



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

### **SECOND MEETING**

**Montréal, 10 to 13 November 2009**

### **SUMMARY OF DISCUSSIONS**

#### **1. HISTORICAL**

1.1 The second meeting of the Aeronautical Information Services-Aeronautical Information Management Study Group (AIS-AIMSG) was held at the International Civil Aviation Organization (ICAO) Headquarters in Montréal, Canada, from 10 to 13 November 2009.

1.2 The meeting was opened by David Lewtas, Chief, Aeronautical Information Unit (C/AINF), MET/AIM, of the Air Navigation Bureau (ANB) and Dr. Olli M. Turpeinen, Chief, Meteorology and Aeronautical Information Management Section (MET/AIM) who briefed the group on forthcoming milestones, in particular a possible MET/AIM Divisional meeting in 2014 of which the Air Navigation Commission would be informed in the Spring of 2010. He thanked the group, on behalf of the Director of the Air Navigation Bureau of ICAO, for their valuable work and continued support.

1.3 The names and addresses of the participants are listed in Appendix A. Mr. Paul Bosman, was nominated to be Chairman of the meeting. The meeting was served by the Secretary of the AIS-AIMSG, David Lewtas, Chief, Aeronautical Information Unit (C/AINF), MET/AIM, of the Air Navigation Bureau (ANB) who was assisted by Jean-Michel Galais and Michael Hohm, Technical Officers, AINF.

1.4 The meeting considered the following agenda items:

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| <b>Agenda Item 1:</b> | <b>Opening of the meeting</b>           |
| <b>Agenda Item 2:</b> | <b>Election of Chairman</b>             |
| <b>Agenda Item 3:</b> | <b>Adoption of working arrangements</b> |
| <b>Agenda Item 4:</b> | <b>Adoption of the agenda</b>           |
| <b>Agenda Item 5:</b> | <b>Global strategy/roadmap</b>          |

- Agenda Item 6: Aeronautical information models**  
6.1 Guidance material on digital data exchange  
6.2 Including AIM in Annex 15
- Agenda Item 7: Electronic AIP (eAIP)**
- Agenda Item 8: NOTAM and related messages**  
8.1 Amendment No. 2 to the *Aeronautical Information Services Manual* (Doc 8126)  
8.2 AIS-MET data link services
- Agenda Item 9: Electronic charts and GIS**  
9.1 Amendments to Annexes 4, 14 and 15 related to aerodrome mapping  
9.2 Guidance material for aerodrome mapping  
9.3 *World Geodetic System — 1984 (WGS-84) Manual* (Doc 9674)  
9.4 *Aeronautical Chart Manual* (Doc 8697)
- Agenda Item 10: AIM quality management system**
- Agenda Item 11: Electronic terrain and obstacle data (eTOD)**
- Agenda Item 12: AIM staff training guidance**
- Agenda Item 13: Legal and institutional issues related to AIM**
- Agenda Item 14: AIM in the future ATM System**  
14.1 Information on NextGen and SESAR  
14.2 Consideration of the MET component
- Agenda Item 15: Future work programme of the group**
- Agenda Item 16: Any other business**

1.5 The group also agreed to discuss the Flight and Flow Information for a Collaborative Environment (FF-ICE) Concept under a new Agenda Item 14.3.

1.6 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 [www2.icao.int/en/ais-aimsg](http://www2.icao.int/en/ais-aimsg).

1.7 Appropriate working hours were adopted by the group.

**AGENDA ITEMS 1 TO 4: OPENING OF THE MEETING ELECTION OF CHAIRMAN;  
ADOPTION OF WORKING ARRANGEMENTS; ADOPTION OF THE AGENDA**

1.8 These items are covered under Section 1: Historical.

## 2. AGENDA ITEM 5: GLOBAL STRATEGY/ROADMAP

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

2.2 The group was made aware that during this consultative process, three issues had emerged:

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

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

2.4 Considering that there was already a subgroup of the AIS-AIMSG working on including AIM in Annex 15, the group agreed to the following action:

### **Action agreed 2/1 — Inclusion in Annex 15 of new definitions related to AIM**

That the ad-hoc group consisting of **Greg (Rapporteur), Amy, Augustin, Charity, Paul, Stefan, Stéphane, Tony** and **Valerie**, be tasked with reviewing, for suitability for inclusion in Annex 15, the terms and definitions in the *Roadmap for the Transition from AIS to AIM*, and present a draft list of definitions to AIS-AIMSG/3, with the objective of including them in Amendment 37.

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

2.6 It was agreed that any actions on legal and institutional issues as they relate to material to be included in Annex 15 and related guidance material should be deferred to the discussion of Agenda Item 13.

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

**Action agreed 2/2 — Review of the data integrity requirements in Annex 15**

That the ad-hoc group consisting of **Greg (Rapporteur), Amy, Augustin, Charity, Paul, Stéphane, Stefan, Tony and Valerie** be tasked with reviewing the data integrity requirements in Annex 15 with a view to clarifying them or developing additional requirements as necessary and submit proposals to the AIS-AIMSG/3 meeting for possible inclusion in Amendment 37 to Annex 15.

2.8 Concerning the CANSO AIM Working Group activities, the group agreed that the development of a Glossary which would aim to achieve a common terminology and definitions with respect to AIM should re-use existing material including the result of the international Aeronautical Information Harmonization Working Group (AIHWG). It was agreed that a careful consideration should be undertaken of definitions, both broad and highly technical, being developed by the various groups. Further it was agreed that an incremental approach to the implementation of AIS to AIM should be taken and any Annex 15 amendments should start with preserving initially the integrated aeronautical information package and adding AIM services.

**3. AGENDA ITEM 6.1: GUIDANCE MATERIAL ON DIGITAL DATA EXCHANGE**

3.1 The group recalled that AIS-AIMSG/1 had proposed text for inclusion Amendment 36 to Annex 15 to introduce a requirement to enable data exchange (Action agreed 1/6 refers). The proposed text modified an existing Recommended Practice in Annex 15 related to the use of automation and added a note indicating that guidance material on an aeronautical conceptual and data exchange model for the development of databases and the establishment of data exchange services was to be found in Doc 8126. The group was reminded that the aeronautical information exchange model (AIXM) was a means of compliance for aeronautical data exchange. It was agreed that a new chapter describing AIXM version 5 (hereafter referred to as AIXM 5), along with a CD-ROM containing complete AIXM 5 documentation, be included in the next amendment to Doc 8126.

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

3.3 It was generally accepted that States which had not yet begun to develop aeronautical data exchange systems would benefit most from adopting AIXM 5 as a data model, since it incorporated functionality and improvements not available in AIXM 4.5. It was considered that the industry had a preference for developing AIXM 5 systems.

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

3.5 It was noted that AIXM 5 was fundamentally different from AIXM 4.5, with AIXM 5 introducing provisions for metadata, UML, GML, a temporality model and latest ICAO and industry requirements for obstacles, terminal procedures and aerodrome mapping. The group considered that while the implementation of data exchange based on AIXM 5 was preferable, it should be possible to

implement data exchange based on AIXM 4.5 with appropriate local extensions and supported by tools that would automatically convert the data into an AIXM 5 format.

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

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

**Action agreed 2/3 — AIXM governance**

That **Paul** and **Gregory** develop a proposal for the establishment of an appropriate body with technical and broad-based representation to support the governance of the evolution of the AIXM model by for review by AIS-AIMSG/3.

**Action agreed 2/4 — Inclusion of guidance material on AIXM in Doc 8126**

That the Secretary include guidance material on AIXM in Amendment No. 3 to Doc 8126.

**4. AGENDA ITEM 6.2: INCLUDING AIM IN ANNEX 15**

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

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

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

- 1) definition of AIM services and the scope of AIM within the context of SWIM;

- 2) provision of data — legal and copyright effects on data ownership; and
- 3) data handling processes including the means of compliance with integrity Standards to be established in Annex 15.

4.4 The group examined all three areas with a view that it would provide additional input to the ad-hoc group. The results of this work are found in Appendix C.

**Action agreed 2/5 — Including AIM in Annex 15 and relevant guidance material**

That the ad-hoc group consisting of **Greg (Rapporteur), Amy, Augustin, Charity, Gregory, Paul, Stefan, Stéphane, Steven, Tony and Valerie:**

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

**5. AGENDA ITEM 7: ELECTRONIC AIP (eAIP)**

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

**Action agreed 2/6 — Review of the draft guidance material on the eAIP**

That

- a) the group provide further comments on the draft guidance material on the eAIP to the Secretary by 31 January 2010;
- b) **Paul** provide the Sample eAIP to the Secretary for review by 30 April 2010;
- c) the Secretary finalize the edited eAIP guidance material and consequential changes to Doc 8126 by 30 June 2010;
- d) **Paul** provide the Sample eAIP (as revised by the Secretary) and Toolbox CD-ROM by 31 July 2010; and
- e) the Secretary include the material in Amendment No. 3 to Doc 8126.

**6. AGENDA ITEM 8.1: AMENDMENT NO. 2 TO THE AERONAUTICAL INFORMATION SERVICES MANUAL (DOC 8126)**

6.1 The group noted the progress report on Amendment No. 2 to Doc 8126 and that the amendment would be distributed within the coming month. The group noted that the title “ATC surveillance Minimum Altitude Chart” that replaces the previous denomination of “Radar Minimum Altitude Chart” was consistent with current Annex 4 nomenclature. The group also noted that one of the current difficulties of the NOTAM format was that it allowed for flight level (FL) to be used in item Q) and another unit of measurement to be used in Items F) and G). It was noted that the Secretary would verify that the text in Amendment No. 2 was correctly entered as “one aerodrome per NOTAM” rather than “one NOTAM per aerodrome” as stated in AIS-AIMSG/2-SN/8. The group noted that the current practice for representing the “@” sign of an e-mail address was not harmonized and that the recommended use of “(A)” in Amendment No. 2 of Doc 8126 would require system changes in those systems using a different convention. The group also noted the consequential changes to Doc 8126 resulting from amendments to Annex 15, and questioned the relevance and clarity of changing from channel to frequency for navaid information in the AIP. Also, the addition of information on low visibility procedure in the section AD 2.22 was questioned as the same information was published on a chart. However, it was agreed that Doc 8126 should align with the provisions in Annex 15. It was agreed that the Secretary would take these comments into account when finalizing Amendment No. 2 to Doc 8126.

**Action agreed 2/7 — Changes to Amendment No. 2 to Doc 8126**

That the Secretary take into account comments provided during AIS-AIMSG/2 in relation to Amendment No. 2 to Doc 8126.

**7. AGENDA ITEM 8.2: AIS-MET DATA LINK SERVICES**

7.1 The group reviewed a draft note for inclusion in Amendment 37 to Annex 15 related to supplying aeronautical data directly to flight crews via data link. Discussion centred on aligning such a note with specifications for AIRAC. The group considered that the wording of the note should in no way contradict existing AIRAC specifications and it should be clear that information supplied by data link would be supplemental, from an operational perspective, to that provided through AIRAC, as the issue of baseline synchronization presented several challenges that had not yet been resolved. It was suggested that text supporting the use of data link be included in Chapter 6 of Annex 15 which dealt with the AIRAC system.

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

7.3 It was noted that provision of aeronautical data via data link was also being considered by groups concerned with the provision of MET information. It was agreed that the note required refining, and that a provision may also need to be drafted for inclusion in Annex 3, resulting in the following:

**Action agreed 2/8 — Proposed note in Annex 15 related to provision of aeronautical data using data link**

That the group provide **Stéphane** further comments on the draft note for inclusion in Annex 15 (AIS-AIMSG/2-SN/6, paragraph 3.1 refers) by 31 January 2010 and that the amended version of the note be presented in a Study Note at AIS-AIMSG/3.

**Action agreed 2/9 — Coordination the Secretary OPLINK Panel on provisions related to data link**

That the Secretary assess, by 31 January 2010 in coordination with the Secretary of the OPLINK Panel, whether inclusion of a note in Annex 15 related to data link would initiate a similar amendment to Annex 3.

**8. AGENDA ITEM 9.1: AMENDMENTS TO ANNEXES 4, 14 AND 15 RELATED TO AERODROME MAPPING**

8.1 The group acknowledged that there was a need to include provisions in Annex 15 related to aerodrome mapping data because existing and emerging situational awareness applications requiring such data had a significant potential to enhance safety. Stéphane, acting as liaison between EUROCAE/RTCA Committee WG44/SC217 (Action agreed 1/13 refers), presented a proposal by that group and reported that consensus within the group and with stakeholders had been achieved on the proposal except for the data quality classification. Unresolved concerns related to the stringency of the data quality requirements whereby the stringent requirements that would serve all applications needed at some aerodromes would be too costly to implement or unnecessary to serve other aerodromes.

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

8.3 It was noted that the terminology to be used to describe aerodrome mapping should be aligned with terminology used in Annex 15 and in guidance material (i.e. introduce terms such as data dictionary and dataset) and that explanatory text may need to be included in Annex 15 to explain why a data product specification had been included in the provisions.

8.4 It was concluded that the provisions needed to be aligned with related provisions in Annex 14 and that the group must develop the provisions working closely with the aerodrome community of ICAO, the regions and with other groups.

**Action agreed 2/10 — Annex provisions related to aerodrome mapping data**

That the group provide, to the ad-hoc group on aerodrome mapping data bases which consists of **Stéphane (Rapporteur), Bill, Roy and Stefan**, further comments on the proposed provisions (AIS-AIMSG/2-SN/2, Appendix refers) related to aerodrome mapping data, as well as comments regarding the inclusion of two levels of accuracy by 31 January 2010.

**Action agreed 2/11 — Coordination with Aerodrome Panel**

That, with a view to ensuring coordination, the Secretary present a working paper related to aerodrome mapping data bases the second meeting of the Aerodrome Panel meeting scheduled for October 2010.

**9. AGENDA ITEM 9.2: GUIDANCE MATERIAL FOR AERODROME MAPPING**

9.1 The group recalled that the *Draft Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information* (Doc 9881) already contained guidance on aerodrome mapping data except for guidance on generation of the data. The group reviewed the draft aerodrome mapping data base (AMDB) guidance material and agreed that copyright permission related to use of RTCA material by ICAO needed to be verified.

**Action agreed 2/12 — Follow-up on copyright permission from RTCA**

That the Secretary review the recent Memorandum of Understanding between ICAO and RTCA to ascertain whether copyright of RTCA material for AMDB has been waived for ICAO use.

**Action agreed 2/13 — AMDB guidance material**

That the group provide further comments on the AMDB guidance material to **Stéphane** as Rapporteur of the ad-hoc group consisting of **Bill, Roy and Stefan**, by 31 January 2010.

**10. AGENDA ITEM 9.3: WORLD GEODETIC SYSTEM — 1984 (WGS-84) MANUAL (DOC 9674)**

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

10.2 While the group acknowledged that transforming 1/10 min into degree, minutes and seconds may cause difficulties, it considered that the proposed new text prohibiting a resolution of 1/10 min by all applications was too restrictive and did not reflect some operational uses. The suggested new wording would state instead that “The charting and data publication resolution ranges from the highest resolution requirement of 1/100 sec to the lowest resolution requirement of 1 min (i.e. 1/100 sec,

1/10 sec, sec and min). Applications or messages processing or transmitting coordinates may have different resolution requirements (e.g. flight plan, coordinate entry in FMS by the pilot)”.

10.3 While the group acknowledged that the addition of guidance on resolution for the conversion of coordinates from degree, minutes and seconds to the decimal degrees representation was valuable, it considered that the proposed text did not address problems raised by rounding of calculated values. The suggested new wording would state instead that “For applications processing coordinates in decimal degrees, the resolution is expressed in terms of the number of significant digits of decimal degrees as specified in Table 2-8. For example, a coordinate published in degrees, minutes and seconds when converted into decimal degrees will have a resolution value of 4 (e.g. a latitude of 355418N is converted into a decimal of 35.9050). Note that when calculations are done on decimal values and depending on the rounding process (single final application or intermediate applications), end results may differ slightly.”

10.4 It was also noted that additional guidance material on height reference systems was required in the Doc 9764 to respond to the note to paragraph 3.7.2.2 in Annex 15. It was agreed that such material, recently discussed at the EUROCONTROL eTOD Working Group, should be provided to the Secretary for inclusion in Doc 9674 once mature.

**Action agreed 2/14 — Guidance material on height reference systems**

That an ad-hoc group consisting of **Paul (Rapporteur), Roy, Stefan and Stéphane** provide guidance material on height reference systems for inclusion in Doc 9674.

**Action agreed 2/15 — Guidance on the use of coordinates transformation**

That the Secretary review the proposed text related to the use of coordinates transformation for inclusion in Amendment No. 1 to Doc 9674.

**11. AGENDA ITEM 9.4: AERONAUTICAL CHART MANUAL (DOC 8697)**

11.1 The group reviewed an outline of work needed to be undertaken to revise Doc 8697 — *Aeronautical Chart Manual*. It was noted that coordination with the Instrument Flight Procedure Panel (IFPP) Integration Working Group would be necessary and that work would continue to be progressed with the help of the ad-hoc group, to which John Moore and Stefan offered his support.

**Action agreed 2/16 — New guidance material for inclusion in Doc 8697**

That the group provide **David** as the Rapporteur of the ad-hoc group consisting of **Augustin, Bill, Charity, John Moore, Paul, Raul and Stefan**, further comments on the draft plan for amendment of Doc 8697 by 31 January 2010 and notify the Secretary of any resources available in their administration to assist in the production of material for Doc 8697.

**12. AGENDA ITEM 10: AIM QUALITY MANAGEMENT SYSTEM**

12.1 The group concurred that the Rapporteur and ad-hoc group tasked with developing a draft quality manual had produced a mature document. Consequently, there were few outstanding issues to be addressed. It was suggested that guidance to States be included on how to manage the quality of data

originating with a provider outside the State AIS. In response, the Secretary pointed out that States' comments on Amendment 36 to Annex 15 had already raised this concern. The Air Navigation working paper containing the final review of the amendment included two proposed notes under paragraph 3.2.2 indicating that quality management may be provided by serial quality systems and that letters of agreement may be used to manage aeronautical information data chain (i.e. service agreements with the information provider). It was also pointed out that Appendix 6 of the draft quality manual included information on service agreements. It was suggested that the Secretariat replace the word "distributor" in the proposed Note 2 with "AIS provider".

12.2 It was pointed out that the text in the quality manual on using the CRC algorithm to provide security against malicious or deliberate changes to data during transmission must be corrected to reflect the fact that CRC may be used only to protect against unintentional changes to the data during transmission.

12.3 It was explained that guidance material for measuring integrity was foreseen for Chapter 8. There was also a suggestion about including a reference to safety management systems in and text describing how quality management systems (QMS) operate within SMS or vice-versa. The group noted that under Agenda Item 12 — AIM staff training guidance, it had been agreed to proceed with development of an AIS training manual that would be amended to include AIM elements at a later stage. The group agreed to take a parallel approach to the AIM quality manual, suggested. The group agreed to take the following actions:

**Action agreed 2/17 — Inclusion of SMS in the AIS quality manual**

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

**Action agreed 2/18 — Inclusion of QMS/SMS models in the AIS quality manual**

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

**Action agreed 2/19 — Inclusion of reference to AIS quality manual in Annex 15**

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

12.4 It was noted that the section on data integrity, including the incorporation of CHAIN solutions (Action agreed 1/21 refers) was still under development.

**Action agreed 2/20 — Inclusion of means for measuring integrity in the AIS quality manual**

That the ad-hoc group consisting of **Susumu (Rapporteur)**, **Amy**, **Augustin**, **Charity**, **Paul** (replacing Manfred), **Tony** and **Valerie** develop guidance material on the means for measuring integrity for examination by the group at AIS-AIMSG/3 and subsequent inclusion in the AIS quality manual.

12.5 It was also noted that while the quality manual would be based on ISO 9000:2008, State QMS used as examples may be based on ISO 9000:2000. The group determined that this was acceptable

for the first edition of the quality manual, since there were few differences between ISO 9000:2000 and ISO 9000:2008.

**Action agreed 2/21 — Final comments on draft AIS quality manual**

That the group provide final comments on the draft quality manual to the ad-hoc group, consisting of **Susumu (Rapporteur)**, **Amy, Augustin, Charity, Paul** (replacing Manfred), **Tony** and **Valerie**, by 31 January 2010.

**Action agreed 2/22 — Final draft of the AIS quality manual**

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

**13. AGENDA ITEM 11: ELECTRONIC TERRAIN AND OBSTACLE DATA (ETOD)**

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

13.2 The group was informed that EUROCONTROL was developing eTOD guidance material which would be made available to ICAO in the second half of 2010. The guidance material was expected to include advice on implementation planning, data quality, metadata, assessment of obstacle representation, determination of areas for specific aerodromes, and data collection techniques.

**Action agreed 2/23 — eTOD guidance material**

That **Paul** provide the eTOD guidance material to the group for comment as soon as the first version is available (expected in the first quarter of 2010).

**14. AGENDA ITEM 12: AIM STAFF TRAINING GUIDANCE**

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

14.2 Training material from NAV Portugal was identified as source material to be taken into account in the development. It was also noted that the CAR/SAM Regional Planning and Implementation Group (GREPECAS) had developed training material which could be useful. It was noted that there was only a Rapporteur and two members for the ad-hoc group tasked with developing an AIS training manual and that they would require the assistance of others.

**Action agreed 2/24 — Guidance material on AIS training**

That members consider participation in the ad-hoc group tasked with developing the AIS training manual and inform the Secretary of their willingness to participate by 1 February 2010.

**Action agreed 2/25 — Guidance material on AIS training**

That an ad-hoc group, consisting of **Augustin (Rapporteur), Paul, Valerie** and others to be named:

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

**Action agreed 2/26 — Guidance material on AIS training**

That the Secretary provide the Rapporteur with training material developed by the CAR/SAM Regional Planning and Implementation Group (GREPECAS) by 15 December 2009.

**15. AGENDA ITEM 13: LEGAL AND INSTITUTIONAL ISSUES RELATED TO AIM**

15.1 The group noted that the Secretary continued to coordinate the group's activities on legal and institutional issues with the Airport Economics Panel (AEP) and Air Navigation Services Economics Panel (ANSEP).

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

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

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

15.5 The group noted the explanation from the Secretariat that copyright issues and applications differed considerably from State to State and between civil law and common law jurisdictions.

15.6 It was noted that there were concerns that copyright may be extended in some jurisdictions to limit access to information in a manner detrimental to flight safety and the need to provide airspace users with timely and complete information.

15.7 It was noted that although legal and institutional aspects would require further and continuous investigation, no showstoppers had been identified so far which would block the transition from AIS to AIM.

15.8 The group agreed that the issues identified by the ad-hoc group should be developed into guidance material, in coordination with the CANSO AIM Working Group, for inclusion in the *Roadmap for the Transition from AIS to AIM*. It was further agreed that examples of State policies on legal and institutional issues would assist the ad-hoc group in carrying out this task.

**Action agreed 2/27 — Examples of State policies on legal and institutional issues**

That members endeavour to acquire information on their respective State's policy on legal and institutional issues and provide this to Eugene by 31 January 2010.

**Action agreed 2/28 — Coordination with AEP-ANSEP**

That the ad-hoc group consider the outcome of the AEP-ANSEP/3 meeting and develop a plan for coordination between the AIS-AIMSG and the AEP-ANSEP by 1 March 2010.

**Action agreed 2/29 — Guidance material on legal and institutional issues**

That the ad-hoc group consisting of **Eugene (Rapporteur), Bill, Stéphane, Steven and Paul**, prepare an amendment to the *Roadmap for the Transition from AIS to AIM* to incorporate guidance, in coordination with the CANSO AIM Working Group, on legal and institutional issues by 31 July 2010.

**16. AGENDA ITEM 14.1: INFORMATION ON NEXTGEN AND SESAR**

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

**Action agreed 2/30 — Information on SESAR**

That **Paul** provide an information paper to AIS-AIMSG/3 concerning developments in SESAR on aeronautical information in the context of information management and SWIM.

**Action agreed 2/31 — Information on NextGen**

That **Greg** provide an information paper to AIS-AIMSG/3 concerning developments in NextGen on aeronautical information in the context of information management and SWIM.

**17. AGENDA ITEM 14.2: CONSIDERATION OF THE MET COMPONENT**

17.1 Information was presented to the group on data link initiatives in the MET field. The group recalled the discussions under Agenda Item 8.2 on AIS-MET data link services which recognized the need to synchronize the development of SARPs for Annex 15 with potential parallel SARPs for Annex 3.

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

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

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

17.3 It was emphasized that developments continue to be communicated to members' MET counterparts in their administrations on initiatives related to MET issues or general information management principles stemming from the work of the group. In this regard, it was noted that the membership lists for the all MET study groups and working groups are accessible from the MET/AIM website of which the AIS-AIMSG website is a part. In addition, the current membership list of the Aerodrome Meteorological Observation and Forecast Study Group (AMOFSG) is included at Appendix D.

17.4 It was agreed that the Secretary should continue to coordinate closely with the Secretary of the AMOFSG on all matters of common interest. In addition, the following action was agreed:

**Action agreed 2/33 — Study Note on AIS-AIMSG developments related to the MET component**

That the Secretary prepare a study note for the next meeting of the AMOFSG in February 2010 on recent AIS-AIMSG developments with MET components.

## 18. **AGENDA ITEM 14.3: FLIGHT AND FLOW INFORMATION FOR A COLLABORATIVE ENVIRONMENT (FF-ICE)**

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

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

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

18.3 The group noted that considerable work had been accomplished in Europe in connection with flight object as an extension to the flight plan. Further, the concept of a business/mission trajectory was being worked out in which the airspace users and ANSPs define together, through a collaborative process, the optimal flight path.

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

### **Action agreed 2/34 — Review of FF-ICE concept document**

That the group provide further comments on the draft FF-ICE concept document to the Secretary by 30 November 2009 for onward transmission to the ATMRPP.

## 19. **AGENDA ITEM 15: FUTURE WORK PROGRAMME OF THE GROUP**

19.1 The group reviewed the follow-up table of action items from AIS-AIMSG/1. It was noted that the vast majority of action items had been completed or had been overtaken by action items developed by the current meeting. The two action items remaining were also addressed (see below). This completed all the actions agreed in the follow-up table from AIS-AIMSG/1, which is included in

Appendix D with appropriate references to action taken. The follow-up table for the current meeting is found at Appendix E.

19.2 It was agreed that Action agreed 1/30, to identify data process and procedures that would be required for the provision of new datasets, would be completed by 31 July 2010 by Paul.

**Action agreed 2/35 — Identify data process and procedures that would be required for the provision of new datasets**

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

19.3 The group agreed that Action agreed 1/23 on integrated briefing would be completed by 31 December 2009 for review by the group at the next meeting.

**Action agreed 2/36 — Integrated briefing**

That **John Synnott** develop draft guidance material on the provision of integrated briefing by 31 December 2009.

**Action agreed 2/37 — Review of draft guidance material on integrated briefing**

That the Secretary prepare a Study Note for the AIS-AIMSG/3 meeting based on the draft guidance material on the provision of integrated briefing.

19.4 The group discussed mapping the activities of the group to established deliverables.

**Action agreed 2/38 — Mapping of group activities to deliverables**

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

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

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

19.6 Members were advised to periodically check the meetings page of the ICAO website at: <http://www.icao.int/cao/en/conf/> should they wish to attend other ICAO meetings scheduled immediately before or after the AIS-AIMSG meeting. Furthermore, it was agreed that the Secretary would maintain a list of major global AIM events on the AIS-AIMSG website. Members are encouraged to inform the Secretary of events worth noting.

**20. AGENDA ITEM 16: ANY OTHER BUSINESS**

20.1 The group was informed that the next Global AIM Congress would take place in Beijing from 22 to 24 June 2010, preceded by a workshop on 21 June. It was indicated that group members attending the Congress who would wish to take the opportunity to convene ad-hoc group meetings should contact Amy so that she may reserve meeting rooms. Information on the Congress is available at [http://www.eurocontrol.int/aim/public/standard\\_page/global\\_congress.html](http://www.eurocontrol.int/aim/public/standard_page/global_congress.html).

20.2 A demonstration of the AIS-AIMSG website was given by Rebecca Vann of the MET/AIM Section and members provided comments for possible improvements to the site which were noted. The meeting agreed that access to the AIS-AIMSG secure website would be restricted to members and their designated advisors. Ad-hoc groups were encouraged to use the collaborative functionality of the website for their activities.

20.3 The group agreed that Paul Bosman would become the group's permanent chairman.

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**APPENDIX A**

**LIST OF PARTICIPANTS**

<i>Nominated by</i>	<i>Name</i>	<i>Postal address</i>	<i>Telephone/Fax/E-mail</i>
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<i>Nominated by</i>	<i>Name</i>	<i>Postal address</i>	<i>Telephone/Fax/E-mail</i>
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The meeting was assisted by the following members of the ICAO Secretariat:

- Dr. Olli Turpeinen, Chief, MET/AIM Section, Air Navigation Bureau
- Mr. David Lewtas, Chief, Aeronautical Information Unit, MET/AIM Section
- Mr. Michael Hohm, Technical Officer, MET/AIM Section
- Mr. Jean-Michel Galais, Technical Officer, MET/AIM Section
- Mr. Neil Halsey, Technical Officer, MET/AIM Section
- Mr. Arie Jakob, Legal Officer, Legal Affairs and External Relations Bureau
- Mr. Benoit Verhaegen, Legal Officer, Legal Affairs and External Relations Bureau
- Mr. Julian de la Camara, Economist, Economic Policy and Infrastructure Management Section, Air Transport Bureau.
- Ms. Donna Lane, Editorial Assistant, MET/AIM Section
- Mrs. Rebecca Vann, Secretary, MET/AIM Section

**APPENDIX B**

**LIST OF DOCUMENTATION**

**STUDY NOTES**

<b>SN No.</b>	<b>Presented by</b>	<b>Title</b>	<b>Agenda Item</b>
1	Secretary	Provisional Agenda	4
2	Stephane Dubet	Provisions for Aerodrome Mapping Data in ICAO Annexes	9.1
3	Rapporteur	Legal and Institutional Issues related to the Transition from AIS to AIM	13
4	Stephane Dubet	Aerodrome Mapping — Draft Guidance Material	9.2
5	Japan	AIM Quality Manual	10
6	Stephane Dubet	Provisions for AIS Data-Link in ICAO Annex 15	6.1
7	Ad-hoc group members	Report of the Ad-hoc Group Including AIM in Annex 15 SARPs	6.2
8	Secretary	Amendment No. 2 to the Aeronautical Information Services Manual (Doc 8126)	8.1
9	Stephane Dubet	AMDB Generation Guidelines — Draft Document	9.2
10	Secretary	Timetable for Annex 3 Amendment Proposals	14.2
11	Paul Bosman	Guidance Material for the Provision of Electronic AIP (eAIP)	7
12	Paul Bosman Steven Pray	Guidance Material for the Aeronautical Information Conceptual Model	6.1
13	Secretary	Introduction of FF ICE Draft Document to the AIS-AIM	14.3
14	Augustin Lamprecht	CANSO AIMWG Activities	5
15	Secretary	Review of eAIP Guidance Material	7
16	Secretary	Amendment No. 1 to Doc 9674	9.3
17	Secretary	Task regarding Legal and Institutional Issues related to the Transition from AIS to AIM	13
18	Secretary	Follow-up of Action Items	15
19	Secretary	Development of the Training Manual	12
20	Secretary	Task regarding the Aeronautical Chart Manual (Doc 8697)	13

**INFORMATION PAPERS**

<b>IP No.</b>	<b>Presented by</b>	<b>Title</b>	<b>Agenda Item</b>
1	Secretary	Arrangements for the Meeting	3
2	Paul Bosman	EUROCONTROL Meteorological Information Management Activities	14.2
3	Paul Bosman	SESAR Information Management	14.1

**FLIMSIES**

<b>Flimsy No.</b>	<b>Presented by</b>	<b>Title</b>	<b>Agenda Item</b>
1	Secretary	WGS-84	9.3

**PART II — LIST OF STUDY NOTES AND INFORMATION PAPERS  
IN ORDER OF AGENDA ITEM**

<b>Agenda Item</b>	<b>WP No.</b>
1	—
2	—
3	IP/1
4	SN/1
5	SN/14
6	—
6.1	SN/12
6.2	SN/7
7	SN/11, SN/15
8	—
8.1	SN/8
8.2	SN/6
9	—
9.1	SN/2
9.2	SN/4, SN/9
9.3	SN/16, Flimsy No. 1
9.4	—
10	SN/5
11	—
12	SN/19
13	SN/3, SN/17, SN/20
14	—
14.1	IP/3
14.2	SN/10, IP/2
14.3	SN/13
15	SN/15
16	—

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**APPENDIX C**  
**ELEMENTS TO CONSIDER**  
**WITH RESPECT TO INCLUDING AIM IN ANNEX 15**

<i>Item</i>	<i>Issue</i>	<i>Tags</i>	<i>Urgent</i>
<b>I. HUMAN FACTORS</b>			
18.	Human factors	10	
<b>II. AIRAC</b>			
19.	Update AIRAC		
22.	Near real time data provision (AIRAC)	1	
23.	Timeliness aspect of data distribution strengthening	5	1
<b>III. DATA CHAIN</b>			
1.	Clarify integrity requirements to cover data chain		
7.	Monitoring of data completeness	2	
14.	Data traceability + responsibility		
<b>IV. SCOPE</b>			
2.	Define AIM services	13	8
9.	IM principles on all data items used in aviation	2	
16.	Detail requirements on data provision		
21.	Clarify information/data	4	1
26.	Scope of AIM in context of SWIM	5	1
31.	AIM in the overall ATM operational concept	2	1
32.	Define applicability of AMDB & eTOD %AD		
34.	Integrate Annex 4 and 15		
<b>V. SMS</b>			
3.	Introduce SMS provisions	2	
5.	Address QMS in context of SMS	3	1
<b>VI. CNS</b>			
4.	Expand telecommunications requirements to support data exchange	4	
13.	Internet expand – new electronic (web) services	4	
<b>VII. LEGAL</b>			
8.	Clarify State's obligation on provision data e.g. copyright	13	1

11.	Clarify States responsibility — products and services	3	
25.	Clarify responsibility regulators service providers		
33.	Clarify data ownership across data chain	11	1
<b>VIII. DATA EXCHANGE</b>			
10.	Specification related to exchange model = performance requirements	3	
27.	Data resolution requirements in one appendix only		
29.	Link AIM with MET (same format)		
30.	Expand metadata	3	
<b>IX. PRODUCTS</b>			
6.	User-friendly AIS product definition	1	1
15.	Expand on the PIB requirements	1	
20.	Standardize data users application		
24.	Future NOTAM	1	
28.	Std. display of data		
<b>X. SECURITY</b>			
12.	Data handling (sources, traceability, integrity) in data chain(authentication)	13	5
17.	Security	3	

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APPENDIX D

FOLLOW-UP OF ACTION ITEMS FROM AIS-AIMSG/1

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
1/1 — Draft Roadmap for the Transition from AIS to AIM	That the draft <i>Roadmap for the Transition from AIS to AIM</i> , together with the amendments agreed during the meeting, be endorsed by the group.	N/A		N/A	√
1/2 — Finalization of the Roadmap for the transition from AIS to AIM	That: a) further comments on the revised roadmap be provided by 19 December 2008 through correspondence; and; b) these comments be incorporated by the Secretariat for final review by the group before submission to the Air Navigation Commission in February 2009.	All AIS/AIMSG and Secretariat	a) 19 December 2008 b) 15 January 2009	AIS-AIMSG/1-SN/3	√
1/3 — Consideration of the ATM operational concept	That the group endorse the concept of a systematic assessment of the global ATM operational concept to ensure all AIM requirements are included in the future amendments to Annex 15.	N/A		N/A	√
1/4 — Aerodrome mapping databases	That Stéphane Dubet (Rapporteur): a) act as a liaison with the joint EUROCAE/RTCA Committee WG44/SC217 to develop a draft proposal to integrate aerodrome mapping databases into Annexes 4, 14 and 15 provisions while maintaining compatibility with the AIXM; and b) submit the draft proposed for consideration by the group at the AIS-AIMSG/2 meeting.	Stephane Dubet	27 July 2009	AIS-AIMSG/2-SN/2	√

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
1/5 — Draft Amendment 36 to Annex 15: Electronic terrain and obstacle data	That: a) members comment, by 5 January 2009, on the proposal to amend Chapter 10 of Annex 15 related to Areas 1, 3 and 4; and b) an ad hoc group comprised of David (Rapporteur), Benoit, Gregory, John, Manfred, Stéphane, Steve and Takashi develop a draft proposal for inclusion in Amendment 36 to Annex 15 by 15 January 2009.	David Lewtas, Benoit Tardif, Gregory Pray, John Synnott, Manfred Unterreiner, Stephane Dubet, Takashi Hatta	a) 5 January 2009 b) 15 January 2009	AIS-AIMSG/1-SN/21	√
1/6 — Draft Amendment 36 to Annex 15: Automation enabling digital data exchange	That the following text [SoD, page 7, refers] be included in Amendment 36 to Annex 15.	Secretariat	ANC Preliminary Review February 2009		√
1/7 — Draft Amendment 36 to Annex 15: Electronic AIP (eAIP)	That the following text [SoD, page 8, refers] be included in Amendment 36 to Annex 15.	Secretariat	ANC Preliminary Review February 2009		√
1/8 — Draft Amendment 36 to Annex 15: Quality	That the proposed amendments in Appendix C [of the SoD] be included in Amendment 36 to Annex 15.	Secretariat	ANC Preliminary Review February 2009		√
1/9 — Draft Amendment 37 to Annex 15: Reference to guidance material related to Chain solutions	That a note referring to guidance material on data supply chain management be included in Amendment 37 to Annex 15.	Secretariat	December 2011	Action Agreed 2/16	√
1/10 — Draft Amendment 36 to Annex 15: NOTAM date and time	That Amendment 36 to Annex 15 include the following change [SoD, page 9, refers] to Appendix 6.	Secretariat	ANC Preliminary Review February 2009		√
1/11 — Draft Amendment 36 to Annex 15: Reference to guidance material on NOTAM	That Amendment 36 to Annex 15 include the following changes [SoD, page 10, refers].	Secretariat	ANC Preliminary Review February 2009		√
1/12 — Draft Amendment 36 to Annex 15: AIRAC late postponement	That Amendment 36 to Annex 15 include the following changes [SoD, page 11, refers] to Chapter 6.	Secretariat	ANC Preliminary Review February 2009		√

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
1/13 — AIS-MET data link services	That Stéphane (Rapporteur) act as a liaison with the joint EUROCAE WG76/RTCA SC 206 Committee regarding the possible inclusion in ICAO Annexes of high-level SARPs related to AIS-MET datalink services and report back to the group on developments at the AIS-AIMSG/2 meeting.	Stephane Dubet	27 July 2009	AIS-AIMSG/2-SN/6	√
1/14 — Guidance material for aerodrome mapping data bases	That Stephane (Rapporteur) and Paul provide draft guidance material on aerodrome mapping data bases (AMDBs) for consideration by the AIS-AIMSG/2 meeting.	Stephane Dubet and Paul Bosman	27 July 2009	Doc 9881 AIS-AIMSG/2-SNs/4 & 9	√
1/15 — Guidance material on AIXM	That Paul (Rapporteur) and Gregory provide draft guidance material on digital data exchange based on AIXM for review by the AIS-AIMSG/2 meeting.	Paul Bosman and Gregory Pray	22 July 2009	AIS-AIMSG/2-SN/12	√
1/16 — Ad-hoc group on including AIM in Annex 15 SARPs	That an ad-hoc group consisting of Gregory (Rapporteur), Steven, Charity, Gregory, Paul, Stéphane and Tony be tasked to:  a) consider the restructuring of Annex 15 to introduce the notion of services and separate data from publication;  b) develop a digital AIM services manual; and  c) submit draft proposals to the AIS-AIMSG/2 meeting.	Steven Hill, Charity Muthoni, Gregory Pray, Paul Bosman, Stephane Dubet and Tony Williams	22 July 2009	AIS-AIMSG/2-SN/7	√
1/17 — Future evolution of the data exchange model	That the group act as the primary body for reviewing and endorsing the evolution of the model at the global level based on mature proposals emanating from regional and multi-national agreements.			N/A	√
1/18 — Guidance material on electronic AIP (eAIP)	That Manfred prepare draft guidance material on the provision of electronic AIP, aligned with the existing guidance on AIP in Doc 8126, for comment by the study group at the AIS-AIMSG/2 meeting.	Manfred Unterreiner	27 July 2009	AIS-AIMSG/2-SNs/11 & 15	√

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
1/19 — Guidance material on AIS training	<p>That an ad-hoc group, consisting of David (Rapporteur), Manfred, Benoit* and Augustin, be formed which would:</p> <p>a) create a plan, by 1 February 2009, for the development of an AIS training manual, taking into account available material on AIS training and aligning with the principles in the PANS-TRG;</p> <p>b) ensure, during development of the AIS training manual, coordination with Secretariat members responsible for the PANS-TRG; and</p> <p>c) present a draft of the AIS training manual to the AIS-AIMSG/2 meeting.</p> <p>* Indicates participation in the group is to be confirmed.</p>	David Lewtas, Augustin Lamprecht, Benoit Tardif and Manfred Unterreiner	a) 1 February 2009 b) 27 July 2009	Doc 9868, CASP, ATDG  AIS-AIMSG/2- SN/	√

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
1/20 — AIS quality manual	<p>That:</p> <p>a) group members provide, to the Rapporteur of the group in b) below, examples of AIS quality manuals in use in States;</p> <p>b) an ad hoc group, consisting of Susumu (Rapporteur), Greg, Manfred, Charity, Augustin and Tony develop a plan, to be completed by 1 March 2009, for the production of a new AIS quality manual to be based on the fundamental structure of the Manual on the Quality Management System for the Provision of Meteorological Service to International Air Navigation (Doc 9873);</p> <p>c) the ad hoc group provide a draft AIS quality manual for review by the AIS-AIMSG/2 meeting; and</p> <p>d) the ad-hoc group develop guidance material on the means for measuring integrity to be included in the AIS quality manual.</p> <p>* Indicates participation in the group is to be confirmed.</p>	<p>a) All members b,c,d) Susumu Miguchi, Augustin Lamprecht, Charity Muthoni, Gregory Pray, Manfred Unterreiner and Tony Williams</p>	<p>a) 15 January 2009 b) 1 March 2009 c) 27 July 2009 d) 27 July 2009</p>	<p>Doc 9674, Doc 9873, Doc 9906, ADP and SDP, CHAIN</p> <p>AIS-AIMSG/2- SN/5</p> <p>Action Agreed 2/17</p>	√
1/21 — Guidance material on CHAIN solutions	That Manfred supply guidance material on data supply CHAIN management to be integrated in the AIS quality manual for review by the ad-hoc group referred to in Action agreed 1/20 on the AIS quality manual.	Manfred Unterreiner	15 January 2009		√
1/22 — Guidance material on NOTAM	That guidance material on NOTAM in Doc 8126 be harmonized with OPADD 3.0 by the Secretariat as part of Amendment No. 2 to Doc 8126.	Secretariat	30 June 2009	OPADD 3.0	√

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
1/23 — Integrated briefing	That: a) an ad-hoc group, consisting of John (Rapporteur) and Manfred develop guidance material on the provision of integrated briefing by 1 June 2009; and b) the Secretariat prepare a Study Note for the AIS-AIMSG/2 meeting based on the guidance material provided.	John Synnott and Manfred Unterreiner	a) 1 June 2009 b) 10 August 2009	Action Agreed 2/33 Action Agreed 2/34	√
1/24 — Frequently asked questions (FAQ) on AIRAC adherence	That: a) the Secretariat post frequently asked questions (FAQ) on AIRAC adherence on the AIM website; and b) members enable wider use of the FAQ by creating links from other websites.	Secretariat, All AIS-AIMSG	1 March 2009		√
1/25 — Evaluation of pTracker Tool	That the Secretary evaluate the “pTracker tool” and determine how to disseminate it for use by States and users.	Secretariat	1 March 2009	pTracker Tool	√
1/26 — Guidance material on AIRAC adherence	That the Secretary evaluate the use of AIRAC related paragraphs in aeronautical industry standards ED 77/DO 201A and the Manual on Required Navigation Performance (RNP) (Doc 9613) in Doc 8126.	Secretariat	30 June 2008	ED 77/DO 201A, Doc 9613	√

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
1/27 — Update of NOTAM Selection Criteria	That the Secretary:  a) update the NOTAM Selection Criteria (NSC) in Doc 8126 to reflect new NOTAM Codes introduced in the Procedures for Air Navigation Services — ICAO Abbreviations and Codes (PANS-ABC, Doc 8400) and;  b) analyze the reports submitted by the EANPG (EANPG Conc. 47/42 refers) to progress the changes needed to clarify and improve the use of NSC for NOTAM in Annex 15, Doc 8400 and Doc 8126.	Secretariat	a) 30 June 2009 b) 26 February	AIS-AIMSG/2-SN/5	√
1/28 — Progress report on Amendment No. 2 to Doc 8126	That the Secretary provide a progress report on Amendment No. 2 to Doc 8126 at the AIS-AIMSG/2 meeting.	Secretariat	10 August 2009	AIS-AIMSG/2-SN/8	√
1/29 — Data process and procedures in the AIS quality manual	That the ad-hoc group created to address the AIS quality manual in Action agreed 1/20 use the EUROCONTROL AIS Data Process and Static Data Procedures documentation provided by Paul as examples to be included in the manual.	Paul Bosman	1 March 2009	ADP and SDP	√
1/30 — Identify data process and procedures that would be required for the provision of new datasets	That Manfred identify, for review by the AIS-AIMSG/2 meeting, the new data process and procedure requirements, related to the future provision of new datasets, in addition to the current paper or text products.	Manfred Unterreiner	27 July 2009	Action Agreed 2/32	√
1/31 — Aeronautical Chart Manual (Doc 8697)	That an ad hoc group, consisting of David (rapporteur), Charity, Bill, Raul, Greg*, Paul* and Augustin* develop a plan, to be completed by 1 May 2009, for the development of a new edition of the Aeronautical Chart Manual (Doc 8697).  * Indicates participation in the group is to be confirmed.	David Lewtas, Augustin Lamprecht, Bill Kellogg, Charity Muthoni, Gregory Pray, Paul Bosman and Raul Octaviano de Sant'Anna	1 May 2009	AIS-AIMSG/2-SN/20	√

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
1/32 — Legal and institutional issues	<p>That an ad hoc group, consisting of Eugene (Rapporteur), Bill, Stéphane, Steven and Paul, be tasked with:</p> <p>a) consolidating all available information related to cost recovery, copyright and liabilities for AIS; and</p> <p>b) developing a list of current and future institutional and legal issues to be considered in the context of current AIS and future AIM.</p>	Eugene Hoven, William Kellogg, Paul Bosman, Stephane Dubet and Steven Hill	27 July 2008	<p>Doc 9082, Doc 9161, Presentation by J. de la Camara</p> <p>AIS-AIMSG/2- SNs/3 &amp; 17</p>	√
1/33 — Expertise on the inclusion of meteorological information in the data-centric environment	<p>With a view to coordinating synergies, preventing duplicated/conflicting requirements, and discovering other areas, besides data modelling, for cooperation which may benefit from a joint MET-AIM approach, that:</p> <p>a) the Secretary invite the WMO to nominate a member to the group;</p> <p>b) the Secretary coordinate with the Secretaries of ICAO MET study groups and operations groups; and</p> <p>c) members ensure that expertise be made available on the inclusion of meteorological information in the data-centric environment for future meetings of the group and for the work of the group, as necessary.</p>	Secretariat and all AIS-AIMSG	1 March 2009	AIS-AIMSG/2- SN/10	√

APPENDIX E

FOLLOW-UP OF ACTION ITEMS FROM AIS-AIMSG/2

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
2/1 — Inclusion in Annex 15 of new definitions related to AIM	That the ad-hoc group consisting of Greg (Rapporteur), Amy, Augustin, Charity, Paul, Stefan, Stéphane, Tony and Valerie be tasked with reviewing, for suitability for inclusion in Annex 15, the terms and definitions in the <i>Roadmap for the Transition from AIS to AIM</i> , and present a draft list of definitions to AIS-AIMSG/3, with the objective of including them in Amendment 37.	Greg (Rapporteur), Amy, Augustin, Charity, Paul, Stefan, Stéphane, Tony and Valerie	AIS-AIMSG/3	AIS-AIMSG/2-SN/14	
2/2 — Review of the data integrity requirements in Annex 15	That the ad-hoc group consisting of Greg (Rapporteur), Amy, Charity, Gregory, Paul, Stéphane, Stefan and Tony, be tasked with reviewing the data integrity requirements in Annex 15 with a view to clarifying them or developing additional requirements as necessary and submit proposals to the AIS-AIMSG/3 meeting for possible inclusion in Amendment 37 to Annex 15.	Greg (Rapporteur), Amy, Charity, Gregory, Paul, Stéphane, Stefan and Tony	AIS-AIMSG/3		
2/3 — AIXM governance	That Paul and Gregory develop a proposal for the establishment of an appropriate body with technical and broad-based representation to support the governance of the evolution of the AIXM model for review by AIS-AIMSG/3.	Paul and Gregory	AIS-AIMSG/3		
2/4 — Inclusion of guidance material on AIXM in Doc 8126	That the Secretary include guidance material on AIXM in Amendment No. 3 to Doc 8126.	Secretary	31 July 2010	AIS-AIMSG/2-SN/12	

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
2/5 — Including AIM in Annex 15 and relevant guidance material	<p>That the ad-hoc group consisting of <b>Greg (Rapporteur), Amy, Augustin, Charity, Gregory, Paul, Stefan, Stéphane, Steven, Tony and Valerie:</b></p> <p>a) continue to consider the restructuring of Annex 15 to introduce the notion of services and to separate data from publication;</p> <p>b) develop digital AIM services guidance material;</p> <p>c) take into account additional input outlined in Appendix C; and</p> <p>d) submit draft proposals to the AIS-AIMSG/3 meeting.</p>	Greg (Rapporteur), Amy, Augustin, Charity, Gregory, Paul, Stefan, Stéphane, Steven, Tony and Valerie	AIS-AIMSG/3	AIS-AIMSG/2-SN/7 AIS-AIMSG/2-SoD, Appendix C	
2/6 — Review of the draft guidance material on the eAIP	<p>That:</p> <p>a) the group provide further comments on the draft guidance material to the Secretary by 31 January 2010;</p> <p>b) Paul provide the Sample eAIP to the Secretary for review by 30 April 2010;</p> <p>c) the Secretary finalize the edited eAIP guidance material and consequential changes to Doc 8126 by 30 June 2010;</p> <p>d) Paul provide the Sample eAIP (as revised by the Secretary) and Toolbox CD-ROM by 31 July 2010; and</p> <p>e) the Secretary include the material in Amendment No. 3 to Doc 8126.</p>	All Paul Secretary	<p>a) 31 January 2010</p> <p>b) 30 April 2010</p> <p>c) 30 June 2010</p> <p>d) 31 July 2010</p>	AIS-AIMSG/2-SNs 11 & 15	
2/7 — Changes to Amendment No. 2 to Doc 8126	That the Secretary take into account comments provided during AIS-AIMSG/2 in relation to Amendment No. 2 to Doc 8126.	Secretary	31 July 2010	AIS-AIMSG/2-SN/8	

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
2/8 — Proposed note in Annex 15 related to provision of aeronautical data using data link	That the group provide Stéphane further comments on the draft note for inclusion in Annex 15 (AIS-AIMSG/2-SN/6, paragraph 3.1 refers) by 31 January 2010 and that the amended version of the note be presented in a Study Note at AIS-AIMSG/3	All Stéphane	31 January 2010	AIS-AIMSG/2-SN/6	
2/9 — Coordination the Secretary OPLINK Panel on provisions related to data link	That the Secretary assess, by 31 January 2010 in coordination with the Secretary of the OPLINK Panel, whether inclusion of a note in Annex 15 related to data link would initiate a similar amendment to Annex 3.	Secretary	31 January 2010		
2/10 — Annex provisions related to aerodrome mapping data	That the group provide, to the ad-hoc group on aerodrome mapping data bases which consists of Stéphane (Rapporteur), Bill, Roy and Stefan, further comments on the proposed provisions (AIS-AIMSG/2-SN/2, Appendix refers) related to aerodrome mapping data, as well as comments regarding the inclusion of two levels of accuracy by 31 January 2010.	All Stéphane (Rapporteur), Bill, Roy and Stefan	31 January 2010	AIS-AIMSG/2-SN/2	
2/11 — Coordination with Aerodrome Panel	That, with a view to ensuring coordination, the Secretary present a working paper related to aerodrome mapping data bases the second meeting of the Aerodrome Panel meeting scheduled for October 2010.	Secretary	October 2010		
2/12 — Follow-up on copyright permission from RTCA	That the Secretary review the recent Memorandum of Understanding between ICAO and RTCA to ascertain whether copyright of RTCA material has been waived for ICAO use.	Secretary	15 January 2010		
2/13 — AMDB guidance material	That the group provide comments on the AMDB guidance material to Stéphane as Rapporteur of the ad hoc group consisting of Bill, Roy and Stefan, by 31 January 2010.	Stéphane (Rapporteur), Bill, Roy and Stefan	31 January 2010	AIS-AIMSG/2-SNs 4 and 9	
2/14 — Guidance material on height reference systems	That Paul provide guidance material on height reference systems for inclusion in Doc 9674.	Paul	31 July 2010		

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
2/15 — Guidance on the use of coordinates transformation	That the Secretary review the proposed text related to the use of coordinates transformation for inclusion in Amendment No. 2 to Doc 9674.	Secretary	31 January 2010	AIS-AIMSG/2-SN/16 AIS-AIMSG/2-Flimsy No. 1	
2/16 — New guidance material for inclusion in Doc 8697	That the group provide David as the Rapporteur of the ad hoc group consisting of Augustin, Bill, Charity, Greg, Paul, Raul and Stefan, further comments on the draft plan for amendment of Doc 8697 by 31 January 2009 and notify the Secretary of any resources available in their administration to assist in the production of material for Doc 8697.	All David (Rapporteur), Augustin, Bill, Charity, Greg, Paul, Raul and Stefan	31 January 2009		
2/17 — Inclusion of SMS in the AIM quality manual	That a reference to Doc 9859 — <i>Safety Management Manual (SMM)</i> be included in the AIS quality manual.	Susumu (Rapporteur), Amy, Augustin, Charity, Greg, Paul, Tony and Valerie	31 January 2010		
2/18 — Inclusion of QMS/SMS models in the AIM quality manual	That members with knowledge of State QMS that incorporate SMS (or vice-versa) provide information on these models to the Rapporteur of the ad-hoc group on the AIS quality manual (Susumu) for examination by the group at AIS-AIMSG/3 and subsequent inclusion in the manual.	All Susumu (Rapporteur), Amy, Augustin, Charity, Greg, Paul, Tony and Valerie	AIS-AIMSG/3		
2/19 — Inclusion of reference to AIM quality manual in Annex 15	That a note be included in Amendment 36 to Annex 15 to refer to guidance on QMS available in the AIS quality manual.	Secretary	31 January 2010		
2/20 — Inclusion of means for measuring integrity in the AIM quality manual	That the ad hoc group consisting of Susumu (Rapporteur), Amy, Augustin, Charity, Paul (replacing Manfred), Tony and Valerie develop guidance material on the means for measuring integrity for examination by the group at AIS-AIMSG/3 and subsequent inclusion in the AIS quality manual.	Susumu (Rapporteur), Amy, Augustin, Charity, Greg, Paul, Tony and Valerie	AIS-AIMSG/3		

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
2/21 — Final comments on draft AIM quality manual	That the group provide final comments on the draft quality manual to the ad-hoc group, consisting of Susumu (Rapporteur), Amy, Augustin, Charity, Paul (replacing Manfred), Tony and Valerie, by 31 January 2010.	All Susumu (Rapporteur), Amy, Augustin, Charity, Greg, Paul, Tony and Valerie	31 January 2010	AIS-AIMSG/2-SN/5	
2/22 — Final draft of the AIM quality manual	That the final draft of the AIM quality manual be submitted to the Secretary by 30 May 2010.	Susumu (Rapporteur), Amy, Augustin, Charity, Greg, Paul, Tony and Valerie	30 May 2010		
2/23 — eTOD guidance material	That Paul provide the eTOD guidance material to the group for comment as soon as the first version is available expected in the first quarter of 2010.	Paul	First quarter of 2010		
2/24 — Guidance material on AIS training	That members consider participation in the ad-hoc group tasked with developing the AIS training manual and inform the Secretary of their willingness to participate by 1 February 2010.	All Augustin (Rapporteur), Paul	1 February 2010	AIS-AIMSG/2-SN/5	
2/25 — Guidance material on AIS training	That an ad-hoc group, consisting of Augustin (Rapporteur), Paul, and others be named:  a) develop an AIS training manual, taking into account available material on AIS training and aligning with the principles in the PANS-TRG;  b) ensure, during development of the AIS training manual, coordination with Secretariat members responsible for the PANS-TRG; and  c) present a draft of the AIS training manual to the AIS-AIMSG/3 meeting.	Augustin (Rapporteur), Paul	AIS-AIMSG/3	AIS-AIMSG/2-SN/5	
2/26 — Guidance material on AIS training	That the Secretary provide the Rapporteur with training material developed by the CAR/SAM Regional Planning and Implementation Group (GREPECAS) by 15 December 2009.	Secretary	15 December 2009		

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
2/27 — Examples of State policies on legal and institutional issues	That members endeavour to acquire information on their respective State's policy on legal and institutional issues and provide this to Eugene by 31 January 2010.	All Eugene (Rapporteur), Bill, Paul, Stéphane and Steven	31 January 2010		
2/28 — Coordination with AEP-ANSEP	That the ad hoc group consider the outcome of the AEP-ANSEP/3 meeting and develop a plan for coordination between the AIS-AIMSG and the AEP-ANSEP by 1 March 2010.	Eugene (Rapporteur), Bill, Paul, Stéphane and Steven	1 March 2010		
2/29 — Guidance material on legal and institutional issues	That the ad hoc group consisting of Eugene (Rapporteur), Bill, Paul, Stéphane and Steven, prepare an amendment to the Roadmap <i>for the Transition from AIS to AIM</i> to incorporate guidance on legal and institutional issues by 31 July 2010.	Eugene (Rapporteur), Bill, Paul, Stéphane and Steven	31 July 2010		
2/30 — Information on SESAR	That in a Paul provide an information paper to AIS-AIMSG/3 concerning developments in SESAR on aeronautical information in the context of information management and SWIM.	Paul	AIS-AIMSG/3		
2/31 — Information on NextGen	That Greg provide an information paper to AIS-AIMSG/3 concerning developments in NextGen on aeronautical information in the context of information management and SWIM.	Greg	AIS-AIMSG/3		
2/32 — Review of draft guidance material on the display of graphical (meteorological ) information in the cockpit	That the group review the draft guidance material on the display of graphical (meteorological) information in the cockpit and provide comments to the Secretary by 31 December 2009.	All	31 December 2009	Draft Guidance Material on the Display of Graphical (Meteorological) Information in the Cockpit on AIS-AIMSG Website	
2/33 — Study Note on AIS-AIMSG developments related to the MET component	That the Secretary prepare a study note for the next meeting of the AMOFSG in February 2010 on recent AIS-AIMSG developments with MET components.	Secretary	February 2010		

<i>Item No and Title</i>	<i>Description</i>	<i>Assigned to</i>	<i>Deadline</i>	<i>Notes and References</i>	<i>Completed</i>
2/34 — Review of FF-ICE concept document	That the group provide comments on the draft FF-ICE concept document to the Secretary by 30 November 2009 for onward transmission to the ATMRPP.	All Secretary	30 November 2009	AIS-AIMSG/2-SN/13	
2/35 — Identify data process and procedures that would be required	That Paul identify, for review by AIS-AIMSG/3 the new data process and procedure requirements related to the future provision of new datasets, in addition to the current paper or text products.	Paul	AIS-AIMSG/3		
2/36 — Integrated briefing	That John Synnott develop draft guidance material on the provision of integrated briefing by 31 December 2009.	John Synnott	31 December 2009		
2/37 — Review of draft guidance material on integrated briefing	That the Secretary prepare a Study Note for the AIS-AIMSG/3 meeting based on the draft guidance material on the provision of integrated briefing.	Secretary	AIS-AIMSG/3		
2/38 — Mapping of group activities to deliverables	That the Secretary prepare a table which maps the activities of the group to: <ul style="list-style-type: none"> <li>a) the original expected outputs outlined in the Air Navigation Commission working paper (AN-WP/8309) that established the AIS-AIMSG;</li> <li>b) the terms of reference included in AIS-AIMSG-Memo/1; and</li> <li>c) the steps (projects) in the Roadmap for the Transition from AIS to AIM.</li> </ul>	Secretary	31 December 2010		

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**APPENDIX F**

**COORDINATES OF THE MEMBERS OF THE  
AERODROME METEOROLOGICAL OBSERVATION AND FORECAST STUDY GROUP (AMOFSG)**

**Secretary:**

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## Appendix F

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**APPENDIX G**

**COORDINATES OF THE MEMBERS OF THE  
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