That an **ad-hoc group consisting of** Yochi (rapporteur), Stephane, Greg, and Marvin will develop guidance material on validation and verification for incorporation into the Quality Management Manual

Action agreed 6/10 — Quality Management Checklist

That the **Secretary** will incorporate quality management checklist material provided by Eurocontrol into the draft Quality Management Manual.

10. AGENDA ITEM 4.2: DATA INTEGRITY

10.1 No papers were presented on this topic however, the secretary briefed the meeting on the outcome of consultation within the secretariat concerning the deletion of the numeric values associated with data integrity currently in the Annexes. The group was informed that the deletion of the values created larger amendment issues than was originally envisioned and that there might still be some debate within the secretariat and the Air Navigation Commission with respect to their necessity.

10.2 It was observed and noted by the meeting that it was always intended that the deletion of the numeric values associated with data integrity would still leave the integrity classifications of “routine,

essential, and critical”. Moreover, the integrity classifications assigned to data features would need to be accompanied by process and procedure requirements appropriate to data and information handling for each classification. The development of these procedures would be an important feature of the new PANS-AIM and would also require guidance in Doc 8126. Accordingly, it was recognised that this was important work to be considered in the development of PANS-AIM.

AGENDA ITEM 5: AERONAUTICAL DATA AND INFORMATION COLLECTION

11. AGENDA ITEM 5.1: ELECTRONIC TERRAIN AND OBSTACLE DATA (eTOD)

11.1 The Chairman presented an update on recent eTOD related activities in Europe. Of considerable interest was the state of implementation in various States and how it related to the provisions not effected by Annex 15, Amendment 36.

11.2 The Chairman noted that while there was an expanding awareness of eTOD availability among prospective users there was a general assessment that the eTOD data that was necessary to meet current needs was less than the requirements specified in Annex 15. The consequence is that European States will be re-evaluating eTOD requirements to align with identified operational needs and will seek to implement a harmonised set of requirements, filing differences with Annex 15 provisions as required.

11.3 Another observation with respect to the use of eTOD in Europe is that the usages of the data involved applications, for example, synthetic vision, which were much more advanced than were anticipated to be available at this time. The deployment of advanced applications indicated an opportunity to develop an eTOD collection specification more closely aligned with operational needs.

11.4 The meeting was informed that the eTOD WG in Europe had concluded that there is a need to review the Draft eTOD manual to confirm alignment with Annex 15. The secretary confirmed that this had largely been done for changes reflecting the shift from Amendment 33 to 36 status. However, it would still be necessary confirm with a final review and in particular to ensure alignment after amendment 37.

11.5 It was also noted by the meeting that the current specifications for eTOD related to the definition of the datasets and the requirements for the data required to be collected. There is not, however sufficient provisions outlining the ongoing requirement to maintain the data. It was proposed that this would be appropriate to be outlined in PANS-AIM and should form part of future work

11.6 Another issue that was raised was a perceived difference between the requirements of Annex 14 and Annex 15 with respect to data to be provided and other eTOD requirements. As noted earlier in the meeting there was already a recommendation from EANPG/53 to include eTOD in Annex 14. The meeting observed that the *Airport Services Manual* (Doc 9137) - Part 6, Control of Obstacles may also need to be reviewed with respect to eTOD as well as AMDB.

Action agreed 6/11 — availability of TOD manual

Paul to make Wiki detailing TOD manual link available

11.7 The meeting was briefed by the secretary on the outcome of informal consultations with the ICAO Legal Bureau on the use of “shall be provided” vs. “shall be made available”. The meeting was informed that an Annex was addressed to States as objective requirements that States had wide latitude in the manner chosen for implementation. This was in contrast to how Annex 15 could be perceived as a regulatory document by AIS providers. In this connexion, the use of the term “provided” was deemed to be correct under the current circumstances. It was noted by the Secretary that some States were using Annex 15 as direct regulatory material in exercising oversight on AIS providers and the current phrasing used in Annex 15, Chapter 10 under these circumstances may not be optimal in producing the intended result. Nevertheless, any change would need to look at a wider scope of provisions than are included in Chapter 10, section 10.1 to ensure that the entire issue is covered properly.

12. AGENDA ITEM 5.2: AERODROME MAPPING DATABASE (AMDB)

12.1 Stephane presented draft criteria in response to AIS-AIMSG/5 Action Agreed 5/8. This criteria was developed with the objective of providing guidance for the prioritisation of AMDB implementation and to outline use cases for the consideration of the AMDB application provision that referenced “where States deemed relevant”.

12.2 It was noted by the group that the draft criteria represented a considerable investment of work and contained a thorough list of aerodrome Operational factors. It was considered that one aspect missing was an assessment of equipment and applications that could use the data and an estimate of safety benefits to be achieved after availability of the data and at the percentage of estimated users. This last factor was very much related to a coordinated implementation plan to ensure that the justified use of the data was actually taken up by a user application in sufficient numbers to validate the initial assessment.

12.3 It was expressed that as the criteria matured, it should be incorporated in the eTOD manual or a future eTOD/AMDB manual.

Action agreed 6/12 — Review of draft AMDB application guidance material

That the Study Group will review the draft criteria and provide comments to Stephane Dubet with respect to the draft AMDB application and prioritisation guidance criteria

Action agreed 6/13 — Coordination with AOSWG

That Stephane Dubet will coordinate the development of the AMDB application and prioritisation guidance criteria with the AOSWG.

13. AGENDA ITEM 5.3: NUMERICAL REQUIREMENTS (Including Resolution)

13.1 The meeting considered AIS-AIMSG/6-SN/5 which proposed revisions to the *World Geodetic System 1984 (WGS 84) Manual* (Doc 9674) to provide guidance on the use of vertical reference systems. The group noted that the issue of vertical reference was a highly technical one and that there was no specific expertise within the group on this issue. Nevertheless the group affirmed that the issue of vertical reference was of increasing relevance, especially considering requirements such as eTOD.

13.2 The meeting recalled that SN/5 was the continuation of work that was reported in AIS-AIMSG/4-SN/14 on this subject and as such, represented the most accurate view as to the status of the provisions contained in Annex 15 with respect to vertical reference systems as well as the guidance provided in the WGS-84 manual.

13.3 The group expressed its sincere appreciation to the US National Geospatial-Intelligence Agency (NGA) for the extensive work contributed on this subject.

13.4 The group concluded that the WGS-84 manual is out of date in several areas but none so immediately relevant as vertical reference. The group was provided with an attachment to the study note that outlined technical guidance that could be used for the update to the WGS-84 Manual.

13.5 The group concluded that changes should be made to the provisions concerning vertical reference systems in amendment 38 to Annex 15. The group was appreciative of the very good start made and that quality of material provided but nevertheless were of the opinion that the draft proposals for amendment should be developed in consultation with someone with the requisite expertise in geodetics. The meeting considered that CANSO should be approached with the objective of locating such expertise. Additionally it was suggested that ICAO approach the United States NGA with the same objective.

Action agreed 6/14 — Incorporation of vertical reference material in WGS-84 Manual

That the Secretary will include heighting material from AIS-AIMSG/6-SN/5 after suitable consultation in the WGS-84 manual.

Action agreed 6/15 — Availability of geodetic expertise

That CANSO will investigate the availability of expert resources to review WGS-84 manual.

AGENDA ITEM 6: AERONAUTICAL INFORMATION AND DATA ASSEMBLY, EXCHANGE, AND PROMULGATION

14. AGENDA ITEM 6.1: DIGITAL NOTAM

14.1 No Study Notes were presented under this item however the Meeting noted the progress on the development of Digital NOTAM. The meeting also noted that the FAA Air Transportation Information Exchange Conference (ATIEC) will take place again this year in Silver Springs, Maryland, USA August 28-30, 2012.

15. AGENDA ITEM 6.2: NOTAM/SNOWTAM/ ASHTAM

15.1 The meeting was presented with AIS-AIMSG/6-SN/9 which outlined the issue of NOTAM proliferation. The Study Note reviewed the various provisions which govern NOTAM issuance as well as an analysis that indicated that the number of international NOTAM distributed annually between 2000 and 2011 has tripled and is predicted to continually increase.

15.2 The group recalled that in various venues, the primary intended users of the information; air operator dispatch and operational personnel, have stated that the issue of NOTAM proliferation is considered to be a priority issue requiring resolution. The meeting recognised that the NOTAM selection code was an early response to the proliferation issue and that the development of Digital NOTAM will improve the ability to parse and select only those NOTAM of immediate relevance.

15.3 Notwithstanding improvements that would enable the selection of only relevant NOTAM, the group agreed that NOTAM proliferation was still an issue of concern. The group noted that from the analysis provided in SN 9, that NOTAM was used for a wide variety of information dissemination purposes and with some covering extended periods of time. The group also recognised that part of the issue was the result of operators desiring the most complete and up to date information as well as issuers desiring mitigation from potential liability.

Action agreed 6/16 — International NOTAM Volumes

That Paul will investigate and provide detailed statistics on international NOTAM volumes

Action agreed 6/17 — NOTAM proliferation

That the Study Group will investigate NOTAM proliferation increase and share with group at next meeting

15.4 In response the secretary informed the Group that NOTAM issues formed one aspect of an extended group of issues that encompassed global reporting format (for runway condition reporting), response to volcanic ash events, SNOWTAM, and others that were all being looked at selectively by other groups. The secretary further stated that most issues revolved around common issues and that a coordinated response would need to be developed by the involvement of a multi-disciplinary group. Such a group could be a likely outcome of the 12th Air Navigation Conference.

Action agreed 6/18 — NOTAM issues

That the Secretariat will provide a SN at next meeting detailing current NOTAM system issues and other related issues.

15.5 The meeting considered AIS-AIMSG/6-SN/2 which outlined an emerging issue with the sequential numbering system used for NOTAM and the “rollover” effect that is caused by reaching the end of a 4 digit series. The group agreed that the issue was one of importance but was one of a broader series of NOTAM issues that need to be addressed. That group was encouraged to investigate similar issues in their own states in preparation to discuss the matter further at the next meeting.

15.6 The meeting was presented with AIS-AIMSG/6-SN/4, which detailed the work undertaken in Europe to develop a NOTAM template for the reporting of volcanic ash events to be included in Doc 8126. The group was appreciative of the work accomplished and noted that the template would also be discussed at the upcoming 4th meeting of the International Volcano Ash Task Force (IVATF/4).

Action agreed 6/19 — Volcanic event template

That the Secretary will incorporate volcanic event NOTAM templates in Doc 8126 after IVATF review.

Action agreed 6/20 — Runway contamination

That the Secretary will coordinate the template with RFTF for runway contamination.

16. AGENDA ITEM 6.3: CHARTING

16.1 The group was given a verbal report by the rapporteur of the ad-hoc group on charting outlining the work program being developed and the issues considered to be of immediate relevance by the group. The group noted that progress had been made by the secretariat in developing an electronic

version of the *Aeronautical Chart Manual* (Doc 8697). The group appreciated that the availability of an updated manual would improve its distribution as well as having a document that was more easily maintained. Nevertheless, the group was informed that a new series of chart formats would likely be soon available as a consequence of the work of the Instrument Flight Procedures Panel (IFPP) and that a timely method to make them available would be necessary. The group considered that the use of circulars as a distribution mechanism should be explored.

Action agreed 6/21 — Volcanic event template

That the Secretary will investigate alternative distribution of new charts from IFPP (circular?) prior to availability in chart manual.

16.2 The meeting discussed Annex 4 and the future of charting in relation to the ongoing evolution of AIM. With this in mind, some concepts resulting from the discussions held by the Ad-hoc group on AIM development at their meeting in Brussels, Belgium 13 to 15 February were outlined.

16.3 One outcome of those discussions was that it was possible that Annex 15 would evolve to an AIM focus that was concerned primarily with the acquisition of information from accountable sources, verifying and validating the information and managing its availability for other users. In this concept, a primary focus would be the provision of information made available through a SWIM network for integration with information from other domains. However, it was considered that not all users of information would access information through SWIM and that there would be a continuing need for data and information that was assembled into AIS/AIM specific products. With this in mind, certain segments of the aeronautical community would still require aeronautical charts. Furthermore, it was considered that a potential evolution for Annex 4 could focus on the specification of AIS/AIM products and as well as charts Annex 4 could outline the specification for data sets assembled for specific purposes.

16.4 The meeting reviewed a paper from the IFPP/IWG (provided under “other documentation”) which reported on trials that have been conducted to derive aeronautical charts from ARINC 424 structured data. The group noted that ARINC 424 was not originally conceived for this purpose and lacked a feature set rich enough to act as source that would fully meet the requirements of most currently specified charts to be included in the AIP. Notwithstanding, the work was considered to have potential application for the graphic display of data contained in the FMS.

AGENDA ITEM 7: INTEGRATION WITH OTHER SERVICES

17. SWIM

17.1 The meeting received an update from the secretary on the development of a paper outlining the features of a Global SWIM Concept for presentation to the 12th Air Navigation Conference. The meeting was informed that the paper had been developed in consultation with the primary organizations in the FAA and Europe concerning SWIM development and was intended as a catalyst for further development of a globally applicable SWIM Concept.

18. MET INTEGRATION

18.1 The Meeting was informed that RTCA SC206 / Eurocae WG-76 was looking at the specification of a common AIS/MET datalink.

19. FIXM

19.1 The meeting was provided with an update on the progress of FIXM development . The meeting was informed that Version 1 is intended to be released during the upcoming Air Transportation Information Exchange Conference (ATIEC) to be held in Silver Springs, Maryland, USA August 28-30, 2012. The meeting was further informed that work is progressing on the integration of AIXM /WXXM / FIXM using GML and UML.

AGENDA ITEM 8: ANY OTHER BUSINESS

20. LOCATION INDICATOR SCHEME EXTENSION

20.1 The group reviewed a paper from the IFPP/IWG (provided under “other documentation”) which outlined certain limitations of the existing ICAO location indicator scheme for aerodromes. Specifically, it discussed that the current scheme of 4 letters with the first 2 normally applied as a country code only left a nominal 676 codes available for most countries. As a result, many States adopt other, State specific schemes, which often uses a combined alpha numeric description and frequently did not result in unique identifiers. This was identified as a problem accessing information for relevant airports and one of potential confusion.

20.2 It was pointed out that the current scheme was originally intended only for those airports supporting international air transport and as such was probably sufficient however with the growing integration of international and State domestic ATM systems as well as the growth in numbers of IFR capable aerodromes. It was pointed out that this issue was particularly relevant to Data based procedures such as PBN and the desirability of matching the procedure data to a unique identifier.

20.3 The group agreed that the issue warranted attention but was not able to reach consensus on the proposed solution. The group concluded that first the impact on AIM systems needed to be assessed.

Action agreed 6/22 — Location Indicator Scheme Extension

That the Study Group will review and comment on the proposed scheme extension and provide feedback to Stephane and investigate the impact on other AIM systems.

21. WORK PROGRAM

21.1 The group discussed the work program, noted the progress made, and updated the timetable produced at AIS-AIMSG/4 (included below).

22. **AGENDA ITEM 9: FUTURE WORK AND ACTIVITIES**

22.1

Dates(s)/Timeframe		Event/ milestone	Work Deliverables
2012	Q3/4 2012	Secretariat review of completed manuals	<ul style="list-style-type: none"> o AIS Manual Amdt3 (Q3/2012) o Training Manual (Q3/2012) o Quality Manual (Q3/2012) o AIM Concept (Q3/2012) o Manual on Public Usage of the Internet update (Q4/2012) o TOD Manual (Q3/2012) o WGS-84 Manual (accuracy & heighting) → Q4/2012 – 2013 – Full Word file prep o Charting Manual update Q4/2012
	End of July		Estimated Distribution of Amendment 37 State letter
	27-31 August	Concurrent with Air Transport Conference (Washington)	Combine with ad-hoc group on Monday/Friday
	October	Webex/Telephone conf	High Level - Comment Review ?
	7 November	WebEx	Focused sessions on 3 main working areas
	19-30 November 2012	ANC-12 (Montreal)	
2013	14-18 January 2013	AIS-AIMSG/7 (Montreal)	
	4-8 Nov 2013	AIS-AIMSG/8 (...)	
	November 2013	Annex 15 Amendment 37 applicable	
2014	Q1/Q2 2014	AIS-AIMSG/9 (...)	
	September 2014	AIS-AIMSG/10 (Montreal)	Finalised (by SG) Amendment 38, PANS-AIM
2015	Febr 2015	AIM/IM Divisional Meeting (Montreal)	Draft Pans-AIM Draft Amendment 38 + SWIM elements?
2016	November 2016	Annex 15 Amendment 38 applicable & PANS-AIM introduced	Completion of AIS-AIMSG work program

23. **NEXT MEETINGS**

23.1 The group decided that the next meeting should be held in 14 to 18 January 2013 in Montréal, Canada.
