

**INTERNATIONAL CIVIL AVIATION ORGANIZATION
SOUTH AMERICAN REGIONAL OFFICE**

**FOURTH INFORMAL MEETING ON THE PLANNING AND
IMPLEMENTATION OF THE SAM DIGITAL NETWORK**

(REDDIG/4)

(Lima, 4 to 8 September 2000)

**Agenda Item 2: Revision of the Technical specifications document for the
SAM Digital network (REDDIG)**

(Presented by the Secretariat)

Summary

This working paper is aimed at presenting to the meeting the coordination that have been carried out until the present with the participant States, as well as to set their participation in the REDDIG execution

1. Introduction

1.1 In section 9 of the revision document of the SAM Digital Network Project (REDDIG), Doc. RLA/98/019/B/01/15, in order to achieve the successful development of this Regional Technical Cooperation Project, it is described the necessity of acquire the participant States full engagement in all project activities. When this document was approved, it was agreed to apply the project recommendations in order to accomplish the objective of the full implementation.

1.2 The project was in force with the assigned communication expert's arrival on 2 May 2000. Since this moment, several communications have been send to the participant States. Among those letters there was one requesting the States to nominee counterpart experts, to be links with the Project Office as well as to participate in the project development in order to get the desired results.

2. **The Counterpart experts**

2.1 At the moment, there have been received the nomination of Counterpart experts from all the participant States but Colombia French Guyana and Uruguay. Even so, it was considered necessary to sent a basic information questionnaire to the counterpart experts that appears in Appendix A to his working paper.

2.2 In the above mentioned questionnaire, included in this working paper as Appendix B, it is requested the information regarding the installation place including the location of the parabolic antenna with its possible associated interference, the information of the rooms where the nodes will be placed as dimensions, current provision, required interfaces for the ATS speech communications, future requirements for the administrative speech communications, facilities of the local telecommunications networks for the establishment of REDDIG backup network circuits, etc. This information must be included in Appendix B of the Technical specifications document, that in its draft version was distributed to the States with the convening to the REDDIG/4 meeting.

2.3 There have been received replies to the questionnaire from Argentina, Chile, Ecuador, Peru and Guyana, missing information regarding the nodes to be installed in Bolivia, Brazil, Colombia, French Guyana, Surinam and Uruguay. Even so, the received information is not complete in some cases. This is the reason why this information has not been included in the Technical specifications document, in order to incorporate it coherently.

2.4 The counterpart experts are inherent to the REDDIG project. It is intended that during its execution there were a deep information exchange between the experts and the Project Office. Besides the coordination of the site surveys established in the execution-working plan, the counterpart experts should also be the local coordinators of the tasks developed by the Contractor in each site.

2.5 The works to be done in each site must come up with the approval of the Project Office, which will receive from the counterpart experts, the information regarding the progress acquired. The Project Office is in charge of defusing the possible discrepancies that can appear while the installation and to join up with the CAAs communication systems between the Contractor and the correspondent State (it must be kept in mind that the REDDIG is bidding as a hand key project).

3. Execution working plan with the CAAs participation

3.1 In the below table are specified the phases where the participation of the CAAs is engaged with the project. Notice that are also included the phases regarding the REDDIG group that must be nominated during the REDDIG/4 and that will be part of the assessor committee of the technical proposals of the bidding process.

Results	Activities		Responsible
Technical specifications document	1.1.3	Analyse the Technical specifications document	CAAs
	1.1.6	Approve the final technical specifications and the bid evaluation methodology	CAAs, G-RED
	1.1.7	Appoint a committee of not more than four members to represent the States in the evaluation process.	CAAs, G-RED
Bidding process	1.2.4	Evaluate and select the proposal received	TCB, OR, PC, Committee
	1.2.5	Negotiate and award the contract	TCB, OR, Committee Contractor
Maintenance Staff prepared in each State	1.4.4	Provide advice to the States, if necessary, on courses to be required locally and abroad for the assignee staff.	CAAs, PC, COM-A
	1.4.5	Nominate candidates for the recommended training programmes.	CAAs
REDDIG cutover and installation	1.5.1	Evaluate together with the Contractor the sites where nodes will be installed	CAAs, PC, Contractor
	1.5.3	Coordinate with the States the nomination of counterpart local personnel that will participate in the installation, adjustment and cutover of the REDDIG.	CAAs, OR, PC
	1.5.5	Coordinate with the States the participation of local counterpart personnel in factory tests as well as if it is necessary, assuming the involved cost with founds out of the project.	CAAs, OR, PC
	1.5.7	Lease the necessary space segment	TCB, CAAs
	1.5.10	Participate with the States in the local and regional tests for the REDDIG provisional acceptance.	CAAs, OR, PC, COM-A
	1.5.11	Network Cutover and management by the project	CAAs, PC, COM-A
TCB – Technical Cooperation Bureau OR–SAM Regional Office SAM CAAs – Civil Aeronautical Authorities PC – International Coordinator COM-A - Advisor Committee / G- RED - REDDIG Group			

3.2 In working paper WP/06 presented to the meeting, it is detailed the complete project working plan, and the meeting is invited as to revise it and make the necessary modifications.

4. **Suggested actions**

4.1 The meeting is invited to considered the information presented in this working paper to:

- a) Take as an urgent matter, the nomination of a counterpart expert for the REDDIG project, in those Administrations that have not done it jet.
- b) Urge the Administrations to return to the Project Office duly fulfilled, the first questionnaire regarding technical aspects of the REDDIG node sites.
- c) Emphasize the necessity of establish a dynamic and permanent communication between the Counterpart expert designated by each Administration and the Project Office.

APPENDIX A

**COUNTERPART EXPERTS
ICAO RLA/98/019 PROJECT
SAM DIGITAL NETWORK (REDDIG)**

<i>COUNTRY</i>	<i>NAME</i>	<i>TELEPHONE NUMBER</i>	<i>FAX NUMBER</i>	<i>E.MAIL ADDRESS</i>
ARGENTINA	Capitán Angel Hector Mosquera (E.TEC 100718)	(5411) 4480-2362 (5411) 4480-2341	(5411) 4480-2363 (5411) 4480-2415	amosquer@faa.mil.ar
BOLIVIA	Ing. Hernando Lara Valda Jefe del Dpto. de Ingeniería Electrónica de HAZAÑA	(5912) 370-340 (5912) 370-341	(5912) 343-731 (5912) 810-022	aasanadt@ceibo.entelnet.bo
BRAZIL	Ten. Cel. Eng. José Mauro Barbosa M.	(5521) 814-6266	(5921)814-6263	
	Ten. Esp. Com. Francisco Almeida Filho	(5591) 213/6660	(5591) 213-6644	falmeida@amazonline.com.br
	Cap. Eng. José Eduardo Mendoza da Fonseca	(5521) 814-6581	(5912) 814-6692	
CHILE	Ing. Moises Ormazabal Lobos	(562) 643-3787 ext. 4660 (562) 290-4660	(562) 644-1446	mormaz@cmet.net
ECUADOR	Ing. Patricio Eguez Vásquez	(5932) 567-822 (5932) 504-530	(5932) 506-576	peguezv@hotmail.com
GUYANA	Mr. S. Hardat Manager Telecommunications and Navigation Aids,	(592) 61-2569	(592) 61-2279	Sukhdeo_Hardat@hotmail.com
PARAGUAY	Sr. Alcides Rabito Jefe del Departamento de Radiocomunicaciones DINAC	(59521) 64-5598	(59521) 213-814	dinac@infonet.com.py dinac03@infonet.com.py
PERU	Sr. Víctor Palacios Ayllón Jefe del Area de Proyectos Especiales de Aeronavegación CORPAC	(511) 575-0912 ext. 3220 (511) 575-1434 ext. 3220	(511) 484-0643	vpalacios@corpac.gob.pe
SURINAME	Mr. Lesley Gonsalves Chief NAV/COM Maintenance,	(597) 49-7143 (597) 49-8898	(597) 49-8901	
VENEZUELA	Mayor (AV) Nelson Mora	(582) 509-2412	(582) 574-2013	rogerlimondre@cantv+A2.net

APPENDIX B

QUESTIONNAIRE

INSTALLATION BASIC CHARACTERISTICS

1. INSTALLATION PLACE

- 1.1 Complete address, telephone number, fax number, e-mail address, and others
- 1.2 Geographical magnitudes and elevation
- 1.3 Contact persons (behind counterparts)

2. TECHNICAL INFORMATION

2.1 Antenna placement

- 2.1.1 Indicate if it will be on the ground or over a roof
(Approx. 1500 Kg. Antenna + 1000 Kg. Base = 500 Kg./m²)
- 2.1.2 Indicate if it is possible to install the antenna with penetrating base
- 2.1.3 Indicate possible relevant obstacles from the antenna. If yes, indicate azimuth and elevation angle of those obstacles.
- 2.1.4 Indicate if it could be interference elements (microwaves in C band, radar equipment, etc.) If yes, indicate distance and nature of the possible interference.
- 2.1.5 Indicate if there are adverse atmosphere conditions: wind, humidity, salinity, pollution, precipitation, temperature, etc.

2.2 Characteristics of the equipment room (where the indoor node equipment will be installed)

2.2.1 Indicate if there is some requirement relating to:

- 2.2.1.1 Indicate the roof height
- 2.2.1.2 Indicate the room dimensions where the node will be installed
- 2.2.1.3 Indicate if there is an A/C (air conditioning) System in this room

2.2.2 Indicate the characteristics of the A/C Power System as:

- 2.2.2.1 Voltage
- 2.2.2.2 Frequency
- 2.2.2.3 Type of system (delta, star, single-phase, three-phase, etc.)

APPENDIX B (Cont.)

- 2.2.2.4 Indicate if it could count with uninterrupted power system (UPS)
- 2.2.2.5 Indicate if there are distribution panels in the equipment room and specify its type
- 2.2.2.6 Indicate if the installation have ground system
- 2.2.3 ATS speech communications interfaces
 - 2.2.3.1 Indicate the type of interface to be used in the immediate speech communications type hot-line (EyM circuits 2wires ERM, EyM circuits 4lines, fxd fxs ringdown automatic circuits of 2lines fxo/fxs, digital circuits E1/T1, etc.). In case if EyM circuits, indicate the operational way (ground, battery, etc.).
 - 2.2.3.2 Indicate the type of interface to be used to the intercom immediate speech communications (call signaling not provided) appointment (analog 2lines or 4lines, digital circuits E1T1).
 - 2.2.3.3 Indicate the type of interface to be used for the exchange voice communications (interfaces similar to indicated in 2.2.3.1).
 - 2.2.3.4 Indicate the type of MDF (step, cut, cut and test – 50,100 o 200 pairs).
- 2.2.4 Interfaces for the Administrative communications
 - 2.2.4.1 Indicate if a switch will be used and specify its technology, as well as the access available facilities (DID lines, DISA, CO, etc.).
 - 2.2.4.2 Indicate the type of access line to be used to interconnect the switch with REDDIG (trunk loop start, trunk ground start, trunk EyM 2/4 lines, digital line E1/T1, BRI) and the type of appointment.
- 2.2.5 Public Network facilities (supporting network)
 - 2.2.5.1 Indicate the type of public networks (PSTN, ISDN, dedicated digital lines of optical fiber or digital microwaves, etc.) that can be used in the node. (Backup system).
 - 2.2.5.2 In case of ISDN, indicate with which States the carrier can offer ISDN connection service and the type of
 - 2.2.5.3 ISDN being used (P.e. Euro ISDN).

APPENDIX B (Cont.)

2.2.5.4 In case of dedicated digital lines by optic fiber or digital microwave, indicate to which REDDIG adjacent nodes can be interconnected.

2.3 Maps and schemes

2.3.1 It is requested to send to the project office, as soon as possible, the following documents:

2.3.1.1 Planes of the equipment room, indicating the preferable site for the racks of the REDDIG earth station.

2.3.1.2 Plane of the surface where the parabolic antenna preferable site is indicated, as well as its wiring system to the REDDIG rack.

2.3.1.3 Plane of the equipment room wiring system or the connection between the REDDIG rack and the distribution leads.