

INTERNATIONAL CIVIL AVIATION ORGANIZATION
South American Regional Office

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

FIFTH MEETING OF THE COORDINATION COMMITTEE

(Lima, Peru, 26 - 28 May 2003)

Agenda item 4: **Report of future activities**

REVISION OF THE PROGRAMME OF ACTIVITIES FOR
PROJECT RLA/98/019 FOR YEAR 2003

(Paper presented by the Secretariat)

Summary

In this working paper a summary of future activities of regional project RLA/98/019, Implementation of the South American Digital Network REDDIG is being presented.

1. **Introduction**

1.1 The following is the programme of future activities of regional project RLA/98/019 for the implementation and start-up of the South American Digital Network REDDIG.

2. **Future activities of the project**

2.1. With regard to the future activities of the project, the programme of pending activities with the contractor, basically consisting of the finalization of the NAT and the transference of services, is being presented in **Appendix A** of this working paper.

2.1.1 The NAT tests comprise the activities of verification of solutions given to the problems identified during the PSAT, as well as the stability test of the network.

2.1.2 The first part of the NAT requires that the contractor as well as the CAAs have completed the activities foreseen in the PSAT. However, when initiating the NAT it has been noticed that not all the CAAs have completed and verified on time their systems that need to be connected to the REDDIG. Therefore, this first stage could take more time than planned in the programme of activities. The plan of implementation of the NAT tests is being shown in **Appendix B** to this working paper.

Nodes final acceptance tests (NAT)

2.1.3 The tests considered in the first stage of the NAT cover practically the transference of the services to the network (*cutover*), since all circuits of the oral network ATSa, ATSD and Administrative, radar information and AFTN would be verified. On the other hand, the WAAS circuits would be implemented later.

2.1.4 Likewise, it should be taken in consideration that under the present situation, the backup network would not be implemented.

2.1.5 The circuit of geographic redundancy would be implemented on time for verification and later utilization, thanks to the efforts developed by the Administrations of Argentina and Peru.

Backup network and geographic redundancy circuit

2.2 The transference of services (*cutover*), according to what has been explained before, would be related only to the operational proceeding to follow when using the network, and to connecting some few circuits that could not be connected to the REDDIG due to the lack of capacity in some CAA systems. It is being studied with the contractor to do a gradual migration to the services in two phases, the first one would comprise the AFTN traffic migration and Administrative voice traffic, and, later, the ATS voice traffic.

2.2.1 In the first state of the migration, it is being considered wherever possible to route the AFTN traffic in a simultaneous way (principal and alternate circuit), through the REDDIG circuits as well as through the links being presently used by the AFTN, declaring the REDDIG circuit as the principal circuit.

2.2.2 In the second stage of the transference of services, the tables of the switchboards should be programmed to course their principal traffic through the REDDIG, and, as first alternate route, consider the present existing links. In this regard, it is important to take into account that the numbering plans developed or the new network permit that both networks co-exist simultaneously, and the routing functions indicated could be easily implanted in the routing tables of the CAAs switchboards.

Programme of activities

2.3 The following are the principal activities of the project that would be carried out in the next months:

- Organization of the NCC
- Personnel preparation
- Assistance to and supervision of the network operation
- Preparation of the billing procedures
- Update of the REDDIG operation manuals
- Analysis of the updates and possible improvements of the network

Organization of the NCC

2.3.1 The organization of the NCC of SPIM has been initiated and coordinations are being carried out with the Administration of Peru for its implementation. It is expected to finalize the principal issue related to the organization and start-up of the SPIM NCC before the initiation of the network operation.

Personnel preparation

2.3.2 This task has been initiated and technical personnel of the SPIM node who will be in charge of providing assistance to the network from the NCC, in shifts of 24 hours, is being trained in-the-job. Likewise, on the basis of the training being provided, the subjects of the training courses in charge of the project that will be imparted to the technical personnel of the CAAs participating in the REDDIG project are being developed. The training will be oriented to the application of REDDIG operation and maintenance proceedings. This training programme, which practical training, would be imparted to a minimum of three groups of twelve trainees each. The training will be imparted in the Lima NCC, and the foreseen duration for each course would be of two weeks. Training provided should focus, besides from the above mentioned, practices and particular aspects of the local nodes of participant trainees and of the NCC. The tentative date for the initiation of this programme for the first group would be the first week of July 2003. The costs of this training, air tickets and perdiems, are not considered within the project budget, therefore, costs would be in charge of the States.

Assistance to and supervision of the network operation

2.3.3 The provision of assistance and supervision of the network would be a permanent activity to be carried out by the project. To date this activity has already been initiated.

Preparation of the billing procedures

2.3.4 This item would be studied by the project after the network operation has been started and in an estimated time of three months, the detailed billing mechanism will be presented to the REDDIG Coordination Committee, based on the information that would be provided by the REDDIG system.

Update of the REDDIG operation manuals

2.3.5 The update of the operation and maintenance manuals of the REDDIG would be a permanent activity in charge of the project and of the States. Updates would be submitted to an ad-hoc committee for consideration and adoption.

2.3.6 This is a permanent activity that is being developed by the project based on the feedback received from the CAAs and of technological development.

Basic knowledge for REDDIG operation

2.4 Other aspect to be considered by the CAAs is the one related to dissemination of REDDIG operation basic knowledge on their technical teams, which could be in charge of the personnel who participated in the contractor training courses. This action would facilitate the maintenance coordination between the nodes and the NCC, optimising in this way the network exploitation.

3. Suggested action

3.1 The meeting is invited to discuss the present working paper, to update tables included in **Appendix A**, and to complete pending tasks.

Appendix A

PENDING TASKS

LEYEND

PDB:	Power Distribution Board
UPS:	UPS
WIR:	Wiring & Grounding
HPA:	SSPA
MOD:	Modem
MPS/MUX:	FRAD/SWITCH
HUB:	Ethernet switch
BB:	Base Band switch
ANT:	Antenna
SWC:	RF Switch controller
(OK):	Ok
(NA):	Not Applicable

NOTES

- (1) Pending, in charge of the CAA
- (2) Pending, in charge of the contractor
- (3) Pending, in charge of the contractor and the CAA
- (4) Under observation, in charge of the contractor
- (5) Radar circuit pending, in charge of the contractor
- (6) MODEM dialup to be supplied by NMS computer (Compaq) of the NCC
- (7) Activate printing function, in charge of the contractor
- (8) Install management software of the MEMOTEC
- (9) Install GPS
- (10) Solve HDD problem in NMS computer
- (11) Coordination link between NSC in charge of the CAA
- (12) Verify and activate the geographic redundancy, in charge of the contractor
- (13) Failure of SSPA M&C module, repair in charge of the contractor
- (14) Correct frequency offset, in charge of the contractor
- (15) Drainage of antenna, in charge of the CAA
- (16) Equipment/Module to be replaced by the contractor
- (17) ATSD SBCT-SUMU (FXO-FXO) circuit requires reconfiguration for its implementation
- (18) CAA should synchronise voice switching ATS and ADM, and provide Wink ADM values
- (19) CAA should improve access to the REDDIG antenna
- (20) Cabling channelling to the rack, in charge of the contractor
- (21) Install LNB cable cutters, in charge of the contractor
- (22) Install Azimuth dial, in charge of the contractor
- (23) Alert Qsig signal – remote activation and duration correction, in charge of the contractor
- (24) Activate supervision timer for ports FXO, in charge of the contractor

TABLE No. 1: GENERAL PENDING TASKS AFTER PSAT IMPLEMENTATION

State	Node	CAA Equipment Configuration			Dial Plan		Voice Call Set-up	CAA Equip Config. AFTN	Backup Network	Disaster Recovery Network	GNSS Circuit	Geog. Redundancy & GPS	Satellite Link Margin Adjust.	M&C SSPA	Site Spare Kit	Cable Labels	Fuse Panel Retrofit	Site Documents Software And Licenses
		A T S A	A T S d	A D M	A T S a	A D M												
Argentina	SAEZ	1	1	1	2	2	2	1	1	1	3	3	2	2	2	2	2	2
Bolivia	SLLP	1	1	1	2	2	2	1	1	OK	3	NA	2	2	2	2	2	2
Brazil	SBMN	1	1	1	2	2	2	1	1	1	1	NA	2	2	2	2	2	2
	SBRF	1	NA	1	2	2	2	1	OK	OK	1	NA	2	2	2	2	2	2
	SBCT	1	1	1	2	2	2	1	1	1	3	NA	2	2	2	2	2	2
Chile	SCEL	1	1	1	2	2	2	1	1	1	3	NA	2	2	2	2	2	2
Colombia	SKED	OK	OK	1	2	2	2	1	OK	1	3	NA	2	2	2	2	2	2
Ecuador	SEGU	1	1	1	2	2	2	1	1	1	1	NA	2	2	2	2	2	2
Guyana	SYGC	OK	NA	OK	2	2	2	1	1	1	1	NA	2	2	2	2	2	2
French Guyana	SOCA	OK	NA	OK	2	2	2	1	OK	OK	1	NA	2	2	2	2	2	2
Paraguay	SGAS	1	1	1	2	2	2	1	1	1	1	NA	2	2	2	2	2	2
Peru	SPIM	1	1	1	2	2	2	1	OK	OK	3	3	2	2	2	2	2	2
Surinam	SMPM	1	NA	1	2	2	2	1	1	1	1	NA	2	2	2	2	2	2
Uruguay	SUMU	1	1	OK	2	2	2	1	1	1	1	NA	2	2	2	2	2	2
Venezuela	SVMI	1	1	1	2	2	2	1	1	1	1	NA	2	2	2	2	2	2

TABLE No. 2: PARTICULAR PENDING TASKS AFTER PSAT IMPLEMENTATION

State	Node	Power System			VSAT System				Switching and Multiplexing System			Local NMS	NCC		
		PDB	WIR	UPS	ANT	SWC	HPA	MOD	MPS/MUX	HUB	BB		NCC	NMS	GPS
Argentina	SAEZ	OK	OK	OK	OK	OK	OK	OK	5	OK	OK	OK	7, 11, 12	6, 8,10	9
Bolivia	SLLP	OK	OK	OK	21	OK	OK	14	OK	OK	OK	OK	NA	NA	NA
Brazil	SBMN	OK	OK	OK	15	OK	13	OK	OK	OK	OK	OK	NA	NA	NA
	SBRF	OK	OK	OK	OK	OK	OK	16	OK	OK	OK	4	NA	NA	NA
	SBCT	OK	OK	OK	OK	OK	13	14	17	OK	OK	OK	NA	NA	NA
Chile	SCEL	OK	OK	OK	OK	OK	OK	16	OK	OK	OK	OK	NA	NA	NA
Colombia	SKED	1	OK	OK	OK	OK	OK	OK	18	OK	OK	OK	NA	NA	NA
Ecuador	SEGU	OK	OK	OK	19	OK	OK	OK	OK	OK	OK	OK	NA	NA	NA
Guyana	SYGC	OK	OK	16	OK	OK	13	OK	OK	OK	OK	OK	NA	NA	NA
French Guyana	SOCA	OK	OK	OK	OK	OK	OK	14	OK	OK	OK	OK	NA	NA	NA
Paraguay	SGAS	OK	20	OK	19, 21,22	4	OK	OK	4	OK	OK	4	NA	NA	NA
Peru	SPIM	OK	OK	OK	OK	OK	OK	OK	23	OK	OK	OK	7, 11, 12	6, 8	OK
Surinam	SMPM	OK	1	16	OK	OK	OK	OK	OK	OK	OK	OK	NA	NA	NA
Uruguay	SUMU	OK	OK	OK	OK	OK	OK	OK	17	OK	OK	OK	NA	NA	NA
Venezuela	SVMI	1	1	1	OK	OK	OK	OK	24	OK	OK	OK	NA	NA	NA

Appendix B

NAT TESTS IMPLEMENTATION PLAN

REDDIG

REDDIG ICAO Project Plan NAT 1141440 V1_1

ICAO - SEEE

