International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Sixteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/16)
Punta Cana, Dominican Republic, 28 March – 1 April 2011

Agenda Item 3: Performance framework for Regional Air Navigation Planning and Implementation

3.1 Global, inter-regional and intra-regional activities concerning air navigation systems in the CAR/SAM Regions

AIRAC COMPLIANCE
THE IMPORTANCE OF COMPLYING WITH THE AERONAUTICAL INFORMATION REGULATION AND CONTROL (AIRAC) SCHEDULE

(Note presented by IATA)

SUMMARY

This paper highlights the importance of States complying with the AIRAC schedule when publishing aeronautical information.

This paper relates to

Strategic Objectives:
A: Safety – enhance global civil aviation safety
C: Environment Protection and Sustainable Development of Air Transport

1. INTRODUCTION

1.1 The best information has little value if it is not available to users when they need it. Aircraft operators flying RNAV procedures and airways are more dependent than ever before on having good aeronautical information, on time. With increasing airspace complexity, traffic density, volume of aeronautical information change and the use of computer-based navigation and display systems, it is more important than ever for States to publish aeronautical information with sufficient lead time for data bases and charts to be updated, distributed to users, and loaded in aircraft and ground-based systems before the effective date.

1.2 The Introduction to ICAO Annex 15, *Aeronautical Information Services* says, "The object of the aeronautical information service is to ensure the flow of information/data necessary for the safety, regularity and efficiency of international air navigation." To support that objective ICAO

established Aeronautical Information Regulation and Control (AIRAC) in Annex 15, Chapter 6 to provide for the advanced publication of aeronautical information on a series of common effective dates. The *Aeronautical Information Services Manual* (Doc 8126) provides further guidance material on AIRAC.

2. DISCUSSION

Today's Aircraft Operations

2.1 Most aircraft operating today have RNAV capabilities. They fly from computed positions to points in space defined by latitudes and longitudes in databases. No longer must they track radio signals to and from NAVAIDs at fixed positions on the ground. They can precisely fly optimum trajectories independent of NAVAIDs placement. The flexibility, accuracy and reliability of RNAV enable improvements to safety, efficiency, capacity and environmental concerns. RNAV depends on accurate and timely data. Advanced avionics systems are only as good as the data fed into them.

2.2 Conventional navigation based on VORs, NDBs and other ground-based NAVAIDs is generally more precise and reliable when conducted using FMS or GNSS with navigation solutions based on database references. Accurate and timely aeronautical information is very important to conventional navigation, as well as RNAV.

Annex 15 Standards and Recommended Practices (SARPs)

2.3 The Standard in Annex 15, 6.1.1 states that certain aeronautical information "shall be distributed under the regulated System (AIRAC), i.e. basing establishment, withdrawal, or significant changes upon a series of common effective dates at intervals of 28 days…" The schedule of effective dates is in the *Aeronautical Information Services Manual* (Doc 8126) Table 2-1.

2.4 The Standard in Annex 15, 6.1.4 states, "Implementation dates other than AIRAC effective dates should not be used for pre-planned operationally significant changes requiring cartographic work and/or for updating navigation database."

2.5 The Standard in Annex 15, 6.2.1 states, "In all instances, information provided under the AIRAC system shall be published in **paper copy** form and shall be distributed by the AIS unit **at least 42 days in advance of the effective date**…

2.6 Regarding the "Provision of **information in electronic form**," the Standard in Annex 15, 6.3.2states that information, "shall be distributed/made available by the AIS unit so as to reach recipients at least 28 days in advance of the AIRAC Effective date."

2.7 Annex 15, 6.2.2 recommends that, "Whenever **major changes** are planned and where advance notice is desirable and practicable, information published in **paper copy form** should be distributed by the AIS unit **at least 56 days in advance of the effective date** should be used."

2.8 Annex 15, 6.3.3 further recommends that, "Whenever **major changes** are planned and where advance notice is desirable and practicable, information provided in **electronic form** should be distributed/made available **at least 56 days in advance of the effective date**."

2.9 What constitutes a "major change" is not defined and is open for interpretation. It should generally be considered that a major change is one that has a greater than normal volume, scope or complexity, and that will require more than normal time and resources to update databases and charts. Major changes may also require advanced distribution to allow for end user planning and operational

adjustments. Recognizing that it is extremely important for aeronautical information reach the end user by the effective date, the distribution/availability of changes as early as possible is very desirable to downstream service providers and users.

2.10 Aeronautical data activities leading up to the AIRAC effective date:

Aeronautical Data Activity	**Days in Advance of Effective Date**
States publish major changes	56
Data suppliers & users receive major changes not later than	42
States publish normal changes	42
Data suppliers & users receive information not later than	28
Data supplier maintenance	46-20
ARINC 424 Data extract	20-16
Process avionic databases	18-7
Deliver databases to users	14-7
Users load databases on aircraft	14-0
Effective date	0

Consequences of AIRAC non-compliance

2.11 Late changes and major changes published without sufficient lead time put strains on downstream chart and database resources, maintenance processes, production processes and quality systems.

2.12 Databases and charts may not be updated by the effective date forcing aircraft operators to fly without updated information putting strains on flight crews, air traffic controllers and operations personnel.

2.13 Late postponements and cancellations may mean updated databases and charts are already released and in the field, leaving flight crews without the previous information that remains in effect.

3. CONCLUSIONS

3.1 It is critical to flight safety and efficiency for aeronautical information to be published with sufficient lead time for it to be processed, reach the users and be loaded into aircraft and ground-based navigation and operations systems.

3.2 If aeronautical information cannot be published in compliance with the AIRAC schedule, the industry is best served if it is delayed to a later effective date to allow for timely distribution to users.

3.3 Postponements and cancelations 20 days or less prior to the effective date should be avoided, as the data and charts are finalized and the production processes do not allow for restoration of the previous data at that point in the process. Revisions will not be available to users until the next AIRAC effective date, which may be more than six weeks in the future.

4. ACTION BY THE MEETING

4.1 The Meeting is invited to:

a) encourage States to publish aeronautical information in accordance with AIRAC

b) encourage States to publish major aeronautical changes in advance of the AIRAC dates whenever possible.

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