

United Nations Development Programme

Project Revision

Country: Regional for Latin America
 Project: RLA/98/003/F/01/15
 Title: Transition to the CNS/ATM Systems in the CAR and SAM Regions

05-Dec-01

Executing Agency: ICAO

Project Date: 19/12/1998 to 31/12/2004

Disbursements date: 1998 to 2004

UNDP Funding
 Source: CIP

AOS Funding
 Source: CIP Sub-line

UNDP and Cost Sharing - Financed			
	Actual Rev: F	Previous Rev.: E	Variation
A) UNDP principal	0		0
B) Cost Sharing	2,129,316	1,951,862	177,454
C) Total A + B	2,129,316	1,951,862	177,454
D) AOS/Admin. Costs	276,804	253,748	23,056
C/S TOTAL B + D	2,406,120	2,205,610	200,510

Brief description/
 objective:

- A) Reflect the estimated expenditures for 2001.
 B) Transfer to the next years the amounts not expended updating the costs.
 C) Extend the duration of the project until 2004 including the new activities agreed by the Coordination Committee, in accordance with the enclosed justification.
 D) Amend the post title 11.57 to say "CNS/ATM Institutional Issues".
 E) Incorporate the participation of Bolivia and Venezuela and leave pending Uruguay's participation.
 F) Update the payment schedule.

 Approved on behalf of the Executing Agency

 Date

 Approved on behalf of UNDP

 Date

REVISION JUSTIFICATION

Country: Regional for the Americas
Project number: RLA/98/003/F
Title: Transition to the CNS/ATM Systems in the CAR and SAM Regions

A. General project development

Immediate objective N° 1

1. Study of the main air traffic flows

1.1 The Project Coordination Committee, in its first meeting carried out in March 1999 in Mexico City, agreed that within the context of Immediate Objective N° 1, the project could validate the evolution of the air traffic management (ATM) in the CAR and SAM regions and the communications, navigation and surveillance (CNS) requirements for each one of the 18 main air traffic flows identified in the CAR/SAM Regional Plan for the Implementation of the CNS/ATM Systems.

1.2 In order to determine the requirements for each air traffic flow, the project consultants would use the CNS/ATM planning methodology elaborated by an ICAO special implementation project and, furthermore, would study each flow as a business case according to the guidelines of the same methodology.

1.3 The study of the main air traffic flows of the CAR and SAM regions was divided into four phases, the first three to carry out the systematic evaluation of the flows and the last one to consolidate the resulting requirements. It was estimated that the study would demand approximately three years, performed by the CNS, ATM and Air Transport Economics consultants of the project, with the collaboration of a similar team of counterpart specialists of each country involved whose preparation for that purpose would be through two seminars organized by the project.

2. Long range air navigation routes

2.1 As a result of the first phase of the study, which consisted in the evaluation of three main air traffic flows, it was demonstrated that significant immediate benefits could be obtained through the implementation of required navigation performance and area navigation routes (RNP/RNAV) in the air traffic flows under study and that the annual savings associated to the introduction of such routes would be US\$9.8 millions.

2.2 In the light of the above, the Coordination Committee agreed in its second meeting (Rio de Janeiro, 30 Nov-1 Dec 1999) that the project should promote the design and implementation of pre-operational trials and demonstrations for the introduction of RNP/RNAV routes in the CAR and SAM regions. This activity would be coordinated with States involved through a meeting/workshop of air traffic management authorities and planners.

2.3 The third meeting of the Coordination Committee (Miami, 28 Nov 2000) noted that pre-operational trials and demonstrations of RNAV routes and other CNS/ATM components would be made

between December 2000 and March 2001 and would be opened for commercial aviation, general aviation and Government aircraft, establishing the relevant requirements, including training of personnel involved.

3. Action plans and business cases

3.1 Upon conclusion of the evaluation of the 18 main air traffic flows of the CAR and SAM regions, the project specialists have prepared the development of the following phase of the study, intended to establish action plans and business cases that conduct to determine the requirements for the implementation of the new CNS/ATM systems at regional and national levels.

3.2 The main steps consist in the development of air traffic flows profiles identifying future demands based on peak days and hours, also including the identification of shortcomings and deficiencies in the provision of air navigation facilities and services, with the purpose of establishing the objectives of the transition to the new systems, developing strategies and identifying ways and means to reach them.

3.3 States will be requested to provide their CNS/ATM national implementation plans with the objective of integrating their facilities requirements and achieving a regional system that satisfies the needs of the users of the main air traffic flows studied. A program of missions to States by project consultants will allow the accomplishment of the corresponding coordinations and the transference of experience in this respect.

4. Cost benefit analysis and institutional issues

4.1 Pre-operational trials and demonstrations of RNAV routes being carried out in the CAR and SAM regions sponsored by the project enable the gradual introduction of CNS/ATM elements and the use of avionics already installed in aircraft. As a result of these trials, users have obtained substantial flying time and fuel savings.

4.2 The project has become a powerful tool for the provision of assistance to States and organizations involved, as the benefits obtained during the RNAV trials implementation program of have overcome all the expectations. In this respect, during the Tenth meeting of the CAR/SAM air navigation planning and implementation regional group (GREPECAS), IATA presented information related to the benefits obtained by users, both in the economical aspect as well as, even more important, in the air operations safety aspects.

4.3 Based on the above referred achievements and considering the gradual implementation of the systems, the project is ready to perform a cost-benefit relationship analysis of the implementation of the new systems, as well as to study the institutional issues concerned, taking due account of the regional scope of several facilities and services involved.

5. Reduced vertical separation minima

5.1 When reviewing all RNAV/RNP routes implementation aspects, GREPECAS considered that it would be highly positive to count with project's support to carry out the reduced vertical separation minima (RVSM) implementation plan among aircraft flying in the main air traffic flows of the CAR and SAM regions. This activity would permit increasing even more the users savings in flying time and fuel.

6. Required navigation performance RNP 10 trials

6.1 GREPECAS also considered the convenience of starting RNP trials and demonstrations in the airspace extended from Santiago de Chile to Miami along route UT 780 and its parallel route. To this effect, it counts with an action plan, which implementation requires the project support.

Immediate objective N° 2

7. The positive results that accomplished with current studies being implemented under immediate objective N° 1 are essential to successfully undertake the activities foreseen under Immediate objective N° 2, which implementation demands the extension of project's duration for an additional year, until the end of 2003. This extension will, likewise, enable to consider the results of the institutional issues study related to the implementation of the new systems.

Immediate objective N° 3

8. The activities developed have positively assisted States in updating of their knowledge and acquiring major experience for the implementation of the world geodetic system M84 WGS-84 and to the proper preparation and dissemination of the aeronautical information.

Immediate objective N° 4

9. In view of the time elapsed since the project was planned, more than four years ago, the information and communications systems have kept in constant development and the market offers different alternatives and solutions that civil aviation administrations have been adopting to satisfy their own needs. For this reason, it is considered that the requirement of project assistance to States in this area has been overcome. The inputs foreseen are being transferred to Immediate objective N° 1 to confront the increment of its activities.

B. Updating of the activities foreseen

10. In accordance with the above paragraphs, Part D. of the project document is amended, introducing the changes exposed in the corresponding pages, as shown hereafter.

11. The project budget is reviewed and updated with the 2001 estimated expenditures and with the extension of the activities until 2004.

D. IMMEDIATE OBJECTIVES, OUTPUTS AND ACTIVITIES

Immediate Objective N° 1

Advise States in the planning of the transition to the CNS/ATM systems and in the definition of the most convenient implementation options, according to the implementation schedule agreed for the CAR and SAM regions, including the specifications of the required systems and the analysis of the cost/benefit relationship of each option.

Outputs	Activities	Party responsible for each activity
1.1 Survey on the present status of the ATS/COM facilities and services available at each State, status of aircraft fleets operating in those States and definition of their international and domestic requirements.	1.1.1 Prepare a questionnaire on the following ATS/COM facilities and services available at present: <ul style="list-style-type: none"> a. Competent authority and its organization. b. Network of air routes c. Tables of aircraft operations d. Status of operating aircraft fleets e. Air space organization f. Air traffic services <ul style="list-style-type: none"> - Flight information services - Area control centres - Approach control centers - Primary radar systems - Secondary radar systems g. Air navigation and landing aids <ul style="list-style-type: none"> - VOR, DME, NDB, ILS h. Human resources i. Other facilities and services j. Identification of special international and domestic ATM requirements 	ICAO, ROs,
	1.1.2 Distribute the questionnaire among participant States.	ICAO, ROs,
	1.1.3 Prepare and dispatch responses to ICAO.	DCAs,
	1.1.4 Analyze and process responses received.	ICAO, ROs, CNS, ATM
1.2 Officers responsible for the transition trained in the strategy of planning the change	1.2.1 Specify and procure the portable informatics equipment, software and supplies necessary for the preparation of training material and presentations.	ICAO, RO Lima, TCB/Procurement

to the new systems.

1.2.2 Prepare the information and guidance material necessary for the air traffic forecasting with an appropriate target to plan the implementation of the CNS/ATM systems. ICAO, ATE

1.2.3 Prepare a programme of seminars for the concerned personnel of the civil aviation administrations on the following subjects: ICAO, ROs, ATE, CNS, ATM

- a. Air traffic forecasting
- b. Dissemination of the CNS/ATM concept and results of the survey on the present situation of ATS/COM facilities and services available at each State
- c. Implementation options, their characteristics and cost-benefit relationship of each of them
- d. Transition planning strategy
- e. Preparation of the action plan for the implementation of the new systems
- f. Reduced vertical separation minima
- g. ACC automation
- h. Required navigation performance 10
- i. Human resources and training
- j. Other concerned aspects.

1.2.4 Nominate candidates for the seminars and award fellowships. DCAs/ICAO Fellowships

1.2.5 Carry out the seminars and evaluate their results. ICAO, CNS, ATM

1.3 Regional action plan for the implementation of the CNS/ATM systems.

1.3.1 Prepare an action plan for the CNS/ATM systems implementation in the Region, in accordance with the guidelines emanating from the GREPECAS, including: ICAO, CNS, ATM

- a. Study of the 18 main air traffic flows identified in the Regional Plan.
- b. Pre-operational RNP/RNAV routes trials and demonstrations.
- c. Implementation of the reduced vertical separation minima and required navigation performance.

	d. Study and test of other systems elements.	
	1.3.2 Prepare descriptions of the different CNS/ATM systems implementation options.	ICAO, CNS, ATM
	1.3.3 Prepare the necessary information to establish the cost-benefit relationship in the implementation of the new systems.	ICAO, ATE, CNS, ATM
	1.3.4 Develop guidelines for the preparation of technical specifications of the required systems and equipment for the different implementation options.	ICAO, CNS, ATM
	1.3.5 Establish implementation plans at the sub-regional level as necessary.	ICAO, CNS, ATM
	1.3.6 Disseminate the regional action plan among participant States.	ICAO, ROs
1.4 National air navigation plans updated including the transition to the CNS/ATM systems.	1.4.1 Prepare a programme of missions to States requiring advise for the establishment of transition plans to the CNS/ATM systems, including: <ul style="list-style-type: none"> a. Establishment of the national committee for the planning and implementation of the CNS/ATM systems b. Adoption of an action plan c. Air traffic forecasting d. Review of the commitments taken upon for the provision of the facilities and services described in the regional plan e. The status of the facilities and services exclusively or partially used for domestic aviation f. Consideration and definition of the applicable implementation options g. The transition requirements h. Human resources and training programmes required i. The technical specifications of the systems and equipment required j. The cost/benefit relationship k. Other related matters l. Updating of the national air navigation plan 	ICAO, CNS, ATM, ATE

m. Technical advice requirements to implement the transition.

- | | | |
|-------|---|---------------------|
| 1.4.2 | Notify States on the availability of the programme of missions and on financing arrangements that are necessary to implement it, requesting their agreement and approval. | ICAO, ROs |
| 1.4.3 | Prepare responses and dispatch them to ICAO. | DCAs |
| 1.4.4 | Analyze and process responses received. | ICAO, CNS, ATM, ATE |
| 1.4.5 | Implement the programme of missions in accordance with the States' requirements and the agreed financing arrangements. | ICAO, CNS, ATM, ATE |
| 1.4.6 | Prepare a report by each State on the results of the missions, recommending follow-up actions as necessary. | ICAO, CNS, ATM, ATE |
| 1.4.7 | Transmit the mission reports to concerned States. | ICAO, ROs |
| 1.4.8 | Based on the reports recommendations, prepare and officially adopt a detailed national air navigation plan including the CNS/ATM requirements, and transmit it to ICAO. | DCAs |
| 1.4.9 | Consider and include the officially adopted national plans in the regional planning process. | ICAO, ROs |

Immediate objective N° 2

Advise States in the implementation of national plans for the transition to the CNS/ATM systems, including the requirements for human and financial resources and the applicable training programmes.

Outputs	Activities	Party responsible for each activity
2.1 Technical advice for the preparation and implementation of a national action plan for the transition to the CNS/ATM systems provided to interested States.	2.1.1 Determine the level of assistance required by each State interested in receiving direct technical advice.	ICAO, CNS, ATM
	2.1.2 Determine the costs involved and the most appropriate modality to implement the assistance required by each State.	ICAO, TCB
	2.1.3 Notify interested States the details of the assistance planned for them and the financing arrangements to cover its costs, requesting their agreement and approval.	ICAO, ROs
	2.1.4 Consider the proposed arrangements for assistance and reply to ICAO.	DCAs
	2.1.5 Prepare and conduct the technical advice missions to interested States under the modality agreed.	ICAO, CNS, ATM
	2.1.6 Prepare reports on the assistance provided to each State with pertinent conclusions and recommendations.	ICAO, CNS, ATM
	2.1.7 Analyze the reports and submit them to the consideration of the concerned authorities.	ICAO, ROs
	2.1.8 Evaluate the results of the missions and determine the need for additional advice to follow-up the recommendations.	DCAs
2.2 Guidance provided to concerned government officers to confront the institutional, administrative and financial aspects related to the transition.	2.2.1 Prepare information and reference material on the institutional aspects related to the transition to the CNS/ATM systems.	ICAO, IAC
	2.2.2 Prepare information and reference material related to the administrative and financial aspects of the transition.	ICAO, IAC, ATE

	2.2.3 Prepare seminars to divulge information on the institutional, administrative and financial aspects to concerned personnel of each interested State.	ICAO, IAC, ATE
	2.2.4 Notify interested States on the details of the seminars and the arrangements of logistic and financial nature to conduct them.	ICAO, ROs
	2.2.5 Approve the implementation of the proposed seminars and the arrangements for their financing.	DCAs
	2.2.6 Conduct the seminars at each interested State and evaluate their results.	ICAO, IAC, ATE
2.3 Guidance provided to CATCs to establish the training programmes in demand due to the change of technology.	2.3.1 Collect, analyze and process information on human resources and training programmes on CNS/ATM subjects required by each State.	ICAO, CNS, ATM
	2.3.2 Consider the possibilities of preparing courses through the adherence of the concerned CATCs to the ICAO TRAINAIR Programme.	DCAs/ICAO, TRAINAIR
	2.3.3 Recommend CATCs the development of appropriate courses in demand as required.	ICAO, CNS, ATM
	2.3.4 Consider the recommendations and arrange their implementation.	DCAs

Immediate Objective N° 3

Assist States in the implementation of the world geodetic system 1984 (WGS-84) and in improving their aeronautical information services.

Outputs	Activities	Party responsible for each activity
3.1 World geodetic system 1984 implemented in at least five States of the Region.	3.1.1 Advise States in the timely and effective implementation of the world geodetic system 1984 (WGS-84), including: <ul style="list-style-type: none">a. The assignment of the officers responsible for the implementation of the system by the aeronautical partyb. The role and responsibilities concerned to the aeronautical partyc. The required coordination among the cartographic and aeronautical authoritiesd. The establishment of a WGS-84 implementation plane. The interpretation and application of the requirements contained in the reference documentsf. Other related aspects.	ICAO, WGS
	3.1.2 Advise States in the selection and determination of the technical specifications of the GPS geodetic devices, including: <ul style="list-style-type: none">a. Guidance for their practical utilizationb. The rules to set up horizontal and vertical geodetic control points with a high level of accuracyc. Training of personnel in establishing at least a control point at the main airportd. Establishment of control points at all airportse. Identification of difficulties encountered while implementing the system, suggesting and recommending remedial actions.	ICAO, WGS
	3.1.3 Advise States in the selection of appropriate informatics equipment and in the use of the most convenient software for the computerized processing of aeronautical data required and their conversion to the WGS-	

84 system.

	3.1.4 Advise States in determining the human resources, training programmes and inputs required for the efficient maintenance of the system.	ICAO, WGS
3.2 Training of some 80 AIS officers and improvement of the aeronautical information services in at least five States of the Region.	3.2.1 Evaluate the present situation of the aeronautical information services in participant States.	ICAO, AIS
	3.2.2 Prepare reports on findings and recommendations resulting from the evaluation to each State and transmit them to the ICAO Regional Office concerned.	ICAO, AIS
	3.2.3 Analyze the reports, as necessary, and transmit them to the concerned authorities of each State including the relevant comments.	ICAO, ROs
	3.2.4 Prepare seminars and/or workshops, as necessary, on the application of ICAO Annex 15 provisions and standardization of the integrated aeronautical information package, following the guidelines contained in ICAO Doc 8126.	ICAO, AIS
	3.2.5 Nominate candidates to the seminars and/or workshops and award fellowships.	DCAs/ ICAO, Fellowships
	3.2.6 Implement the seminars and/or workshops and evaluate their results.	ICAO, AIS
	3.2.7 Prepare technical advice missions to States interested in updating and improving their AIS, financed by their own.	ICAO, ROs, AIS
	3.2.8 Carry out the missions and prepare the respective reports.	ICAO, AIS
	3.2.9 Transmit the mission reports to concerned States.	ICAO, ROs

E. INPUTS

1. Participant Government's inputs

1.1 Personnel

1.1.1 Participant States will provide:

- a) The national counterpart personnel corresponding to the project consultants specialties, including the designation of an officer responsible for air navigation planning.
- b) Administrative support personnel to project advisory missions, as necessary.

1.2 Training

1.2.1 Participant States will provide air transportation tickets to and from the places where training programmes supported by the project will be held, and will continue paying to their personnel holding fellowships their salaries and other allowances during all the time of their attendance.

1.3 Office accommodation and equipment

1.3.1 Participant States will provide office accommodation, office equipment, stationery and supplies, as well as local transportation and international telephone and electronic communication facilities for the project consultants.

2. UNDP inputs

2.1 Assignment of professional staff

2.1.1 International consultants in the following specialties will be provided:

- 11-51 Communications, Navigation and Surveillance (CNS)
- 11-52 Air Traffic Management (ATM)
- 11-53 Air Transport Economics (ATE)
- 11-54 Aeronautical Information Services (AIS)
- 11-55 Aeronautical Cartography (WGS)
- 11-56 Electronic Data Processing applied to Civil Aviation (EDP) (suspended)
- 11-57 CNS/ATM Institutional Issues
- 11-97 Consultants

2.1.2 National professionals in the following specialties will be provided:

- 17-01 Information Systems Planning (INF) (suspended)
- 17-02 Air Traffic Management - RNP
- 17-03 Air Traffic Management - RVSM
- 17-51 Air Traffic Management – RNAV

17-97 Lecturers

2.1.3 The tentative project workplan is shown on **Attachment 1** and job descriptions on **Attachment 3**.

2.2 **Administrative Support**

2.2.1 Administrative support personnel shall be provided as necessary to assist in the development of project activities.

2.3 **Official travel and missions**

2.3.1 Funds are provided to cover the costs of project personnel official travel and project co-ordination, monitoring or review missions, as necessary.

2.4 **Training**

2.4.1 Funds are provided for the implementation of fellowships in accordance with the training programme proposed by the consultants of the project and annually approved by the Coordination Committee.

2.5 **Equipment**

2.5.1 Funds are provided for the procurement of reference material, publications and the necessary equipment to carry out project activities and its office installation.

2.6 **Miscellaneous**

2.6.1 A budgetary provision is considered to cover miscellaneous expenses, including the preparation of reports, plans and manuals and simultaneous interpretation and documents translation services.

POST DESCRIPTION

Project N°: RLA/98/003
Post N°: 11-57
Title: CNS/ATM Institutional Issues
Duty station: Lima, Peru
Starting date: April 2002
Duration: 5.6 months
Language requirements: Spanish and English

Qualifications:

1. Wide experience in leading with international issues at the highest level.
2. Exhaustive awareness of international civil aviation matters in the CAR/SAM Regions.
3. Preferably, the candidate should have maintained previous contacts at DGCA level, as a minimum.
4. Good knowledge of the institutional aspects corresponding to the implementation of the CNS/ATM systems in the CAR/SAM regions.
5. Good knowledge of the economic aspects associated to the provision of air navigation services.
6. Posses initiative, tact, good judgement and the ability to foster and maintain harmonious working relationships.

Duties:

In cooperation with other project consultants and under the technical coordination of the respective ICAO Regional Offices:

1. Familiarize with the results of the first project phases.
2. Familiarize with the tools developed for the evaluation of the implementation scenarios.
3. Review the actual organization arrangements for the provision of services regarding their applicability in the CAR/SAM regions, it is, Eurocontrol, COCESNA, etc.
4. Carry out a study of the current economical and financial arrangements in the CAR/SAM regions.
5. Review the administrative and political structure of the civil aviation authorities in the CAR/SAM regions and their financing mechanisms.
6. Considering the above and in consultation with the other technical and operational consultants, develop and analyze the implementation scenarios.

ATTACHMENT 3

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7. Discuss with concerned States the viability of the alternative scenarios previously developed, with a view to ensure their feasibility and acceptability at technical, operational and institutional levels.
8. As a result of discussions and consultations with States, identify the aspects or elements that might require a legal instrument.
9. As a result of the above, assist States in the preparation of business cases to ensure financing.
10. Maintain coordination with concerned States.
11. Maintain coordination with GREPECAS and its subsidiary groups.
12. Perform other related duties as required.

PROJECT BUDGET COVERING UNDP CONTRIBUTION
(in U. S. Dollars)

Country: Regional for Latin America
Project: RLA/98/003/F/01/15
Title: Transition to the CNS/ATM Systems in the CAR and SAM Regions

Starting date: 19 DEC 1998 Termination date: 31 DEC 2004

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	IMPLE. AGENCY	*----- M/M	TOTAL \$	-----* *-----		1998-2000		-----* *-----		2001	-----* *-----		2002	-----* *-----		2003	-----* *-----		2004	-----*	
				AOS	M/M	\$	AOS	M/M	\$		AOS	M/M		\$	AOS		M/M	\$			AOS
10-00	PROJECT PERSONNEL																				
11-00	INTERNATIONAL PROFESSIONALS																				
11-51	ICAO	22.9	267,940	26,795	10.5	93,595	9,360	5.9	64,495	6,450	5.0	82,000	8,200	1.5	27,850	2,785					
11-52	ICAO	11.1	158,113	15,811	5.7	70,116	7,011	2.4	32,747	3,275	1.5	27,400	2,740	1.5	27,850	2,785					
11-53	ICAO	2.2	31,348	3,135	1.2	11,748	1,175				1.0	19,600	1,960								
11-54	ICAO	2.0	35,800	3,580										2.0	35,800	3,580					
11-55	ICAO	4.6	64,529	6,453	2.8	42,423	4,242	1.8	22,106	2,211											
11-56	ICAO	0.0	0	0																	
11-57	ICAO	5.6	99,360	9,936							5.6	99,360	9,936								
11-97	ICAO	11.0	201,457	20,145	3.4	62,607	6,260	0.6	3,850	385	3.0	54,800	5,480	2.0	39,800	3,980	2.0	40,400	4,040		
11-99	Sub-total: Experts and Consultants		59.4	858,547	85,855	23.6	280,489	28,048	10.7	123,198	12,321	16.1	283,160	28,316	7.0	131,300	13,130	2.0	40,400	4,040	
13-00	ADMINISTRATIVE SUPPORT																				
13-01	ICAO	12.0	32,492	3,249	12.0	32,492	3,249														
13-02	ICAO	63.4	122,115	12,212	15.4	23,628	2,363	12.0	20,487	2,049	12.0	24,000	2,400	12.0	26,400	2,640	12.0	27,600	2,760		
13-97	ICAO		1,706	171		1,706	171														
13-98	ICAO		280	28		140	14		140	14											
13-99	Sub-total: Administrative Support		75.4	156,593	15,660	27.4	57,966	5,797	12.0	20,627	2,063	12.0	24,000	2,400	12.0	26,400	2,640	12.0	27,600	2,760	
15-00	DUTY TRAVEL																				
15-01	ICAO		3,850	385								2,500	250		1,050	105			300	30	
15-99	Sub-total: Duty Travel		3,850	385								2,500	250		1,050	105			300	30	
16-00	MISSION COSTS																				
16-01	ICAO		159,176	15,918		49,176	4,918		20,000	2,000		40,000	4,000		30,000	3,000			20,000	2,000	
16-99	Sub-total: Mission Costs		159,176	15,918		49,176	4,918		20,000	2,000		40,000	4,000		30,000	3,000			20,000	2,000	
17-00	NATIONAL PROFESSIONALS																				
17-01	ICAO	0.0	0	0																	
17-02	ICAO	36.0	158,400	15,840									12.0	50,400	5,040	12.0	52,800	5,280	12.0	55,200	5,520
17-03	ICAO	34.0	150,000	15,000									10.0	42,000	4,200	12.0	52,800	5,280	12.0	55,200	5,520
17-51	ICAO	14.0	50,538	5,054	4.5	12,615	1,262	9.5	37,923	3,792											
17-97	ICAO	5.0	30,950	3,095	1.0	5,200	520	1.0	6,250	625	1.0	6,500	650	1.0	6,500	650	1.0	6,500	650		
17-99	Sub-total: National Professionals		89.0	389,888	38,989	5.5	17,815	1,782	10.5	44,173	4,417	23.0	98,900	9,890	25.0	112,100	11,210	25.0	116,900	11,690	
19-00	Personnel Component Total		1,568,054	156,807		405,446	40,545		207,998	20,801		448,560	44,856		300,850	30,085			205,200	20,520	

PROJECT BUDGET COVERING UNDP CONTRIBUTION
(in U. S. Dollars)

Country: Regional for Latin America
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Starting date: 19 DEC 1998 Termination date: 31 DEC 2004

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	IMPLE. AGENCY	*----- M/M	TOTAL \$	1998-2000		2001		2002		2003		2004		
				-----* AOS	*----- M/M	-----* AOS	*----- M/M	-----* AOS	*----- M/M	-----* AOS	*----- M/M			
30-00 TRAINING														
31-00 Individual Fellowships SAM														
31-01 Individual Fellowships	ICAO		261,210	26,115	75,323	7,526	35,887	3,589	70,000	7,000	50,000	5,000	30,000	3,000
31-99 Sub-Total: Individual Fellowships SAM			261,210	26,115	75,323	7,526	35,887	3,589	70,000	7,000	50,000	5,000	30,000	3,000
32-00 Group Training														
32-01 Group Training	ICAO		14,271	1,427	8,271	827			2,000	200	2,000	200	2,000	200
32-98 Simultaneous Interpretation	ICAO		79,608	7,961	15,237	1,524	10,371	1,037	24,000	2,400	18,000	1,800	12,000	1,200
32-99 Sub-total: Group Training			93,879	9,388	23,508	2,351	10,371	1,037	26,000	2,600	20,000	2,000	14,000	1,400
34-00 Individual Fellowships NACC														
34-01 Individual Fellowships NACC	ICAO		66,229	6,622	26,229	2,622			15,000	1,500	15,000	1,500	10,000	1,000
34-99 Sub-total: Individual Fellowships NACC			66,229	6,622	26,229	2,622			15,000	1,500	15,000	1,500	10,000	1,000
39-00 Training Component Total			421,318	42,125	125,060	12,499	46,258	4,626	111,000	11,100	85,000	8,500	54,000	5,400
40-00 EQUIPMENT														
45-00 Local Procurement														
45-01 Expendable Equipment	ICAO		16,035	1,604	8,847	885	1,456	146	2,182	218	2,090	209	1,460	146
45-02 Non-Expendable Equipment	ICAO		20,402	2,041	7,461	747	-59	-6	9,000	900	4,000	400		
45-03 Equipment Operation and Maintenance	ICAO		12,280	1,228	1,087	109	2,193	219	3,000	300	3,000	300	3,000	300
45-99 Sub-Total: Local Procurement			48,717	4,873	17,395	1,741	3,590	359	14,182	1,418	9,090	909	4,460	446
49-00 Equipment Component Total			48,717	4,873	17,395	1,741	3,590	359	14,182	1,418	9,090	909	4,460	446
50-00 MISCELLANEOUS														
52-00 Reporting Costs														
52-01 Reporting Costs	ICAO		50,690	5,069	130	13	5,560	556	15,000	1,500	15,000	1,500	15,000	1,500
52-99 Sub-Total: Reporting Costs			50,690	5,069	130	13	5,560	556	15,000	1,500	15,000	1,500	15,000	1,500
53-00 Sundries														
53-01 Sundries	ICAO		40,537	4,054	8,452	845	6,585	659	8,500	850	8,500	850	8,500	850
53-99 Sub-Total: Sundries			40,537	4,054	8,452	845	6,585	659	8,500	850	8,500	850	8,500	850
59-00 Miscellaneous Component Total			91,227	9,123	8,582	858	12,145	1,215	23,500	2,350	23,500	2,350	23,500	2,350
99-00 PROJECT TOTAL			2,129,316	212,928	556,483	55,643	269,991	27,001	597,242	59,724	418,440	41,844	287,160	28,716

PROJECT BUDGET COVERING UNDP CONTRIBUTION
(in U. S. Dollars)

Country: Regional para América Latina
 Project: RLA/98/003/F/01/15
 Title: Transición a los Sistemas CNS/ATM en las Regiones CAR y SAM

Starting date: 19 DEC 1998 Termination date: 31 DEC 2004

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IMPLE. AGENCY	*----- M/M	TOTAL \$	*-----*		1998-2000		*-----*		2001		*-----*		2002		*-----*		2003		*-----*		2004		*-----*	
			AOS	M/M	\$	AOS	M/M	\$	AOS	M/M	\$	AOS	M/M	\$	AOS	M/M	\$	AOS	M/M	\$	AOS	M/M	\$	AOS
101-00	Government Cost Sharing																							
101-01	Argentina	177,443	17,744						68,873	6,887			49,770	4,977			34,870	3,487			23,930	2,393		
101-02	Brazil	177,443	17,744			55,837	5,583		13,036	1,304			49,770	4,977			34,870	3,487			23,930	2,393		
101-03	Chile	177,443	17,744			87,791	8,779		-18,918	-1,892			49,770	4,977			34,870	3,487			23,930	2,393		
101-04	Colombia	177,443	17,744			55,833	5,583		13,040	1,304			49,770	4,977			34,870	3,487			23,930	2,393		
101-05	Uruguay	0	0																					
101-06	Ecuador	177,443	17,744			55,837	5,583		13,036	1,304			49,770	4,977			34,870	3,487			23,930	2,393		
101-07	Panama	177,443	17,744			32,615	3,261		36,258	3,626			49,770	4,977			34,870	3,487			23,930	2,393		
101-08	Paraguay	177,443	17,744			87,791	8,779		-18,918	-1,892			49,770	4,977			34,870	3,487			23,930	2,393		
101-09	Peru	177,443	17,744			18,182	1,818		50,691	5,069			49,770	4,977			34,870	3,487			23,930	2,393		
101-10	Undetermined	0	0			0	0																	
101-11	U.S.A.	177,443	17,744			55,312	5,531		13,561	1,356			49,770	4,977			34,870	3,487			23,930	2,393		
101-12	COCESNA	177,443	17,744			65,094	6,509		3,779	378			49,770	4,977			34,870	3,487			23,930	2,393		
101-13	Bolivia	177,443	17,744						68,873	6,887			49,770	4,977			34,870	3,487			23,930	2,393		
101-14	Venezuela	177,443	17,744						68,873	6,887			49,770	4,977			34,870	3,487			23,930	2,393		
101-99	Sub-Total: Government Cost Sharing	2,129,316	212,928			514,292	51,426		312,184	31,218			597,240	59,724			418,440	41,844			287,160	28,716		
109-00	Cost Sharing Component Total	2,129,316	212,928			514,292	51,426		312,184	31,218			597,240	59,724			418,440	41,844			287,160	28,716		
999	Net UNDP Contribution	0	0			42,191	4,217		-42,193	-4,217			2	0			0	0			0	0		

PROJECT BUDGET - PAYMENT SCHEDULE
(in U. S. Dollars)

Country: Regional for Latin America
 Project: RLA/98/003/F/01/15
 Title: Transition to the CNS/ATM Systems in the CAR and SAM Regions

Starting date: 19 DEC 1998

Termination date: 31 DEC 2004

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101	<u>GOVERNMENT COST SHARING</u>	Year	Month	Day	Amount	Status			
						Total to pay	Paid	Balance	
101-01	GOVERNMENT COST SHARING	Argentina	1998	July	01	32,246	200,510	32,246	168,264
						<u>21,564</u>			
						53,810			
			1999	March	01	<u>77,000</u>			
			77,000						
			2000	January	01	<u>57,350</u>			
						57,350			
			2001	January	01	<u>12,350</u>			
						12,350			
101-02	GOVERNMENT COST SHARING	Brazil	1998	July	01	<u>53,810</u>	200,510	191,207	9,303
						53,810			
			1999	March	01	3,047			
						<u>73,953</u>			
						77,000			
			2000	January	01	<u>57,350</u>			
						57,350			
			2001	January	01	3,047			
						<u>9,303</u>			
						12,350			
101-03	GOVERNMENT COST SHARING	Chile	1998	July	01	<u>53,810</u>	200,510	200,510	0
						53,810			
			1999	March	01	<u>77,000</u>			
						77,000			
			2000	January	01	<u>57,350</u>			
						57,350			
			2001	January	01	<u>12,350</u>			
						12,350			

PROJECT BUDGET - PAYMENT SCHEDULE
(in U. S. Dollars)

Country: Regional for Latin America
 Project: RLA/98/003/F/01/15
 Title: Transition to the CNS/ATM Systems in the CAR and SAM Regions

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101	<u>GOVERNMENT COST SHARING</u>		Year	Month	Day	Amount	Status		
							Total to pay	Paid	Balance
101-04	GOVERNMENT COST SHARING	Colombia	1998	July	01	<u>53,810</u> 53,810		53,800	
			1999	March	01	<u>77,000</u> 77,000		76,990	
			2000	January	01	<u>57,350</u> 57,350		57,330	
			2001	January	01	<u>12,350</u> 12,350	<u>200,510</u>	<u>12,390</u> 200,510	<u>0</u>
101-05	GOVERNMENT COST SHARING	Uruguay	1998	July	01	_____			
			1999	March	01	_____			
			2000	January	01	_____			
			2001	January	01	_____	<u>0</u>	<u>0</u>	<u>0</u>
101-06	GOVERNMENT COST SHARING	Ecuador	1998	July	01	<u>53,810</u> 53,810		53,810	
			1999	March	01	<u>77,000</u> 77,000		77,000	
			2000	January	01	<u>22,350</u> <u>35,000</u> 57,350		<u>22,350</u> <u>35,000</u>	
			2001	January	01	<u>12,350</u> 12,350	<u>200,510</u>	<u>12,350</u> 200,510	<u>0</u>

PROJECT BUDGET - PAYMENT SCHEDULE
(in U. S. Dollars)

Country: Regional for Latin America
 Project: RLA/98/003/F/01/15
 Title: Transition to the CNS/ATM Systems in the CAR and SAM Regions

Starting date: 19 DEC 1998

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101	<u>GOVERNMENT COST SHARING</u>	Year	Month	Day	Amount	Status			
						Total to pay	Paid	Balance	
101-07	GOVERNMENT COST SHARING	Panama	1998	July	01	<u>53,810</u> 53,810		53,810	
			1999	March	01	<u>77,000</u> 77,000		77,000	
			2000	January	01	<u>57,350</u> 57,350			
			2001	January	01	<u>12,350</u> 12,350			
						<u>200,510</u>	<u>130,810</u>	<u>69,700</u>	
101-08	GOVERNMENT COST SHARING	Paraguay	1998	July	01	<u>53,810</u> 53,810		53,810	
			1999	March	01	<u>77,000</u> 77,000		77,000	
			2000	January	01	<u>57,350</u> 57,350			
			2001	January	01	<u>12,350</u> 12,350			
						<u>200,510</u>	<u>130,810</u>	<u>69,700</u>	
101-09	GOVERNMENT COST SHARING	Peru	1998	July	01	40,000 <u>13,810</u> 53,810		40,000 13,810	
			1999	March	01	<u>77,000</u> 77,000		77,000	
			2000	January	01	20,000 <u>37,350</u> 57,350		20,000 37,350	
			2001	January	01	<u>12,350</u> 12,350			
						<u>200,510</u>	<u>200,510</u>	<u>0</u>	

PROJECT BUDGET - PAYMENT SCHEDULE
(in U. S. Dollars)

Country: Regional for Latin America
 Project: RLA/98/003/F/01/15
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101	<u>GOVERNMENT COST SHARING</u>		Year	Month	Day	Amount	Status		
							Total to pay	Paid	Balance
101-11	GOVERNMENT COST SHARING	U.S.A.	1998	July	01	<u>53,810</u> 53,810		53,810	
			1999	March	01	<u>28,700</u> 48,300		28,700	
			2000	January	01	<u>57,350</u> 57,350			
			2001	January	01	<u>12,350</u> 12,350	<u>200,510</u>	<u>82,510</u>	<u>118,000</u>
101-12	GOVERNMENT COST SHARING	COCESNA	1998	July	01	<u>53,810</u> 53,810		53,810	
			1999	March	01	<u>77,000</u> 77,000		77,000	
			2000	January	01	<u>57,350</u> 57,350		57,000	
			2001	January	01	<u>12,350</u> 12,350	<u>200,510</u>	<u>12,350</u> 200,160	<u>350</u>
101-13	GOVERNMENT COST SHARING	Bolivia	1998	July	01	<u>50,127</u> 3,683 53,810		50,127	
			1999	March	01	<u>77,000</u> 77,000			
			2000	January	01	<u>57,350</u> 57,350			
			2001	January	01	<u>12,350</u> 12,350	<u>200,510</u>	<u>50,127</u>	<u>150,383</u>

PROJECT BUDGET - PAYMENT SCHEDULE
(in U. S. Dollars)

Country: Regional for Latin America
 Project: RLA/98/003/F/01/15
 Title: Transition to the CNS/ATM Systems in the CAR and SAM Regions

Starting date: 19 DEC 1998

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101	<u>GOVERNMENT COST SHARING</u>	Year	Month	Day	Amount	Status			
						Total to pay	Paid	Balance	
101-14	GOVERNMENT COST SHARING	Venezuela	1998	July	01	<u>53,810</u> 53,810		53,810	
			1999	March	01	<u>77,000</u> 77,000		77,000	
			2000	January	01	<u>57,350</u> 57,350		57,350	
			2001	January	01	<u>12,350</u> 12,350		12,350	
TOTALS:							<u>200,510</u>	<u>200,510</u>	<u>0</u>
							2,406,120	1,820,420	585,700
							<u>100%</u>	<u>76</u>	<u>24</u>

The cost sharing contributions should be deposited in the UNDP bank account established for each country.