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

FIFTH MEETING

Montréal, 7 to 11 November 2011

SUMMARY OF DISCUSSIONS

1. **HISTORICAL**

1.1   The fifth 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 7 to 11 November 2011.

1.2   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, Michael Hohm, Technical Officer, Aeronautical Information Management, ICAO. The Secretary was assisted by the following members of the ICAO secretariat; Ms. Roberta Luccioli, Ms. Eva Noreus, and Dr. Alexander Pufahl. The names and addresses of the participants are listed in Appendix A.

1.3   The meeting was pleased to welcome Mr. Francois Coetzee as a new member nominated by South Africa.

1.4   The meeting was opened by the Chairman who noted the progress made thus far and reviewed the objectives of the group. He thanked the group for their valuable work and continued support.

1.5   The Chairman noted that the work of the Study Group was originally envisioned to have been completed after 4 years. It is evident now that the work of the group will be prolonged to meet the need for work yet to be delivered. In particular, the group will need to ensure that Amendment 38 to Annex 15 can be developed for Adoption in 2016.

1.6   The meeting considered the following agenda items:

Opening of the meeting

Working arrangements

Status of work programme and follow-up action items

Agenda Item 1:   Development and implementation of AIS-AIM transition

1.1   Development of Annex 15 Amendment 37

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; STATUS OF WORK PROGRAMME; FOLLOW-UP ACTION ITEMS

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

1.10   The Chairman informed the meeting that the Status of the work program and follow-up action items would be covered with the respective agenda items and the follow-up actions would be reviewed at the end of the meeting.

AGENDA ITEM 1:   DEVELOPMENT AND IMPLEMENTATION OF AIS-AIM TRANSITION

2.   **AGENDA ITEM 1.1: DEVELOPMENT OF ANNEX 15 AMENDMENT 37**

2.1   The meeting considered AIS-AIMSG/5-SN/2 which reported the outcome of the work of the ad-hoc group on AIM development completed at their meeting in Silver Spring, Maryland, held 29 August and 2 September 2011.   The Rapporteur of the group also informed the meeting that subsequent to the meeting a significant amount of meaningful comment was received from members not able to attend the meeting ant at this had been incorporated into the latest draft of Amendment 37 which would be reviewed by the meeting. The meeting expressed its appreciation of the scope of work accomplished and progress of the work and for the efforts made by those who provided additional comment.

2.2   The group was informed that the amendment would introduce a significant change to Chapters 1, 2, and 3 of the Annex which was designed to improve the alignment with other annexes as well as providing a better format for defining the division of responsibilities roles and functions applicable to the state and AIM organization. Additionally the reworked chapter 3 afforded and improved basis for introducing AIM related provisions in a more consistent manner.

2.3   The group held considerable discussion about amendment to the definition AIS product, deliberating whether it should include both *products* and *form*. While a proposal for a different definition was discussed, the group concluded that it would be better to propose a definition that has a general description and is concentrated on the form.

2.4   The group expressed is confusion with respect to the note attached to the definition of "Area Navigation". The secretary notes that the definition had been added relatively recently and that the note was included at the time of addition. It was observed that the definition would be used in other ICAO documents but it was unknown whether the note was included or it's intended function.

> **Action agreed 5/xx — Investigation of "area navigation definition"**
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> That the secretary will investigate the usage of the definition of "area navigation" in other ICAO documents and coordinate within the Secretariat with respect to the intent behind the included note.

2.5   Considerable discussion was conducted on the wording of the current paragraph 3.1.7 and the need to retain the functional description of "and/or originate" in the list of AIS functions.

2.6   The secretary explained to the group that the provision was directive and not permissive in defining the functional responsibilities of AIS. Moreover, for the element in question, the outcome of a

binary concatenation using the expression "shall receive and/or originate" created the obligation to at least receive and if not then the would be an obligation to "originate". The Secretary notified the group that this would be the explanation from the Secretariat when asked for interpretation and that this could have the unintended consequence of creating an obligation to survey for ANS feature data and information in a circumstance where a facility or service refused to forward information. The Secretary relayed to the group that this particular provision had been the cause of confusion in a number of circumstances in defining the scope of the minimal AIS required functions.

Action agreed 5/xx — Scope of AIM functions

2.7   That an Ad-hoc group consisting of Steve (Rapporteur), Francois, Marcelo, Elena Stefan, and Stephane to investigate the appropriateness, usage and impact of the description of the function stages specified in paragraph 3.1.7 (new paragraph 2.2.2) with particular reference to the inclusion of the term 'and/or originate' in conjunction with "receive" and report to the group at AIS-AIMSG/6 their findings and any recommended changes

2.8   Some proposals were deemed to have larger conceptual changes and greater potential for impact were decided to be postponed to amendment 38. In doing this, it was noted that there would be an opportunity to get a wider consensus from States at the MET/AIM divisional meeting planned for 2014.

2.9   The group examined the existing provisions related to "copyright" and "cost recovery" and debated whether to modify them to recognise expanded role of AIS/AIM with the addition of "data sets". The group was informed by the secretary that the provisions were added subsequent to recommendations from the AIS/MAP Divisional Meeting held in 1998.

2.10   The issue of copyright and coast recovery is further examined under agenda item 7. It was noted that the whole issue of copyright, cost recovery and other elements of AIM intellectual property is receiving increasing attention worldwide and requires a level of expertise that is not present in the Study group. In consideration with the work reported under agenda item 7, recognising the sensitivity of the subject, and the need to potentially defer to other stakeholder and expert groups, the consensus reached was that no changes should be considered to the provisions related to cost recovery and copyright.

2.11   The completed amendment 37 proposal is contained in Appendix D to this summary.

3.   **AGENDA ITEM 1.2: DEVELOPMENT OF ANNEX 15 AMENDMENT 38 AND PANS-AIM**

3.1   The meeting recalled Action agreed 4/1 from AIS-AIMSG/4 which tasked the Ad-hoc group on AIM development to draft a PANS-AIM document as a concurrent activity with Amendment 38 development and during the development of provisions, consider their appropriate placement in either Annex 15 or the developing PANS-AIM

3.2   The meeting was provided with AIS-AIMSG/5-SN/3 which presented the culmination of the work thus far completed. The Study Note outlined a proposed document structure for Annex 15 after amendment 38 and a coordinated outline for the new PANS-AIM document as well as a timeline for amendments 4 and 5 to Doc 8126.

3.3   The meeting expressed its appreciation to the ad-hoc group and in particular to Marvin Hoffman for the detailed work to establish a coordinated framework for the concurrent development of amendment 38, the new PANS-AIM, and consequential changes to Doc 8126.

3.4   The meeting acknowledged that the need for a PANS-AIM document has now been widely acknowledged and that it would fill a vital role in standardizing procedures and processes in the ongoing evolution to a net-centric, service oriented AIM. Further, it was recognised that it would be desirable for the development of PANS-AIM to be aligned with the development of other emerging PANS documents such as PANS-MET and PANS-AGA.

3.5   The Secretary provided clarification on the differences between Annexes, PANS, and guidance documents with particular emphasis on how PANs is distinguished from guidance.

3.6   The discussion in the group focused on the need to start separating more clearly the content of the Aeronautical Information publications from the format

3.7   It was concluded that the proposals should be further developed by the existing ad-hoc group (next meeting planned for February 2012) who should also use available material from the AIM concept and AIM roadmap activities.

> **Action agreed 5/xx — Development of Amendment 38, PANS-AIM and Doc8126**
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> That all members of the AIS-AIMSG will provide comments and suggestions for further development on the material contained in AIS-AIMSG/5-SN/3.
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> **Action agreed 5/xx — Development of Amendment 38 and PANS-AIM**
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> That the ad-hoc group tasked with the AIM development, continue the development of Amendment 38 and concurrent development of PANS-AIM in accordance with the objectives and principles of the AIM Operational Concept as it becomes as it becomes available.
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> **Action agreed 5/xx — Coordination with other PANS development**
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> That the Secretary coordinates with other relevant Secretariat sections on similar PANS developments.
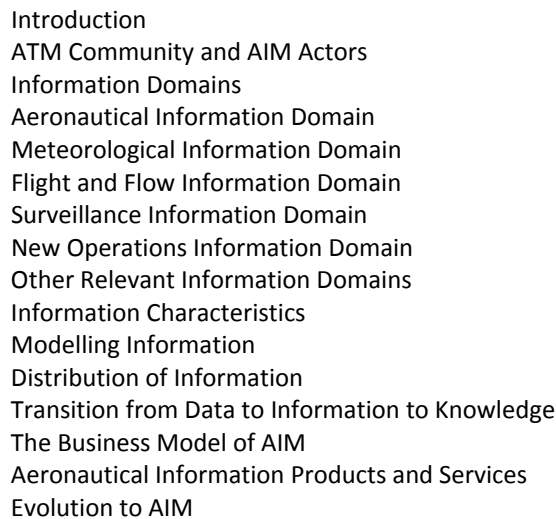
Agenda item 1.3: Global AIM operational concept and roadmap

3.8   The group was provided with a presentation that outlined the methodology as well as some initial results of the work being conducted by the secretariat to develop an AIM Operational Concept. The Group recalled that the secretariat and an ad-hoc group had been charged with Action Agreed 3/16 to develop an initial draft.

3.9   The Group was reminded that the development of an AIM Operational Concept was intended to give a forward view of the benefits to be expected as well as the operating features of future AIS/AIM services that had fully transitioned to a net-centric, service oriented operating methodology fully integrated with other information domains in a SWIM environment. The concept would serve as an objective for roadmap development and guide the development of future changes to ICAO provisions as well as provide a target for future system and service development. In the latter connexion, the group was encouraged to think of the nature if AIS/AIM services that should be provided to meet the needs of the greater ATM community 3, 6, 9, and 15 years into the future.

3.10   The group acknowledged that the development of the concept was of considerable importance and value and observed that the lack of a concept coordinated with other ATM developments, and in particular SWIM concepts was a significant impediment to allowing the development of AIM provisions.

3.11   The majority of the discussion focused on the chapters of the proposed document structure, as detailed below:

Introduction
ATM Community and AIM Actors
Information Domains
Aeronautical Information Domain
Meteorological Information Domain
Flight and Flow Information Domain
Surveillance Information Domain
New Operations Information Domain
Other Relevant Information Domains
Information Characteristics
Modelling Information
Distribution of Information
Transition from Data to Information to Knowledge
The Business Model of AIM
Aeronautical Information Products and Services
Evolution to AIM

3.12   Several of the proposed document chapters were represented in the presentation by a diagram for the purpose of triggering discussion and to gather feedback from the group. For example, a diagram was presented showing the different members of the ATM user community. Controllers, pilots and dispatchers in particular, referred to as the AIM actors, are directly affected by the transition to AIM since they interface with AIM information in an operational context. Another slide addressed the various information domains that AIM has to integrate and interface with, e.g., meteorology, flight and flow, surveillance and other information domains, and how the focus changes depending on one's individual perspective. Then, a slide on the information life cycle was presented and discussed, showing that user feedback is important in validating that the aeronautical information provided was indeed fit for its intended use. This was followed by a diagram showing the Distribution of Information from data producers, or the various accountable sources of information, to data consumers via a Single Authoritative Source.

3.13   The transition from Data to Information to Knowledge to Wisdom was graphically represented by what is known as the DIKW model. This graphic attempted to identify the areas covered by AIS and AIM, as well as some corresponding products. The notion of current AIS products versus future AIM applications was the theme of the following graphic showing the Evolution to AIM. The products and applications were listed for the different temporalities ranging from Planning and Reference, Pre-flight, In-flight to Post-flight.

3.14   The presentation generated constructive discussion. Some of the discussion was concerned with how to differentiate between AIM and SWIM, data and information, static and dynamic, product-centric versus data-centric, etc. The group concluded that it was important to find common, consistent and unambiguous terminology and definitions in order to gain common understanding. Furthermore, it was observed that ideally, these definitions should form part of a global lexicon of data definitions. The

discussion on Single Authoritative Source concluded that a key objective here is to minimize data fragmentation, but that the responsibility will continue to stay with the State, irrespective whether they delegate that responsibility, or not. Another discussion centred on the future of charting under AIM, whether charting will continue to play a role in aviation operations, and in what form it may take in the future.

3.15   Further discussions focused on next steps and how the AIM Operational Concept document should lay the foundation for developing the AIM Roadmap which should closely align with the Aviation System Block Upgrades (ASBUs) now under development. A debate ensued whether the group can leverage lessons learned from previous roadmap initiatives since there is little time remaining for the development of the AIM concept and roadmap. It was recognized by the group that the AIM concept also needs to be coordinated with the development of a SWIM concept. The goal, however, is to have a draft AIM concept document before the end of December 2011 as a step in preparation for the 12th Air Navigation Conference.

> **Action agreed 5/xx — AIM Operational Concept**
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> That an ad-hoc group composed of Michael (Rapporteur), Alexander Augustine, Bill, Paul, and Stefan as a matter of priority, further develop the AIM Operational Concept and roadmap for use by the meeting of the ad-hoc group in February.

AGENDA ITEM 2:   AIM DATA COLLECTION AND REQUIREMENTS

4.   AGENDA ITEM 2.1:   ETOD

4.1   The group was presented with AIS_AIMSG/5-SN 18 which reported on the efforts undertaken by EUROCAE WG44/RTCA SC217 group to further clarify the amended provisions for eTOD provided in annex 15, amendment 26.

4.2   The meeting was informed that the efforts to resolve outstanding ambiguities in the current eTOD provisions were reflected in the aggregated change proposal presented in AIS-AIMSG/5-SN2. It was noted that there change proposal did not contain any material changes to collection requirements but sought to bring clarity to the provisions.

4.3   The group was of the opinion that the proposed changes did much to resolve inconsistencies in the provisions. Notwithstanding, outstanding items requiring attention by the secretariat include:

    a)   The figures need to be amended and be aligned with the text; and

    b)   The need to exclusion the expression of numerical integrity values.

4.4   The group noted that certain expressions such as "provided" vs. "made available" and the effort to interpret the context of usage indicated that the responsibility and accountability for data sourcing and collection was still an area of critical interest in the implementation of eTOD. The group was informed that there was no intent in the design of the provisions to define the responsibility and financial liability associated with the provision of eTOD and that as in most circumstances it was the prerogative of individual states to decide how best to implement and apportion costs within the scope of state authority.

5.   **AGENDA ITEM 2.2: AMDB**

5.1   The meeting noted with satisfaction, the progress of coordinating the development of appropriate AMDB specifications with the Aerodromes panel since AIS-AIMSG/4. In particular, the group was please to note the level of agreement that was achieved for the coordination of AMDB provisions in Annexes 14 and 15. It was noted that the finalised proposed provisions for both annexes will be presented to the Aerodromes Panel meeting at the end of November 2012.

5.2   Notwithstanding the level of coordination among the stakeholders it was noted that there is a different vocabulary used in RTCA/EUROCAE and ICAO, for example, aircraft stand – parking stand, and that this difference was likely to persist.

5.3   In considering the application of AMDB there was agreement that the need to define implementation and collection of feature data would be closely tied to an indentified need and operational use where the application of the data would provide a safety benefit or be used as mitigation. Notwithstanding, the development of AMDB is not enough matured to include specific criteria for when AMDB is needed, and therefore the application of AMDB will only be included as a recommendation at this time.

5.4   A question was posed on the use of Aerodrome Mapping *Data Base* as opposed to *Data Set*. It was observed that database and data Set were not synonymous or interchangeable since a database implied structure, functions, and utilities that were not necessary to define a data set. The comparison was made with eTOD and the potential for overlapping data set descriptions. It was explained to the group that AMDB is not something new, and that RTCA/EUROCAE has developed a format before AIXM was developed. Notwithstanding that AIXM 5.x can handle AMDB, AMDB is defined as its own conceptual model like AICM.

5.5   In response to a concern expressed that the AMDB contained an expansive feature list and the observation that many if not most of the currently envisioned and implemented applications only use a minor subset of the list, it was also noted that there is not intended that the entire list would be applicable where a need to collect AMDB data was identified. In this connexion it was determined to be necessary to develop na include provisions outlining that the required features to be collected would be determined in association with the operational need defining the AMDB implementation. It was further concluded that this would require specific guidance on application.

> **Action agreed 5/xx — Clarification and Guidance on the meaning of "where deemed relevant"**
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> That Stephane will develop guidance on the application of AMDB in connection with the use of the term "where deemed relevant by States" and on the identification of required features associated with specific applications.

Action agreed 5/xx —

That the secretariat will ensure that the relevant parts of Annex 14, Appendix 5 are copied to Annex 15 as part of amendment 37.

6.   **AGENDA ITEM 2.3:   NUMERICAL REQUIREMENTS (INCLUDING RESOLUTION)**

6.1   Under this item, the group considered AIS-AIMSG/5-SN/9 concerning the use of the term "Fix Formation".

6.2   The group recalled that the use of the term had been raised in AIS-AIMSG/4 in the connexion that it had been reported to have caused some confusion in determining its application. The group noted that its use in Annex 4 and 15 was confined to values for distance and bearing listed in Appendices 6 (Annex 14) and 7 (Annex 15) in the tables that were associated with the formation of en-route, terminal, and instrument approach procedure fixes. The specific concern conveyed previously was that the listing of "distance" and "bearing" in combination with the term "fix formation" implied a specific constraint on how fixes were derived.

6.3   The group recalled that the issue originated from a European study of AIP compliance where it was determined that the use of the term had been interpreted differently by AIS staff in different administrations.

6.4   It was observed in AIS-AIMSG/4 that fixes could be composed by combinations using bearing/bearing, bearing/distance, distance/distance, or by the specification of geographic coordinates. The opinion of the group at AIS-AIMSG/4 was that clarity would be provided by incorporating a definition of "fix formation" that would detail the generic ways that fixes could be identified.

6.5   As a result, a definition was developed and Action Agreed 4/6 assigned the review and refinement of the definition to the secretariat and the secretariat was further charged to seek the views of the Instrument Flight Procedures Panel (IFPP).

6.6   The secretariat noted that any attempt to define "fix formation" could have a significant impact on the work of the IFPP. Furthermore it was note that the use of the term was well understood within the IFPP community and any attempt to further define it could have significant ramification on PANS-OPS. In conducting its analysis, the secretariat noted that if there was to be a need to define the term the definition should come from the IFPP. The secretariat looked at the original issue and came to the conclusion that the term was not really necessary to be used in Annex 4 an 15 since the primary objective of its use was to define the data quality requirements to be assigned to bearings or distances that were used for the determination of certain specified fixes and that there was no intention to specify which elements were required or eligible for the determination of fixes.

6.7   The secretariat presented AIS-AIMSG/5-SN/9 which outlined the results of the secretariat consultations and investigations and proposed that rather than defining the term "fix formation", the term should be deleted in favour of rewording the lines in the table where it was used to emphasise the element of bearing or distance that was associated with a specified fix.

6.8   During discussion, it was again observed that dealing with the term "fix formation" could have undetermined ramifications on PANS-OPS. The group decided that accepting the secretariat proposal would be an effective means of dealing with the issue without creating issues for PAN-OPS. The group

agreed to amend the sections of the Annex 4 and 15 appendices and to have the changes incorporated into the AIS-AIMSG/5-SN/2 Annex 15, Amendment 37 proposed changes.

7.   **AGENDA ITEM 2.4: HEIGHTING**

7.1   No papers were presented on this subject but the group considered the subject in light of the most recent developments.

7.2   During AIS-AIMSG/2, it was observed that Annex 15 paragraph 3.7.2 was missing guidance material on the Earth Gravitational Model, EGM-96. As a result, during AIS/AIMSG/4, ASIAIMSG/4-SN 14 was presented which provided proposed text. During the discussion it was suggested that EGM-08 could be used. The consensus of the group was that there is number of methods by which the heighting requirements of ICAO Annex 15 can be met and that no single method is appropriate to all States.

7.3   Given the identification of this issue originally at AIS-AIMSG/2 and subsequent attempts at progressing the issue, the group discussed what might be mature for inclusion in amendment 37 of Annex 15. The consensus reached by the group was that mature material was not yet ready for inclusion in the Annex. The group acknowledged that there is a need to change from EGM-96 to EGM-08 but that it was best to wait until Amendment 38. In support of this it was observed that such a change could have an impact on a larger community and that it would be desirable to seek consensus at a larger forum. In this regard it was noted that the proposed Divisional Meeting in 2014 would allow a larger group to consider the change and have the advantage of being in sufficient time for inclusion in amendment 38.

7.4   It was agreed that the subject need further study and in particular, it was considered important that any proposed text be validated by a specialist with geodetic expertise. Additionally it was considered necessary to identify the user community effected by WGS-84 and any changes to a hieghting reference.

        Action agreed 5/1xx — Heighting

        That Greg and Marvin will provide a Study Note at the next meeting providing an update to the material available on heighting and on the use of EGM-08.

AGENDA ITEM 3:   AIM INFORMATION AND DATA ASSEMBLY, EXCHANGE, AND PROMULGATION

8.   **AGENDA ITEM 3.1: DIGITAL NOTAM**

8.1   Under this item, the Group was presented with AIS-AIMSG/5-SN/5 which gave a report on the FAA experience in using Aerodrome Mapping Data in support of Graphical NOTAM.

8.2   The group expressed its admiration for the work accomplished by the FAA and appreciated the facility to develop a graphical NOTAM to convey construction activities at an aerodrome demonstrated the emerging data convergence that will be the norm under a SWIM environment. Furthermore the group was appreciative of the significance of the operational improvement that this would allow the user community.

9.   **AGENDA ITEM 3.2: NOTAM/SNOWTAM/ ASHTAM**

9.1   The group considered AIS-AIMSG/5-SN4 which presented the NOTAM Guidance contained in Chapter 5 of DOC 8126. The group expressed it's appreciation to Eva Noreus for the detailed work undertaken to clarify und update the guidance give for NOTAM and in particular the in depth revision to the NOTAM Code.

The group discussed the Trigger NOTAM specification and reached consensus to extend the duration for AIS Sup Trigger NOTAM to cover the validity time. The group also questioned the need for the monthly printed plain language list of valid NOTAM and concluded that more information was need on the utility and actual use of the list

          Action agreed 5/xx — Monthly plain language list of valid NOTAM

          That the Secretariat will investigate the use of the monthly plain language list of valid NOTAM and report back to the group.

9.2   Since the proposed amendment to DOC 8126 was rather extensive, the group consider that more time would be necessary to properly review and comment on the revision.

          Action agreed 5/xx — NOTAM Guidance

          That the AIS-AIMSG will provide comments on AIS-AIMSG/5-SN/4 to the Secretariat before 25 November 2011 & SN 12 (to Steve) before end Feb 2012.

9.3   The group was presented with AIS-AIMSG/5-SN/12 which reported on the recent activities of the International Volcano Ash Task force (IVATF) and solicited the opinion of the AIS-AIMSG whether a new term, such as "Volcanic Ash Alert Area" could be considered as a fourth internationally-recognised term to be notified by NOTAM for volcanic ash. The study note further requested the AIS-AIMSG to convey their findings to the IVATF/3 meeting, which takes place 15 to 17 February 2012.

9.4   The study note pointed out that one of the key concerns of the IVATF is to harmonise the global approach to volcanic ash reporting processes to facilitate the implementation of the Operator Safety Risk Assessment as part of *The Management of Flight Operations with Known or Forecast Volcanic Cloud Contamination.* It was observed that the application of different terminology across States/Regions does not assist operators to develop a common approach to flight in areas of volcanic ash, irrespective of where in the world they were flying.

9.5   The study note further noted that ICAO Annex 15 permits the notification by NOTAM of Prohibited, Restricted or Danger areas, which are the only three internationally-agreed terms that States can use to identify the presence of hazards which may affect air navigation or to limit access to a particular area. It was further conveyed that the IVATF had concluded that none of these terms were adequate for the purpose of alerting flight crews to the potential presence of volcanic ash and had procedural implications not related to the hazard created by ash.

9.6   It was pointed out that the use of a new term was not currently supported by a AIXM "static data" feature for system now in use in some states. The problem that this would pose would be the generation of a NOTAM from automation. The Secretary reminded the group that the function of AIS/AIM was to acquire the information necessary to convey the reality of the ATM system and conditions to the user and

not to impose constraints on how the ANS infrastructure was to be designed, provided, and conditions reported.

Action agreed 5/xx — Harmonised Notification Areas of Volcanic Ash

That the AIS-AIMSG will provide comments on AIS-AIMSG/5-SN/12 and in particular on the impact of using a new term to describe areas effect by volcanic ash to Steve before end February, 2012.

9.7   The Secretary provided a verbal update on the progress on developing a global reporting format. It was noted that there is considerable interest now in harmonising the formats used by different agencies to report various airspace and environmental conditions. In particular, there is interest in coalescing the diverse reporting mechanisms, formats, and measurement standards used in winter condition reporting at aerodromes. The Secretary noted that there are numerous friction measurement schemes in use globally but that few of them provided data that was coordinated with the requirements for operational conditions listed in aircraft flight manuals. This has posed a dilemma for flight crews who desire and need greater fidelity in determining accurate landing distances in reduced friction scenarios. In this connexion the secretary reported that there is considerable interest in the standardised condition reporting emerging from the FAA TALPA ARC program.

9.8   The group reviewed the Report of the Second Meeting of the International Volcanic Ash Task Force (IVATF). The group was informed that there was considerable interest and participation by the airlines in the work of this task force. In particular the Airlines have highlighted the varying levels of information and multiple channels of distribution as a significant impediment effecting safety and economic operation during a volcano effect. The Message conveyed to the group is that the Airlines would like to see harmonised and improved information delivery concerning the presence of volcanic ashes so that they could make effective and safe risk based decisions. Of particular note was the airlines concern that the absence of such information could lead to pre-emptive airspace closures and that this was a consequence to be avoided.

9.9   The meeting was informed that the airlines were anxious to participate in any group or forum that would lead to development of more effective information dissemination.

Action agreed 5/xx — Volcanic Ash Information Group

That an Ad-hoc group consisting of John Synnott (rapporteur), Steve, Yochi, Augustin, Paul, Greg (?) and the Michael will investigate the relevant outcomes of the IVATF with a view to proposing a way forward on Volcanic Ash hazard reporting.

10.   AGENDA ITEM 3.3:   INTEGRATED BRIEFING

10.1   The group reviewed AIS-AIMSG/5-SN/8 which provided updated guidance on integrated briefing .

10.2   The group expressed confusion on the use of the term "facility" in the proposed paragraphs 8.1.3 and 8.1.8 and observed that this would need further work to achieve clarity.

10.3   The group observed that the notion of integrated briefing had changed from the issues that were first presented in AIS-AIMSG/2 and that there was a need to clarify the future role and function of integrated briefing. It was noted that the proposal, while containing some future oriented elements, does not cover the transition to AIM. In this respect, it was particularly noted that there will be a need for clarification with respect to an evolved AIM system operating within a SWIM environment. It was also noted that guidance for the transition of evolved capabilities and functions will need to highlight the necessity to have a parallel system in operation during any transition period.

10.4   The secretariat (Roberta) posed a number of questions which the group agreed to provide comments.

> **Action agreed 5/xx — Integrated Briefing**
>
> That the AIS-AIMSG will provide comments on AIS-AIMSG/5-SN/8 to the Secretariat before 25 November 2011

11.   AGENDA ITEM 3.4:   USE OF THE PUBLIC INTERNET

11.1   The group reviewed AIS-AIMSG/5-SN/11 which proposed changes to Doc 9855 and outlined ways that an increasing use of the internet could improve the operation of the AIM functional activities.

> **Action agreed 5/xx — Study Notes for comment**
>
> That the secretariat will post AIS-AIMSG/5 SNs 4, 8, and 11 on the secure website in word format to facilitate the ability of the group to comment.
>
> **Action agreed 5/xx — Use of the Public Internet**
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> That the AIS-AIMSG will provide comments on AIS-AIMSG/5-SN/11to the Secretariat before the end of February, 2012
>
> **Action agreed 5/xx — Use of the Public Internet**
>
> That the secretariat will provide an updated proposal for the amendment of DOC 9855 for presentation at AIS-AIMSG/6

12.   AGENDA ITEM 3.5:   AIP TEMPLATE

12.1   The proposed changes to the AIP template contained in Annex5 15, Appendix 1 were reviewed in connection with Agenda Item 1.1

> **Action agreed 5/1xx — Changes to GEN 2.2**
>
> That Paul will investigate the rationale behind the proposed changes to GEN 2.2, with particular emphasis on the apparent restriction on scope and report back to the Secretary

13.   **AGENDA ITEM 3.6:   CHARTING**

13.1   The meeting was presented with AIS-AIMSG/5-SN/13, AIS-AIMSG/5-SN/14, AIS-AIMSG/5-SN/15 which provided a work schedule for the Ad-hoc group on Aeronautical Charting for the advancement of Annex 4 – Aeronautical Charts, Aeronautical Charting Manual (Doc 8697) and harmonisation of the two with the other documents, based on three steps:

- A *STEP 0 – Consolidation*, where Amendment 4 to the Aeronautical Chart Manual (Doc 8697) will be produced, with the task of bringing the manual in line with Amendment No. 56 of Annex 4 and of generally reviewing it, whether the structure shall be slightly updated.

- A *STEP 1 - PBN – A4 Amd 57, Doc 8697 Amd 5,* where Annex 4 Amendment 57 will be developed, based on IFPP inputs and on material coming from the ICAO Aeronautical Chart 1:500 000 harmonisation activity in the ECAC States. In STEP 1 Doc 8697 will be updated to be in line with Amendment No. 57 of Annex 4.

- A *STEP 2 – Data Sets – A4 Amd 58, Doc 8697 Amd 6*, where Annex 4 will be fully transformed by Amendment 58 to SARPs which are needed in an environment where all aeronautical data, obstacle data, and terrain data will be provided in form of data sets; consequently raising the questions : (1) do we need (electronic) charts when data sets are available? Do we need data derived charting? If yes, why? Do we need (electronic) charts in addition to data sets just as visualisation and for information only?

13.2   The meeting expressed its appreciation for the significant amount and the detail of the work accomplished

13.3   The meeting also realized that the STEP 2 topics need a dedicated and in depth discussion with the experts.

> **Action agreed 5/XX — Review of Annex 4 amendment proposals**
>
> That the **Ad-hoc group on Aeronautical Charting** is tasked with the collection and development of Annex 4 amendment material.
>
> **Action agreed 5/XX — Review of Doc 8697 amendment proposals**
>
> That the **Ad-hoc group on Aeronautical Charting** is tasked with the collection and development of DOC 8697 amendment material.
>
> **Action agreed 5/XX — Development of Annex 4 and Doc 8697 amendment proposals**
>
> That the **Ad-hoc group on Aeronautical Charting** will further their work on developing amendment proposals by meeting in conjunction with the **Ad-hoc group on AIM development** in Brussels (13th-17th of February 2012) to clarify STEP 0 and STEP 2.

13.4

14.   **AGENDA ITEM 3.7:   AIS MANUAL, DOC 8126**

14.1   The group was presented with AIS-AIMSG/5-SN6 which reported on the work by the secretariat to update Chapter 9 of DOC 8126. The group was informed that the update of chapter 9 was considered timely in view of the proposed changes to chapter 8.

14.2   The group expressed its appreciation for the work performed on the update but noted that

Action agreed 5/xx — Update of Chapter 9 of Doc8126

That the AIS-AIMSG will provide comments and suggestions for further development on the material contained in AIS-AIMSG/5-SN/6 to the secretariat by the end of February, 2012

14.3

AGENDA ITEM 4:   INTEGRATION WITH OTHER SERVICES

15.   **AGENDA ITEM 4.1:   SWIM**

15.1   No papers were presented on this agenda item, however the group had made available to it, 2 draft papers to be presented to the ATMRPP at its next meeting

15.2   The group was of the opinion that SWIM was a topic that extended to and effected the work programs of many groups but that the ATMRPP was in the best position to outline SWIM in the Context of the meaning of the Global ATM Operational Concept. The ATMRPP paper was provided for the information of the Group

15.3   It was observed that within the FAA NextGen program, SWIM is primarily an implementation program as opposed to SESAR where it is constituted as a research program.

15.4   The meeting was informed of a Secretariat initiative to develop a high level SWIM concept for consideration at the 12th Air Navigation Conference with the intent to find the common ground between the two major programs.. The coordination between ATM, MET and AIS is seen to be crucial.

Action agreed 5/xx — Availability of ATMRPP SWIM and IM papers

That the Secretary will undertake to obtain relevant papers concerning SWIM and Information Management from the ATRPP and post them on the AIM-AIMSG secure site

16.   **AGENDA ITEM 4.2:   MET INTEGRATION**

16.1   No papers were presented on this topic

17.   **AGENDA ITEM 4.3: FIXM**

17.1   Under this item the group was presented with a presentation outlining the development and current status of Flight Information Exchange Model (FIXM)

18.   **AGENDA ITEM 4.4: GLOBAL ANS IMPLEMENTATION UPDATES**

18.1   AIS-AIMSG/5-IP/5 was provided for the review of the group detailing current AIM implementation in China.

     Action agreed 5/xx —

     That the Secretary will provide latest update to the material on Aviation System Block Upgrades (ASBUs) to the group.

AGENDA ITEM 5: AIM QUALITY SYSTEM

19.   **AGENDA ITEM 5.1: AIM QUALITY MANUAL**

19.1

19.2

20.   **AGENDA ITEM 5.2: DATA INTEGRITY**

20.1

20.2   .

     Action agreed 5/1xx — **AIM QUALITY SYSTEM / DATA INTEGRITY**

     That the Secretariat will update Chapter 8 of the ***Manual on Quality Management Systems for Aeronautical Information Management*** to take into account latest data integrity changes.

21.   **AGENDA ITEM 6:   AIM STAFF TRAINING GUIDANCE**

21.1   The AIS-AIMSG was presented with AIS-AIMSG/5-SN/19 which reported on the outcome of the ad-hoc group developing AIM guidance material. The group noted with satisfaction that the task was now complete and that the Ad-hoc group had delivered a very good document. The group further observed that this was a defined deliverable in the original terms of reference of the group and that it was now able to close the task

21.2   The group considered that the competency based approach taken in the document was of particular relevance for AIM staff positions with the particular observation that there was no standard

description of what would constitute an AIM staff position.   The Group recognised that AIM organizations would require a diverse set of knowledge, skills, and abilities combined is a range of operational functions and that this would imply that a number of professional job descriptions would be employed.

21.3   As a consequence of the diverse expertise requirements inherent in performing AIM tasks, it was recognised that rather than providing a standard training syllabus, the competency based approach would allow for a modular approach to training and training development where the specific needs of a particular job description could be identified through a structured approach. It was recognised however, that some states may still need additional assistance and guidance in using the framework to develop specific training programs. It was observed though, that would likely imply that the need is larger than training and that the real need was to have guidance and assistance in determining the business processes and functions of an AIM organization.

> **Action agreed 5/1xx — Finalisation of the AIM Training Development Manual.**
>
> That the ad-hoc group will add a bibliography to the final draft of the ***AIM TRAINING DEVELOPMENT MANUAL.***
>
> **Action agreed 5/1xx — Completion of the AIM Training Development Manual task.**
>
> That the ad-hoc group will deliver the final draft of the ***AIM TRAINING DEVELOPMENT MANUAL*** to the Secretariat

22.   AGENDA ITEM 7:   LEGAL AND INSTITUTIONAL ISSUES

22.1   AIS-AIMSG/5-SN7 was presented to the group which provided a legal evaluation of the conclusions of the ICAO ad hoc group on legal and institutional issues presented in AIS-AIMSG/2-SN/3 and AIMSG/2-SN/17, and outlines CANSO's analysis of the practical outcome.

22.2   From the perspective of the ANSPs as outlined at CANSO, the Study note noted three elements with respect to how copyright and cost recovery should be dealt with at the global level:

a)   Speak to State responsibility, not liability;

b)   Point to copyright laws, and not attempt to determine copyright; and

c)   Permit a flexible mechanism for cost recovery options.

22.3   Discussion ensued about the topics of copyright, cost recovery and liability. Opinion was expressed that ICAO should not make provisions concerning how States handle responsibility. However it was recognised that roles and responsibility need to be clearly defined under State responsibility. The group agreed that it is important for the industry and airspace user that the State takes the responsibility for the contents of aeronautical data and aeronautical information.

22.4   A proposal to remove all items about copyright, cost recovery and liability was expressed. The group was informed that the provisions were included in Annex 15 following recommendations for the AIS divisional meeting 1998, it was considered that great caution would need to be exercised prior to proposing any changes.

22.5   Concerns were raised about current practices applying differential charges to users of data, e.g. EAD which charges to company like Jeppesen has hampered the evolution to AIM. The group concluded that items concerning cost recovery it is not in the purview of the AIS-AIMSG under its terms of reference and should be referred to the ANSEP.

> **Action agreed 5/1xx** —
>
> That the adhoc group on legal and institutional issues consisting of Kelly-Ann (rapporteur), Bill Kellog, Steven Hill, Stephane Dubet, Paul Bosman, John Synott, Jose (Cledi) Lima Figueiredo, and Francois Coetzee to develop from the existing material a list of issues for discussion at the next meeting.
>
> **Action agreed 5/1xx** —

23.   AGENDA ITEM 8:   WORK PROGRAMME

23.1   Xxx

24.   AGENDA ITEM 9:   ANY OTHER BUSINESS

24.1   It was brought to the attention of the group that the AIM Implementation Task Force in the Asia and Pacific Region was wishing closer coordination with the work of the AIS-AIMSG and in particular, would appreciate an update on Study Group activities and outcomes. The group is invited to send a representative to their next meeting in March. Members able to attend may contact Tony Williams.

25.   REVIEW OF DRAFT SUMMARY OF DISCUSSIONS

25.1   xxx

26.   NEXT MEETINGS

26.1   xxx

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