

**Agenda Item 3: Report of the results achieved through the program of project activities during 2002**

3.1 Starting this agenda item, the meeting reviewed the program of activities approved for 2002, which is shown hereunder, and evaluated its implementation.

- (1) Development of the State Profiles to provide a regional and national overview of the requirements of each State, the different implementations options and, at the same time and as possible, integrating, rationalizing and harmonizing the current facilities and services. To be implemented by the CNS, ATM and Institutional Aspects team of experts team (6 weeks between April and May).
- (2) Preparation of the Tentative ACC Transition Plan by the CNS, ATM and Institutional Aspects team of experts (8 weeks between September and October).
- (3) Preparation of the GNSS transition plan in charge of the CNS expert (10 weeks between August and October).
- (4) Visits to States and coordination meetings with air operators, preparation of reports, development of validation scenarios, development of the business plans and cases in charge of the CNS, ATM and Institutional and Financial Aspects experts (14 weeks between September and December).
- (5) Continuation of the evaluation of pre-operational trials in routes UT655, UT410 and UT776/419 and initiation of the coordinations to implement a group or RNAV routes approved by GREPECAS. Starting of a trials program for RNP10 planning in route UL70 and in parallel, in charge of the ATM expert (continuous activity during all the year).
- (6) Seminar on institutional aspects, implementation options and familiarization with CNS/ATM planning tools (Tegucigalpa, Honduras, one week between May and June).
- (7) Seminar on Reduced Vertical Separation Minimum RVSM. (Lima, one week in August).
- (8) Development of the RVSM implementation program in charge of the ATM expert (continuous activity during all the year).
- (9) Seminar on CNS/ATM Human Resources and Training (Lima, one week between April and May).
- (10) III Meeting/Workshop of Air Traffic Management authorities and planners for the evaluation of routes UT655, UT410, UT776/419 and to analyze RNP10 and RVSM activities (Lima, one week in May).

- (11) IV Meeting/Workshop of Air Traffic Management authorities and planners to analyze the progress reached in RNP10 and RVSM implementation process (Lima, one week in November).

## 3.2 Activities completed

### 3.2.1 Report of Activities 1, 2 and 3 of tentative program for 2002

3.2.1.1 When the project was initially established, ICAO's emphasis was set in the transition to the CNS/ATM systems, specially regarding the use of satellite technology to reduce the deficiencies associated with ground communications, navigation and surveillance systems.

3.2.1.2 After extensive deliberations and discussions, ICAO has changed the emphasis to the ATM, noting that optimum efficiencies will be reached through the establishment of a Global ATM System (seamless airspace) supported by CNS services duly integrated and harmonized.

3.2.1.3 This new orientation known as the new "Global ATM Operational Concept" will be presented for approval at the XI Air Navigation Conference (AN-Conf.) in September 2003.

3.2.1.4 Therefore, tentative activities 2 and 3, which consisted in the preparation of ACC and GNSS transition plans were suspended until the results of the XI AN-Conf. are known.

3.2.1.5 Likewise and considering that in the development of the studies of the experts of RLA/98/003 project this approach was already taken, the title of the document containing the results of the studies has been established as "*Guidance material towards the ICAO Global ATM evolution in the CAR/SAM Regions*".

3.2.1.6 The first phases of project's activities have been completed and are in Volume I of the document containing the results of the studies carried out. These phases consisted, mainly, in the collection of records and develop surveys on the facilities and installations used in the 18 main air traffic flows identified by GREPECAS.

3.2.1.7 As a result of these studies, the ATM objectives were determined and the work to introduce immediate improvements in the ATM was initiated, specially related to the introduction of RVSM, RNAV routes and RNP.

3.2.1.8 **Activity 1** of the tentative program for 2002, which pursues the development of each State profile to provide a regional and national overview of their requirements, the different implementation options and, at the same time and as possible, integrating, rationalizing and harmonizing the current facilities and services was concluded and its results are in Volume II, Chapter 8 of the document "*Guidance material towards the ICAO Global ATM evolution in the CAR/SAM Regions*".

### 3.2.2 Visits to States *(Activity 4 of the tentative program for 2002)*

3.2.2.1 The Team of Project RLA/98/003 (Messrs. **P. Hegedus**, Institutional Aspects expert, **J. Moreno**, ATM expert and **N. Ostiguy**, CNS expert) carried out visits to the States as part of Task No. 4 of the tentative work program for 2002. **Appendix A** presents more details concerning these visits.

3.2.2.2 The States involved in the first part of the visits were:

- Peru, Lima 16 -17 October 2002
- Chile, Santiago 21 - 22 October 2002
- Argentina, Buenos Aires 24 - 25 October 2002
- Brazil, Rio de Janeiro 28 - 29 October 2002
- Paraguay, Asuncion 31 October 2002

3.2.2.3 The cost of this activity including experts' salaries, DSA, air tickets and travel expenses was of approximately **US\$23,300.00**.

### 3.2.3 Pre-operational trials and implementation of RNAV routes and RNP 10 *(Activity 5 of the tentative program for 2002)*

#### ***Evaluation of pre-operational trials in routes UT 655 (Sao Paulo/Los Angeles), UT 410 (Buenos Aires/Miami) and UT 776/419 (Sao Paulo-Rio de Janeiro/New York)***

3.2.3.1 The AP/ATM/3 Meeting/Workshop evaluated routes UT 410 and UT 655, concluding that pre-operational trials have been carried out with total normality, without operational difficulties and reaching operational and economic objectives of great importance. The report provided by IATA during such meeting/workshop shows that the annual saving calculated in routes UT 410 and UY 655 would be of approximately US\$2.800.000.

3.2.3.2 Pre-operational trials in routes UT 776/UT 419 were postponed until Georgetown (Guyana) ACC was implemented, as it was a previous requirement. This was carried out on 21 March 2002, achieving a significant improvement in the provision of ATS services in such FIR, enabling pre-operational trials to start on 11 July 2002. The delegation of Brazil requested to include route UT 419 in their national ATS routes network, to be used by national and international traffic, in view of that fact it was decided to implement only route UT 776.

3.2.3.3 ICAO Secretariat started the process of amendment to include in the CAR/SAM Air Navigation Plan (ANP) – Basic Vol. the following routes with their new designators **UL 417** (instead of UL 410), **UL 655** and **UL 776**. ICAO Council approved the proposed amendment and these routes are already included in the CAR/SAM ANP – Basic Vol. and definitely implemented since 20 February 2003.

#### ***RNAV Routes UL 793 (Buenos Aires/New York); UL 674 (Caracas/Houston); UL 337 (Porto of Spain/Miami); UL 423 (Bogota/San Jose/Mexico) and UL 471 (San Salvador/Miami) approved by GREPECAS 10***

3.2.3.4 The AP/ATM/3 Meeting/Workshop also analyzed the planning process for the implementation of RNAV routes approved by GREPECAS 10 and agreed to include, in a first stage, the following RNAV

routes in the CAR/SAM ANP – Basic Vol. for their further implementation: **UL 793; UL 674; UL 337; UL 423 and UL 471.**

3.2.3.5 The AP/ATM/4 Meeting/Workshop took note that the ICAO Council have approved the proposed amendment and that these routes are already included in the CAR/SAM ANP – Basic Vol.; in view of this fact the States/International Organizations have already issued the corresponding AIP Supplements for their implementation effective 20 March 2003.

***RNP 10 pre-operational implementation in routes UL 780 and UL 302***

3.2.3.6 The AP/ATM/3 meeting, understanding that for the time being it was not feasible to initiate the RNP 10 pre-operational implementation process in the whole airspace from Santiago de Chile to Miami, initially proposed, agreed that Chile, Peru, IATA/Users and ICAO NACC and SAM Regional Offices continue with the activities of the RNP 10 Pre-operational Implementation Program in the Santiago de Chile/Lima segment in routes UL 780 and UL 302, according to the corresponding Action Plan.

3.2.3.7 During the AP/ATM/4 meeting, Chile and Peru ratified their commitment to continue with the above mentioned program and updated the Action Plan for RNP 10 Pre-operational Implementation in the Santiago de Chile/Lima segment of parallel routes UL 780 and UL 302, which implementation date is foreseen for 20 January 2004.

**3.2.4 CNS/ATM Seminar on Institutional and Economic Considerations, implementation options and familiarization with CNS/ATM planning tools**  
*(Activity 6 of the tentative program for 2002)*

3.2.4.1 The CNS/ATM Seminar on Institutional and Economic Considerations was held in Tegucigalpa, Honduras from 30 September to 4 October 2002. In this seminar it was recognized that maximum benefits could only be obtained through the establishment of a Global ATM System, where every airspace would be treated as seamless airspace. This statement, besides the high cost and high capacity of the new technology, requires of arrangements very different from those used in the provision of conventional services. To that effect, integration, rationalization and harmonization of the systems will require a level of operational, administrative and financial cooperation never experienced before.

3.2.4.2 Therefore, in order to evaluate the different possible arrangements, available and used in different parts of the world, key organizations (COCESNA, Eurocontrol, Airways International, CANSO, etc.) were invited to inform the participants on the benefits and difficulties, as well as of the steps to follow for the transition, including legal aspects.

3.2.4.3 Forty eight (48) specialists from 9 States and 7 international organizations participated in this seminar: Argentina, Brazil, Chile, Colombia, El Salvador, Honduras, Paraguay, Peru, Venezuela, Airways International, CANSO, COCESNA, DISC, EUROCONTROL, FAA and SITA.

3.2.4.4 The cost of this activity for RLA/98/003 project, including the assignment of experts, air tickets, DSA, simultaneous interpretation and miscellaneous, was of approximately **US\$48.600.00**.

**3.2.5 First Seminar on RVSM Implementation (Reduced Vertical Separation Minimum)**  
*(Activity 7 of the tentative program for 2002)*

3.2.5.1 The First Seminar on RVSM Implementation in the CAR/SAM Regions was held in Lima, Peru, from 5 to 7 August 2002, and its main objective was to provide information to States/International Organizations from both regions on RVSM application and to evaluate the implementation strategy established during the AP/ATM/3 Meeting/Workshop, in order to ensure the achievement of an acceptable safety level of the system in the RVSM airspace of both regions.

3.2.5.2 This seminar was successfully carried out, with speakers of wide and recognized experience in RVSM implementation process from the Federal Aviation Administration (FAA), AENA, Brazil and Uruguay; as well as from IATA, IFALPA, IFATCA, Boeing and Aeromech Inc.

3.2.5.3 Seventy three (73) specialists from 17 States and 4 International Organizations participated in this seminar: Argentina, Bolivia, Brazil, Chile, Colombia, Dominican Republic, Ecuador, French Guiana, Guiana, Haiti, Panama, Paraguay, Peru, Spain, United States, Uruguay, Venezuela, Aeromech Inc., Boeing, COCESNA, Embraer, IATA, IFALPA and IFATCA.

3.2.5.4 The cost of this activity for RLA/98/003 project, including the assignment of experts, air tickets, DSA, simultaneous interpretation and miscellaneous, was of approximately **US\$ 17,500.00**.

**3.2.6 Development of RVSM implementation program**  
*(Activity 8 of the tentative program for 2002)*

3.2.6.1 The AP/ATM/3 Meeting analyzed the Action Plan for RVSM Implementation in the CAR/SAM Regions, previously developed by the RVSM Task Force (RVSM/TF) of the ATM Committee of the GREPECAS ATM/CNS Subgroup.

3.2.6.2 GREPECAS 11 Meeting, Manaus, Brazil, 3 to 7 December 2002, analyzed the work carried out regarding RVSM for the AP/ATM/3 meeting, the ATM/CNS Subgroup, the ATM Committee and the RVSM Task Force, approving the conclusions presented.

3.2.6.3 During the AP/ATM/4 Meeting/Workshop, activities to carry out RVSM implementation in the CAR/SAM Regions continued. Among the most relevant issued related to RVSM implementation achieved up to this meeting/workshop, are the following:

- Establishment of the CARSAMMA Infrastructure;
- Training for CARSAMMA personnel in the William J. Hughes Technical Centre of the FAA;
- Development and review of the Guidance Material for RVSM Implementation in the CAR/SAM Regions;
- Preliminary Cost/Benefit Analysis for RVSM Implementation in the CAR/SAM Regions presented by the FAA;
- Development and review of the RVSM Concept of Operations (CONOPS).

3.2.6.4 Taking into account Conclusion 11/23 of GREPECAS 11 Meeting, the AP/ATM/4 Meeting approved Conclusion AP/ATM/4/20, through which the States/International Organizations are requested

to adjust RVSM implementation planning for 20 January 2005, in order to harmonize it with the NAM Region.

3.2.6.5 For the development of these activities, the project has contracted during 2002 an ATM expert with an approximate cost of **US\$68,000.00**, including salary, insurance, pension fund, AOS and UU.NN. contributions (*assessment*).

3.2.7 **Seminar on CNS/ATM Human Resources and Training**  
(*Activity 9 of the tentative program of activities for 2002*)

3.2.7.1 This seminar has been postponed for 2003.

3.2.8 **Third Meeting/Workshop of Air Traffic Management authorities and planners (AP/ATM/3)** (*Activity 10 of the tentative program of activities for 2002*)

3.2.8.1 The AP/ATM/3 Meeting/Workshop was carried out in Lima, Peru, from 20 to 24 May 2002 and had as main objectives the evaluation of the pre-operational trials routes UL 655, UT 410 and UT 776/419, the study for the implementation of RNAV routes approved by GREPECAS, the analysis of the activities related to RNP 10 implementation in routes UL 780 and UL 302 and RVSM implementation in the CAR/SAM Regions. The main issues discussed and developed during this meeting/workshop have been described in paragraphs 3.2.3 and 3.2.6.

3.2.8.2 Fifty two (52) specialists of 20 States and 2 International Organizations participated in this meeting: Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, Guiana, Haiti, Jamaica, Mexico, Netherlands Antilles, Panama, Paraguay, Peru, Suriname, United States, Uruguay, Venezuela, COCESNA and IATA.

3.2.8.3 The cost of this activity for RLA/98/003 project, including the assignment of experts, air tickets, DSA, simultaneous interpretation and miscellaneous, was of approximately **US\$ 34,700.00**.

3.2.9 **Fourth Meeting/Workshop of Air Traffic Management authorities and planners (AP/ATM/4)** (*Activity 11 of the tentative program of activities for 2002*)

3.2.9.1 The AP/ATM/4 Meeting/Workshop was held in Santa Cruz, Bolivia, from 27 to 31 January 2003 and had as main objectives the revision of the Implementation Program of RNAV routes UL 417, UL 655, UL 776, UL 793, UL 674, UL 337, UL 423 and UL 471; the analysis of the actions carried out for the execution of the Action Plan for RNP 10 Pre-operational Implementation Program in parallel routes UL 780 and UL 302, in the Santiago-Lima segment; as well as the analysis of the Conclusions of GREPECAS 11 regarding RVSM issues and the actions carried out by the RVSM Task Force and its respective Working Groups for the execution of the Action Plan for RVSM Implementation in the CAR/SAM Regions.

3.2.9.2 A hundred and five (105) specialists from 22 States and 4 International Organizations: Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Guiana,

Haiti, Jamaica, Mexico, Netherlands Antilles, Panama, Paraguay, Peru, Suriname, Trinidad & Tobago, United States, Uruguay, Venezuela, COCESNA, IATA, IFALPA and IFATCA.

3.2.9.3 The main issues discussed and developed during this meeting/workshop have been previously described. Additionally, the corresponding studies and coordinations for the inclusion of the following 6 new RNAV routes in the CAR/SAM ANP – Basic Vol. have been initiated, for their further implementation: Santiago de Chile/Madrid, Asuncion/Campo Grande, Sao Paulo/Lima, Sao Paulo/Santiago de Chile, Panama/San Juan de Puerto Rico and Asuncion/Sao Paulo.

3.2.9.4 Taking into account the new tasks assumed by RLA/98/003 Project and the AP/ATM Meeting/Workshops, such as RVSM and RNP implementation in the CAR/SAM Regions, and considering that the denomination of the future meetings/workshops should reflect more accurately the nature of the activities being carried out, the following denomination was agreed: “Meeting/Workshop of ATM authorities and planners for RVSM, RNAV and RNP implementation in the CAR/SAM Regions” (AP/ATM/XX-RVSM-RNAV-RNP).

3.2.9.5 The cost of this activity for RLA/98/003 project, including the assignment of experts, air tickets, DSA, simultaneous interpretation and miscellaneous, was of approximately **US\$ 31,700.00**.

### **3.2.10 Conclusions**

3.2.10.1 As you may notice, with the continuous support and assistance of RLA/98/003 Project, the implementation process of routes RNAV, RNP and RVSM of ICAO Regular Program is reaching one by one the goals established in its respective implementation programs, and this is due to the commitment of all the States and International Organizations involved. This participation is possible by virtue of the efforts and support received by the corresponding authorities of the different Civil Aviation Administrations of the CAR/SAM Regions.

3.2.10.2 The Coordination Committee took note that the tentative program of activities approved by the fourth coordination meeting had been successfully implemented in an 80%, at an approximate cost of US\$220,000.00. Only two activities were suspended awaiting the results of the XI AN-Conf. and the human resources seminar, which is also focus to assist the GREPECAS Human Resources and Training Subgroup has been postponed for 2003.