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INTERNATIONAL CIVIL AVIATION ORGANIZATION

SOUTH AMERICAN OFFICE

AERONAUTICAL INFORMATION SERVICES, AERONAUTICAL CHARTS AND AIS AUTOMATION COORDINATION AND IMPLEMENTATION MEETING

(SAM 03/03-AIS/MAP/AUTO)

(Lima, Peru, 13 to 17 October 2003)

Agenda Item 1: **Review of the technical requirements of Part VIII (Aeronautical Information Services and Aeronautical Charts) of the CAR/SAM Air Navigation Plan, Vol. I, Basic Plan**

FOLLOW-UP ON THE STATUS OF IMPLEMENTATION OF THE TECHNICAL REQUIREMENTS OF PART VIII (AIS/MAP), VOL. I, BASIC PLAN, AND VOL. II, FASID, OF THE CAR/SAM AIR NAVIGATION PLAN, AND MAIN DIFFICULTIES FOR THEIR IMPLEMENTATION

(Presented by the Secretariat)

SUMMARY

The purpose of this working paper is to examine the status of implementation of the technical requirements of Part VIII (AIS/MAP), Vol. I, Basic Plan, and Vol. II, FASID, of the CAR/SAM Air Navigation Plan, and the main difficulties observed in the implementation of said requirements by the States concerned.

References:

- Report of the Third CAR/SAM Regional Air Navigation Meeting – CAR/SAM RAN (Buenos Aires, Argentina, 5-15 October 1999).
- Report of the Tenth Meeting of the CAR/SAM Regional Planning and Implementation Group-GREPECAS/10 (Las Palmas, Grand Canary, Spain, 23-27 October 2001)

1. Introduction

1.1 The CAR/SAM/3 RAN meeting noted that, although the size and scope of AIS/MAP facilities in the States could vary significantly form one State to the other due to the volume of aircraft operations, and, consequently, to the amount of information to be processed, the responsibilities involved in the provision of the service itself continued to be, basically, the same. It was also noted that, as in any other aeronautical service, the availability of competent personnel in adequate numbers, appropriate premises and equipment, are a prerequisite for the timely supply of quality aeronautical information. In view of the above, the CAR/SAM/3 RAN meeting, although noting some improvement in the provision of aeronautical information services, also noted that these services still required utmost attention by the States concerned in order to reach the level of efficiency required by international aircraft operations in terms of the quality (accuracy, resolution, integrity, timeliness and uniformity) of the information published.

1.2 In this regard, the meeting should be able to carry out a detailed analysis of the status of implementation by the States of the technical requirements of Part VIII (AIS/MAP), Vol. I, Basic Plan, and Vol. II FASID, of the CAR/SAM Air Navigation Plan, as well as of the main difficulties encountered in the implementation of said requirements by the States concerned, as in the case of the Integrated Aeronautical Information documentation, and of the programme of SAM States for the production of the main aeronautical charts required for air navigation, taking into account the SARPs in Annex 4 (Aeronautical Charts).

2. General considerations on AIS requirements

2.1 Annex 15 requires States to provide an efficient aeronautical information service (AIS), in keeping with the required quality levels. In this regard, it may be noted that the AIS services of a State will always be deficient if they lack the appropriate AIS organization, personnel of the appropriate category and the necessary equipment to fulfill all of its responsibilities in an efficient manner, as required. Experience has shown that this unsatisfactory condition of AIS services in the SAM Region will persist unless the states concerned take the necessary steps to provide the AIS central office, the International NOTAM Office (NOF), and aerodrome AIS units, with all of the necessary equipment and the adequate number of competent personnel to meet the demands and requirements of air operations. Likewise, the AIS central office should be given direct authority over the NOF and aerodrome AIS units. Another factor that should be seen as vital for the proper provision of AIS aeronautical information services by the States is the need for close and effective coordination between the AIS central office , the International NOTAM Office (NOF), aerodrome AIS units, the MAP office, document printing and distribution service, and the other relevant aeronautical technical services that provide basic information to the AIS.

2.2 In addition to the above, it should be noted that the meeting is required to examine the need to provide aeronautical information and pre-flight information services in an efficient manner in the area under study, in order to verify all of the Air Navigation Plan and ensure that current and future operational requirements of said plan are met as required. In this sense, it should be noted that there are still significant deficiencies in almost all aspects of AIS services, such as the service provided by the AIS central office, the international NOTAM offices (NOFs), aerodrome AIS units, and the (MAP) units in charge of producing the required aeronautical charts.

3. Organisation of aeronautical information services

3.1 AIS units

3.1.1 The meeting should take note that aerodrome AIS units that provide pre-flight information services should be established at places of the airport that are of easy access by aeronautical and/or flight operations personnel, preferably at the offices located next to the aprons of the airport terminal building. The CAR/SAM/3 RAN meeting noted that, to a certain extent, the establishment of aerodrome AIS units in the area under study is far from satisfactory, since AIS units have not been established yet in many international aerodromes and, furthermore, even if this type of AIS unit has been established, they do not depend on, nor are under the direct control of the AIS central office. There is also a trend among the States in this Region to place aerodrome AIS units under the direct control of ATS services, and, consequently, the AIS cannot properly oversee the provision of this type of service. Therefore, it would be advisable for the meeting to re-examine this matter and, if applicable, suggest the necessary measures to make sure that the AIS headquarters has full authority and control over aerodrome AIS units.

3.2 Pre-flight information services

3.2.1 As specified in ICAO Annex 15, aeronautical information services at aerodromes should be provided 24 hours a day, unless otherwise established by the AIS authorities of air traffic services and the operators concerned. It also states that the aeronautical information publication (AIP) should indicate the agreed working schedule of aerodrome AIS units, and give details of the service provided. Pre-flight information services depends largely on the reliability of international NOTAM exchange through the aeronautical fixed service (AFS). At each aerodrome where AIS units have been established, the AIS service, in collaboration with aircraft operators, should define the area of coverage for the provision of information and for pre-flight briefing. This service could only be considered appropriate if the information originating in the States is received in a timely manner and is totally reliable. Therefore, all possible efforts should be made to ensure the reliability of communication lines, as well as the effective control of NOTAM information received from other States. Based on the above, and on **Appendix A** to this paper, the meeting is expected to study measures to improve pre-flight information services, taking into account the advantages that could be derived from the use of automated systems for the provision of this service.

3.3 Post-flight information service

3.3.1 As specified in ICAO Annex 15, the objective of the post-flight information service is to make sure that the operators immediately report to the responsible authority any deficiencies in the facilities and services observed during the course of operations, when that information is essential for the safety of such operations. Annex 6, Part I, paragraph 4.1.2 stipulates that aircraft operators are responsible for reporting such deficiencies. Annex 15, paragraph 8.2, also requires States to make sure that their aerodromes have the necessary facilities to receive this information and to make it available, so that it may be distributed as required. Normally, pilots report deficiencies to the ATS, but, in many cases, this information is not conveyed promptly to the AIS for the adoption of the appropriate action. Post-flight information services rely mainly on the level of cooperation and coordination among airline operational personnel, the ATS and the AIS. Therefore, regulations should be established as required for the effective coordination of the post-flight information service. In this regard (see Appendix A), the meeting could

discuss the problems that exist in the provision of this service, and suggest measures to overcome these problems.

3.4 International NOTAM offices (NOFs)

3.4.1 With respect to the implementation of the International NOTAM Offices (NOFs) required in the CAR/SAM Air Navigation Plan, it may be noted that, in general terms, this requirement has been met by SAM States and, therefore, all of the NOF offices required in the CAR/SAM Plan have been established and are in operation. However, although this requirement has been met, there are still some difficulties for the efficient supply of the services required by this type of units, as shown in Appendix A to this working paper. After examining this issue, the meeting could formulate some action to foster an improved provision of this service. It may also be noted that there is a trend in the SAM Region to place NOFs under the responsibility of the COM department. In this respect, it would be advisable for the meeting to examine this matter in order to propose the necessary measures to ensure that AIS services maintain direct control and authority over NOFs.

3.5 AIS personnel requirement

3.5.1 The establishment of the quality system in AIS services requires that AIS/MAP personnel be highly qualified for performing its technical responsibilities. Therefore, the States must make sure, at all times, that their AIS/MAP specialists are duly trained and are granted the necessary technical level so as to meet, at all times, the technical requirements under their responsibility. It is also noted that factors such as the introduction of AIS-related databases, data links and data integration between remote digital stations and the corresponding digital mapping work stations, electronic readers, scanners, plotters, and databases related to automated mapping have reached such a level of development that, at present, aeronautical mapping has become a complex and dynamic field. It may thus be concluded that the people in charge of AIS and MAP activities are an important element for improving the provision of AIS services by the States concerned, and, therefore, such personnel must be highly qualified. In view of that stated in the working paper and its Appendix A, the meeting could make a statement regarding these problems.

3.6 AIS coordination requirements

3.6.1 States should always pay special attention to the requirements concerning advance reporting of all modification that are important for air operations. Therefore., in order to meet with objective, account must be taken that the AIS must be directly and constantly linked to other related aeronautical technical services, such as ATS, COM, MET, AGA, SAR, FAL, as well as with military institutions, in order to ensure the timely provision of aeronautical data/information. Therefore,, each of the services responsible for providing basic information to the AIS should designate those responsible for maintaining direct and continuos link with the AIS, Based on the above. The States should improve cooperation between the AIS and the other services of the civil aviation administration, in order to ensure *inter alia*, the effective operation of the AIRAC Regulatory System and, thus, an effective AIS provision. Based on the comments made in this working paper, as well as in its Appendix A, the meeting could make the recommendations it deems appropriate regarding this particular matter.

3.7 AIS documentation requirements

3.7.1 Integrated AIS documentation

3.7.1.1.1 Annex 15 regulates the international exchange of integrated aeronautical information documentation. It also specifies that the AIPs, AIP amendments and AIP supplements will be distributed using the fastest means available. This normally means that it will be distributed as urgent first-rate mail or by airmail, and, in other cases, that aeronautical information documents will be given to flight crews of foreign Airlines for their immediate delivery to the airlines concerned and to the aeronautical information services of the country, where the airline is based. Since the implementation of aeronautical AIS systems will contribute significantly to the effective processing of the integrated aeronautical information documentation, including storage and electronic downloading of AIP information, publications of the AIP in the new restructured format, as well as a systematisation of all the integrated aeronautical information documentation processes, including dynamic information/data it constitutes an essential element in order to enable the efficient automation of the AIS. Consequently, the States should take the necessary steps to prepare and publish their AIPs in restructured format, according to Annex 15. Based on this paper and its **Appendices** A and **B**, the meeting could review the procedure used by SAM States with respect to the integrated aeronautical information documentation and its effective implementation in the SAM Region.

3.7.2 Aeronautical information circulars (AIC)

3.7.2.1 Regarding aeronautical information circulars (AICs), it should be noted that the number of these publications issued by the States is still too small, which shows lack of knowledge of the information that meets the requirements for this type of AIS publication. Obviously, there are other factors, such as the lack of coordination between the AIS and other sections of the civil aviation administration, as well as the lack of knowledge within the AIS field to clearly define the type of information to be published in the AIC. It should be pointed out that the meeting could examine the main reasons why the specifications for the publication of information in the AIC are not followed. Therefore. it is expected that, based on the information contained in Appendix A to this paper, appropriate recommendations may be adopted to eliminate the reasons for the lack of AIC publications in the area of concern.

3.7.3 NOTAM and NOTAM exchange

3.7.3.1.1 Regarding international NOTAM exchange in the SAM Region. some difficulties are noted in the proper management of this type of documentation, one of the most significant being the excessively long time NOTAM information is kept in force many times. In many cases, this is due to lack of coordination between the AIS and aeronautical technical services that generate the information, and/or the inadequate delivery of information, in which, moreover, its validity is not clearly specified. To eliminate this problem, measures need to be taken to avoid extensive validity periods of NOTAMs. In this respect, it is also noted that aeronautical information is frequently distributed in NOTAM format, despite the fact that is should be

included in the AIP supplement or event in the AICs. Based on the information provided in Appendix A to this paper, the meeting could examine the main causes for the aforementioned deficiencies and recommend the adoption of measures for the States concerned to eliminate this type of problem.

3.7.4 **AIRAC system**

3.7.4.1 Regarding the AIRAC regulatory system, it should be noted that, in the ICAO SAM Region there are still deficiencies with respect to the application of this technical requirement by the States involved, mainly as regards the lack of an effective implementation of the system, as well as the untimely publication of the aeronautical information disseminated through this system. Another aspect that has been noted in the introduction of changes to the information while the AIRAC is still valid. Regarding the effective application of the AIRAC system in the area of concern, the meeting is required to conduct such study (see Appendix A to this working paper).

4. **Aeronautical charts**

4.1 Based on the technical requirements of ICAO Annex 4, the meeting should review the production of aeronautical charts in the area o concern, in order to verify the status of compliance of this requirement by the States of the ICAO South American Region, based on the priorities and responsibilities established for the production of said charts. To that end, consideration should be given to the relevant AIS Table presented in Part VIII (AIS/MAP) of the CAR/SAM Air Navigation Plan, Vol. II, FASID. Regarding the production of aeronautical charts by SAM States, there are still some difficulties, as indicated in Appendix A to this working paper. Therefore, the meeting is invited to analyse this matter, and take any action it may deem convenient to improve the situation indicated above.

5. **Discussion**

5.1 In view of the foregoing and upon considering the aspects related to the implementation of the AIS/MAP requirements contained in ICAO Annexes 4 and 15, and the CAR/SAM Air Navigation Plan, it would be advisable for the meeting to assess the difficulties facing the SAM States for effective compliance of the aforementioned requirements. Appendix A to this paper shows the main difficulties for the implementation of AIS/MAP requirements in the SAM Region. Once the meeting has analysed these difficulties, it would be in a position to take the required action on this matter.

6. **Suggested action**

6.1 The meeting, after analysis the contents of this paper and Appendices A and B, is invited to take the required action on the subject matter, and consider the adoption of the actions proposed in **Appendix C** to this paper.

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APPENDIX A

DIFFICULTIES OBSERVED IN THE SUPPLY OF PRE-FLIGHT INFORMATION SERVICE

1.1 Regarding the supply of pre-flight information services, the persistence of a series of deficiencies is observed as follows:

a) lack of enough AIS qualified staff to cover the necessary shifts at the AIS unit;

b) AIS staff designated to provide pre-flight information services at the aerodrome AIS units, are regularly assigned non-AIS duties such as, handling of flight plans (in some cases approval of flight plans) which could have a detrimental effect on the provision of pre-flight briefing;

c) in some cases pre-flight information service is made available on a limited basis only (only short distance domestic or regional flights but not for long distance flights);

d) PIBs or selective NOTAM summaries are either not provided or its provision leaves much to be desired;

e) lack of adequate filing procedures for national and foreign AIS publications (e.g. AIP, AIP Supplement, NOTAM, AIC), and/or, these documents are not kept up-to-date;

f) shortage of specialized aeronautical charts required for the provision of the pre-flight briefings;

g) lack of adequate communication links between the aerodrome AIS units and the NOF and/or between these dependencies and the airlines operational offices;

h) inadequate location at the terminal building of the AIS unit, therefore, not easily accessible to flight crew; and

i) lack of adequate automated systems for the direct and effective support of international users.

2. **Post-flight information service**

2.1 With regard to the filing of post-flight reports and according to the study made on the subject, it can be noted that there is practically no compliance with Annex 15 in this respect within the area being considered by the meeting. This situation is primarily due to the absence of provisions, on part of States, to enable aircrews to comply adequately with this requirement. Following may be the main causes for the non-compliance with these provisions:

a) lack of established liaison between AIS and the ATS services;

b) lack of administrative regulations to encourage compliance with Annex 6. Para 4.1.2 requirement by aircrew;

c) lack of appropriate arrangements to enable compliance with the Annex 15, Para. 8.2 provisions at aerodrome AIS units;

d) lack of report forms, and absence of arrangements to receive post-flight reports at terminal buildings;

e) unsuitable physical location of AIS unit at aerodrome.

3. **International NOTAM Offices (NOF)**

3.1 With reference to the required establishment of International NOTAM Offices (NOF) and in spite of the operation of such dependencies in ICAO South American Region, it can be observed that some difficulties are still directly affecting the effective functioning of existent NOFs, as stated hereunder:

a) not always provide a continuous 24 hour service

b) lack of enough qualified AIS personnel to cover all shifts in these dependencies, to give a 24 hour service during all days of the year;

c) requirement of efficient communication channels with the COM office at the airports responsible for the transmission of aeronautical messages, including NOTAM information;

d) in some cases, the transmission of NOTAM through the aeronautical fix service network (ATS), is not given the required priority.

4. **AIS personnel requirement**

4.1 With reference to the requirements of AIS personnel, the need that actions should be taken in order that AIS services can always count with sufficient qualified aerodrome personnel for the normal fulfillment of their functions, can be observed. In such sense, a series of elements as those stated below, can be observed, for the integral improvement of AIS services in the area under consideration by the meeting.

a) AIS Headquarters (central office), International NOTAM Office, AIS/MAP Office and aerodrome AIS dependencies, should at all times count with sufficient qualified personnel to satisfy aircraft exploiters, particularly attending the volume of traffic, at a 24-hour-day service;

b) Interested States should adopt necessary measures to give highest priority to the training and the service conditions of the personnel assigned to AIS and MAP functions;

c) Introduction of AIS related databases and the use of digital equipment in AIS/MAP services, are conducting to the requirement to extend the reaches of AIS/MAP personnel training programmes. In this regard, States, should take the required actions;

d) Beyond the requirements related to AIS/MAP, States should consider the need to incorporate subjects such as automation and English language knowledge in all training programmes destinated to the training of personnel in such specialities;

e) In the digital scope for the automated production of aeronautical charts, it will be required that the aeronautical cartographer counts not only with the traditional skills as cartographic designer, but also a considerable more technical and managing instruction than it was in the past. In such sense, States should consider such factors for the training and/or up-dating of their AIS/MAP personnel; and

f) The formulation of adequate dispositions for the expedition of a license and its corresponding habilitations to AIS/MAP personnel, has always been considered as an important factor to improve the AIS/MAP personnel category. Therefore, States should continue exploring the possibility of such alternative.

5. Aeronautical Information Publication (AIP)

5.1 After the States have published their AIP in accordance with the requirements of Annex 15 it is essential to ensure that the AIP is kept up-to-date by issuing amendments on a regular basis (e.g. twice or three times a year), or as and when necessary. The meeting will be able to examine the main deficiencies observed in the supply of AIP and to decide on the measures to be adopted to improve, whenever necessary, the contents, the presentation and the up-dating of AIP. With regard to this matter, following should be observed:

a) In several cases it is noticed that programmes for maintaining AIPs up-to-date through the regular issuance of AIP amendments, leaves much to be desired; consequently, information contained in such AIPs are out of date, thus jeopardizing the safety of flight operations. Notwithstanding the possibility of issuing AIP Supplements, the promulgation of AIP AIRAC Amendments should, as far as possible, be preferred;

b) In general, under part GEN of national AIPs, frequency and interval established for the regular publication of AIP Amendments should be included. On this regard, it can be observed that not all States comply with this requirement and in other cases, even complying with it, there is no strict control of cases when dates on established publication calendar is maintained.

c) An up-dated list of AIP valid verifications should be kept. The new introduced and/or modified information should be clearly identified on the AIP substitute pages.

d) As far as possible, hand made corrections should be avoided. For corrections of importance substitute pages should be used;

e) Listing of differences from ICAO SARPs and procedures should be kept up-to-date,

f) Aeronautical charts should be included as specified by Annex 15, in the appropriate parts of the AIP rather than in a separate publication.

6. AIP Supplements

6.1 With regard to the use of AIP Supplements by the States of the South American Region, it should be noted that there exist some difficulties, as specified hereunder, for its evaluation by the Meeting:

a) information more appropriate for publication as AIP Amendment, is promulgated through AIP Supplements, and, instead of its inclusion in the ANP, is maintained for periods exceeding six months validity;

b) information appropriate for publication as AIP Supplement under AIRAC regulatory system, is published through AIP regular Supplement, without giving the anticipation required for this type of information;

c) AIP Supplement is not replaced by a new AIP Supplement when the information contained in the first one is changed;

d) It is common practice of some States to issue AIP Supplements for the notification of changes in instrument approach procedures but without illustrative diagrams or charts to aid interpretation;

e) AIP Supplement check-lists are either not issued or are issued irregularly;

f) very often, AIP Supplements which have not been assigned the required distribution priority have their distribution delayed for weeks due to the lack of funds to pay for mailing costs;

7. Aeronautical Information Circulars (AIC)

7.1 With reference to the use of Aeronautical Information Circulars (AIC) by the States of the ICAO South American Region, it can be observed that factors such as the lack of co-ordination between the AIS and the other departments within the civil aviation administration, and the lack of knowledge in the AIS field to clearly identify what kind of information is to be promulgated through this type of publication are apparent. Consequently there can be observed some difficulties for the use of AIC, which are stated below for its evaluation by the Meeting.

a) AIC are inappropriately used to update information contained in AIP;

b) AIC are seldom used to provide a long-term forecast of any major change in legislation, procedures or facilities;

c) publication by NOTAM or AIP Supplement of information which is more suited to an AIC; and

d) most States use AIC exclusively to publish information such as the annual AIRAC calendar, changes in prices of AIS publication and sometimes, for AIC lists of verification; and

e) failure to publish the AIC check-lists at least once per year.

8. NOTAM

8.1 Although improvement has been noted in the issue of monthly printed plan-language summaries of NOTAM in force including indication of the latest AIP Amendment, checklist of AIP Supplements and AIC issued, it is nevertheless observed that some States are still not complying with this requirement. On several occasions these summaries have reached the recipients of the Integrated Aeronautical Information Package three months after the publication date. Consequently, there were observed some difficulties in the use of AIC, some of which are presented below for its evaluation by the Meeting.

a) on too many occasions information is promulgated by NOTAM, which should have been issued as AIP Supplement or AIP Amendment;

b) NOTAM are used to cancel AIRAC AIP Supplements or modify the AIP at very short notice;

c) NOTAM remain in force for excessive periods of time without being replaced by AIP Supplements or having their content incorporated in to the AIP;

d) non-cancellation or non-replacement of NOTAM which includes EST;

e) issuance of a NOTAM which deals with more than one subject and more than one condition related to the subject:

f) NOTAM often contains excessive text which causes delays in transmission of NOTAM via the AFTN;

g) "trigger" NOTAM have not been issued (giving a brief description of the contents. The effective date and the reference number of the AIP Amendment or Supplement published in accordance with AIRAC procedures);

h) NOTAM are used to promulgate information which should have been disseminated during pre-flight or in-flight briefings;

i) often, not all NOTAM are received in sequence of NOTAM numbering or not received at all, As soon as this is noticed, requests to repeat the missing NOTAM should be sent to the communications system and the communication authorities should be made aware of the problems encountered. In some cases NOTAM information is not immediately transferred to the NOF by the communications centre. Arrangements should be made to ensure that "receiving" NOTAM be sent to NOF without delay and that "outgoing" NOTAM be channeled to the foreign addresses with appropriate urgency;

8.2 Some States do not follow correctly the guidance for the completion of the ICAO NOTAM Format when preparing NOTAM. The following are the most common deficiencies identified with the use of the NOTAM Format:

a) non-use, or incomplete/improper use of the NOTAM qualifier line (Item Q);

b) frequent use in NOTAM Format, Item B), of the phrases "with immediate effect" (WIE) instead of a ten-figure group, giving year, month, day, hours and minutes in UTC for the date-time at which the NOTAM N comes into force;

c) in many cases, when information on timing is uncertain,, the phrase "until further notice" (UFN) is used in NOTAM Format Item C), instead of a ten figure data-time group followed by an EST to indicate the approximate duration of information:

d) difficulties with use of the NOTAM Format Item D) - Time Schedule;

e) excessive plain language is used in NOTAM Format Item E) instead of the uniform abbreviated phraseology associated with the NOTAM Code in the English language amplified or completed where necessary by the addition of

location indicators, name of station, geographical coordinates, abbreviations, frequencies, call signs, and some plain language where it be necessary;

f) difficulties with respect to the figures necessary to complete NOTAM Format Q) line, fields 6 and 7, and its direct relationship with the Items F and G.

9. **AIRAC System**

9.1 The AIRAC System has been implemented by most States in the area covered by the meeting. However, this requirement is not being applied by a significant number of States, The main reasons for the implementation difficulties seem to be shortage of suitable AIS personnel, shortage of printing equipment and lack of coordination between AIS and the technical department within the aviation administration responsible for planning and providing the raw information to AIS for promulgation. Where the AIRAC system has been applied, the following deficiencies have been noted:

a) an AIRAC AIP Amendment has seldom been used to promulgate operationally significant permanent changes to the AIP;

b) AIRAC AIP Supplements have not been used to promulgate operationally significant temporary changes of long duration to the AIP;

c) AIP Supplements promulgated under the acronym AIRAC, are issued with dates different from the pre-determined AIRAC effective dates;

d) AIRAC AIP Supplements are distributed after the AIRAC effective date printed on the Supplement;

e) Promulgated AIRAC information is sometimes amended or cancelled within its period of validity by NOTAM;

f) AIRAC information is promulgated late so that users are receiving it less than 28 days in advance of the effective date; and

g) The AIRAC NIL notification requirement is not complied with.

10. **Aeronautical charts**

10.1 Regarding the production of aeronautical charts by the States of the ICAO South American Region, some difficulties as stated below, can be observed:

a) the requirement of production of the **Aerodrome Obstacle Chart-ICAO Type A** has been satisfied by most of the States concerning, although these type of charts are not always given for all aerodromes used for the commercial air transport. In some cases, these are produced according with the specifications of Annex 4. The major difficulty for accomplishing with this requirement seems to be the lack of an adequate programme to conduct the necessary topographic and obstacle surveys;

b) at present, only one SAM State is not producing the **Precision Approach Terrain Chart-ICAO**, as required;

c) regarding the requirement of production of aeronautical charts such as the En-**Route Navigation Chart – ICAO**, the **Area Chart – ICAO**, the **Standard arrival/departure charts – flight by instruments (SID/STAR) –ICAO,**

although this requirement was satisfied by most of States, it was observed that in many cases, these charts are being produced only with one partial application of ICAO specifications.

d) all SAM Region States publish the **Instrument Approach Chart – ICAO**. Although de majority of published charts, partially use the specifications of Annex 4. It therefore lacks a standardization according to ICAO standards. Likewise, some charts are not amended nor published again opportunely when important changes arise.

e) with regard to the production of the **Aerodrome/Heliport Chart – ICAO**, it has to be indicated that not all States have accomplished with the requirements for the editing of these charts of geographic coordinates, based on WGS-84 geodetic reference, indicating as well, vertical data based on the vertical component of WGS-84. The geoid undulations at the runway thresholds should be also indicated;

f) with reference to the production of the **World Aeronautical Chart – ICAO 1:1 000 000 (WAC)**, its production results difficult to estimate as several States have not included information regarding this type of chart in their AIP, nor have submitted copies of the charts published by them to ICAO. Nevertheless, it can be observed that several States have faced great difficulties for its production or to fully comply with the standards of Annex 4, mainly because no budget has been assigned for this purpose neither by the administrations nor by the aeronautical entities;

g) regarding the status of production of **Aerodrome Obstacle Chart – ICAO, Type C**, it has to be mentioned that the production of this chart is not required, when States have accomplished the requirements of publishing all obstacle data, or when no obstacles of importance exist, in their respective AIP. Nevertheless. due to the characteristics of the terrain surrounding in most of the aerodromes of the SAM Region and the fact that the requirements above mentioned are not being effectively fulfilled, it is considered necessary to recommend States to do their best efforts in order to comply with the production of this series of charts.

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APPENDIX B

PRESENT LEVEL OF AIPS IN THE SOUTH AMERICAN REGION

STATES	PRESENT LEVEL OF AIPS				
	Produced under Annex 15 format	**Produced under Old format**	**WGS-84 data**	**Up-dating frequency**	**Remarks**
ARG	• √ Large format √ Charts included in AD section		• √ Lack of geoid undulation publication	OK	• √ It is suggested to produce AIP in small format
BOL	• √ Charts included in AD.		NIL	• √ Major level of up-dating required.	• √Need for a more frequent review of AIP.
BRA	• √ Large format √ Inclusion of AD section in approach, departure and arrival charts is required.		• √ Lack of geoid undulation publication	OK	
CHI	• √ Large format √ Inclusion of all charts required in AD section (ej. Approach, departure and arrival charts).		• √ Lack of geoid undulation publication	OK	• √ It is suggested to produce AIP in small format
COL	√ Large format √ Charts included in AD section.		√ Partial publication of WGS-84.	• √ Need of a more frequent AIP review system.	• √ It is suggested to produce AIP in small format
ECU	• √ Need of inclusion of all charts required in AD section (ej. Approach, departure and arrival charts).		• √ Lack of geoid undulation publication	• √ Regular level of AIP up-dating.	
FGY	√ Large format √ Charts included in AD section.			• √ Regular level of AIP up-dating.	• √ It is suggested to produce AIP in small format

STATES	PRESENT LEVEL OF AIPS				
	Produced under Annex 15 format	**Produced under Old format**	**WGS-84 data**	**Up-dating frequency**	**Remarks**
GUY	√ Large format √ Need of inclusion of all charts required in AD section (ej. Approach, departure and arrival charts).		NIL	• √ Major level of up-dating required.	• √ It is suggested to produce AIP in small format
PAN	√ Small format √ Charts included in AD section.		NIL	• √ Regular level of AIP up-dating.	
PAR			√ Partial publication of WGS-84 data in AIP.	• √ Poor level of AIP up-dating.	
PER	√ Charts included in AD section.		• √ Lack of geoid undulation publication	• √ Need of a more frequent AIP review system.	
SUR	√ Large format Charts included in AD section.		• √ Lack of geoid undulation publication	• √ Need of a more frequent AIP review system.	• √ It is suggested to produce AIP in small format
URU	√ Large format Charts included in AD section.		• √ Lack of geoid undulation publication	• √ Normal level of AIP up-dating.	
VEN			NIL	• √ Poor level of AIP up-dating.	

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APPENDIX C

SUGGESTED ACTIONS FOR ITS ADOPTION BY THE COORDINATION AND IMPLEMENTATION OF AERONAUTICAL INFORMATION, AERONAUTICAL CHARTS AND AIS AUTOMATION MEETING (SAM 03/03-AIS/MAP/AUTO)

CONCLUSION 1/3 - FUNCTIONING OF NOTAM OFFICES

That in order to guarantee a constant and effective flow of NOTAM information in the SAM Region, pertinent States should take the corresponding measures to:

a) assure that their NOTAM Offices give a 24 hours continuous and efficient service, 365 days a year.

CONCLUSION 1/4 - AERODROME AIS NOTAM DEPENDENCIES

That States of ICAO South American Office not having done so:

a) establish aerodrome AIS dependencies, to provide pre-flight information service, in accordance with Annex 15, at the international aerodromes listed in AOP Table of the CAR/SAM Regional Air Navigation Plan.

b) establish on an appropriate and of easy access place, the pre-flight information Office in all aerodromes where this requirement is demanded.

CONCLUSION 1/5 - POST-FLIGHT INFORMATION

That, considering the need of and effective application of the technical requirements of Chapter 8 (Pre- and post-flight data information), of ICAO Annex 15, SAM Region States which have not yet done so, establish a programme to assure that necessary requirements are being taken in order that information is given regarding the condition and functioning status of air navigation facilities observed by flight crew during their operations, in all international airports.

CONCLUSION 1/6 - REQUIREMENTS OF AIS PERSONNEL

That States of the ICAO South American Region take note of the need to improve de technical level of AIS personnel, and for that purpose:

a) promote a detailed revision of the AIS training programmes existing at present, with the purpose that same can be adapted to attend in an efficient and progressive manner, the new role to be played by AIS services among the CNS/ATM environment, in direct support of GNS/FMS systems;

b) progressively incentive the use of English as working language in the AIS Training Programmes, in order to be able to overcome the great defficiencies observed at present in the use of such language by the AIS personnel, mainly by those working at international airports and by those preparing the AIS system databases, in direct support of GNS/FMS systems; and

c) prepare AIS Training Modules, oriented mainly to instruct AIS personnel in the direct and efficient use of automated systems as basic working tools of AIS, the direct application and control of quality systems as well as the methods for the quality assurance of AIS systems.

CONCLUSION 1/7 - AERONAUTICAL INFORMATION PUBLICATION (AIP)

Considering the need for an effective publication of AIP document by SAM States:

a) those not having done so, should urgently prepare and publish, in a restructurated format, their Aeronautical Information Publication (AIP), individually or collectively;

b) measures should be taken in order to include all aeronautical charts required for each particular aerodrome, in the AIP/aerodrome section;

c) all geographic coordinates included in the AIP, should be referred to the WGS-84 system. In cases where that is not feasible, such difference should be clearly represented;

d) likewise, the differences between the regulations and national practices and the corresponding ICAO SARPs, should be submitted in the appropriate AIP part; and that

e) in view of the importance of the aeronautical information contained in the AIP, such publication should be maintained totally up-to-date. This should be made publishing the AIP amendments, according to publication dates at regular intervals.

CONCLUSION 1/8 - AIP SUPPLEMENTS

That taking into consideration the main objective of AIP Supplement, States of the Region should take the corresponding measures to:

a) incorporate, with a minimum delay, the AIP Supplements information and data to be included in the AIP; and

b) ensure that the important information for operations requiring amendments to the flight documentation (for example promulgation of new and/or reviewed instrument approach procedures), issued by means of an AIRAC AIP Supplement, should be accompanied by charts or diagrames, whatever corresponds, to help in its interpretation.

CONCLUSION 1/9 - AERONAUTICAL INFORMATION CIRCULARS (AIC)

That, taking into consideration the importance of promulgating pertinent information by means of AICs, respective actions should be taken in order to:

a) major spreading of ICAO Annex 15, Chapter 7 regarding requirements to promulgate aeronautical information strictly in accordance with AIC requirements, should be given in AIS training programmes as well as in the civil aviation administrations.

CONCLUSION 1/10 - PROMULGATION OF NOTAM

Taking into consideration the need to adequately and effectively coordinate the information to be promulgated by NOTAM:

a) NOTAM should be used strictly to promulgate temporary information, with a short period of duration;

b) the temporary information promulgated by means of NOTAM, should not be valid for more than three months. If temporary information promulgated by NOTAM remains being valid for more than three months, it should be published with a new NOTAM number in its substitution.

CONCLUSION 1/11: AIRAC SYSTEM

Taking into consideration the need for an opportune reception of operational character information by the international operators, States of the ICAO South American Region:

a) which have not yet done so, should implement the AIRAC system with a minimum delay, according with the requirements of Annex 15;

b) take pertinent actions to guarantee the effective application of AIRAC system, by means of an adequate familiarization with the involved technical services, in order to comply with this system according with the specifications of Annexes 11, 14 and 15;

c) to assure that the aeronautical information of importance for aeronautical operations is at user's disposal with at least 28 days in advance with respect to its effective date, a period of 56 days previous to this date is established for the distribution of the Supplement and/or AIRAC AIP Amendment;

d) the introduction of modifications to the information promulgated by means of the AIRAC system, should be avoided by all means, specially during the first 28 days after its effective date; and

e) the schedule containing the programme of AIRAC effective dates, the dates of publication and the limit dates for the reception by AIS of the basic information to be disseminated by means of this system, should be published once a year and distributed to all services and basic information origin responsible agencies.

CONCLUSION 1/12: PRODUCTION OF AERONAUTICAL CHARTS

Taking into account the need for an effective production and maintenance of aeronautical charts required by ICAO Annex 4 and according to the requirements of such products, as indicated in the FASID CAR/SAM document, States of the ICAO South American Region should take necessary actions to:

a) if not have yet done so, according to the requirements of Annex 15, should implement the AIRAC system with a minimum delay;

b) take pertinent actions to guarantee the effective application of AIRAC system, by means of an adequate familiarization with the involved technical services, in order to comply with this system according to the specifications of Annexes 11. 14 and 15;

c) to assure that the aeronautical information of importance for aeronautical operations is at user's disposal with at least 28 days in advance with respect to its effective date, a period of 56 days previous to this date is established for the distribution of the Supplement and/or AIRAC AIP Amendment;

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