

**INTERNATIONAL CIVIL AVIATION ORGANIZATION
South American Regional Office**

**UNDP/ICAO REGIONAL PROJECT RLA/98/019
IMPLEMENTATION OF THE SAM DIGITAL NETWORK (REDDIG)**

THIRD MEETING OF THE COORDINATION COMMITTEE (RCC/3)

(Lima, Peru, 6 to 7 November 2002)

Agenda Item 3: Report on the activities of the project:

(Presented by the Secretariat)

Summary

This working paper, related to item 3 of the agenda, presents information about the activities carried out up to date since the Second Meeting of the Coordination Committee of the REDDIG, carried out in Lima, Peru, from 31 July to 2 August 2002, in the ICAO South American Regional Office.

1. Activities carried out:

1.1 Amendment to the REDDIG contract:

1.1.1 On 23 August 2002, Montreal Office officially included in the contract with SEEE the purchase of the following additional equipment for and amount of US\$ 278,544:

- a) Copol Feeder, 15 units;
- b) Power distribution board, 15 units;
- c) Analogical Switch for redundancy, 11 units; and
- d) Digital Switch for redundancy, 04 units.

1.1.2 Version V13 of the Project Management Plan and version V3 of the Installation Plan was approved and distributed to the States.

1.2 Hiring of the communication expert:

1.2.1 Attending what the coordination committee of the REDDIG requested during the RCC/2 Meeting, ICAO hired the communications expert who had been working with the project in the past, by a period of 06 months. The expert assumed functions on 4 September 2002.

1.3 Operation licences of the REDDIG nodes:

1.3.1 Following the agreements of the second meeting of the coordination committee of the REDDIG, the States made their best effort to speed up their internal procedures for obtaining the operation licence of the nodes. The Project Office received and attended additional information requests from Argentina, Bolivia, Ecuador, Guyana and Paraguay, tending to complement the information required by their respective national organisms which grant the operation licences to VSAT stations. The terms of the licence granted to Guyana were revised, and Chile and Uruguay forwarded a copy of their operation licence. Brazil informed during the first fifteen days of past October that normal procedure for obtaining the licence takes approximately 60 days. The rest of the licences are still being under regular procedures of the competent authority of the corresponding countries.

1.3.2 Table No 4 of Appendix A, presents the situation of the operation licences for the REDDIG nodes.

1.4 Registry of the REDDIG stations and access authorization to PanamSat satellite:

1.4.1 ICAO coordinated and followed up with PanamSat the registry of the satellite stations of the REDDIG network, as well as the authorization to access the satellite. ICAO forwarded documents received from PanamSat to the States.

1.5 Follow up of the implementation of Amazonica FIR:

1.5.1 Attending a request from France about the state of implementation of Amazonica FIR, it was coordinated with Brazil and France the establishment of a conference through INTERNET.

1.5.2 During the mission carried out to Brazil in the month of October, the Administration of Brazil informed the Project Office that the building of Amazonica FIR had already initiated operations with the ACC of Manaus, and it is expected that on December 2002 the ACC of Belem and Porto Velho be integrated as well.

1.6 Installation of the REDDIG antennas:

1.6.1 The installation of the outside equipment of the REDDIG in the different nodes was concluded within the stipulated term indicated in the Project Management Plan agreed between the contractor and ICAO, with the exception of Argentina, where it was necessary the COM Expert study a solution for the antenna installation, which made necessary a mission to conciliate the positions of the CAA and the contractor, avoiding that the antenna installation in the Ezeiza node could delay the implementation of the network. The mission achieved its objective, and the antenna installation was concluded on 18 October 2002.

1.6.2 Assistance was provided to Chile and Argentina regarding the documentation of the contractor related to the finalization of the ODU installation. Likewise, it coordinated with SEEE and BMP (subcontractor for the ODU installation) the compilation of the REDDIG antennas installation documentation.

1.6.3 In Appendix B of this paper, photographs of the antennas installed by the contractor have been included.

1.7 Information update of UPS in the REDDIG nodes:

1.7.1 The Project Office elaborated a technical document in order that the CAAs could update the UPS technical information available in each of the REDDIG nodes. Based in the information provided, the Project Office database was updated and SEEE was informed about the present situation of the uninterrupted power systems and corresponding power system. Based in the collected information, the existence of potential problems in the power system capacity of one of the States could be determined, which could be corrected opportunely. Technical information obtained made possible to carry out a verification of the final configuration of the power system in each node before the power distribution boards purchased to SEEE were sent to the sites.

1.7.2 Based in the information provided by the States, it has been noted that, in general, there are no problems, in general, with the uninterrupted power system. The summary of the compiled information is summarized in Table No. 5 of Appendix A of this paper.

1.7.3 Considering information of Table No 5 in Appendix A, it can be noticed that answers have not yet been received from Brazil nor Venezuela. According to information compiled during the site survey, Venezuela did not count with an uninterrupted power source to feed the REDDIG node, this situation was treated with the contractor during the Second DRM, a note was sent from the Office to the Administration of Venezuela with a proposal from the contractor to supply the power system, which was not accepted by the CAA. Regarding the Guyana and Suriname UPS, their provision is in charge of the contractor. France has informed that this country is presently in process of buying a new UPS, and that it would rent an UPS to feed the REDDIG node while the purchase process and new power system is installed; Uruguay has not yet provided information regarding to what extent their UPS is loaded.

1.8 Custom clearance of IDU equipment and power distribution boards and installation:

1.8.1 On 30 September 2002, final documentation of the shipment of the indoor equipment and power distribution board was distributed. Follow up of custom clearance of this equipment in each country was given special attention, through communications with the local UNDP offices as well as with the project counterparts, since, if some delay was encountered in this process, the installation and commissioning plan agreed with the contract would suffer modifications that would delay the startup of the network.

1.8.2 The power distribution boards have already been delivered to the CAAs, with the exception of Brazil, Colombia and Ecuador. Most of these boards are in process of installation. No information has been received from Suriname.

1.8.3 The indoor equipment (IDU) of Argentina, Bolivia, Chile, Guyana, Uruguay and Venezuela has already been delivered to the installation sites. The contractor has initiated the IDU equipment installation of Argentina and Uruguay.

1.8.4 Tables No. 01 and 02 of Appendix A present information on the situation of the IDU equipment and the PDB.

1.9 Installation of the power distribution board:

1.9.1 Documents corresponding to the power consumption tables and manuals for the installation of the power distribution boards were revised before that power distribution boards were shipped. During this revision process a problem in the consumption calculations was identified, which was solved in coordination with the contractor.

1.9.2 Being the power distribution boards installation a responsibility of the CAA and not of the contractor, the Project Office prepared an orientation document for the installation of the boards. ICAO forwarded on 10 October 2002 the instructions for the installation of the power distribution boards to the civil aviation authorities of the States, considering specific particularities of each one. Copy of these documents was distributed by electronic mail to the counterparts. Table No. 2, contained in Appendix A of this working paper, shows the present situation of the installation of the power distribution boards (PDB).

1.10 Digital voice interfaces and REDDIG backup circuits network:

1.10.1 In order to accelerate the installation process and startup of the REDDIG, technical details regarding the interfaces of their equipment was requested to the Administration of Colombia, Ecuador and Brazil. With respect to this request, only Ecuador provided the corresponding information. Colombia only supplied partial information and Brazil informed of a difficulty related to the implementation of the digital interfaces of the Manaus node.

1.10.2 The existence of a critical problem was detected in Manaus, regarding with the lack of E1 digital interfaces, according to was agreed during the site survey. In order to find a quick solution to the problem, a technical mission was carried out to Brazil, with the purpose of studying an alternative

solution to the problem. During the mission, one solution in charge of the Administration and other solution in charge of the contractor were presented to the Administration of Brazil. After studying both options, the Brazilian Administration selected and approved the solution in charge of the contractor of the REDDIG. Presently, the Procurement Office in ICAO Montreal is processing the additional purchase for Brazil.

1.10.3 Other item that was studied with France during the first quarter of the present year refers to expansion of its optic fibre network to extend the user circuits to the site of installation of the REDDIG node. According the information provided by France, the expansion of the network is presently being processed. However, due to the proximity of the installation of the Cayenne node, the dates of this expansion need to be updated and coordinated with precision, and/or establish the contingency plan through the utilization of the available copper lines while the installation of the optic fibre system amplification is finished, in order to achieve an adequate synchronization with the Project Plan.

1.10.4 Table No. 6 of Appendix A presents information regarding the digital circuits of the backup network of the REDDIG. In this table it can be appreciated that the backup circuit of Manaus has been changed to a PRI interface, which will be provided by the contractor through an optional package that is being purchased by Brazil. Also, it is important to note that many of the circuits considered as Leased Line need to be confirmed and coordinated with the Project Office and the contractor.

1.11 Negotiation of the contract with PanamSat for the rental of the satellite segment:

1.11.1 The segment is available since 1 October 2002, and, if the contract is not extended, rental services will conclude on 30 September 2003:

1.11.2 If the contract is amended with an extension of 5 years, the following conditions could be obtained:

- a) Segment activation date 1 October 2002.
- b) The whole 2003 would be paid, since the months from October to December 2003 would not be charged (this would be the facility offered by PanamSat).
- c) An amount of US\$231,264.00 would be paid each year starting 2004, with the exception that in 2008 the service would be paid until 30 September, and the amount would be of US\$ 173,448.00.

1.11.3 Likewise. PanamSat has offered similar conditions for an extension of the contract to 10 years, in which case the annual cost of the segment would be US\$ 210,240, and the last year the payment to be done would be US\$ 157,680.

1.12 Plan of Installation, commissioning, training, PSAT and NAT:

1.12.1 During the second half of October 2002, the Project office met with the contractor SEEE in Lima, with the purpose of reviewing the state of implementation of the project and of studying the new project plan, having as basis the custom clearance process of the equipment in the nodes, and the requirements of the States regarding to the theoretical/practical training. As a result of this meeting, a more realistic plan could be established for the installation; commissioning, training PSAT acceptance tests and NAT could be established.

1.12.2 The new plan, version V5, which was presented by SEEE for the installation, commissioning, training, acceptance tests and transference of services, takes into consideration the aspects studied with the Project Office, and establishes as startup date of the REDDIG 1 April 2003. V5 of the plan presented by SEEE for the implementation of the REDDIG was adopted by ICAO and distributed to the CAAs on 24 October 2002. An electronic copy of this document was forwarded to the counterpart. Also, a copy of the recommendations documents regarding the IDU installation was sent by email.

1.12.3 The list of the team that would be in charge of the installation and commissioning of the nodes was sent to the counterparts. Likewise, wherever necessary, invitation letters from the States were coordinated in order that the contractor could take care of the visa arrangements of its personnel.

1.13 Training courses:

1.13.1 The documentation situation for the training courses is the following:

- a) The contractor sent to ICAO in the month of May the course documentation for revision;
- b) ICAO, after studying the document, requested the contractor a series of corrections to the document;
- c) The contractor has forwarded ICAO the modified version of the document of the training course;
- d) ICAO has given follow up to the States on their participation in the training courses to be offered by the contractor in Brazil and Colombia, as well as in the leveling course offered by Colombia. ICAO has suggested to the States to make their best effort so that their technical personnel in charge of the operation and maintenance of the REDDIG nodes could participate in the leveling course offered by Colombia.

1.13.2 Regarding the information requested to the States with respect the training courses; Brazil, Colombia and Suriname have not yet sent their postulations to the REDDIG training. Table No. 4 of Appendix A presents the situation of training follow up carried out.

1.13.3 A letter informing the States about the new dates of the training courses has been sent by the ICAO Regional Office. This information is as follows:

- a) Leveling course offered by Colombia, in Spanish language, from 6 to 10 January 2003, in Bogotá, Colombia;
- b) Course offered by the contractor, in Spanish language, from 13 to 24 January 2003, in Bogotá, Colombia;
- c) Course offered by the contractor, in English language, from 27 January to 7 February 2003, in Recife, Brazil.

1.14 **WEB Page of project RLA/98/019:**

1.14.1 The web page of the project is presently under construction, and to date it is available in the ICAO Lima Regional Office site. The information that will be available would be the following:

- a) Introduction page;
- b) Tutorial of the network operation;
- c) Contract and amendments;
- d) Project plan revisions;
- e) Follow-up tables of the project;
- f) Nodes documentation;
- g) Technical documentation of the equipment, and
- h) Other documents related with the project, and discussion forum.

2. **Suggested action:**

2.1 The meeting is invited to acknowledge the information herein presented, to update the information of the tables included in this working paper, and to study the extension of the contract of the satellite segment.

Table No. 01 : IDU Equipment State of Progress

State	Node	Shipment in Customs	Custom Clearance Process		Delivery		Installation	
			in process	ready	notified	ready	in process	ready
Argentina	SAEZ	x	x	x	x	X	x	
Bolivia	SLLP	x	x	x	x	X		
Brazil (2)	SBCT	x	x					
Brazil (2)	SBMN	x	x					
Brazil (2)	SBRF	x	x					
Chile	SCEL	x	x	x	x	x		
Colombia	SKED	x	x					
Ecuador (1)	SEGU	x	x					
France	SOCA	x	x					
Guyana	SYGC	x	x	x	x	x		
Paraguay	SGAS	x	x	x	x			
Peru	SPIM	x	x					
Suriname	SMPM	X	x					
Uruguay	SUMU	X	x	x	x	x	x	
Venezuela	SVMI	X	x	x	x	x		

Notes

- (1) UNDP Ecuador has informed that the shipment will be available on 7 November 2002.
- (2) UNDP Brazil has informed that the shipment will be cleared by customs on 8 November 2002, with the exception of a box for Manaus, date still to be confirmed.

Table No. 02: Power Distribution Board State of Progress

State	Node	Shipment in Customs	Process of Customs Clearance		Delivery		Installation	
			in process	ready	notified	ready	in process	ready
Argentina	SAEZ	x	x	x	x	x	x	x
Bolivia	SLLP	x	x	x	x	x	x	
Brazil (2)	SBCT	x	x					
Brazil (2)	SBMN	x	x					
Brazil (2)	SBRF	x	x					
Chile	SCEL	x	x	x	x	x	x	
Colombia	SKED	x	x					
Ecuador (1)	SEGU	x	x					
France	SOCA	x	x	x	x	x		
Guyana	SYGC	x	x	x	x	x	x	
Paraguay	SGAS	x	x	x	x	x		
Peru	SPIM	x	x	x	x	x	x	
Suriname	SMPM	x	x					
Uruguay	SUMU	x	x	x	x	x	x	
Venezuela	SVMI	x	x	x	x	x		

Notes

- (1) UNDP Ecuador has informed that the shipment will be available on 7 November 2002.
(2) UNDP Brazil has informed that the shipment will be cleared by customs on 8 November 2002, with the exception of a box for Manaus, date still to be confirmed.

Table No. 03: Licences Situation

STATE	NODES	LICENCE FORM PRESENTED TO THE PROJECT OFFICE		LICENCE FORM PRESENTED TO THE STATE ORGANISM IN CHARGE FOR APPROVAL		ADDITIONAL INFORMATION REQUESTED TO THE PROJECT OFFICE		LICENCE FORM PRESENTED TO THE STATE ORGANISM IN CHARGE FOR APPROVAL		COPY OF THE LICENCE SENT THO THE PROJECT OFFICE
		REC.	ANSW	REC	ANSW	REC	ANSW	REC	ANSW	
Argentina	SAEZ	X	X	X	PENDING	X	X			
Bolivia	SLLP	X	X	X	PENDING	X	X			
Brazil	SBMN	X	X	X						
Brazil	SBRF	X	X	X						
Brazil	SBCT	X	X	X						
Chile	SCEL	X	X	X	X	NA	NA	NA	NA	X
Colombia	SKED	X	X	X						
Ecuador	SEGU	X	X	X	PENDING	X	X	X		
France	SOCA	X (2)	X							
Guyana	SYGC	X	X	X	X	X (1)	X (1)	NA	NA	X (1)
Paraguay	SGAS			X	PENDING	X	X			
Peru	SPIM	X	X	X						
Suriname	SMPM									
Uruguay	SUMU	X	X	X	APPROVED	NA	NA	NA	NA	X
Venezuela	SVMI	X	X	X	PENDING	X	X	X		

Notes:

- (1) Licence update
- (2) France is coordinating directly with SEEE

Table No. 04: Information for States participation in the training courses

Country	Node	Participants Leveling Course Bogota - Colombia	Participants ANSW Bogota-Colombia	Participants ANSW Recife-Brazil	ICAO Form for Fellowship Nomination	Medical Examination
Argentina	SAEZ	No	Javier Schenk Marcelo Torres		Ok Ok	Ok Ok
Bolivia	SLLP	No	Hugo Balderrama Hernan Tito		Ok Ok	Ok Ok
Brazil	SBMN	Pending		Pending (1) Pending (1)		
Brazil	SBRF	Pending		Pending (1) Pending (1)		
Brazil	SBCT	Pending		Pending (1) Pending (1)		
Chile	SCEL	No	Eduardo Demanet Christian Vergara		Ok Ok	Ok Ok
Colombia	SKED		Pendiente (1) Pendiente (1)			
Ecuador (3)	SEGU	Pending	Raul Avellan Nancy Tapia		Pending Pending	
Guyana	SYGC	No		Sukhdeo Hardat Harnaraine V.Dass	Ok Ok	Ok Ok
French Guyana	SOCA	No		Armando Rodrigues Lionnel Breton	Pending Pending	
Paraguay	SGAS	Rufino Brizuela (2) Alcides Rabito (2)	Rufino Brizuela Alcides Rabito		Pending Pending	
Peru	SPIM	No	José Luis Paredes Mario Kuan	Javier Salazar	Ok Ok Financed by CAA	Ok Ok
Surinam	SMPM	Pending		Pending Pending	Pending Pending	
Uruguay	SUMU	Miguel Vera Wilson Pelayo	Miguel Vera Wilson Pelayo		Ok Ok	Ok Ok
Venezuela	SVMI	Nelson Correa Luis Escobar	Nelson Correa Luis Escobar		Pending Pending	

Notes:

- (1) Sponsoring countries should forward list of candidates and CVs to the Project Office.
- (2) Should make official their participation forwarding ICAO Regional Office a letter from their Administrations.
- (3) Ecuador has requested to participate in the leveling course in Colombia, nomination of participants is still pending.

Table No 05: State of non-interrupted power system in the REDDIG nodes

STATE	NODE	BRAND/MODEL	Output power (KVA)			Configuration Output	Output Lines	Output Voltage L-N (VAC)	Output Voltage L-L (VAC)	Output Frequency (Hz)	Backup protection time (minutes)
			MAX (KVA)	Load %	PF						
Argentina	SAEZ	BEST FERRUPS FD Series	7	50	0.80	Monofásico	L1-N	220V		50	10
Bolivia	SLLP	SOLID STATE SE 3010 NC	10	30	0.80	Monofásico	L1-N	220V		50	20
Brazil	SBMN	TBD (2)									
Brazil	SBCT	TBD (2)									
Brazil	SBRF	TBD (2)									
Colombia	SKED	MITSUBISHI 9100	100	70	0.90	Trifásico Star	L1-L2-L3	120	210	60	20
Chile	SCEL	ONDINE EDP70	30	30	0.98	Trifásico Star	L1-L2-L3-N	220	380	50	60
Ecuador	SEGU	POWERWARE 9150	8	25	0.95	Bifásico	L1-N-L2	120	208	60	10
Francia	SOCA	TBD (1)				Monofásico	L1-N	230		50	10
Guyana	SYGC	POWERWARE 9170 (2)									
Paraguay	SGAS	POWERWARE PRESTIGE 6000	6			Monofásico	L1-N	220		50/60	05
Peru	SPIM	LIEBERT AP362	65	43	0.80	Trifásico Star	L1-L2-L3	126	220V	60	60
Suriname	SMPM	POWERWARE 9170 (2)									
Uruguay	SUMU	SIEMENS MASTERGUARD S5260	48	TBD	0.80	Trifásico Star	L1-L2-L3-N	220	380V	50	15
Venezuela	SVMI	TBD (2)									

Notes:

- (1) France has informed that will rent an UPS to feed the REDDIG node while the installation of the UPS being purchased is finished.
- (2) Pending information.
- (3) UPS provided by SEEE.

Table No. 6 : Digital circuits of the backup network

STATE	NODE	ISDN	DIGITAL LEASED LINE
Argentina	SAEZ	BRI	
Bolivia	SLLP	NO	SLLP-SAEZ (1)
Brazil	SBCT	BRI	
Brazil	SBMN	PRI	
Brazil	SBRF	BRI	
Chile	SCEL	NO	SCEL-SAEZ (1)
Colombia	SKED	BRI	
Ecuador	SEGU	NO	SEGU-SKED (1)
France	SOCA	BRI	
Guyana	SYGC	NO	SYGC-SMPM (1)
Paraguay	SGAS	NO	SGAS-SAEZ (1)
Peru	SPIM	BRI	
Suriname	SMPM	NO	
Uruguay	SUMU	BRI	
Venezuela	SVMI	NO	TBD (1)

Note:

(1)The States should confirm circuits

SCEL – Santiago, Chile



SKED – Bogotá, Colombia



SEGU – Guayaquil, Ecuador



SYGC – Georgetown, Guyana



SOCA – Cayena, Guyana Francesa



SGAS – Asunción, Paraguay



SMPM – Paramaribo, Surinam



SPIM – Lima, Peru



SUMU – Montevideo, Uruguay



SVMI – Maiquetía, Venezuela



SCEL – Santiago, Chile



SKED – Bogotá, Colombia



SEGU – Guayaquil, Ecuador



SYGC – Georgetown, Guyana



SOCA – Cayena, Guyana Francesa



SGAS – Asunción, Paraguay



SMPM – Paramaribo, Surinam



SPIM – Lima, Peru



SUMU – Montevideo, Uruguay



SVMI – Maiquetía, Venezuela

