INTERNATIONAL CIVIL AVIATION ORGANIZATION

ELEVENTH MEETING OF REDDIG COORDINATION COMMITTEE (RCC/11)

DOCUMENTATION

(Lima, Peru, 5-6 May 2008)

INTERNATIONAL CIVIL AVIATION ORGANIZATION

South American Regional Office

RLA/03/901 REGIONAL PROJECT
REDDIG MANAGEMENT SYSTEM AND
SATELLITE SEGMENT ADMINISTRATION

Eleventh Meeting of the Coordination Committee (RCC/11)

REPORT

(Lima, Peru, 5 – 6 May 2008)

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HISTORY OF THE MEETING

1. PLACE AND DURATION OF THE MEETING

The Eleventh Meeting of the Coordination Committee of the South American Digital Network REDDIG, was carried out in the ICAO South American Regional Office, in Lima, Peru, from 5 to 6 May 2008.

2. OPENING

Mr. José Miguel Ceppi, Regional Director of the ICAO South American Regional Office, welcome the participants, pointing out the importance of the issues to be treated and wishing success in the deliberations, he also mentioned the fact that RCC/11 was the first international meeting being held in ICAO South American Regional Office new premises.

3. WORKING LANGUAGES

The meeting working languages for the discussions and documentation were Spanish and English.

4. PARTICIPANTS AND ORGANIZATION

The meeting counted with the assistance of 11 States, 10 member States (Argentina, Brazil, Chile, Ecuador, Guyana, Paraguay, Peru, Trinidad & Tobago, Uruguay, and Venezuela), and one non-member State (Panama) making a total of 22 participants, including ICAO officers. The list of participants is being presented in pages iii-1 to iii-5.

Mr. Oscar Quesada, Regional Coordinator, Technical Cooperation a.i., ICAO South American Regional Office, acted as moderator, assisted by Mr. Onofrio Smarrelli, Regional Officer of Communications, Navigation and Surveillance (CNS), and Mr. Luis Alejos, Administrator of the REDDIG.

5. LIST OF CONCLUSIONS OF THE RCC/10 MEETING

Project RLA/03/901
REDDIG MANAGEMENT SYSTEM AND SATELLITE SEGMENT ADMINISTRATION
Eleventh Meeting of the Coordination Committee (RCC/11)

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Agenda Item 1: Revision of the report of the Tenth Meeting of the Coordination Committee

1.1 The Meeting took note and approved the report of the REDDIG tenth meeting of the Coordination Committee(RCC/10) which was carried out in Lima, Peru , from March 5 to 7, 2007, with the attendance of nine States (Argentina, Brasil, Chile, Colombia, Ecuador, Paraguay, Perú, Trinidad & Tobago and Venezuela), with a total number of 22 participants, included ICAO participants. In the REDDIG Tenth Meeting of Coordination, it was analyzed the report of the Ninth Coordination Meeting RCC/9, status of implementation of the current conclusions, activities held, future project activity program, project financial situation, project annual report and other issues.

1.2 The Meeting in this Item also analyzed the REDDIG current status of conclusions. The result of the analysis is showed as **Appendix 1A** of this Item.

REDDIG Support Circuit

1.3 The Meeting analyzed pending tasks related to the implementation of the REDDIG support circuit in Bolivia, Chile, Ecuador, Guyana, Paraguay, Surinam, Trinidad & Tobago and Venezuela nodes.

1.4 The Meeting took note of the following reports regarding progress made by the referred States in the implementation of support circuits.

1.5 The Delegate of Chile informed that once concluded the moving of the new Santiago ACC to the new location, foreseen for the end of 2008 or beginning of 2009, a backup circuit for the REDDIG will be implemented.

1.6 The Delegate of Ecuador informed that coordinations with Colombia Aeronautical Administration had been started in order to use the VSAT Colombian network as backup of the REDDIG. In this regard, it was informed that this implementation would be used only to backup REDDIG circuits between Ecuador and Colombia, but not Ecuador circuits with other States of the Region (Perú and Venezuela) due to the double satellite hop that would be generated because of the use of a satellite link as a backup. In this regard, and in order to avoid this problem, and taking into account that inicial REDDIG planning, the backup circuit of Guayaquil REDDIG node consisted in the implementation of the circuit with Maiquetía, the Meeting invited the delegates of Venezuela and Ecuador to carry out the necessary studies for the referred implementation.

1.7 For the Guyana node, the Meeting took note that the REDDIG Administration had considered a DDI circuit as backup, considering the low transit of the Guyana node, but with the implementation of the REDDIG node in Trinidad and Tobago in year 2006, new circuits were added to the Guyana REDDIG node, being necessary an assessment to implement other type of backup circuit instead of DDI.

1.8 Paraguay informed that the local communications supplier had ISDN service, and to proceed with the connection with mentioned supplier, Paraguay Aeronautical Administration did not count with an interface card to connect with the Communications Service Provider, which would be purchased in a period of three months.

1.9 In the case of Venezuela, as said before, for the backup circuit, the possibility of the REDDIG backup circuit implementation through a VPN digital circuit with Ecuador would be studied.

1.10 Trinidad informed that they had availability of ISDN service. In this regard, the REDDIG Administration informed that the necessary programming will be studied in the REDDIG in order to include in the REDDIG and ISDN circuit as backup to Trinidad and Tobago. The ISDN circuit would initially be implemented between Trinidad and Tobago and Peru.

1.11 The Meeting, taking note of the above mentioned actions, and considering that the implementation of backup circuits for some REDDIG member States is almost four years delayed, considered necessary that the States that had not yet implemented a backup circuit study a technical solution to implement, taking into account services that local communications suppliers can offer. Once this technical solution is studied, they should elaborate an action plan for its implementation, which should be sent to the ICAO Regional Office before 30 June 2008, in order that the REDDIG Administrator could review referred plan, implement the necessary changes in the REDDIG programming, as well as provide follow up to this plan. In case that no response is received for the indicated date, the REDDIG Administration will consider that the referred State does not have the necessary technical facilities to install the backup circuit and, therefore, it could not count with a backup circuit.

1.12 In this regard, the meeting formulated the following Draft Conclusion:

Conclusion RCC 11/1 **Action plans for the implementation of REDDIG pending backup circuits.**

That:

a) The aeronautical administrations of Bolivia, Chile, Ecuador ,Guyana, French Guyana, Paraguay, Suriname, Venezuela and Trinidad and Tobago study the possible technical solution to implement the backup circuit that the State could implement, taking into account local communications services suppliers that could provide and elaborate an action plan that would be sent to the ICAO Lima Regional Office before 30 July 2008;

b) the REDDIG Administrator review the technical solution and the action plan for its implementation in the REDDIG;

c) and, in case a State does not send the referred information, the REDDIG Administration would consider that the State had not found a possible technical solution and, therefore, it could not have a backup circuit for the REDDIG.

1.13 The above mentioned conclusion would be substituting Conclusions RCC 6/3 y 9/1.

IP Address Regional Plan

1.14 The Meeting also took note of the progress of the AMHS systems implementation on IP networks in the SAM Region. In this regard, the Meeting showed preoccupation that this applications were being implemented without a regional IP addressing plan, and therefore it urged that the ATN Task Force in its forthcoming meeting elaborate an orientation guideline for the States being implementing ATN application based in IP, while an IP regional addressing plan is implemented. In this regard, the following conclusion was formulated, replacing Conclusion RCC 9/7

Conclusion RCC 11/2 **Actions for the ATN Task Force addressed to provide orientation to States presently implementing ATN applications based in IP protocol.**

That the CNS Committee ATN Task Force of the ATM/CNS GREPECAS Subgroup, in its forthcoming meeting, study the urgent elaboration of orientation guideline for the implementation of ATN addresses based on IP and establish an initial addressing regional IP plan.

APPENDIX 1A

VALID CONCLUSIONS ADOPTED BY THE RCC				
Conclusion	**Title**	**Content**	**Status**	**Remarks**
RCC 6/3	Pending works from some States regarding the backup network and SBAS augmentation for CSTB	That, as matter of urgency: a) to facilitate the implementation of the backup network, Bolivia, Chile, Ecuador, Guyana, Paraguay, Suriname and Venezuela complete, as soon as possible, the communication installations indicated in Appendix A to the report of this agenda item, and b) Chile and Colombia complete, as soon as possible, the communications links between the CSTB installations and the corresponding REDDIG node.	Cancelled	This conclusion was replaced by Conclusion RCC 11/01.
RCC 8/2	Replacement of the hardware and upgrading of the software of the Linkway NCC/NMS Frame Relay equipment of the REDDIG	a) That the REDDIG Administration prepare a plan for the replacement of the hardware and software of the equipment Linkway NCC/NMS Frame Relay & IP, and that this be distributed to the Status members of the REDDIG for consideration and comments. b) That this plan be included within the budget of year 2006, which should be submitted for the consideration and approval of the next meeting of the Coordination Committee of the REDDIG.	Valid	The meeting considered that the decision to purchase hardware and software would be analyzed in the Twelfth REDDIG Coordination Meeting.

APPENDIX 1A

VALID CONCLUSIONS ADOPTED BY THE RCC				
Conclusion	**Title**	**Content**	**Status**	**Remarks**
RCC 8/4	Annual training programmes	That the REDDIG Administration, in order to warranty an homogeneous training of personnel in charge of maintenance of each REDDIG node, regarding technology advances of equipment conforming the REDDIG, present to the next REDDIG Coordination Meeting a training program that includes the kind of courses necessary, as well as the cost for carrying out these courses to be charged to the project.	Concluded	The Eleventh Coordination Meeting reviewed and approved the Training Programme up to 2010. A form was elaborated indicating types of required training, and distributed to all REDDIG members. Based in results, a training plan will be elaborated.
RCC 8/8	REDDIG Administration	That, while the institutional aspects related to the administration of multinational systems for the provision of air navigation services can be more clearly defined, the States agree that the REDDIG administration for the following two years, starting 15 October 2005, continue to be under the mechanism of ICAO technical cooperation, as an extension of regional project RLA/03/901.	Valid	REDDIG Administration has been prolonged up to 31 December 2010, date in which it is expected that the OMR is implemented.

APPENDIX 1A

VALID CONCLUSIONS ADOPTED BY THE RCC				
Conclusion	**Title**	**Content**	**Status**	**Remarks**
RCC 9/1	Implementation of pending circuits to complete the REDDIG backup network	That Chile, Guyana, Paraguay, Suriname and Venezuela implement, as a matter of urgency, the corresponding circuits necessary to complete the REDDIG earth backup network.	Cancelled	Replaced by Conclusion RCC 11/01
RCC 9/2	System for the definition and control of REDDIG NCC technical personnel qualifications	That, with the aim of improving the quality of the services provided to the REDDIG Manaus and Ezeiza management nodes, The REDDIG Administrator develops and implements, before 30 April 2006, a system for the definition and control of qualifications of NCC human resources, on the basis of appropriate education, formation, abilities and experience. The administrations of Brazil and Argentina will make all efforts possible to ensure that appropriate education is provided or take other actions to satisfy the needs for proper qualification.	Completed	All activities foreseen in the conclusion have been completed.
RCC 9/7	Regional IP Addressing Plan	That the ICAO Regional Office, in coordination with the activities being carried out by ICAO and GREPECAS CNS Committee ATM/CNS Subgroup, study and propose to the States member of the REDDIG a Regional IP Addressing Plan that permits the ordered regional connection of fix aeronautical services (AMHC/AIDC) as well as others that may appear that use this network platform.	Cancelled	Replaced by Conclusion RCC 11/02.

APPENDIX 1A

VALID CONCLUSIONS ADOPTED BY THE RCC				
Conclusion	**Title**	**Content**	**Status**	**Remarks**
RCC 10/1	Expedite logistic processes on REDDIG State members	That, in order to expedite and to facilitate follow up of spare parts import/export as well as the shipment and return of equipment for repair, the REDDIG States members: a) name a person as administrative-logistic focal point, and send this information to the ICAO South American Office before 30 April 2007, and b) investigate and study, jointly with the REDDIG Administration, mechanisms that could be applicable in order to make substantially more expedite the processes of spares and equipment import/export.	Valid	Not all of the REDDIG members have informed the name of the person acting as focal point for logistic and administrative actions. As of to date, no effective mechanism for speeding up import/ export processes of equipment and spares has been implemented by the States members of the REDDIG.
RCC 10/2	Creation of an Ad-Hoc group intended to prepare an integral training plan for REDDIG nodes technical personnel	Argentina, Brazil, Chile, Peru and Venezuela will conform an ad-hoc group to prepare an integral training plan for REDDIG nodes technical personnel, in accordance with the terms of reference presented in **Appendix B** to this part of the report.	Completed	The group prepared a training plan, which was reviewed and approved by the Eleventh REDDIG Coordination Meeting. .

APPENDIX 1A

VALID CONCLUSIONS ADOPTED BY THE RCC				
Conclusion	**Title**	**Content**	**Status**	**Remarks**
RCC 10/3	Extension of the duration of project RLA/03/901	That ICAO prepares for the consideration of the next REDDIG Coordination Meeting a budget revision of the project in order to extend its duration up to 31 December 2010. In case the MRO is conformed before this date, the REDDIG State members could request ICAO the transference of project RLA/03/901 resources to the MRO.	Valid	The Meeting was informed that OMR implementation studies have not been concluded yet, therefore REDDIG Administration will be operating up to 2010.
RCC 10/4	Hiring of a network specialized technical support	That ICAO proceeds as soon as possible to hire in Manaus network specialized support technician with the post definitions described on Appendix B to this part of the report.	Valid	A professional candidates selection process was carried out in Manaus for the hiring of the specialized network support technician. In this regard, REDDIG Administration considered that the specialized network support technician would not be hired under a full-time basis, but only to attend specific needs.

APPENDIX 1A

VALID CONCLUSIONS ADOPTED BY THE RCC				
Conclusion	**Title**	**Content**	**Status**	**Remarks**
RCC 10/5	Activation of actions foreseen in procedure in cases of delayed deposits of cost-sharing contributions of Guyana and Suriname	Considering that Guyana and Suriname still have pending cost-sharing contributions to project RLA/03/901 for year 2006, in case that the deposit of these contributions is not received before 1 July 2006, the REDDIG Administration would proceed to the application of the actions foreseen for cases of delayed deposits of cost-sharing contributions.	Completed	Guyana and Suriname have deposited their outstanding contributions for year 2006.
RCC 10/6	Deposit of RLA/03/901 project cost-sharing contributions	That REDDIG member States carry out as soon as possible corresponding arrangements for the deposit of their cost-sharing contributions to RLA/03/901 project before 1 July 2007.	Valid	Not all REDDIG member States have deposited their cost-sharing contributions corresponding to 2007.
RCC 10/7	Revision of RLA/03/901 project document budget	The budget established as RLA/03/901 project Revision I is approved as presented in Appendix A to this part of the report.	Completed	

Agenda Item 2: Report on the activities carried out up to date since the last Meeting of the Coordination Committee of Project RLA/03/901

2.1 Under this Agenda Item, the meeting was informed about the activities carried out since the last meeting. In this regard, the REDDIG Administration is managing the normal operation of the network, supplying aeronautical telecommunications services with highest quality and availability standards.

2.2 Among the principal activities carried out since the last Coordination Committee (RCC/10, 5 and 6 March 2007), additional to those of operation, support and maintenance of the network, the following can be mentioned: network NCC operation, training programme, implementation of the MEVA II/REDDIG interconnection, improvement of the Linkway system hardware/software and future REDDIG administration. Logistic operations and spare parts administration are also included.

Network NCC operation

2.3 The Meeting was informed that, living follow up to agreements of the RCC/10, during period 1-17 November 2007 the NCC operation was temporarily transferred to Ezeiza jointly with the REDDIG Administrator, initiating in this way the operational training of Ezeiza technical personnel. During this period, NCC operation was done in a normal way.

2.4 REDDIG Administration recommended to continue during the present year with the alternancy of the NCCs as well as with the operation on-the-job training to personnel assigned to Ezeiza NCC in order to obtain operational redundancy with the two REDDIG NCC.

2.5 The Meeting was informed about the evaluation of technical personnel, NCC operators, up to December 2007 according to training programme on REDDIG Operation and Maintenance from the NCC, with the following result:

Personnel assigned to Manaus NCC:	Average Intermediate Level
Personnel assigned to Ezeiza NCC	Average Basic Level

2.6 In this respect, the excellent disposition to carry functions demonstrated by the technical personnel of both NCC is worth to point out, as well as its collaboration spirit.

2.7 The Meeting was informed that, according to Conclusion RCC 10/04, Administration of Project RLA/03/901 carried out a selection process addressed to hiring the network specialized technician. This process included the publication of a Convene Letter (29 April 2007) in the most important newspaper of Manaus (**Appendix 2A),** personal interview, and evaluation of five candidates in the short list, selection of the most appropriate candidate and request to TCB ICAO Montreal (3 July 2007) to proceed with regular administrative procedures to hire the selected candidate. Before the process was completed, the selected candidate informed to the REDDIG Administration (29 October 2007) that he was no longer available for the post. In this regard, the REDDIG Administration informed to the Meeting that the hiring of the network specialized technician would be done as temporary support, whenever this is required for specific situations.

Training programme

2.8 The meeting was informed that according to agreements reached in the RCC/10 Meeting, the course on IP technology and its use in aeronautical applications was successfully carried out in the Centro de Estudios Aeronauticos of the Civil Aviation administration in Bogotá, Colombia, from 26 to 30 November 2007. History and agenda issues are included in **Appendix 2B,** to this part of the Report.

2.9 During RCC/10 Meeting it was agreed to prepare an integral training plan for technical personnel of the REDDIG nodes, and an Ad/hoc group was conformed for this purpose. Within this context, the REDDIG Administration presented a competence level profile required for REDDIG nodes technical personnel as well as technical survey presented as **Appendix 2C,** to this part of the Report. Based in the answers to the survey, a training plan was prepared which is being presented as **Appendix 2D,** to this part of the report.

Implementation of the MEVA II/REDDIG interconnection

2.10 The Meeting took note of revised responses presented to the RFP by the MEVA II service supplier and the REDDIG Administration during the Fifth MEVA II REDDIG Coordination Meeting.

2.11 Also, the Meeting was informed that the MEVA II service supplier sent the contract form for revision and signature by ICAO.

2.12 ICAO Technical Cooperation Bureau analyzed the procedure for the signature of the contract and considered the need to proceed to an international bidding process, abiding to ICAO purchasing regulations for the acquisition of the necessary equipment for the MEVA II REDDIG interconnection implementation, pending the analysis of the recurrent services contract with the MEVA II service supplier.

2.13 The Meeting took note that these procedures will delay the implementation date as well as of the need to update the action plan work programme dates approved during the Fifth MEVA II REDDIG Coordination Meeting which is being presented as **Appendix 2E**.

Improvement in the Linkway system hardware and software

2.14 The Meeting was informed that during the RCC/9 note was taken of the value of the improvement of the Linkway system hardware and software, in the amount of USD 45,530, and that agreement was reached during the RCC/10 that purchase of the corresponding equipment and services would be done in 2007, once the network specialized technician is available.

2.15 The Meeting was informed that in July 2007 a quotation was requested to ViaSat, manufacturer of Linkway system, for equipment and services involved in the improvement of the hardware and software of referred system. Present quotation of the manufacturer has a cost of USD 119,400 (**Appendix 2F**) and this contemplates a total change of the hardware platform and of the operational system compatible with a new software for the NCC Linkway system.

2.16 During the meeting, it was explained that recommendation to improve the Linkway NCC system was done by the REDDIG Administration as a procedure commonly used with last generation technology

systems in terms of obsolescence, and not due to an operational need of the network, which can continue operating and providing services as it has been doing up to date.

2.17 Based on considerations presented, the REDDIG Administration recommended to make a provision of funds, in one or two annual periods, until the necessary budget is completed to proceed with the total migration of the Linkway NCC system hardware and software.

Logistic operations and spare parts administration

2.18 The Meeting was informed that the logistic operations, mainly originated by faults in the operation of equipment, include sending the REDDIG equipment or spare parts from warehouse located in the Lima Regional Office to the nodes, coordinating with factories for the repair of equipment, taking care of the transportation payment and of the payment to factories for the repair services, coordinating and providing support to States for the import/export of necessary equipment from/to the nodes. During year 2007, twenty seven logistic operations were carried out, and, up to March 2008, six logistic operations have been handled.

2.19 Summary of faults statistics of parts and equipments are indicated as follows:

FRAD – Memotec

(2) Motherboard:	1 SGAS – 1 SVMI
(2) Multi I/O Card:	1 SGAS – 1 SLLP
(3) Power Supply Module:	1 SVMI – 1 SBCT – 1 SYGC
(2) Universal I/O Card:	1 SMPM – 1 SAEZ
(9) Internal Fans:	2 SCEL – 3 SYGC – 1 SMPM – 1 SGAS – 2 SAEZ

MODEM – ViaSat

(7) Linkway 2100:	1 Adm – 2 SKED – 1 SGAS – 2 SYGC – 1 SLLP

SSPA - Paradise Datacom

(4) SSPA:	1 SEGU – 1 SKED – 2 SBMN
(2) External Fans:	2 TTZP

2.20 Likewise, considering that time used in completing logistic operations is too long due, mainly, to delays in administrative process followed in States, and also that equipments were manufactured in year 2002, which means more possibilities of fault occurrences, REDDIG Administration recommended to States the purchase of own spare lot, which is presently being done by some States.

2.21 The REDDIG Administration presented **Appendix 2G** to this part of the Report, and explained the charts contained in this appendix on year 2007 statistics corresponding to the number of main services given to network nodes, as well as the distribution of equipment when required.

REDDIG new channel

2.22 The meeting was informed that during November 2007, and additional PVC FR circuit was configured to give course to AMHS service between nodes SAEZ-Argentina and SGAS-Paraguay, and trials were carried out resulting satisfactory between router equipment of both nodes. Also, it was informed that node SAEZ has already PVC FR configured, simultaneously towards other two nodes, SPIM-Perú and SSLP-Bolivia, besides from SGAS-Paraguay.

2.23 The Meeting took note of the importance of knowing IP addresses assignment that States are doing for new services based on IP.

Future REDDIG administration

2.24 The Meeting was informed that GREPECAS, through the work carried out by the Institutional Aspects Task Force, has recommended (CON. 14/5) that States interested consider the use of an administrative document, elaborated by GREPECAS for the constitution of a multinational regional mechanism (OMR) to consolidate, manage and implement multinational installations/services. The first week of June 2008, the High Level Group on Institutional Aspects, activated by Civil Aviation Authorities Meetings, will meet in Lima to analyze and examine feasibility of an OMR implementation, under an initial scheme of a technical cooperation programme. It is expected that as result of this meeting concrete actions be agreed to initiate the OMR implementation in the SAM region. This organization would administer the REDDIG in the future under a new International Organization system that would represent the States interests.

Apéndice/Appendix 2A

RLA/03/901 Technical Cooperation Project

The International Civil Aviation Organization (ICAO) Regional Technical Cooperation Project RLA/03/901 requires the services of an electronic engineer or systems/computing technician, with specialization in communications with intermediate level of English and Spanish languages knowledge, with minimum 4 years of experience in configuring routers, multiplexers or similar; use and development of IP-based applications; use of support tools and software; and satellite-based communications. The post will be based in the city of Manaus-Amazonas.

Required technical abilities

- Advanced knowledge on data transmissions and voice communications (analogical and digital)
- Advanced knowledge on IP and FR protocols
- Advanced knowledge on networks (LAN, WAN, VPN)
- Advanced knowledge on UNIX OS
- Advanced knowledge on Database
- Basic knowledge on satellite communications
- Domain on Windows OS and MS Office applications at user level

Interested persons should send their professional data sheet through email to tc_vacancy_posts@lima.icao.int, requesting the application form corresponding to **NCC-SER NETWORK SPECIALIZED SUPPORT**. This form will be sent to applicants fulfilling requirements, and should be completed and sent by mail only, not later than 15 May 2007, to Apartado Postal 4127, Lima 100, Peru, indicating in the envelop the same post reference.

Appendix 2B

Course on IP Aeronautical Applications

History of the Course

1. Place and duration

The course on IP Aeronautical Applications was held in the facilities of the Civil Aviation Aeronautical Studies Centre (Centro de Estudios Aeronáuticos--CEA) in Bogotá, Colombia, from 26 to 30 November 2007.

2. Opening ceremony

Mr. José Fermín Niño Galeano, Telecommunications Director of the Civil Aviation Specialized Administrative Unit of Colombia (UAEAC), welcome the participants of this course, emphasizing the importance of updating knowledge in technologies applied to aviation.

3. Instructors

The course was dictated by Mr. Elkin Benavides and Mr. Jimmy Romero from the Civil Aeronautic of Colombia with the collaboration of Mr. Luis Alejos, REDDIG Administrator. Likewise, Mr. Cristian Javier Vittor from Argentina presented the experience of the AMHS system implementation in Argentina.

4. Languages used in the course

The course languages were Spanish and English, with simultaneous interpretation.

5. Course content

At the end of the course a CD of 687 MB was handed to each State, containing presentations and lab practices of developed issues, as well as complementary technical information such as applications protocols, specialized software, IP enrouting simulators and others.

6. Participants

The course conted with the participation of 25 delegates pertaining to the following Status: Argentina, Bolivia, Colombia, Ecuador, Guyana, Paraguay, Peru, Trinidad & Tobago and Uruguay.

Course Agenda

DAY / TIME	**ITEM**
Day 1 – 26 November 2007 (9:30 – 17:00)	
9:30 AM – 10:30 AM	Registry of participants, reception and general presentation of the instructors, course and trainees. Participants expectative.
10:45 AM – 12:30 PM	Introduction - Networking basic concepts - OSI reference model - Communications protocols architecture - TCP/IP model and architecture
12:30 PM – 2:00 PM	Lunch
2:00 PM – 3:30 PM	Physical layer protocols - Types of transmission media - Cables specification - Connectors and cables types - TIA/EIA protocols - Direct cable – crossed cable – rollover - Optical fibre, radio links. - LAN and WAN protocols
3:45 PM – 5:00 PM	Laboratory introductions - General sample of tools to be used - Description of programmes and scopes - First laboratory interactions - Useful Windows commands – cmd, ping, tracert, telnet, dxdiag, ipconfig, ftp, route add. - Practice No. 1 – physical means
Day 2 – 27 November 2007 (9:30 – 17:00)	
8:00 AM – 9:45 AM	Link layer protocols - General description of WAN protocols: HDLC, X.25, Frame Relay, etc. - General description of LAN protocols: CSMA/CD, LAPB, LAPD, LLC, etc. - IEEE 802.XX family - MAC address
10:00 AM – 11:45 AM	Link layer laboratory - The switch - Switches basic considerations - MAC address - Behaviour of local network packages - ARP protocol - VLAN configuration

DAY / TIME	**ITEM**
11:45 AM – 1:30 PM	Lunch
1:30 PM – 3:00 PM	Network layer protocols (IP) - Basic concepts - Network layer protocols fields - IP concepts - Network and host addressing - IP Addressing – structure
3:15 PM – 5:00 PM	Basic network layer laboratory - Router concept - Router basic configuration - Networks interconnection
Day 3 – 28 November 2007 (9:30 – 17:00)	
8:00 AM – 9:45 AM	Network layer protocols (IP) - IP addresses classes - Network subdivision - IP addresses – masks exercises - IPV4 vs IPV6 - Routing basic concepts
10:00 AM – 11:45 AM	Routing laboratory - Static Routing - Dynamic Routing
11:45 AM – 1:30 PM	Lunch
1:30 PM – 3:00 PM	Transportation layer protocols - Flux control - Connection establishment - Three tracks signal interchange - Sliding basic window - TCP protocol structure - UDP protocol structure - Winsok functions - Programme design client-server
3:15 PM – 5:00 PM	Transportation layer laboratory - TCP / UDP plot analysis - Ports view Datagrams enrooting
Day 4 – 29 November 2007 (9:30 – 17:00)	
8:00 AM – 9:45 AM	Upper layer protocols - General description of DNS, FTP, http, SMTP, SNMP, Telnet standard protocols
10:00 AM – 11:45 AM	VoIP upper layers protocols - Telephony basic concepts (FXS, FXO, E&M) - VoIP basic concepts
11:45 AM – 1:30 PM	Lunch

1:30 PM – 3:00 PM	- Laboratory and voice concept on IP
3:15 PM – 5:00 PM	- Laboratory and voice concept on IP
DAY / TIME	**ISSUE**
Day 5 – 30 November 2007 (9:30 – 14:00)	
8:00 AM – 9:45 AM	ASTERISK upper layers protocols - ASTERISK protocol definition - Protocol structure - Protocol uses
10:00 AM – 11:45 AM	Upper layer protocols: AMHS - Basic concepts of messaging systems - AMHS basic concepts - ITU-400 and ITU-500 protocol
11:45 AM – 1:30 PM	Lunch
1:30 PM – 3:15 PM	Practical cases analysis within a complete architecture.
3:30 PM – 4:00 PM	Course closure

Appendix 2C

COMPETENCE OF A REDDIG NODE TECHNICIAN

1. Definition

Technical competence is a required knowledge on Technologies and systems to attend and maintain in operation the REDDIG Node and aeronautical communications services processed through it.

2. Technical Competence Areas:

a) Data Transmission and Communicationss Networks
b) Via Satellite Communications
c) REDDIG System

3. Solid Technical Knowledge on:

a) Data Transmission

- a.1) OSI Model
- a.2) Standards and Interfaces
- a.3) Multiplexation
- a.4) LAN Networks
- a.5) Frame Relay
- a.6) Networks Interconnection Devices
- a.7) TCP/IP Protocols
- a.8) IP Aeronautical Applications

b) Via Satellite Communications

- b.1) Satellites – Fundaments and Parameters
- b.2) Multiple Access and Allotment
- b.3) Land Stations and its Components
- b.4) REDDIG Stations
- b.5) Service Quality (QoS)

c) REDDIG System

- c.1) Theory and Operation Mode
- c.2) NCC/NMS
- c.3) REDDIG Station
  - Indoor Equipment
  - Outdoor Equipment
- c.4) Station Operation
- c.5) Diagnosis and Faults Resolution
- c.6) Station Maintenance

4. Complementary Competences (recommended)

a) Domain at user level of Windows operative system and MS Office programmes
b) Intermediate level of English language (for non-native persons in English language)

TECHNICAL SURVEY

A. Objective

Obtain information concerning present training level of technical personnel of all the REDDIG Nodes and, based on this, prepare an integral training plan that would be developed in three stages according to actual knowledge level on the matters indicated in the questionnaire.

B. Instructions to complete the survey

- At the end of each **Chapter** three selection options will be found (A, B and C), mark only one, the one that better represents the present knowledge average level.
- Each one of the options means the following

  A : Basic knowledge or general information fundaments.
  B : Intermediate knowledge on the matter
  C : Solid knowledge or domain on the matter

Data Transmission and Communication Networks

Chapter I

1. Communications systems generalities

a. Data transmission
b. Networks and their criteria
c. Protocols and Standards

A B C

2. Basic Concepts

a. Link configuration
b. Topology
c. Transmission Mode
d. Network Classes
e. Communication between networks

A B C

3. OSI Model

a. Architecture and model levels
b. Functions and interconnection levels

A B C

4. Signals, Coding and Modulation

a. Digital signals
b. Digital to digital conversion
c. Analogical to digital conversion
d. Digital to analogical conversion
e. Analogical to analogical conversion

A B C

5. Data transmission interfaces

A B C

6. Data transmission media

a. Guided media (Plait pair cable, coax cable, wave guide and optical fibre)
b. Non-guided media (radio frequency and propagation, microwaves, via satellite))
c. Transmission deterioration
d. Media comparison

A B C

7. Multiplexation

a. Frequency division (FDM)
b. Time division (TDM)
c. Applications and ranks

A B C

8. Correction of errors and link control

a. Error types
b. Detection and correction of errors
c. Flux control
d. Error control

A B C

9. Data Link Protocols

a. Asynchronical and Synchronic Protocols
b. Character-oriented protocols
c. Bit-oriented protocols (HDLC)

A B C

10. LAN Networks

a. Architecture types
b. Access methods
c. 802 project and standards
d. Network comparison

A B C

11. Commuting

a. Circuit commuting
b. Packages commuting
c. Messages commuting

A B C

12. Telephone network applications

a. PPP protocol
b. ISDN service

A B C

13. Frame Relay (Plot retransmission)

a. Operation
b. Congestion levels and control
c. Traffic control
d. REDDIG applications and use

A B C

14. Network devices and networks interconnection

a. Repeaters
b. Bridges
c. Routers and algorithms
d. Protocols converter (Gateways)

A B C

15. TCP/IP protocols set

a. TCP/IP – Internet – OSI
b. Network level – IP Protocol
c. Addressing and sub-networks
d. Other protocols at network level
e. Transportation level
f. Client - server model
g. TELNET, FTP, SMTP, SNMP client – server applications
h. Routers programming
i. REDDIG applications and uses

A B C

16. IP aeronautical applications

a. AMHS
b. Radar data exchange
c. GNSS
d. CNS/ATM applications integration

A B C

Via Satellite Communications

Chapter II

17. Satellites

a. Fundaments
b. Orbits
c. Geostationary satellites – Parameters
d. Radiation pattern
e. Frequency bands and services

A B C

18. Types of Multiple Access

a. By frequency division (FDMA)
b. By time division (TDMA)
   REDDIG application
c. By code division (CDMA)

A B C

19. Allotment types

a. Permanent (PAMA)
b. By demand (DAMA)
c. REDDIG application

A B C

20. Land Stations

a. Antennas (Teleports, VSAT)
b. Power amplifiers (HPA, SSPA)
c. Conversers - increase (BUC) and decrease (LNB)
d. Modulators/Demodulators (MODEM)
e. Base band (MULTIPLEXORS) and User Interfaces
f. Monitoring and Control (M&C)
g. Energy system
h. Land system
i. REDDIG station

A B C

21. Design model

a. Parameters and equations
b. Link Budget
c. Technical performance
d. Service Quality (QoS)

A B C

REDDIG Digital Network

Chapter III

22. Network description

a. Services
b. Operation theory
c. Operation mode
    Topology
    Frequencies Plan
    Communications Sub-network (FR-based)
    Monitoring and control Sub-network (IP-based)
d. Management Control Centre (NCC/NMS)
e. REDDIG Stations

A B C

23. NCC/NMS

a. Linkway System Generalities and functions
b. Commands mainly used
c. Stations Remote Monitoring and Control (M&C)

A B C

24. REDDIG Station

a. Equipment rack
b. Indoors equipment (IDU)
    Linux PC
    Voice and data Interfaces
    Base band commuter
    Memotec FRAD (also as dedicated course)
    Linkway 2100 MODEM (also as dedicated course)
c. Outdoor equipment (ODU)
    Antenna 3.7M
    Paradise Datacom SSPA
    LNB
    Wave guide commuters
    Interconnection cables

A B C

25. Station Operation

a. Local Monitoring and Control (M&C)
    Control cabling
b. Station “Status” Page
c. Control pages: SSPA, Chain and Redundancy
d. PC Linux: Commands and direct access
e. Minicom Programme vía PC Linux and console port
    FRAD
    MODEM

f. TELNET, FTP applications use
g. Support Software: CxAccess, CxTool
h. PROC-FRD procedures
i. PROC-MOD procedures
k. PROC-SSP procedures

A B C

26. Fault diagnosis

a. Actions and procedures
b. Simulations

A B C

27. Station Maintenance

a. AC power feeding system
b. Land system
c. IDU y ODU equipment cleaning plan

A B C

Appendix 2D

INTEGRAL TRAINING PLAN PROGRAMME

COURSE I July / October 2008

REDDIG Digital Network

1.1 Network description

a. Services
b. Operation theory
c. Operation mode
    Topology
    Frequencies Plan
    Communications sub-network (FR-based)
    Monitoring and control sub/network (IP-based)
d. Management and Control Centre (NCC/NMS)
e. REDDIG stations

1.2 REDDIG station

a. Equipment rack
b. Indoors equipment (IDU)
    Linux PC
        - Hardware
        - Software
    Voice and data interfaces
    Band base commuter
    Memotec FRAD
        - Hardware: MPS/MUX; Cards
        - Software
    Linkway 2100 MODEM
        - Hardware: MODEM Modules, FR, IP
        - Software
c. Outdoor equipment (ODU)
    Antenna 3.7M
    Paradise Datacom SSPA
        - M&C Software
    LNB
    Wave guide commuters
        - Interconnection cables

1.3 Station maintenance

a. AC power feeding system
b. Earth system
c. IDU and ODU equipment clearing plan

INTEGRAL TRAINING PLAN PROGRAMME

COURSE II July 2009

REDDIG station operation

2.1 NCC/NMS

a. Linkway system generalities and functions
b. Commands principally used
c. Stations remote monitoring and control (M&C)

2.2 Station operation

a. Local monitoring and control (M&C)
   - Control cabling
b. Station "Status" page
c. Control pages:
   - SSPA, Chain and Redundancy
d. Linux PC :
   - Direct access command
e. Minicom programme via Linux PC and console port
   FRAD
   MODEM
f. TELNET, FTP applications use
g. CxAccess, CxTool support software
h. PROC-FRD procedures
i. PROC-MOD procedures
k. PROC-SSP procedures

2.3 Fault diagnosis

a. Procedures and actions
b. Simulations

INTEGRAL TRAINING PLAN PROGRAMME

COURSE III October 2009

Via Satellite Communications

3.1 Satellites

a. Fundaments
b. Orbits
c. Geostationary satellites – Parameters
d. Radiation pattern
e. Frequency and service bands

3.2 Earth stations

a. Antennas (Teleports, VSAT)
b. Power amplifiers (HPA, SSPA)
c. Converters - increase (BUC) and decrease (LNB)
d. Modulators/Demodulators (MODEM)
e. Base band (MULTIPLEXORS) and user interfaces
f. Monitoring and control (M&C)
g. Power system
h. Earth system
i. REDDIG station

3.3 Types of multiple access

a. By frequency division (FDMA)
b. By time division (TDMA) – REDDIG application
c. By code division (CDMA)

3.4 Types of allotment

a. Permanent (PAMA)
b. By demand (DAMA) – REDDIG application

3.5 Design model

a. Parameters and equations
b. Link Budget
c. Technical performance
d. Service Quality (QoS)

INTEGRAL TRAINING PLAN PROGRAMME

COURSE IV July 2010

Data transmission

4.1 Communications systems generalities

a. Data transmission
b. Networks and their criteria
c. Protocols and standards

4.2 Basic concepts

a. Link configuration
b. Topology
c. Transmission mode
d. Network classes

4.3 OSI Mode

a. Architecture and model levels
b. Functions and levels interconnection

4.4 Signals, Coding and Modulation

a. Digital signals
b. Digital to digital conversion
c. Analogical to digital conversion
d. Digital to analogical conversion
e. Analogical to analogical conversion

4.5 Data transmission interfaces

4.6 Data transmission media

a. Guided media (Plaited pair cable, coax cable, wave guide and optical fibre)
b. Non-guided media (radio frequency and propagation, microwaves, via satellite)
c. Transmission deterioration
d. Media comparison

4.7 Multiplexation

a. Frequency division (FDM)
b. Time division (TDM)
c. Applications and ranks

4.8 Error correction and link control

a. Type of errors
b. Detection and error correction
c. Flux control
d. Error control

4.9 Data link protocols

a. Asynchronical and synchronic protocols
b. Character-oriented protocols
c. Bit-oriented protocols (HDLC)

INTEGRAL TRAINING PLAN PROGRAMME

COURSE V October 2010

Communication networks and applications

5.1 LAN networks

a. Architecture types
b. Access methods
c. 802 Project and standards
d. Network comparison

5.2 Commuting

a. Circuits commuting
b. Packages commuting
c. Messages commuting

5.3 Telephone network applications

a. PPP protocol
b. ISDN service

5.4 Frame Relay (Plot retransmission)

a. Operation
b. Levels and congestion control
c. Traffic control
d. REDDIG applications and use

5.5 Network devices and networks interconnection

a. Repeaters
b. Bridges
c. Routers and algorithm
d. Protocol converters (Gateways)

5.6 TCP/IP Protocols set

a. TCP/IP – Internet – OSI
b. Network level – IP Protocol
c. Addressing and sub-networks
d. Other protocols at network level
e. Transportation level
f. Client – server model
g. Client – server applications: TELNET, FTP, SMTP, SNMP
h. Routers programming
i. REDDIG applications and uses

5.7 IP aeronautical applications

a. AMHS
b. Radar data exchange
c. GNSS
d. CNS/ATM applications integration

APENDIX 2E

UPDATED ACTION PLAN FOR IMPLEMENTATION OF MEVA II AND REDDIG INTERCONNECTIONS
PLAN DE ACCIÓN ACTUALIZADO PARA LA IMPLANTACIÓN DE LAS INTERCONEXIONES MEVA II Y REDDIG

Date/Fecha: April/Abril2008

Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
1	RFP Completion/Finalización del RFP	COCESNA	30-Apr-07	Completed / Finalizado
2	Required connections: / Conexiones requeridas: Aruba COCESNA Ecuador Colombia Peru Venezuela Brazil / Brasil Panama United States / Estados Unidos Jamaica Curacao / Curazao	MEVA II Service Provider and REDDIG Administration / Proveedor Servicio MEVA II y Administración REDDIG	30-Apr-07 / 30-Abr-07	Completed / Finalizado
3	Identification of Current Equipment / Identificación de Equipo Actual	MEVA II Service Provider and REDDIG Administration / Proveedor Servicio MEVA II y Administración REDDIG	28 Sep-07	Completed / Finalizado
4	Completion of SLA / Finalización de SLA	MEVA II Service Provider and REDDIG Administrator / Proveedor Servicio MEVA II y Administración REDDIG	30 Nov07	

Item No.	Action / Acción		Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2		3	4	5
5	Review of RFP / Revisión de RFP		MEVA II and REDDIG Members / Miembros MEVA II y REDDIG	29 June -07/ 29 Junio 07	The RFP was reviewed and approved by all MEVA II / REDDIG Member Administrations. / El RFP fue revisado y aprobado por todas las Administraciones miembros de las redes MEVA II y REDDIG.
6	Proposals response / Respuesta de propuestas		MEVA II Service Provider and REDDIG Administration / Proveedor Servicio MEVA II y Administración REDDIG	26 Sep.-07	The response for the RFP from the MEVA II Service Provider and REDDIG Administration was presented at the MR/5 Meeting/ Las respuestas al RFP por parte del Proveedor de Servicio MEVA II y la Administración de la REDDIG se presentó en la Reunión MR/5.
7	Proposals review / Revisión de propuestas		Coordination meeting / Reunión de coordinación	5 Oct.-07	The proposal was reviewed in the MR/5 Meeting. / La propuesta se revisó en la Reunión MR/5
8	Focal Point nomination / Nombramiento Punto Focal	Send a letter to MEVA II / REDDIG Member Administrations / Envio carta a las Administraciones miembros de las redes MEVA II y REDDIG.	ICAO Regional Offices / Oficinas Regionales OACI	15 Oct. 07	The ICAO Regional Offices sent to the States/Organization involved in the MEVAII REDDIG interconnection a letter in order to nominate focal points. Las oficinas regionales de la OACI enviaron una carta invitando los Estados/Organización involucrados en la interconexión la nominación de puntos focales .

Item No.	Action / Acción		Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2		3	4	5
		Focal point designation/ Designación punto focal	MEVA II and REDDIG Members involved / Miembros de MEVA II y REDDIG involucrados	30-Oct-07	All the States/Organization members of MEVA II and REDDIG network involved in the interconnection nominated focal points. Todos los Estados/Organización miembros de la REDDIG y MEVA II involucrados en la interconexión nominaron puntos focales
9	Application of MoU reviewed / Aplicación del MoU revisado		MEVA II / REDDIG Member Administrations / Administraciones miembros de las redes MEVA II y REDDIG	30-Oct-07	The ICAO Regional Offices sent to the States/Organization of MEVA II and REDDIG network in order to sign the MoU reviewed.
10	Review and acceptance of equipment costs for the MEVA II / REDDIG interconnection by the REDDIG Member Administrations / Revisión y aceptación por parte de las Administraciones Miembros de la REDDIG sobre costo de equipamiento para la interconexión MEVA II / REDDIG		All the REDDIG Member States / Todos Estados miembros de REDDIG	30 Oct-07	No comments were received No se recibieron comentarios al respecto
11	Review and acceptance of equipment costs for the MEVA II / REDDIG interconnection by the MEVA II Member Administrations involved / Revisión y aceptación por parte de las Administraciones Miembros de la MEVA II involucradas sobre costo de equipamiento para la interconexión MEVA II / REDDIG		Aruba, Curaçao, Jamaica, Panama, USA (Miami and Puerto Rico) and COCESNA / Aruba, Curaçao, Jamaica Panamá, USA (Miami y Puerto Rico) y COCESNA	30 Oct -07	No comments were received No se recibieron comentarios al respecto
12	Review and acceptance of proposed recurrent costs for the MEVA II / REDDIG interconnection/ Revisión y aprobación costos recurrentes propuestos para la interconexión MEVA II REDDIG		MEVA II/ REDDIG Member Administrations involved / Administraciones Miembros de la MEVA II y REDDIG involucradas	30 Oct- 07	No comments were received No se recibieron comentarios al respecto

Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
13	Revised MoU Signature / Firma del MoU Revisado	MEVA II and REDDIG Members / Miembros MEVA II y REDDIG	30 Nov 07	The following States/International Organizations sent the MoU reviewed signed: Los siguientes Estados/ Organismos Internacionales enviaron el MoU revisado firmado: Argentina, Brasil, Chile, Cuba COCESNA, Estados Unidos, Guyana, Perú y/and Uruguay

Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
14	Review, approval and signing of contracts or contract amendments to carry out the MEVA II / REDDIG interconnection presented by the MEVA II Service Provider / Revisión, aprobación y firma de los contratos o enmienda de los mismos para llevar a cabo la interconexión MEVA II/REDDIG presentada a través del Proveedor de Servicio de la MEVA II	MEVA II Member Administrations involved and REDDIG Administration / Administraciones Miembros de la MEVA II involucradas y Administración REDDIG	~~30 Nov 07~~/April 2008	The REDDIG members assigned REDDIG Administration the revision and signature of AGS contract. The ICAO Technical Cooperation after reviewed the AGS contract considered the necessity to separate the no recurrent and recurrent costs. The decision took long time from December 2007 to April 2008 For the no recurrent cost a bid it is necessary and the ICAO Technical Cooperation a bid process will make. For the recurrent cost they ask AGS to modify the contract in order to include only the no recurrent cost. Los miembros de la REDDIG asignaron a la Administración de la REDDIG la revisión y firma del contrato. La Cooperación Técnica de la OACI después de revisar el contrato de AGS consideró la necesidad de separar los costos recurrentes de los no recurrentes. La decisión fue tomada después de un largo periodo de diciembre de 2007 a abril de 2008 Para los costos recurrentes se procederá a un proceso de licitación publica y para los costos recurrentes se consideró que AGS modificara el contrato de forma tal que incluyera solamente los costos recurrentes.

Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
15	To ensure that all MEVA II and REDDIG nodes work with IS-IR Satellite, using Band C transponder with US/Latin America hemispheric beam and Co-Linear Vertical polarization / Asegurar que todos los nodos de la MEVA II y REDDIG operen en el satélite IS-1R, empleando transpondedores de banda C con haz hemisférico US/Latin America y polarización co-lineal vertical.	MEVA II Service Provider and REDDIG Administration/ Proveedor Servicio MEVA II/Administración REDDIG	~~30 Nov 07~~ April 08/ Abril 08	No change of polarity was executed ,AGS is waiting the decision of the approval of the interconnection. No se ha efectuado todavía el cambio de polaridad , AGS esta esperando la aprobación de la interconexión.
16	Equipment and spare parts acquisition for MEVA II/REDDIG interconnection/ Adquisición de equipamiento y repuestos para la interconexión MEVA II / REDDIG.	REDDIG Administration and MEVA II involved Member Administrations / Administración de la REDDIG y Administraciones Miembros de la MEVA II involucradas	~~14 Dec 07/14 Dic 07~~ End of June 08/Fin de junio 08	The ICAO Technical Cooperation informed that the bid process for the acquisition of equipments through a bid process will take a duration of approximately two months. La Cooperación Técnica de la OACI informó que el proceso de licitación para la adquisición de los equipos durara dos meses aproximadamente.
17	Site survey/ Inspección sitio	MEVA II Service Provider and REDDIG Administration / Proveedor MEVA II y Administración REDDIG	~~15 Jan 08/15 Ene 08~~ End of July 08/Fin de Julio 08	
18	Site preparation for equipment installation for MEVA II / REDDIG interconnection / Preparación de los sitios para albergar equipamiento para la interconexión MEVA II / REDDIG	Colombia, Venezuela and/y COCESNA	~~30 Jan 08/30 Ene 08~~ Aug08/Ago08	
19	Delivery of purchased equipment at the required sites. / Entrega de equipamiento adquirido en los sitios requeridos	MEVA II Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	~~15 Feb 08~~ Sep08	

Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
20	Equipment installation / Instalación equipamiento	MEVA II Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	~~14 Mar- 08~~ Oct08	
21	Satellite line-up, configuration of site equipment and NCC for the interconnection/ Line-up satelital, configuración equipamiento en sitio y NCC para interconexión	MEVA II Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	~~21-Mar-08~~ Oct08	
22	End-to-end trials for voice and data circuits / Pruebas de extremos a extremos para los circuitos de voz y datos	MEVAII Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	~~27-Mar-08~~ Nov 08	
23	System Performance Evaluation / Evaluación de la performance del sistema	MEVA II Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	~~25-Apr-08/25-Abr-08~~ Dec08/Dic08	
24	Service acceptance / Aceptación de los servicios /	MEVA II / REDDIG Member Administrations / Administraciones miembros de las redes MEVA II y REDDIG	~~30-Apr-08/30-Abr-08~~ Jan09/Ene09	
25	MEVA II / REDDIG Interconnection Implementation / Implantación de la interconexión MEVA II / REDDIG	MEVA II / REDDIG Member Administrations, MEVA II Service Provider and REDDIG Administrator / Administraciones miembros de las redes MEVA II y REDDIG, Proveedor Servicio MEVA II y Administración REDDIG	~~May 08/~~ ~~Mayo 08~~ Feb09	

Legend / Leyenda:
MoU: Memorandum of Understanding / Memorando de Entendimiento
RFP: Request for Tecnical and Econmic Proposal / Solicitud de Propuestas Técnicas y Económicas
SLA: Service Level Agreement / Acuerdo de Nivel de Servicio

APPENDIX 2F

8/13/2007 6:55:45 AM

ViaSat Price Quotation

*** Price Quote Subject to ViaSat Standard Terms and Conditions, and Valid Through Oct 28, 2007 ***

Quotation Number: 200800489 Rev 1
Customer Name : **ICAO**
Project Name : **Linkway Upgrade**
Account Manager : **Robert Feierbach**

Item Number	Model	Description	Qty/Site	Unit Price	EXW US$ Extended Price
LINKWAY NCC Equipment and Software					
01	LW-NCC-SUN-1U	SUNFire V210, 1U, Video Card, Keyboard & Mouse, 110/220VAC	6		
02	LW-SW-SYS	Linkway NCC/NMS System Software with IP	1		
				Item Price :	**$110,000**
Program Management and Engineering Services					
01	PMSE	System Engineering	1		
02	PMIPIT	In-Plant Integration and Test	1		
03	PMSDM	Standard Documentation & Manuals	1		
04	PMSCEA	Shipping Coordination & Export Administration	1		
05	PMPM	Program Management	1		
06	PMPPL	Program Planning & Logistics	1		
				Item Price :	**$9,400**
				Total System Price :	$119,400

ViaSat Proprietary Information - The use or disclosure of this information is subject to the restriction on the title page

ViaSat Price Quotation

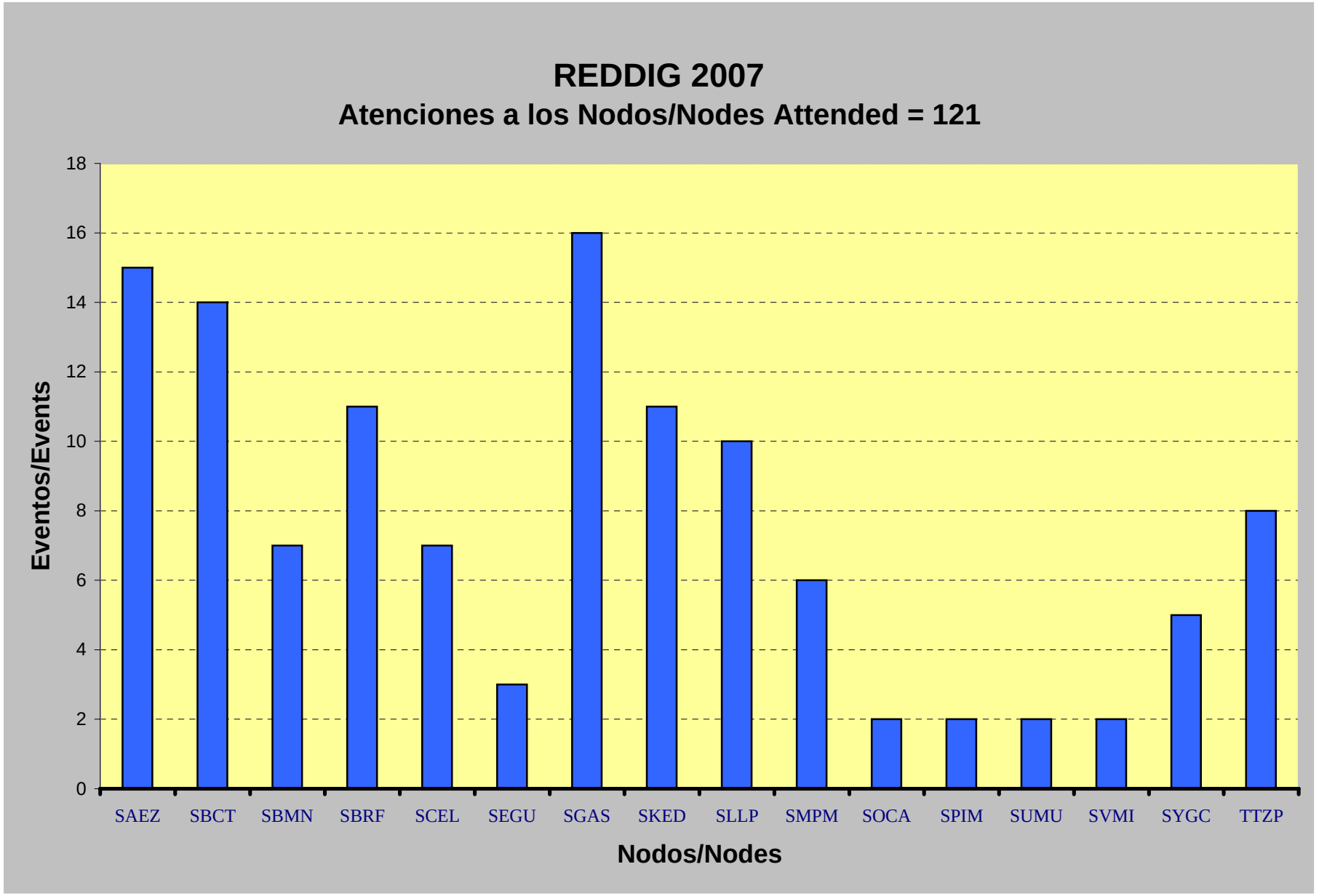
*** Price Quote Subject to ViaSat Standard Terms and Conditions, and Valid Through Oct 28, 2007 ***

Quotation Number: 200800489 Rev 1
Customer Name : **ICAO**
Project Name : **Linkway Upgrade**
Account Manager : **Robert Feierbach**

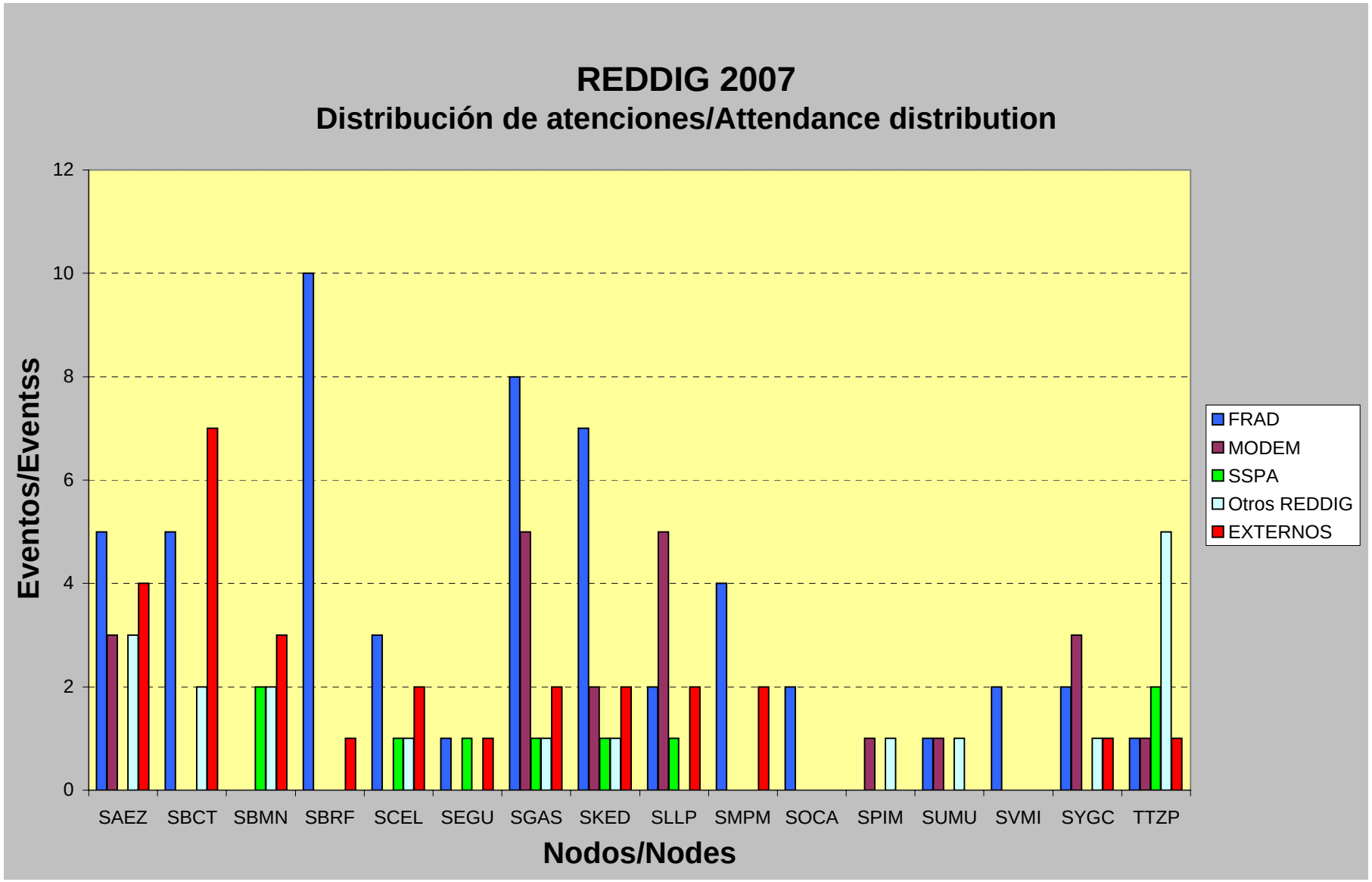
Item Number	Model	Description	Qty/Site	Unit Price	EXW US$ Extended Price
		Options			
		LINKWAY Installation Support Man-Day Rate			
01	RECOSSE	On-Site System Engineering Man-Day Rate (minimum 3 days, travel and living expense to be billed at actual cost plus 15%)	0	$1,500	

ViaSat Proprietary Information - The use or disclosure of this information is subject to the restriction on the title page

APÉNDICE/APPENDIX 2G



APÉNDICE/APPENDIX 2G



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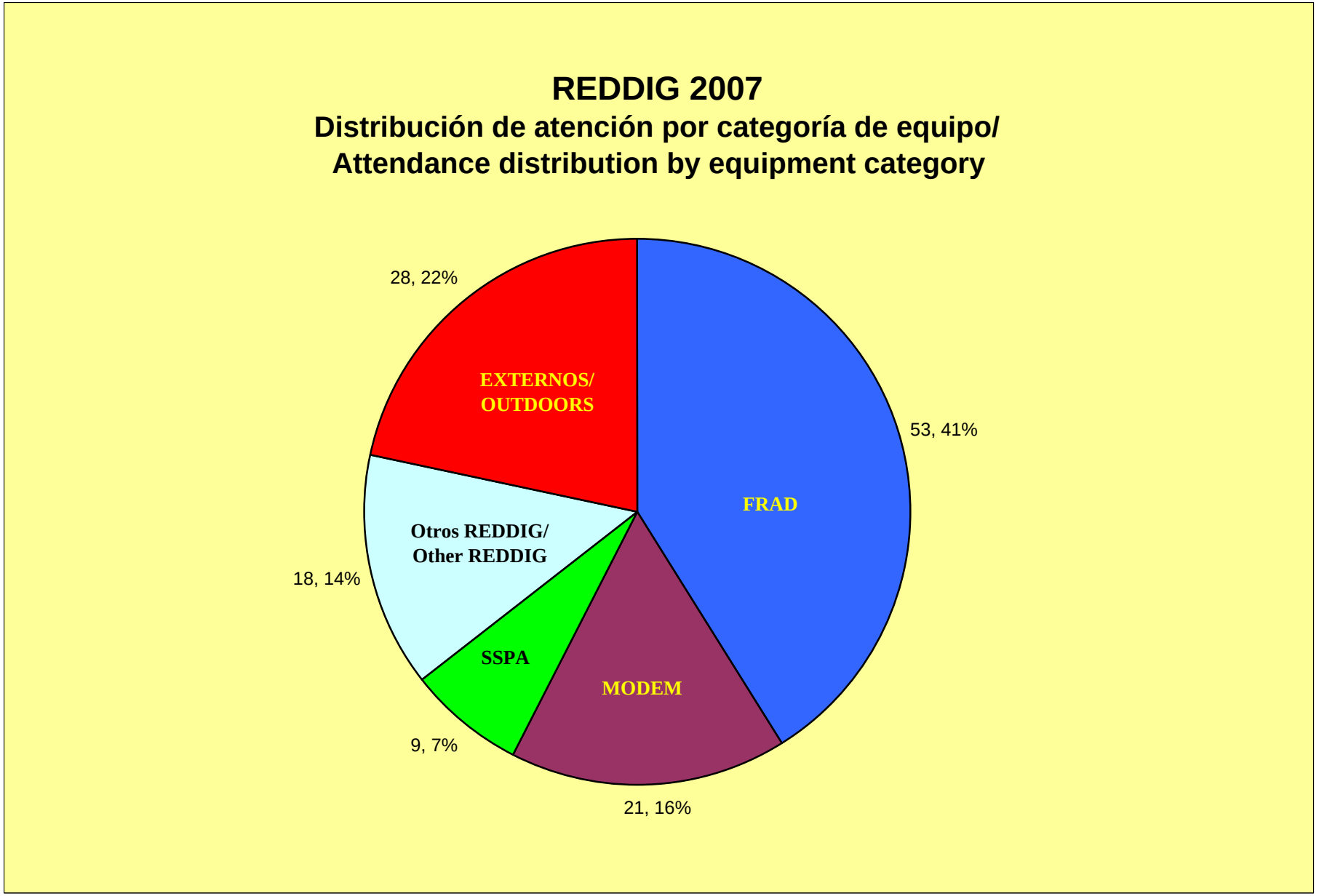


Agenda Item 3: Working Programme for 2008

3.1 Under this Agenda Item, it was agreed to schedule main activities to be carried out during 2008: renewal of provision agreement for satellite service with INTELSAT, to continue activities for the implementation of MEVA II/REDDIG interconnection, the NCC operation alternating and REDDIG Management Center, the training programme for 2008, the achievement of the third REDDIG technical-operative meeting and the implementation of new services.

Renewal of Provision Satellite Service Agreement with INTELSAT

3.2 The Meeting took note of the previous steps to the signature of the contract with PanAmSat, a Master Service Agreement (MSA), and a Full Service Agreement (FSA) for the satellite service use.

3.3 MSA specifies the agreement general terms and conditions and includes, mainly, issues related to agreement and services, payments, customer commitments, service interruption rights, end of the service, customer rights for service interruption and supplier's responsibilities.

3.4 FSA specifies service agreement with PanAmSsat. In this case, ICAO established the use of full-time service 24 hours a day and 7 days a week. FSA includes transmission parameters, transponder services and satellite information and also satellite operational requirements.

3.5 The Meeting took note that in December 2008 will expire the agreement between ICAO and PanAmSat (presently absorbed by INTELSAT) for satellite provision service purposes. Also it took note that ICAO and INTELSAT have begun arrangements for the renewal of aforementioned agreement, trying to preserve same current cost for annual renting.

3.6 According to information supplied by INTELSAT, next year, the satellite used by REDDIG, IS 1R (formerly named PAS 1R), will be put out of service and will be replaced by satellite IS 14. Satellite IS 14, according to information provided by INTELSAT, will be put in the same position and will have same coverage as of IS IR. INTELSAT will timely inform the date of satellite change and of the service interruption time. ICAO will coordinate with INTELSAT about the changes that could occur with the start of operation of this new satellite, in order to guarantee same present conditions (frequency, polarity, etc.)

3.7 Provisions for satellite segment cost were included in 2009 and 2010 budget.

Continuation of activities for REDDIG/MEVA II interconnection implementation

3.8 It is expected for the first quarter of 2009 to end actions related to REDDIG/MEVA II interconnection implementation.

3.9 The necessary equipment for REDDIG nodes involved in MEVAII/REDDIG interconnection, will be purchased by ICAO Technical Cooperation, purchase section, through a public bidding process. The service agreement between ICAO and MEVA II supplier, AGS, will be amended in order that this contains only issues related to the service provision (voice data – AFTN). In 2008, 2009 and 2010 budget costs related to the purchase of equipment and recurring costs for Brazil, Colombia, Peru

and Venezuela were included. The access costs to the network MEVA will be shared equitably among all the States members of REDDIG.

Operative Alternation of NCC and of REDDIG Management Center

3.10 In order to continue with operation alternation between NCC and Management Center, it was agreed that in June and November the NCC operations and of the management center pass from Manaos to Ezeiza for a month period. REDDIG Administrator could move in one of this alternation phases, for a 15-days period to complete the training for NCC Ezeiza personnel.

Training Programme for 2008

3.11 Considering the Training Plan Developed by REDDIG Administration and Ad-Hoc Group, it was agreed to prepare for 2008 a Basic course about REDDIG Station, with the programme that is showed in Appendix 3A.

3.12 With contents of Appendix 3A, REDDIG Coordinator will be able to review the course design, following –as far as possible- the ICAO document PANS-TRG Doc 9858:

a. Analysis of objectives of performance and of population focused
b. Development of tests of knowledge and of techniques for qualifications with score
c. Validity process of training material
d. Selection, training and certification of instructors
e. Arrangements to guarantee quality in products and process for training, according to ICAO standards.
f. Contents of competition objectives demanded to participants when training is concluded.

3.13 This basic course would be given twice, one appointed to Guyana's Station technical personnel, requested by Guyana delegate in view that personnel in charge of Guyana's node maintenance doesn't have a basic instruction of REDDIG node. This course, which will be given in English, will invite other States as Surinam, French Guyana, Trinidad & Tobago and any other state to participate, if interested. Argentina is a voluntary to give said course. The course is foreseen to tentatively be held the last week of August.

3.14 The other Basic course will be given for all REDDIG members the first week of October of 2008. Venezuela's delegate informed that he would analyze with INAC Administration the feasibility to carry out this course in Venezuela.

Third Technical Operative Meeting (RTO/03)

3.15 REDDIG third technical operative meeting will be held previously to the REDDIG Twelfth Coordination Meeting in the first quarter of 2009 in Lima, Peru. The meeting will have as subject issues related to coordination of REDDIG maintenance and operation tasks with administration. Also the meeting will analyze technical and operative aspects necessary for the implementation of new REDDIG services, considering that the implementation of the new services is previewed in a very short term (exchange of radar data and flight planning).

Implementation of new services

3.16 During 2008 it is foreseen the implementation of new services as a result of the interconnection MEVA II REDDIG, exchange interconnection of radar data and flight planning as a consequence of the automation activities that are being carried out in SAM Region, as part of the Project RLA/98/003 and RLA/06/901, and the implementation of new AMHS circuit. In this sense, the Meeting considered that for next coordination meting, REDDIG Administration, taking in consideration the future implementation of OMR, future integration of MEVA II/REDDIG networks, linkway hardware and software functionality, will develop a research that will determine the date when software and hardware upgrading of the linkway system be applied.

Cost-benefit research for software upgrading of linkway system

3.17 The Meeting agreed that due to high investment that may be done for the improvement of linkway system hardware thata considers a total change of hardware platform and of the operational system compatibles with the nuew software of NCC linkway system, it is convenient to count with a cost-benefit research for next coordination meeting with the purpose to decide the best moment to make this investment. In this regard, the following conclusion was formulated:

Conclusion RCC 11/3 Cost-benefit research for software upgrading of linkway system

That, REDDIG Administrator present in next meeting of REDDIG coordination committee, a working paper containing a cost-benefit research for the implementation of software upgrading of linkway system.

Appendix 3A

REDDIG TRAINING PLAN PROGRAMME 2008-2010

REDDIG ad hoc training group, taking into consideration the results obtained from the surveys about training requirements among REDDIG members, prepared the following Training Plan Programme for three-year period 2008-2010. The programme was reviewed during RCC 11.

REDDIG Training Schedule for period 2008-2010

2008

Course	Date	Place
Basic course of REDDIG Operation and Maintenance (English)	August	Georgetown, Guyana
Basic course of REDDIG Operation and Maintenance (Spanish)	October	Caracas, Venezuela

2009

Course	Date	Place
Introduction to Satellite Communications and REDDIG operation	October	To be determined

2010

Course	Date	Place
Communication networks and data transmission (Appendix C)	October	To be determined

BASIC COURSE OF REDDIG OPERATION AND MAINTENANCE

1.1 Network description

a. Services
b. Operation theory
c. Operation mode
   - Topology
   - Frequencies Plan
   - Communications sub-network (FR-based)
   - Monitoring and control sub/network (IP-based)
d. Management and Control Centre (NCC/NMS)
e. REDDIG stations

1.2 REDDIG station

a. Equipment rack
b. Indoors equipment (IDU)
   - Linux PC

- Hardware
- Software

Voice and data interfaces
Band base commuter
Memotec FRAD
- Hardware: MPS/MUX; Cards
- Software

Linkway 2100 MODEM
- Hardware: MODEM Modules, FR, IP
- Software

c. Outdoor equipment (ODU)
Antenna 3.7M
Paradise Datacom SSPA
- M&C Software

LNB
Wave guide commuters
- Interconnection cables

1.3 Station maintenance

a. AC power feeding system
b. Earth system
c. IDU and ODU equipment clearing plan

INTRODUCTION TO SATELLITE COMMUNICATIONS AND REDDIG OPERATION

2.1 Satellites

a. Fundaments
b. Orbits
c. Geostationary satellites – Parameters
d. Radiation pattern
e. Frequency and service bands

2.2 Earth stations

a. Antennas (Teleports, VSAT)
b. Power amplifiers (HPA, SSPA)
c. Converters - increase (BUC) and decrease (LNB)
d. Modulators/Demodulators (MODEM)
e. Base band (MULTIPLEXORS) and user interfaces
f. Monitoring and control (M&C)
g. Power system
h. Earth system
i. REDDIG station

2.3 Types of multiple access

a. By frequency division (FDMA)
b. By time division (TDMA) – REDDIG application
c. By code division (CDMA)

2.4 Types of allotment

a. Permanent (PAMA)
b. By demand (DAMA) – REDDIG application

2.5 Design model

a. Parameters and equations
b. Link Budget
c. Technical performance
d. Service Quality (QoS)

REDDIG Station Operation

2.6 NCC/NMS

a. Linkway system generalities and functions
b. Commands principally used
c. Stations remote monitoring and control (M&C)

2.7 Station operation

a. Local monitoring and control (M&C)
   - Control cabling
b. Station "Status" page
c. Control pages:
   - SSPA, Chain and Redundancy
d. Linux PC :
   - Direct access command
e. Minicom programme via Linux PC and console port
   FRAD
   MODEM
f. TELNET, FTP applications use
g. CxAccess, CxTool support software
h. PROC-FRD procedures
i. PROC-MOD procedures
k. PROC-SSP procedures

2.8 Fault diagnosis

a. Procedures and actions
b. Simulations

COMMUNICATION NETWORKS AND DATA TRANSMISSION

3.1 LAN networks

a. Architecture types
b. Access methods
c. 802 Project and standards
d. Network comparison

3.2 Commuting

a. Circuits commuting

b. Packages commuting
c. Messages commuting

3.3 Telephone network applications

a. PPP protocol
b. ISDN service

3.4 Frame Relay (Plot retransmission)

a. Operation
b. Levels and congestion control
c. Traffic control
d. REDDIG applications and use

3.5 Network devices and networks interconnection

a. Repeaters
b. Bridges
c. Routers and algorithm
d. Protocol converters (Gateways)

3.6 TCP/IP Protocols set

a. TCP/IP – Internet – OSI
b. Network level – IP Protocol
c. Addressing and sub-networks
d. Other protocols at network level
e. Transportation level
f. Client – server model
g. Client – server applications: TELNET, FTP, SMTP, SNMP
h. Routers programming
i. REDDIG applications and uses

3.7 IP aeronautical applications

a. AMHS
b. Radar data exchange
c. GNSS
d. CNS/ATM applications integration

3.8 Communications systems generalities

a. Data transmission
b. Networks and their criteria
c. Protocols and standards

3.9 Basic concepts

a. Link configuration
b. Topology
c. Transmission mode
d. Network classes

3.10 OSI Mode

a. Architecture and model levels
b. Functions and levels interconnection

3.11 Signals, Coding and Modulation

a. Digital signals
b. Digital to digital conversion
c. Analogical to digital conversion
d. Digital to analogical conversion
e. Analogical to analogical conversion

3.12 Data transmission interfaces

3.13 Data transmission media

a. Guided media (Plaited pair cable, coax cable, wave guide and optical fibre)
b. Non-guided media (radio frequency and propagation, microwaves, via satellite)
c. Transmission deterioration
d. Media comparison

3.14 Multiplexation

a. Frequency division (FDM)
b. Time division (TDM)
c. Applications and ranks

3.15 Error correction and link control

a. Type of errors
b. Detection and error correction
c. Flux control
d. Error control

3.16 Data link protocols

a. Asynchronical and synchronic protocols
b. Character-oriented protocols
c. Bit-oriented protocols (HDLC)

Agenda Item 4: Financial situation of project RLA/03/901 and approval of project budget for year 2008

4.1. Under this Agenda Item, the Meeting was informed on the obligations incurred by the Project during 2007 and on the situation of cost-sharing contributions, and analyzed the budget for 2008, 2009 and 2010.

Situation of cost-sharing contributions

4.2. The Meeting took note of the situation of cost-sharing contributions presented in **Chart #1**, observing that both **Bolivia** and **Suriname** have pending deposits of cost-sharing contributions for 2006.

4.3. The Meeting analyzed the situation of both States, and was made aware that ICAO had already sent them three reminders. Therefore, the next phase in the procedure established regarding delayed deposits of cost-sharing contributions corresponded to be applied, which ends with the suspension of the communications services. Also, the Meeting was informed that Suriname administration presented a plan for the deposit of contributions in order to pay outstanding obligations. In this sense, it was agreed that ICAO requests again to **Bolivia AASANA** Administrations to comply with their contribution payments for 2007. In the event these contributions are not received, REDDIG administration will proceed with the following actions set in the procedure for cases of delayed deposit of contributions:

First Action:	Suspension of the service of technical-operational attention and support for 10 calendar days.
Second Action:	6-hour partial suspension of the satellite PVC circuits in the referred node, for 5 calendar days.
Third Action:	12-hour partial suspension of the satellite PVC circuits in the referred node, for 10 calendar days.
Fourth Action:	Indefinite total suspension of all PVC satellite circuits in the referred node.

4.4. Based in the above, the Meeting formulated the following conclusion:

Conclusion RCC 11/4 Activation of actions foreseen in procedure of cases of delayed deposits of cost-sharing contributions of Bolivia

Considering that **Bolivia** still has pending cost-sharing contributions to project RLA/03/901 for year 2007, in case that the deposit of these contributions is not received before 1 July 2008, the REDDIG Administration would proceed to the application of the actions foreseen for cases of delayed deposit of cost-sharing contributions.

ICAO is requested to analyze and inform in the next Coordination Meeting on the administrative difficulties of **Bolivia** for the payment on time of their cost sharing contributions and the possible solutions.

Summary of obligations contracted by RLA/03/901 project during the year

4.5. The Meeting was informed of the obligations contracted by RLA/03/901 project from year 2003 to 2007 (**See Chart #2**). Also it was informed that the contributions received up to date amount to USD 2,573,396 showing a balance of more than **USD 418,539.** Also, **Chart # 3** shows a bar chart regarding project expense distribution in 2003, 2004, 2005, 2006 and 2007, as well as a pie chart, clearly showing total execution per budgetary line (2003 , 2004, 2005, 2006 and 2007).

4.6. In addition, budget for year 2008 amounts to **USD 822,478**, which should be carried out with remaining funds of the Project (+ USD 418,359), plus contributions for 2008 and those pending from previous years.

4.7. The Meeting was informed that due to commitments of project for the payment of satellite segment and project personnel, it is urgent to receive contributions for 2008.

In this regard, the Meeting agreed to adopt the following conclusion:

Conclusion RCC 11/5 Deposit of cost-sharing contributions to RLA/03/901 project

That REDDIG member States make as soon as possible corresponding arrangements for the deposit of their cost-sharing contributions to RLA/03/901 project before 1 July 2008.

RLA/03/901 budget

4.8. The Meeting took note of the budget prepared by the Secretariat, and necessary funds provision was included for MEVA II/REDDIG interconnection, as well as a provision for NCC equipment upgrading. Paraguay incremented its budget for fellowships in order to train at least three people during 2008 under the project fellowships. On the other hand, Argentina included the necessary budget in order to fund with this project the participation of an expert from its administration in the seminar on automation to be held in Rio de Janeiro in June 2008.

4.9. After thoroughly analyzing RLA/03/901 project budget presented by the Secretariat and with amendments incorporated, the Meeting agreed in adopting the following conclusion:

Conclusion RCC 11/6 Revision of RLA/03/901 project budget

The budget established as RLA/03/901 project Revision L is approved, as presented in **Appendix 4A** to this part of the report.

4.10. The Meeting took note that budget should be reviewed by Programme Budget Unit (PBU) of the Technical Cooperation Bureau and that this could present small variations, but 2008 cost-sharing contribution quotas will remain as indicated in Appendix 4A.

Chart # 1
Situation of cost-sharing contributions for project RLA/03/901
for years 2003, 2004, 2005, 2006 and 2007

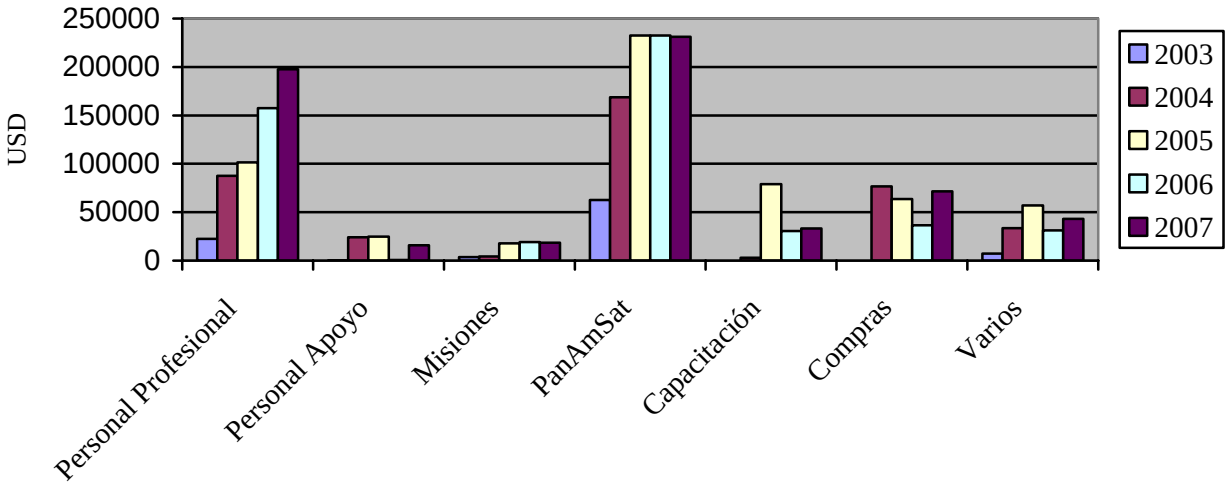
State	Quota	Pending	Quota	Pending	Quota	Pending	Quota	Pending	Quota	Pending	Total Deposit	Total Pending
	2003		2004		2005		2006		2007			
Argentina	50,363	0	30,100	0	37,800	0	44,800	0	66,700	0	232,906	0
Bolivia	39,563	0	22,100	0	28,900	0	33,600	**20**	10,900	**10,900**	124,143	**10,920**
Brasil	123,790	0	72,900	0	79,400	0	111,000	0	60,800	0	447,890	0
Chile	40,013	0	35,100	0	36,400	0	67,000	0	28.710	0	207,223	0
Colombia	24,269	0	0	0	162,094	0	0	0	150,000	0	336,363	0
Ecuador	40,913	0	15,200	0	25,500	0	29,100	0	19,000	0	129,713	0
Francia	34,763	0	11,300	0	20,900	0	26,400	0	25,000	0	118,363	0
Guyana	34,313	0	9,900	0	19,900	0	22,900	0	15,000	0	102,530	0
Paraguay	35,363	0	12,700	0	21,900	0	30,700	0	25,600	0	126,263	0
Perú	49,613	0	28,300	0	36,500	0	39,690	**0**	40,000	0	194,113	**0**
Surinam	34,313	0	7,400	0	18,500	0	28,700	**14,380**	18,300	**18,300**	74,533	**32,680**
Uruguay	47,513	0	16,200	0	28,800	0	28,000	**0**	77,171	45	197,639	**45**
Venezuela	44,213	0	15,800	0	27,200	0	45,800	0	38,700	0	171,713	0
T&T	0	0	0	0	22,700	0	22,700	**0**	15,500	16	60,884	**16**
Intereses	1,477		4,765		9,685		14,504		17,065		49,119	N/A
TOTAL	**600,449**		**281,765**		**576,144**		**4546,557**	**14,400**	**608,446**	**29,200**	**2,573,396**	**43,600**

NOTE: Some differences between amounts deposited by some States and the amounts considered by ICAO are due to the cost of financial transactions or to exchange rates.

Chart # 2
Detailed Breakdown of Expenditures as of 31 December 2007

Budget Line	2003	2004	2005	2006	2007	TOTAL
BL 11 Experts						
REDDIG Administrator	22,359	87,650	101,296	157,561	197,784	566,650
BL 13 Adm. Support						
13-01 Secretary	354	12,185	12,551	0	15,718	40,808
13-02 REDDIG technician		12,000	12,108	712	250	25,070
BL 15 Official missions		321	925	499	0	1,745
BL 16 Missions	3,504	4,110	16,733	18,642	18,357	61,346
BL 20 Sub-Contracts						
21-01 Satellite Segment Rental to PanAmSat (01 Oct up to 31 Dec 2003) P.O. 30473	62,727					62,727
21-01 Satellite Segment Rental to PanAmSat (2004) P.O. 40670		168,849	231,264	231,264	231,264	862,641
21-98 Professional Responsibility Insurance		845	1,156	3,469	0	5,470
BL 39 Training (Simultaneous interpretation)		3,014	53,862	30,553	34,044	121,473
BL 40 Equipment						
45-01 Spares		(12,752)	59,542	36,312	71,637	154,739
45-02 Office Equipment	82		2,083	(30)	0	2,053
45.03 Equipment Operation and Maintenance		1,716	1,781		0	3,497
45.04 Transfer of the NCC from SPIM to SBMN						
PO 40694 VIASAT		8,250				8250
PO 40687 MEMOTEC		4,250				4250
45.05 PO 40489 Extension of SEEE contract		50,000				50,000
45.06 PO 40090 SEEE Back-up network		24,820				24,820
45.98 Professional Liability Insurance (PLI)		444	284	246		974
BL 53.01 Communications, Bank charges, courier, etc.	643	4,726	4,475	1150	8,688	19,682
BL 53.02 PNUD Services		118	505	337	0	960
55.01 Administrative cost AOSC	6,439	28,795	35,817	34,695	34,601	140,347
TOTAL	96,108	399,341	534,382	512,864	612,343	**2,155,037**

Chart # 3
Distribution of Expenses 2003, 2004, 2005, 2006 and 2007
Project RLA/03/901



Budget Line

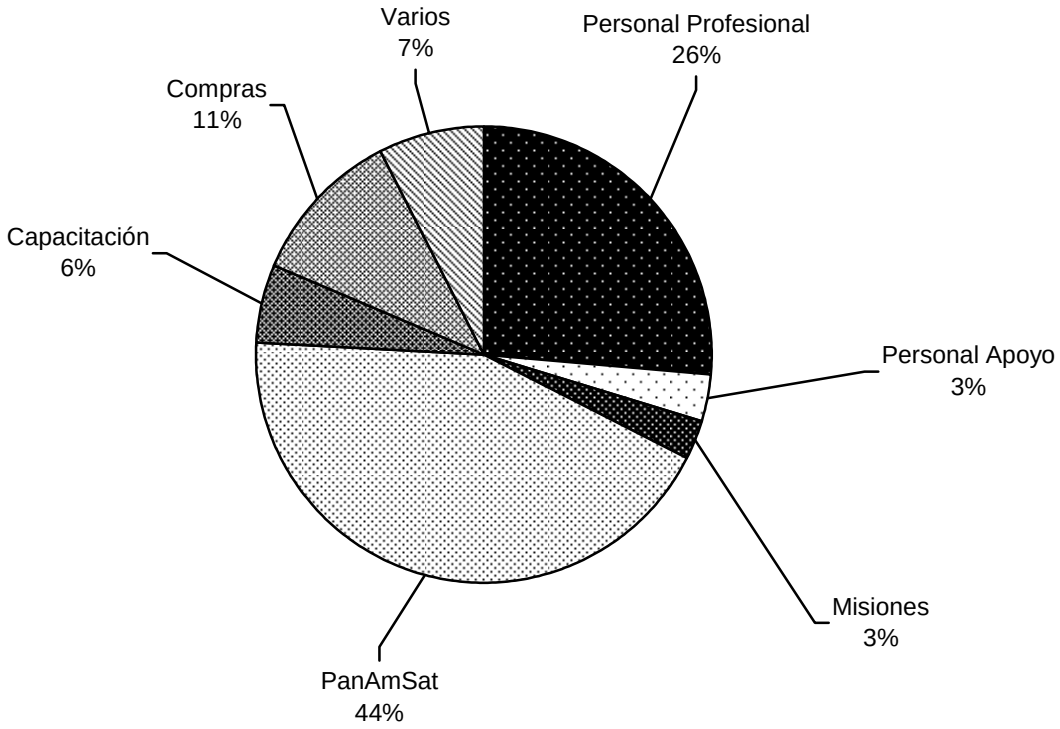


Chart # 4

Distribution of band width use

	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Node	W	%	W	%	W	%	W	%	W	%	BW	%
SAEZ	128.8	10.441	140.5	10.537	58.9	12.107	97.0	14.560	79.0	14.286	76.2	17.209
SLLP	71.2	5.772	90.4	6.781	28.0	5.755	34.0	5.104	32.5	5.877	21.3	4.810
SBCT	112.0	9.079	145.7	10.928	64.4	13.237	74.0	11.108	47.7	8.626	39.0	8.808
SBMN	43.2	3.502	92	6.901	41.2	8.469	34.5	5.179	33.4	6.040	21.1	4.765
SBCT	85.6	6.939	66.4	4.981	7.5	1.542	13.9	2.086	10.9	1.971	10.5	2.371
SCEL	73.6	5.966	132.8	9.962	35.3	7.256	66.9	10.042	35.0	6.329	16.7	3.771
SKED	125.6	10.182	124.8	9.362	48.3	9.928	58.1	8.721	56.4	10.199	32.3	7.294
SEGU	78.4	6.355	71.2	5.341	17.5	3.597	19.5	2.927	26.1	4.720	16.0	3.613
SOCA	45.6	3.696	44.8	3.361	15.9	3.268	30.4	4.563	29.5	5.335	25.3	5.714
SYGC	43.2	3.502	39.2	2.941	9.4	1.932	8.3	1.246	7.2	1.302	6.7	1.513
SGAS	48.8	3.956	50.6	3.792	24.8	5.098	27.7	4.158	16.4	2.966	14.7	3.320
SPIM	124.8	10.117	133.2	9.992	48.1	9.887	75.7	11.363	68.9	12.459	64.0	14.453
SMPM	43.2	3.502	31.2	2.34	20.6	4.234	15.8	2.372	11.2	2.025	7.6	1.716
SUMU	113.6	9.209	89.6	6.721	19.3	3.967	33.5	5.029	27.4	4.955	26.0	5.872
SVMI	96.0	7.782	80.8	6.061	47.3	9.723	56.0	8.406	62.2	11.248	55.2	12.466
TTZP	0	0	0	0	0	0	20.9	3.100	9.2	1.664	10.2	2.304
TOTAL	1,233.6	100	1,333.20	100	486.50	100.00	666.20	100	552.9	100	442.80	100

REDDIG RCC/11
Informe/Report Cuestión 4 del Orden del Día/Agenda Item 4
Apéndice 4A/Appendix 4A

APPENDIX 4A

ORGANIZACIÓN DE AVIACIÓN CIVIL INTERNACIONAL/
INTERNATIONAL CIVIL AVIATION ORGANIZATION

Revisión del Presupuesto Versión/Budget Revision Version "K"

Proyecto/Project RLA/03/901
Sistema de Gestión de la REDDIG y Administración del Segmento Satelital
REDDIG Management System and Satellite Segment Administratior

Número de Proyecto/ Project Number	RLA/03/901/ Rev. L
Duración/Duration	5 años ajustables/5 years adjustable
Fecha de inicio/ Beginning Date	July 2003
Estados participantes/ Participant States	Argentina, Bolivia, Brasil, Chile, Colombia, Ecuador, Francia, Guyana, Paraguay, Peru Surinam, Trinidad y Tobago, Uruguay y Venezuela
Agencia de ejecución/ Executing agency	ICAO
Presupuesto total/ Total budget	US$ #REF!
Breve descripción/ Breve description	El objetivo de este proyecto es establecer un mecanismo multinacional para la Administración de la Red Digital Sudamericana (REDDIG), considerando para ello los desarrollos regionales en esta materia. Asimismo el proyecto, y mientras se establezca dicho mecanismo multinacional, administrará temporalmente la REDDIG y conducirá implantaciones de aplicaciones en el ámbito CNS/ATM de acuerdo con los requerimientos del FASID CAR/SAM./ This project objective is to establish a multinational mechanism for the Administration of the South American Digital Network (REDDIG), considering regional developments in this matter. Likewise the project, while this multinational mechanism is established, will temporarily manage the REDDIG and will conduct the implementation of CNS/ATM application according to the CAR/SAM FASID.

Anterior / Previous	"K"	US$	2,846,195
Revisión/ Revision	"L"	US$	#REF!
Variación/ Variation		US$	#REF!

Razones para la revisión/ Reasons for the revision	Extender la duración del proyecto hasta el 31 de diciembre del 2010 y ajustar las cifras del año 2007 con los gastos reales./Extend project duration until December 31st, 2010 and adjust 2007 figures with actual expenses.

PROJECT BUDGET
(In U.S. Dollars)

States Regional for CAR and SAM
Proyect RLA/03/901/ Rev. L Starting Date : 01 July 2003 Expiry Date: 31 December 2010
Título System for the Management of the REDDIG and the Administration of the Satellite Segment

		TOTAL US$	*----- M/H	2003 US$	------ M/H	2004 US$	*------ M/H	2005 US$	*------ M/H	2006 US$	*------ M/H	2007 US$	*----- M/H	2008 US$	*------ M/H	2009 US$	*------ M/H	2010 US$
10	Project personnel																	
11	International professionals																	
11.01	Network administrator	1,236,773	2.5	22,359	12.0	93,953	12.0	101,296	12.0	156,503	12.0	197,784		209,423		215,455		240,000
11.51	Institutional aspects	0																
11.97	Consultants	-6,303				(6,303)												
11.99	**Sub-Total**	**1,230,470**	**2.5**	**22,359**	**12.0**	**87,650**	**12.0**	**101,296**	**12.0**	**156,503**	**12.0**	**197,784**		**209,423**		**215,455**		**240,000**
13	Administrative Support Personnel																	
13-01	Bilingual Secretary	108,058		354	6.0	12,185	6.0	12,551			6.0	15,968	6.0	17,000		25,000		25,000
13-02	REDDIG technician	24,819			12.0	12,000	12.0	12,108		711								
13-03	REDDIG technicial Manaos																	
13.99	**Sub-Total**	**132,877**		**354**	**18**	**24,185**		**24,659**		**711**		**15,968**		**17,000**		**25,000**		**25,000**
15	Official trips	3,995				321		925		499		0		750		750		750
16	Missions' costs	130,345		3,504		4,110		16,732		18,642		18,357		25,000		22,000		22,000
19	**Total of Component**	**1,497,687**		**26,217**		**116,266**		**143,612**		**176,355**		**232,109**		**252,173**		**263,205**		**287,750**
20	Subcontracts																	
21.01	Renting of satellite segment (PO. 40670)																	
	P.O. 30473(1 Oct 2003 to 31 Dic 2003)	62,727		62,727														
	P.O. 40670 (1 Jan 2005 to 31 Dec 2008)	1,593,905				168,849		231,264		231,264		231,264		231,264		250,000		250,000
21.02	Recurrent Fees MEVA REDDIG	99,396												33,132		33,132		33,132
21.03	MEVA/REDDIG Recurrent Brazil	8,820												2,940		2,940		2,940
21.04	MEVA/REDDIG Recurrent Caracas	30,384												10,128		10,128		10,128
21.05	MEVA/REDDIG Recurrent Bogota	30,060												10,020		10,020		10,020
21.06	MEVA/REDDIG Recurrent Lima	8,820												2,940		2,940		2,940
21.98	Professional Responsibility Insurance	5,470				845		1,156		3,469		0		0		0		0
29	**Total of Component**	**1,839,582**		**62,727**		**169,694**		**232,420**		**234,733**		**231,264**		**290,424**		**309,160**		**309,160**

PROJECT BUDGET
(In U.S. Dollars)

States Regional for CAR and SAM
Proyect RLA/03/901/ Rev. L — Starting Date : 01 July 2003 — Expiry Date: 31 December 2010
Título System for the Management of the REDDIG and the Administration of the Satellite Segment

		TOTAL US$	*----- M/H	2003 US$	------ M/H	2004 US$	*------ M/H	2005 US$	*------ M/H	2006 US$	*------ M/H	2007 US$	*----- M/H	2008 US$	*------ M/H	2009 US$	*------ M/H	2010 US$
30	**Training**																	
'31	Becas individuales	0																
31-01	SAEZ (MEMOTEC)	883						883										
31-02	SCEL (MEMOTEC)	858						858										
31-03	SEGU (MEMOTEC)	857						857										
31-04	SEGU (MEMOTEC)	857						857										
31-05	SOCA (MEMOTEC)	870						870										
31-06	SYGC (MEMOTEC)	857						857										
31-07	SMPM (MEMOTEC)	857						857										
31-08	SMPM (MEMOTEC)	857						857										
31-09	SVMI (MEMOTEC)	857						857										
31-10	SOCA (MEMOTEC)	870						870										
31-11	SVMI (MEMOTEC)	857						857										
31-12	SAEZ (VIASAT)	1,421						1,421										
31-13	SBMN (VIASAT)	1,421						1,421										
31-14	SGAS (MEMOTEC)	857						857										
31-15	SGAS (MEMOTEC)	857						857										
31-16	SUMU (MEMOTEC)	857						857										
31-17	SUMU (MEMOTEC)	857						857										
31-18	SLLP (MEMOTEC)	870						1,000				-130						
31-19	SLLP (MEMOTEC)	870						1,000				-130						
31-20	SVMI (MEMOTEC)	857						857										
		0																
31-21	SYGC (Mortimer)	1,017								1,017								
31-22	SYGC (Stanley)	1,017								1,017								
31-23	SMPM (Rabindre)	876								1,017		-141						
31-24	SMPM (Wakidi)	876								1,017		-141						
31-25	SAEZ (Vittor)	1,017								1,017								
31-26	SAEZ (Alaniz)	1,017								1,017								
31-27	SKED (Ciro)	1,726								1,726								
31-28	SKED (Sanchez)	1,726								1,726								
31-29	SGAS (Torres)	1,659								1,659								
31-30	SGAS (Pereira)	1,659								1,659								
31-31	SLLP (Lara)	1,017								1,017								
31-32	SLLP (Tito)	1,017								1,017								
31-33	SUMU (Vera)	2,537								2,537								
31-34	SUMU (Pelayo)	2,537								2,537								
31-35	TTZP (Gunnes)	1,017								1,017								
31-36	TTZP (Rupnarine)	1,017								1,017								
31-37	SEGU (Avellan)	987								987								
31-38	SEGU (Cepeda)	987								987								
31-39	SPIM (Cespedes)	2,142								2,142								
31-40	SPIM (Donayre)	2,142								2,142								
		0																
31-41	SYGC (Mohanram)	1,323										1,323						
31-42	SYGC (Gittens, Troy)	1,323										1,323						
31-43	SGAS (Pereira, Aldo)	4,153										4,153						
31-44	SGAS (Torres, David)	2,251										2,251						
31-45	TTZP (Mckay, Garvin)	1,323										1,323						
31-46	TTZP (Baboolal, Rupnarine)	1,323										1,323						
31-47	SUMU (Vera, Miguel)	2,460										2,460						
31-48	SUMU (Pelayo, Daniel)	2,460										2,460						
31-49	SEGU (Avellan, Raul)	2,623										2,623						
31-50	SEGU (Rugel, Arnoldo)	1,323										1,323						

PROJECT BUDGET
(In U.S. Dollars)

States Regional for CAR and SAM
Proyect RLA/03/901/ Rev. L — Starting Date : 01 July 2003 — Expiry Date: 31 December 2010
Título System for the Management of the REDDIG and the Administration of the Satellite Segment

		TOTAL US$	*----- M/H	2003 US$	------ M/H	2004 US$	*------ M/H	2005 US$	*------ M/H	2006 US$	*------ M/H	2007 US$	*----- M/H	2008 US$	*------ M/H	2009 US$	*------ M/H	2010 US$
31-51	SLLP (Balderrama, Barrios)	1,323										1,323						
31-52	SLLP (Huayllas, Hernan)	1,323										1,323						
31-53	SAEZ (Vittor, Cristian)	3,161										3,161						
31-54	SAEZ (Canna, Hernan)	3,161										3,161						
31-55	SPIM (Peralta, Donayre)	2,125										2,125						
31-56	SPIM (Velazquez Palomares)	2,125										2,125						
31-57	SAEZ	10,200												10,200				
31-58	SLLP	2,060												2,060				
31-59	SBCT	2,060												2,060				
31-60	SBRF	2,060												2,060				
31-61	SCEL	2,060												2,060				
31-62	SBMN	2,060												2,060				
31-63	SEGU	2,060												2,060				
31-64	SOCA	2,060												2,060				
31-65	SYGC	2,060												2,060				
31-66	SGAS	7,500												7,500				
31-67	SPIM	5,060												5,060				
31-68	SMPM	2,060												2,060				
31-69	SUMU	5,060												5,060				
31-70	SVMI	2,060												2,060				
31-71	TTZP	2,060												2,060				
31-72	SKED	5,060												5,060				
		0																
31-99	Sub Total	235,666						18,611		28,277		33,238		55,540		50,000		50,000
		0																
33-01	Tuition MEMOTEC PO 50632	25,100						25,100										
33-02	Tuition VIASATA P.O. 50661	9,950						9,950										
33-98	Group Training	10,582								2,276		806		2,500		2,500		2,500
37-98	PLI	3,215				3,014		201										
		0																
39	**Total training**	**284,513**				**3,014**		**53,862**		**30,553**		**34,044**		**58,040**		**52,500**		**52,500**

PROJECT BUDGET
(In U.S. Dollars)

States Regional for CAR and SAM
Proyect RLA/03/901/ Rev. L — Starting Date : 01 July 2003 — Expiry Date: 31 December 2010
Título System for the Management of the REDDIG and the Administration of the Satellite Segment

		TOTAL US$	*----- M/H	2003 US$	------ M/H	2004 US$	*------ M/H	2005 US$	*------ M/H	2006 US$	*------ M/H	2007 US$	*----- M/H	2008 US$	*------ M/H	2009 US$	*------ M/H	2010 US$
40	Equipment																	
	Reimbursement RLA/98/019 (Customs)	-12,752				-12,752												
45.01	Spare parts	240,000												190,000		25,000		25,000
	SAM REDDIG	70,569						45,930		17,750		6,889						
	SAEZ	5,000												5,000				
	SLLP	3,194										3,194						
	SBRF-SBMN-SBCT	20,464						6,490		13,824		150						
	SCEL	48,855						3,009		1,603		-1,494		20,737		25,000		
	SKED	99,123								84		14,466		84,573		0		
	SEGU	6,880						1,870		2,390		2,620						
	SOCA	0																
	SYGC	268										268						
	SGAS	6,127								660		5,467						
	SPIM	0																
	SMPM	1,350										1,350						
	TTZP	0																
	SUMU	49,246										36,031		13,215				
	SVMI	4,939						2,242				2,697						
	Sub-Total	**543,263**		***0***		***-12,752***		***59,541***		***36,311***		***71,637***		***313,525***		***50,000***		***25,000***
45.02	REDDIG Office Equipment	9,052		82						-30				3,000		3,000		3,000
	REDDIG laptop	1,829						1,829										
	LINDY COMPU PO 50534 SBMN	254						254										
	Sub -otal	**11,135**		***82***		***0***		***2,083***		***-30***		***0***		***3,000***		***3,000***		***3,000***
45.03	Office equipment operation and maintenance	24,216				1,716				0		0		7,500		7,500		7,500
	PO 50522 VIASAT Modem SYGC repair	1,603						1,603										
	CB LIMA	179						179										
45.04	Transference of SPIM NCC to SBMN																	
	P.O. 040694 VIASAT	8,250				8,250												
	P.O. 040687 MEMOTEC	4,250				4,250												
45.05	Extension of SEEE agreement (P.O. 40489)	50,000				50,000												
45.06	SEE support network (P.O. 04090)	24,820				24,820												
45.98	Professional responsibility Insurance	2,474				444		284		246				500		500		500
45.99	***Sub-Total***	**115,792**		***0***		***89,480***		***2,066***		***246***		***0***		***8,000***		***8,000***		***8,000***
49	**Total of Component**	**670,189**		**82**		**76,728**		**63,690**		**36,527**		**71,637**		**324,525**		**61,000**		**36,000**
50	Miscellaneous																	
53.01	Miscellaneous Costs	40,017		643		4,726		4,475		1,150		8,688		5,335		7,500		7,500
53.02	PNUD Services charges	1,460				118		505		337				500				
53.99	***Sub-Total***	**41,477**		***643***		***4,844***		***4,980***		***1,487***		***8,688***		***5,835***		***7,500***		***7,500***
55	Administrative costs	309,065		6,439		28,795		35,817		37,372		34,601		64,245		50,921		50,875
59	**Total of Component**	**350,542**		**7,082**		**33,639**		**40,797**		**38,859**		**43,289**		**70,080**		**58,421**		**58,375**
	TOTAL OF PROJECT	**4,642,513**		**96,108**		**399,341**		**534,381**		**517,027**		**612,343**		**995,242**		**744,286**		**743,785**

PROJECT BUDGET
(In U.S. Dollars)

States Regional for CAR and SAM
Proyect RLA/03/901/ Rev. L — Starting Date : 01 July 2003 — Expiry Date: 31 December 2010
Título System for the Management of the REDDIG and the Administration of the Satellite Segment

		TOTAL US$	*----- M/H	2003 US$	------ M/H	2004 US$	*------ M/H	2005 US$	*------ M/H	2006 US$	*------ M/H	2007 US$	*----- M/H	2008 US$	*------ M/H	2009 US$	*------ M/H	2010 US$
				2003		**2004**		**2005**		**2006**		**2007**		**2008**		**2009**		**2010**
100	COSTOS SHARING																	
101	Cost Sharing Government																	
101.01	Argentina	436,820		50,363		30,100		37,800		44,800		66,700		80,000		72,480		54,577
101.02	Bolivia	257,828		39,563		22,100		28,900		33,600		10,900		43,675		39,934		39,156
101.03	Brasil	762,039		123,790		72,900		79,400		111,000		60,800		81,444		118,054		114,652
101.04	Chile	316,083		40,013		35,100		36,400		67,000		28,710		29,500		29,500		49,860
101.05	Colombia	451,001		24,269		0		162,094		0		150,000		0		56,475		58,163
101.06	Ecuador	242,514		40,913		15,200		25,500		29,100		19,000		40,865		36,793		35,143
101.07	Francia	239,620		34,763		11,300		20,900		26,400		25,000		45,795		42,306		33,157
101.08	Guyana	196,466		34,313		9,900		19,900		22,900		15,000		35,935		31,279		27,239
101.09	Paraguay	244,424		35,363		12,700		21,900		30,700		25,600		46,160		36,022		35,979
101.10	Perú	390,802		49,613		28,300		36,500		39,700		40,000		71,372		68,188		57,129
101.11	Surinam	199,980		34,313		7,400		18,500		28,700		18,300		36,412		31,813		24,542
101.12	Uruguay	320,839		47,513		16,200		28,800		28,000		77,171		64,003		42,721		16,431
101.13	Venezuela	375,787		44,213		15,800		27,200		45,800		38,700		71,774		70,159		62,141
101.14	Interests	49,119		1,447		4,765		9,685		16,157		17,065		0		0		0
101-15	Trinidad y Tobago	159,186		0		0		22,700		22,700		15,500		37,791		33,354		27,141
101.99	Sub-Total	4,642,509		600,449		281,765		576,179		546,557		608,446		684,726		709,078		635,309
109	TOTAL OF COMPONENT	4,642,509		600,449		281,765		576,179		546,557		608,446		684,726		709,078		635,309
	BL-99 - BL 109	4		-504,341		117,576		-41,798		-29,530		3,897		310,516		35,208		108,476

SATELLITE SEGMENT COST DISTRIBUTION
(in US Dollars)

Proyecto RLA/03/901/ Rev. L
Título System for the Management of the REDDIG and the Admininstration of the Satellite Segment

	Satellite Segment Cost	AOSC	SRP	Total
2003 USD	62,727	3,764.00	0.00	66,491.00
2004 USD	168,849	8,754.00	845.00	178,448.00
2005 USD	231,264	9,251.00	1,156.00	241,671.00
2006 USD	231,264	5,966.00	3,469.00	240,699.00
2007 USD	231,264	3,469.00	0.00	234,733.00
2008 USD	231,264	3,469.00	0.00	234,733.00
2009 USD	250,000	12,500.00	5,000.00	267,500.00
2010 USD	250,000	12,500.00	5,000.00	267,500.00
TOTAL	1,656,632	59,673.00	15,470.00	1,731,775.00

	2,003			2,004				2,005			
	AOSC	PAS	Total	AOSC	SRP	PAS	TOTAL	AOSC	SRP	PAS	Total
Argentina	393	6,549	6,942	923	89	17,794	18,806	1,120	140	27,999	29,259
Bolivia	217	3,620	3,838	594	57	11,449	12,100	532	67	13,310	13,909
Brasil	342	5,695	6,037	957	92	18,453	19,502	1,225	153	30,613	31,991
Brasil	132	2,197	2,328	604	58	11,652	12,314	783	98	19,585	20,466
Brasil	261	4,353	4,614	436	42	8,410	8,888	143	18	3,565	3,726
Chile	225	3,742	3,967	872	84	16,819	17,775	671	84	16,780	17,535
Colombia	383	6,387	6,770	819	79	15,806	16,704	918	115	22,960	23,993
Ecuador	239	3,987	4,226	468	45	9,017	9,530	333	42	8,319	8,693
Francia	139	2,319	2,458	294	28	5,674	5,996	302	38	7,558	7,898
Guyana	132	2,197	2,328	257	25	4,965	5,247	179	22	4,468	4,669
Paraguay	149	2,481	2,630	332	32	6,408	6,773	472	59	11,789	12,320
Perú	381	6,346	6,727	875	84	16,870	17,829	915	114	22,865	23,894
Surinam	132	2,197	2,328	205	20	3,951	4,176	392	49	9,792	10,233
Trinidad y Tobago	0	0	0	0	0	0	0	0	0	0	0
Uruguay	347	5,776	6,123	588	57	11,348	11,993	367	46	9,175	9,587
Venezuela	293	4,881	5,174	531	51	10,233	10,815	899	112	22,485	23,496
	3,764	**62,727**	**66,491**	**8,754**	**845**	**168,849**	**178,448**	**9,251**	**1,156**	**231,264**	**241,671**

	2,006				2007				2008			
	AOSC	SRP	PAS	TOTAL	AOSC	SRP	PAS	TOTAL	AOSC	SRP	PAS	TOTAL
Argentina	869	505	33,672	35,046	496	0	33,038	33,533	597	0	39,797	40,394
Bolivia	304	177	11,803	12,284	204	0	13,591	13,795	167	0	11,124	11,291
Brasil	663	385	25,688	26,736	299	0	19,948	20,247	306	0	20,369	20,674
Brasil	309	180	11,976	12,465	210	0	13,968	14,177	165	0	11,020	11,185
Brasil	124	72	4,825	5,022	68	0	4,558	4,627	82	0	5,484	5,566
Chile	599	348	23,224	24,171	220	0	14,637	14,857	131	0	8,722	8,853
Colombia	520	303	20,169	20,992	354	0	23,586	23,940	253	0	16,870	17,123
Ecuador	175	102	6,769	7,045	164	0	10,915	11,079	125	0	8,356	8,482
Francia	272	158	10,553	10,984	185	0	12,337	12,522	198	0	13,214	13,412
Guyana	74	43	2,881	2,999	45	0	3,011	3,056	52	0	3,499	3,552
Paraguay	248	144	9,616	10,008	103	0	6,858	6,961	115	0	7,677	7,793
Perú	678	394	26,278	27,351	432	0	28,814	29,246	501	0	33,426	33,927
Surinam	141	82	5,485	5,709	70	0	4,684	4,754	60	0	3,969	4,029
Trinidad y Tobago	187	109	7,255	7,551	58	0	3,847	3,905	80	0	5,327	5,407
Uruguay	300	174	11,629	12,104	172	0	11,459	11,631	204	0	13,579	13,783
Venezuela	501	292	19,440	20,233	390	0	26,012	26,402	432	0	28,830	29,262
	5,966	**3,469**	**231,264**	**240,699**	**3,469**	**0**	**231,264**	**234,733**	**3,469**	**0**	**231,264**	**234,733**

	2,009				2010			
	AOSC	SRP	PAS		AOSC	SRP	PAS	TOTAL
Argentina	2,151	860	43,022	46,033	2,151	860	43,022	46,033
Bolivia	601	241	12,026	12,868	601	241	12,026	12,868
Brasil	1,101	440	22,019	23,560	1,101	440	22,019	23,560
Brasil	596	238	11,913	12,747	596	238	11,913	12,747
Brasil	296	119	5,928	6,343	296	119	5,928	6,343
Chile	471	189	9,429	10,089	471	189	9,429	10,089
Colombia	912	365	18,236	19,513	912	365	18,236	19,513
Ecuador	452	181	9,033	9,666	452	181	9,033	9,666
Francia	714	286	14,284	15,284	714	286	14,284	15,284
Guyana	189	76	3,783	4,048	189	76	3,783	4,048
Paraguay	415	166	8,299	8,880	415	166	8,299	8,880
Perú	1,807	723	36,134	38,663	1,807	723	36,134	38,663
Surinam	215	86	4,291	4,591	215	86	4,291	4,591
Trinidad y Tobago	288	115	5,759	6,162	288	115	5,759	6,162
Uruguay	734	294	14,679	15,707	734	294	14,679	15,707
Venezuela	1,558	623	31,165	33,347	1,558	623	31,165	33,347
	12,500	**5,000**	**250,000**	**267,500**	**12,500**	**5,000**	**250,000**	**267,500**

DISTRIBUCION PORCENTUAL DE USO DEL SEGMENTO SATELITAL/
PERCENTUAL DISTRIBUTION OF THE USE OF THE SATELLITE SEGMENT
(En Dólares EE.UU./In US Dollars)

País/Country: Regional para Sudamérica/Regional for South America
Proyecto/Project: RLA/03/901/ Rev. L
Título/Title: Sistema de Administración de la REDDIG/REDDIG Management System

	BW Year 1	**% Year 1**	**BW Year 2**	**% Year 2**	**BW Year 3**	**% Year 3**	**BW Year 4**	**% Year 4**	**BW Year 5**	**% Year 5**	**BW Year 6**	**% Year 6**	**BW Year 7**	**% Year 7**
Argentina	128.8	10.441%	140.5	10.539%	58.9	12.107%	97.0	14.560%	79.0	14.286%	76.2	17.209%	76.2	17.209%
Bolivia	71.2	5.772%	90.4	6.781%	28.0	5.755%	34.0	5.104%	32.5	5.877%	21.3	4.810%	21.3	4.810%
Brazil	112.0	9.079%	145.7	10.929%	64.4	13.237%	74.0	11.108%	47.7	8.626%	39.0	8.808%	39.0	8.808%
Brazil	43.2	3.502%	92	6.901%	41.2	8.469%	34.5	5.179%	33.4	6.040%	21.1	4.765%	21.1	4.765%
Brazil	85.6	6.939%	66.4	4.980%	7.5	1.542%	13.9	2.086%	10.9	1.971%	10.5	2.371%	10.5	2.371%
Chile	73.6	5.966%	132.8	9.961%	35.3	7.256%	66.9	10.042%	35.0	6.329%	16.7	3.771%	16.7	3.771%
Colombia	125.6	10.182%	124.8	9.361%	48.3	9.928%	58.1	8.721%	56.4	10.199%	32.3	7.294%	32.3	7.294%
Ecuador	78.4	6.355%	71.2	5.341%	17.5	3.597%	19.5	2.927%	26.1	4.720%	16.0	3.613%	16.0	3.613%
France	45.6	3.696%	44.8	3.360%	15.9	3.268%	30.4	4.563%	29.5	5.335%	25.3	5.714%	25.3	5.714%
Guyana	43.2	3.502%	39.2	2.940%	9.4	1.932%	8.3	1.246%	7.2	1.302%	6.7	1.513%	6.7	1.513%
Paraguay	48.8	3.956%	50.6	3.795%	24.8	5.098%	27.7	4.158%	16.4	2.966%	14.7	3.320%	14.7	3.320%
Peru	124.8	10.117%	133.2	9.991%	48.1	9.887%	75.7	11.363%	68.9	12.459%	64.0	14.453%	64.0	14.453%
Surinam	43.2	3.502%	31.2	2.340%	20.6	4.234%	15.8	2.372%	11.2	2.025%	7.6	1.716%	7.6	1.716%
Trinidad & Tobago							20.9	3.137%	9.2	1.664%	10.2	2.304%	10.2	2.304%
Uruguay	113.6	9.209%	89.6	6.721%	19.3	3.967%	33.5	5.029%	27.4	4.955%	26.0	5.872%	26.0	5.872%
Venezuela	96.0	7.782%	80.8	6.061%	47.3	9.723%	56.0	8.406%	62.2	11.248%	55.2	12.466%	55.2	12.466%
	1233.6	**100%**	**1,333.20**	**100%**	**486.50**	**100%**	**666.20**	**100%**	**553.00**	**100%**	**442.80**	**100%**	**442.80**	**100%**

COST-SHARING CONTRIBUTIONS CALENDAR
(in US dollars)

States Regional for CAR/SAM
Project RLA/03/901/ Rev. L Starting date: 01 July 2003 Expiry date: 31 December 2008
Title REDDIG Management System and Satellite Segment Administration

101	GOVERMENT COST-SHARING CONTRIBUTIONS						Situation		
		Year	Month	Day	Amount	Account payable	Deposited	Balance
101-01	Argentina	2003	Julio	01	50,363		50,363	0
		2004	Julio	01	30,100		30,100	0
		2005	Julio	01	37,800		37,800	0
		2006	Julio	01	44,800		44,800	0
		2007	Julio	01	66,700		66,700	0
		2008	Julio	01	80,000		3,143	0
		2009	Julio	01	72,480			72,480
		2010	Julio	01	54,577			54,577
					TOTAL	436,820	232,906	203,914
101-02	Bolivia	2003	Julio	01	39,563		39,563	0
		2004	Julio	01	22,100		22,100	0
		2005	Julio	01	28,900		28,900	0
		2006	Julio	01	33,600		33,600	0
		2007	Julio	01	10,900		10,900	0
		2008	Julio	01	43,675		0	43,675
		2009	Julio	01	39,934			39,934
		2010	Julio	01	39,156			39,156
					TOTAL	257,828	135,063	122,765
101-03	Brasil	2003	Julio	01	123,790		123,790	0
		2004	Julio	01	72,900		72,900	0
		2005	Julio	01	79,400		79,400	0
		2006	Julio	01	111,000		111,000	0
		2007	Julio	01	60,800		60,800	0
		2008	Julio	01	81,444		0	81,444
		2009	Julio	01	118,054			118,054
		2010	Julio	01	114,652			114,652
					TOTAL	762,039	447,890	314,149

COST-SHARING CONTRIBUTIONS CALENDAR
(in US dollars)

States Regional for CAR/SAM
Project RLA/03/901/ Rev. L Starting date: 01 July 2003 Expiry date: 31 December 2008
Title REDDIG Management System and Satellite Segment Administration

101	GOVERMENT COST-SHARING CONTRIBUTIONS						Situation		
			Year	Month	Day	Amount	Account payable	Deposited	Balance
101-04		Chile	2003	Julio	01	40,013		40,013	0
			2004	Julio	01	35,100		35,100	0
			2005	Julio	01	36,400		36,400	0
			2006	Julio	01	67,000		67,000	0
			2007	Julio	01	28,710		28,710	0
			2008	Julio	01	29,500		0	29,500
			2009	Julio	01	29,500			29,500
			2010	Julio	01	49,860			49,860
						TOTAL	316,083	207,223	108,860
101-05		Colombia	2003	Julio	01	24,269		24,269	0
			2004	Julio	01	0		0	0
			2005	Julio	01	162,094		162,094	0
			2006	Julio	01	0		0	0
			2007	Julio	01	150,000		150,000	0
			2008	Julio	01	0		0	0
			2009	Julio	01	56,475			56,475
			2010	Julio	01	58,163			58,163
						TOTAL	451,001	336,363	114,638
101-06		Ecuador	2003	Julio	01	40,913		40,913	0
			2004	Julio	01	15,200		15,200	0
			2005	Julio	01	25,500		25,500	0
			2006	Julio	01	29,100		29,100	0
			2007	Julio	01	19,000		19,000	0
			2008	Julio	01	40,865		0	40,865
			2009	Julio	01	36,793			36,793
			2010	Julio	01	35,143			35,143
						TOTAL	242,514	129,713	112,801

COST-SHARING CONTRIBUTIONS CALENDAR
(in US dollars)

States Regional for CAR/SAM
Project RLA/03/901/ Rev. L Starting date: 01 July 2003 Expiry date: 31 December 2008
Title REDDIG Management System and Satellite Segment Administration

101	GOVERMENT COST-SHARING CONTRIBUTIONS						Situation		
		Year	Month	Day	Amount	Account payable	Deposited	Balance
101-07	Francia	2003	Julio	01	34,763		34,763	0
		2004	Julio	01	11,300		11,300	0
		2005	Julio	01	20,900		20,900	0
		2006	Julio	01	26,400		26,400	0
		2007	Julio	01	25,000		25,000	0
		2008	Julio	01	45,795		0	45,795
		2009	Julio	01	42,306			42,306
		2010	Julio	01	33,157			33,157
					TOTAL	239,620	118,363	121,257
101-08	Guyana	2003	Julio	01	34,313		34,313	0
		2004	Julio	01	9,900		9,900	0
		2005	Julio	01	19,900		19,900	0
		2006	Julio	01	22,900		22,900	0
		2007	Julio	01	15,000		15,000	0
		2008	Julio	01	35,935		517	35,418
		2009	Julio	01	31,279			31,279
		2010	Julio	01	27,239			27,239
					TOTAL	196,466	102,530	93,936
101-09	Paraguay	2003	Julio	01	35,363		35,363	0
		2004	Julio	01	12,700		12,700	0
		2005	Julio	01	21,900		21,900	0
		2006	Julio	01	30,700		30,700	0
		2007	Julio	01	25,600		25,600	0
		2008	Julio	01	46,160		0	46,160
		2009	Julio	01	36,022			36,022
		2010	Julio	01	35,979			35,979
					TOTAL	244,424	126,263	118,161

COST-SHARING CONTRIBUTIONS CALENDAR
(in US dollars)

States Regional for CAR/SAM
Project RLA/03/901/ Rev. L Starting date: 01 July 2003 Expiry date: 31 December 2008
Title REDDIG Management System and Satellite Segment Administration

101	GOVERMENT COST-SHARING CONTRIBUTIONS						Situation		
			Year	Month	Day	Amount	Account payable	Deposited	Balance
101-10		Perú	2003	Julio	01	49,613		49,613	0
			2004	Julio	01	28,300		28,300	0
			2005	Julio	01	36,500		36,500	0
			2006	Julio	01	39,700		39,700	0
			2007	Julio	01	40,000		40,000	0
			2008	Julio	01	71,372		0	71,372
			2009	Julio	01	68,188			68,188
			2010	Julio	01	57,129			57,129
						TOTAL	390,802	194,113	196,689
101-11		Suriname	2003	Julio	01	34,313		34,313	0
			2004	Julio	01	7,400		7,400	0
			2005	Julio	01	18,500		18,500	0
			2006	Julio	01	28,700		28,700	0
			2007	Julio	01	18,300		14,290	4,010
			2008	Julio	01	36,412		0	36,412
			2009	Julio	01	31,813			31,813
			2010	Julio	01	24,542			24,542
						TOTAL	199,980	103,203	96,777
101-12		Uruguay	2003	Julio	01	47,513		47,513	0
			2004	Julio	01	16,200		16,200	0
			2005	Julio	01	28,800		28,800	0
			2006	Julio	01	28,000		28,000	0
			2007	Julio	01	77,171		77,126	45
			2008	Julio	01	64,003		0	64,003
			2009	Julio	01	42,721			42,721
			2010	Julio	01	16,431			16,431
						TOTAL	320,839	197,639	123,200

COST-SHARING CONTRIBUTIONS CALENDAR
(in US dollars)

States Regional for CAR/SAM
Project RLA/03/901/ Rev. L Starting date: 01 July 2003 Expiry date: 31 December 2008
Title REDDIG Management System and Satellite Segment Administration

101	GOVERMENT COST-SHARING CONTRIBUTIONS						Situation		
		Year	Month	Day	Amount	Account payable	Deposited	Balance
101-13	Venezuela	2003	Julio	01	44,213		44,213	0
		2004	Julio	01	15,800		15,800	0
		2005	Julio	01	27,200		27,200	0
		2006	Julio	01	45,800		45,800	0
		2007	Julio	01	38,700		38,700	0
		2008	Julio	01	71,774		0	71,774
		2009	Julio	01	70,159			70,159
		2010	Julio	01	62,141			62,141
					TOTAL	375,787	171,713	204,074
101-14	Intereses	2003			1,447		1,447	
		2004			4,765		4,765	
		2005			9,685		9,685	
		2006			16,157		16,157	
		2007			17,065		17,065	
		2008			0			
		2009			0			
		2010			0			
					TOTAL	49,119	49,119	
101-15	Trinidad & Tobago	2005	Diciembre	01	22,700		22,700	0
		2006	Julio	01	22,700		22,700	0
		2007	Julio	01	15,500		15,484	16
		2008	Julio	01	37,791		0	37,791
		2009	Julio	01	33,354			33,354
		2010	Julio	01	27,141			27,141
					TOTAL	159,186	60,884	98,302
				TOTALES:		4,642,509	2,612,985	2,029,524

Agenda Item 5: Project Annual Report

5.1 Following what is established in Section H of Project RLA/03/901 Project Document, the Project monitoring annual report was reviewed (Period March 2007 – April 2008) according to a form where Basic information about the Project is being given (project number, beginning date, termination date, budget and period covered by the report), a section for numeric assessment, a section for a descriptive evaluation and a synoptical chart of the project.

5.2 The evaluation was done by each State. In **Appendix 5A** the result of this evaluation is being presented.

ANNUAL REPORT

Project Basic Information

Project number and title: RLA/03/901 REDDIG Management System and Satellite Segment Administration.

Institution in charge: ICAO

Project beginning date:

Originally planned:	July 2003
Effective:	September 2003

Project termination date:

Originally planned:	July 2008
Effective:	December 2008

Total budget (dollars):

Initial amount:	1,958,200
Last approved revision:	1,958,200

Period covered by the report: May 2007 to April 2008

PART I: NUMERICAL RATING

Please rate the pertinence and performance of the Project using the following scale:

1 – Extremely satisfactory
2 – Satisfactory
3 – Unsatisfactory, with some positive elements
4 – Unsatisfactory
X – Not applicable

Please give your answers in the corresponding column.

SUBSTANTIVE APPROACH	ICAO	ARG	BOL	BRA	CHI	COL	ECU	FRA	GUY	PAR	PER	SUR	T&T	URU	VEN
A. PERTINENCIA															
1. How do you rate the level of pertinence of the project in relation to development priorities of the region?		2		1	1		2							1	2
2. In what measure the project is oriented towards the appropriate beneficiary groups, on the basis of the following considerations?															2
a) Gender		2		1	2		2								
b) Socio-economical factors		2		2	2		2							2	
c) Geographical location		2		1	1		2							2	
3. Given the project objectives, support is given to the Administrations?		2		1	1		2							2	1

SUBSTANTIVE APPROACH	ICAO	ARG	BOL	BRA	CHI	COL	ECU	FRA	GUY	PAR	PER	SUR	T&T	URU	VEN
B. PERFORMANCE															
1. Using the following indicators, rate the contribution of the products to the achievement of the immediate project objectives a/:															
(Indicator 1) The States of the SAM region will have a proposal that is harmonic with their interest for the establishment of a multinational mechanism for the REDDIG management.		1		1	1		2							1	2
(Indicator 2) Adequate administration of the REDDIG under the direct management of the project.		2		1	1		2							2	2
(Indicator 3) Ellaborate, in coordination with the States, a plan of action for the implementation of the CNS/ATM applications on the REDDIG platform.		2		1	1		2							2	2
2. Rate the achievement of the project results.		2		2			2							1	1
3. Are the management mechanisms of the project adequate?		1		1	2		2							2	2
4. Are the project resources (financial, physical and human) sufficient with respect to:		2					2								

SUBSTANTIVE APPROACH	ICAO	ARG	BOL	BRA	CHI	COL	ECU	FRA	GUY	PAR	PER	SUR	T&T	URU	VEN
a) Quantity?		2		2	1		2							3	3
b) Quality?		2		1	2		2							2	2
5. Are the project resources being used efficiently to produce planned results?		2		1	1		2							2	2
6. Is the project effective in relation to costs in comparison with similar programs or projects?		1		1	1		2							1	2
7. On the basis of your work plan, how would you rate the opportunity degree of the project regarding::		2													
a) Achievement of initial products and results?		2		2	1		2							1	2
b) Supplies delivery?		2		1	2		2							3	2
GLOBAL RATING OF THE PROJECT		2		1	1		2								2

Explain the fundaments of your ratings, which do not have to limit exclusively to the pertinence and performance criteria rated before and not necessarily coincide with the previous rating. In relation to the last year of the project, in the global rating an estimation of the possible success of the project should be included, as well as its pertinence or performance.

Argentina:
-.-

Brasil:
Project RLA/03/901 is providing to States its best services. The support given by ICAO Regional Office, has a close relation with success obtained. Same thing occurs with services provided by REDDIG Administrator.

Chile:
REDDIG Project is an example of cooperative management, that has solved important regional aeronautical communications issues, helping, as well, in communications, tolerance and fraternity of state members. Also, the way in which MEVA II interconnection challenges have been faced, predicts a great final result.

Ecuador:
The Project has had a high level of effectiveness; unfortunately, there have been delays in the decision to manage directly the network because of reasons beyond REDDIG's control, but we should contribute to finish with this delay.

Uruguay:
Under point of view of services, results obtained have been more than excellent since there have been obtained up to 100% output in the ATS and AFTN links. With respect to maintenance, the participation of REDDIG administrator has been essential to solve problems that have arisen, mainly in Brazil.
It is necessary to have an adequate communication among REDDIG responsible technicians of every node. Also we have experienced delays in receiving spare parts; notwithstanding administrator is not responsible of them.

Venezuela:
Opportune answer -in a short term- to answer inquiries, provide information or solve failures, with a performance of 99.95%, having certain problems Bogota's circuit.

Agenda Item 6: Other issues

6.1 Nil