



*International Civil Aviation Organization*

North American, Central American and Caribbean Office (NACC)

**GREPECAS CAR Project D – ATN infrastructure in the CAR Region and its ground-ground and ground-air applications**

Santo Domingo, Dominican Republic, 27 September 2013

**Agenda Item 1: ATN Ground-Ground and Air-Ground applications**

**1.1 Review Deliverables**

**REVIEW PROJECT DELIVERABLES**

(Presented by Project D Coordinator)

<b>SUMMARY</b>	
This working paper presents the progress made with the assigned deliverables for the Project ATN Infrastructure in the CAR Region and its Ground-Ground and Ground-Air Applications since the last Coordination Meeting of the Project D.	
<b>References:</b>	
<ul style="list-style-type: none"> <li>• GREPECAS CAR Project D - CAR Region ATN Infrastructure and its Air-Ground and Ground-Ground Applications Meeting (Fort Lauderdale, United States, 12 to 13 April, 2012)</li> <li>• CAR/SAM Regional Planning and Implementation Group (GREPECAS) First Meeting of the Programmes and Projects Review Committee (PPRC/1) (Mexico City, Mexico, 25-27 April 2012)</li> <li>• Emails exchange between ICAO and Project Coordinators and Project Members</li> </ul>	
<b><i>Strategic Objectives</i></b>	<i>This working paper is related to Strategic Objectives: A. Safety – Enhance global civil aviation safety C. Environmental Protection and Sustainable Development of Air Transport</i>

**1. Introduction**

1.1 This Working Paper presents the progress achieved since the first Meeting of the Project on ATN Infrastructure in the CAR Region and its Ground-Ground and Ground-air held in 2012. In this first Meeting a review and follow-up on the project activities and its progress on the achievement of its deliverables was carried out and the preparatory actions for reporting such progress to the GREPECAS Meeting on its First Meeting of the Programmes and Projects Review Committee (PPRC/1).

1.2 For the PPRC/1 Meeting, the progress and working Break Schedule (WBS) showed in **Appendices A and B** to this paper were reported. Each Member of the D Project has several tasks assigned.

1.3 Since the PPRC/1 Meeting some emails have been exchange between the Project Coordinator and the Project Members as a follow-up to the assigned tasks and deliverables.

## **2. Discussion**

2.1 Very few or no report has been made by the Project Members regarding the Tasks and deliverables agreed in the first Meeting of the Project on ATN Infrastructure in the CAR Region and its Ground-Ground and Ground-air in 2012.

2.2 Several Project members have changed and a new revision was conducted between ICAO and the Project Coordinator for the Second Meeting of the Programmes and Projects Review Committee (PPRC/2).

## **3. Suggested Actions**

3.1 The meeting is invited:

- a) report your corresponding progress in the assigned Project Deliverables agreed since the first Meeting of the Project on ATN Infrastructure in the CAR Region and its Ground-Ground and Ground-air applications;
  - b) confirm your membership or any update to the contact information of your membership; and
  - c) report any problems or delays in the execution of these tasks.
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## APPENDIX A

## PROJECT ON THE ATN INFRASTRUCTURE IN THE CAR REGION AND ITS GROUND-GROUND AND GROUND-AIR APPLICATIONS

CAR Region	PROJECT DESCRIPTION (DP)	DP N° D	
<i>Programme</i>	Title of the Project	Start	End
Ground-ground and air-ground communications infrastructure  (ICAO programme coordinator: Julio Siu)	ATN infrastructure in the CAR Region and its ground-ground and ground-air applications  <i>Project coordinator:</i> Dulce Roses (United States) <i>Experts contributing to the project:</i> Carlos Jimenez (Cuba) Fernando Casso (Dominican Republic) Roger Perez/Eduardo Vega/Mayda Avila (COCESNA) Veronica Ramdath/ Randy Gomes (Trinidad and Tobago) Susan E. Pfingstler (IATA)	March 2010	June 2015
<b>Objective</b>	Support the implementation of the ATN network in the CAR Region and of its ground-ground and air-ground applications, based on the regional performance objectives of the NAM/CAR performance-based implementation plan (NAM/CAR RPBANIP) and the CAR/SAM PNA CNS 1 Ba, 1Bb, and 1Bc plans.		
<b>Scope</b>	The project contemplates: <ul style="list-style-type: none"> <li>• an analysis of the existing ATN implementation capacity of CAR networks</li> <li>• an assessment and definition of technical improvements and/or requirements for ATN implementation</li> <li>• guides and recommendations to expedite the implementation of ground-ground (AIDC, AMHS) and air-ground (using VDL2 and FMC WPR) applications, taking into account Doc GOLD</li> </ul>		
<b>Metrics</b>	<ul style="list-style-type: none"> <li>• Percentage of implementation of ATN architecture and routers</li> <li>• Number of AMHS/AIDC applications implemented in the CAR Region</li> <li>• Number of guides on ATN and ATN applications completed</li> </ul>		
<b>Strategy</b>	<ul style="list-style-type: none"> <li>• Project activities were coordinated amongst project members, the project coordinator, and the programme coordinator, mainly via teleconferences and meetings held during events contemplated in the work programme, as was the case of the meeting held immediately after the AMHS meeting in April 2012.</li> <li>• The project coordinator and the programme coordinator coordinated the requirements of other projects, together with information from the NAM/CAR implementation working groups. Additional experts were added as required for specialised tasks.</li> <li>• The deliverables of this project were sent to the programme coordinator for submittal to GREPECAS.</li> </ul>		

<b>Rationale</b>	Support implementation and propose documentation for use by States as a reference for the transition, testing, and contingencies related to the new flight plan format.
<b>Related projects</b>	This project is related to the projects of Programmes B, C, and MET

Project Deliverables	Relationship with the regional performance-based plan (PFF)	Responsible Party	Status of Implementation <sup>1*</sup>	Date of delivery	Comments
Performance assessment of the MEVA II REDDIG interconnection	RPO 9, NAM/CAR RPBANIP	Project D		Completed	Assessments made during MEVA TMG meetings
Technical study of CAR networks for ATN implementation	RPO 9, NAM/CAR RPBANIP	Project D		December 2012	To be conducted in 3 parts: The first and second parts concerning the MEVA II and ECAR networks have been completed. Currently, work is being done on the third part involving MEVA III- ECAR MPLS
Assessment of preliminary test results to determine the required bandwidth for the ATN network in the CAR and SAM Regions	RPO 9, NAM/CAR RPBANIP	Project D		Completed	Completed 2010
Study for the configuration of an IP backbone network	RPO 3,9, 11, 12 NAM/CAR RPBANIP	Project D		March 2013	
Updating of the CAR/SAM regional ATN router plan	RPO 1,3,5,9,11, 12 NAM/CAR RPBANIP	ICAO		July 2013	
Study of communication requirements to support ATFM implementation	RPO 3 and 9 NAM/CAR RPBANIP	Project D		January 2013	

<sup>1</sup> \*Grey Task not started yet

Green Activity being implemented as scheduled

Yellow Activity started with some delay, but expected to be implemented on time

Red Activity not implemented on time; mitigation measures are required

<b>Project Deliverables</b>	<b>Relationship with the regional performance-based plan (PFF)</b>	<b>Responsible Party</b>	<b>Status of Implementation <sup>1*</sup></b>	<b>Date of delivery</b>	<b>Comments</b>
Study of communication requirements to support the migration to the new OPMET format	RPO 9 and 12 NAM/CAR RPBANIP	Project D		January 2013	
Plan for the transition of ATN and ATN applications in the CAR Region	RPO 1,3,4,5,9,11 and 12 NAM/CAR RPBANIP	Project D		April 2013	
AMHS addressing plan	RPO 9, NAM/CAR RPBANIP	States/ Territories/ International Organisations		Completed	
Plan for the implementation of ATN ground-ground applications (AMHS)	RPO 1,3,5,9,11, 12 NAM/CAR RPBANIP	States/ Territories/ International organisations		December 2012	
Plan for the implementation of ATN ground-ground applications (AIDC)	RPO 9 NAM/CAR RPBANIP	Project D		April 2013	
Proposed update of Table CNS 1Bb	RPO 9 NAM/CAR RPBANIP	ICAO		July 2013	
Assessment and recommendations related to AMHS coordination and testing	RPO 9, NAM/CAR RPBANIP	ICAO		April 2013	
Plan for the implementation of VDL and its applications in the CAR Region	RPO 9, NAM/CAR RPBANIP	ICAO		July 2014	
Assessment of the results of trials on the implementation of VDL and its applications	RPO 9, NAM/CAR RPBANIP	Project D		May 2015	
Plan for the transition of ATN ground-air applications	RPO 9, NAM/CAR RPBANIP	Project D		June 2015	

Project Deliverables	Relationship with the regional performance-based plan (PFF)	Responsible Party	Status of Implementation <sup>1*</sup>	Date of delivery	Comments
Monitoring of the implementation of available technology for ATN ground-air applications	RPO 9, NAM/CAR RPBANIP	ICAO/ States/ Territories		June 2015	
<b>Resources needed</b>	Designation of experts and implementation of activities by the group of experts (WGs).				

APPENDIX B

GREPECAS CAR PROJECT D

CAR/SAM REGIONAL PLANNING AND IMPLEMENTATION GROUP / GRUPO REGIONAL CAR/SAM DE PLANIFICACION Y EJECUCION (GREPECAS)																				
ATN INFRASTRUCTURE AND GROUND-GROUND AND AIR-GROUND APPLICATIONS / INFRAESTRUCTURA ATN Y SUS APLICACIONES TIERRA-TIERRA Y TIERRA-AIRE																				
ID	Task Name	Duration	Start	2010					2012				2014				2016			
				H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2				
1	PROJECT: ATN INFRASTRUCTURE FOR THE CAR REGION AND ITS G/G AND A/G APPLICATIONS/ INFRAESTRUCTURA ATN EN LA REGION CAR Y SUS APLICACIONES TIERRA-TIERRA Y TIERRA-AIREAUTOMATIZACION	1357 days	Mon 22-03-10																	
2	ATN INSTRUCTURE FOR CAR REGION/INFRAESTRUCTURA ATN PARA LA REGION CAR	876 days	Mon 22-03-10																	
3	1.1 Guide the interconnection/integration of Communications digital networks/Guiar la interconexion/integracion de redes digitales de comunicaciones	395 days	Mon 22-03-10																	
6	1.2 Technical revision of Regional Telecommunication Network for ATN implementation /Revision Tecnica de la red de telecomunicaciones para la implementacion ATN	647.33 days?	Mon 22-03-10																	
11	1.3 Trial implementation to determine ATN bandwidth to support ground application/Implementacion de ensayos para determinar ancho de banda ATN para aplicacion Tierra	121 days?	Mon 22-03-10																	
14	1.4 Study for an IP ATN CAR backbone network configuration / Estudio para configuracion del backbone de la red ATN IP CAR	345 days?	Mon 05-12-11																	
17	1.5 Update of CAR/SAM Router Plan / Actualizacion del Plan de enrutadores CAR/SAM	86 days?	Mon 01-04-13																	
20	1.6 Analyze proposals for data Communications infrastructure in support of ATFM implementation/ Analizar propuestas para infraestructura de comunicaciones de datos para apoyar la implementacion ATFM	210 days?	Fri 13-04-12																	
25	1.7 Elaborate a CAR plan for the COM needed for the migration to aeronautical MET messages exchange (METAR/SPECI and TAF)/ Elaborar un Plan CAR para establecer COM para migracion de Mensajes OPMET	210 days?	Fri 13-04-12																	
30	ATN GROUND-GROUND AND AIR-GROUND APPLICATIONS/ Aplicaciones T-T y T-A del ATN	1357 days	Mon 22-03-10																	
31	2.1 Review, update and complete initial transition plan for the evolutionary development of ATN and applications / Revisar, actualizar y completar el plan de transición inicial para el desarrollo evolutivo de la ATN y sus aplicaciones	796 days	Mon 22-03-10																	
36	2.2 Implementation Plan for ATN Ground-ground applications (AMHS) / Plan de implantación de las Aplicacion tierra-tierra del ATN (AMHS)	722 days	Mon 22-03-10																	
37	DELIVERABLE: Implementation Plan for Ground-ground ATN Applications (AMHS) / Plan de implantación de las aplicación tierra-tierra del ATN (AMHS)	722 days	Mon 22-03-10																	

PC = Project Coordinator / Coordinador de Proyecto  
 PM = Project Members / Miembros de Proyecto  
 S/T = States/Territories / Estados/Territorios

CAR/SAM REGIONAL PLANNING AND IMPLEMENTATION GROUP / GRUPO REGIONAL CAR/SAM DE PLANIFICACION Y EJECUCION (GREPECAS) ATN INFRASTRUCTURE AND GROUND-GROUND AND AIR-GROUND APPLICATIONS / INFRAESTRUCTURA ATN Y SUS APLICACIONES TIERRA-TIERRA Y TIERRA-AIRE																
ID	Task Name	Duration	Start	2010				2012				2014				2016
				H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2		
38	Information collection on technical, operational, transition and other implementation aspects for AMHS / Recolección de información sobre aspectos técnicos, operacionales, de transición e implantación sobre AMHS	590 days	Mon 22-03-10													
39	Evaluation of information / Evaluación de la información	66 days	Mon 25-06-12													
40	Draft Plan / Borrador de plan	66 days	Tue 25-09-12													
41	<b>2.3 Implementation Plan for ATN Ground-ground applications (AIDC) / Plan de implantación de las aplicaciones tierra-tierra del ATN (AIDC)</b>	812 days	Mon 22-03-10													
42	<b>DELIVERABLE: Implementation Plan for Ground-ground ATN Applications (AIDC) / Plan de implantación de las aplicaciones tierra-tierra del ATN (AIDC)</b>	812 days?	Mon 22-03-10													
43	Information collection on Technical, operational, transition and other implementation aspects for AIDC	683 days?	Mon 22-03-10													
44	Evaluation of information / Evaluación de la información	86 days?	Thu 01-11-12													
45	Draft Plan / Borrador de plan	20 days?	Wed 03-04-13													
46	<b>Update proposal for CNS Table 1Bb</b>	60 days	Wed 01-05-13													
47	<b>2.4 Coordination and test for ATN ground applications implementation / Coordinación y prueba para aspecto de implantación de aplicaciones tierra tierra de la ATN</b>	136 days	Mon 22-10-12													
48	<b>DELIVERABLE: Evaluation and recommendations on the AMHS coordination and tests conducted / Evaluación y recomendaciones a la coordinación y pruebas realizadas sobre el AMHS</b>	136.5 days?	Mon 22-10-12													
49	AMHS test results / Resultados de las pruebas sobre AMHS	136.5 days?	Mon 22-10-12													
50	<b>2.5 Monitor VDL implementation trials and its applications / Monitorear implementación de ensayos de VDL y sus aplicaciones</b>	1067 days	Mon 02-05-11													
51	<b>DELIVERABLE: Evaluation of results on the trials for the implementation of VDL and its applications / Evaluación de los resultados de los ensayos para la implementación del VDL y sus aplicaciones</b>	1067 days?	Mon 02-05-11													
52	Development of VDL Implementation Plan / Desarrollo de plan de implantación VDL	804 days?	Wed 01-06-11													
53	Trial plans / Planes para los ensayos	826 days?	Mon 02-05-11													
54	VDL applications trial results / Resultados de los ensayos sobre aplicaciones VDL	59 days?	Tue 01-07-14													
55	Recommendations and consideration aimed to support ICAO's development of the Plan / Recomendaciones y consideraciones en apoyo al desarrollo del Plan por la OACI	27 days?	Mon 22-09-14													
56	Evaluation of trial results and make recommendations / Evaluar a los resultados de ensayos y efectuar recomendaciones	145 days?	Wed 29-10-14													
57	If applicable, proposal of update to implementation plan / Si aplicable, propuesta para actualizar plan implantación	10 days?	Wed 20-05-15													
58	<b>2.6 Initial transition plan of ground/air ATN application / Plan de transición inicial de las aplicaciones tierra-aire de la ATN</b>	30 days	Wed 29-10-14													

PC = Project Coordinator / Coordinador de Proyecto  
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