



International Civil Aviation Organization

CAR/SAM REGIONAL PLANNING AND IMPLEMENTATION GROUP (GREPECAS)

Sixth Meeting of the CNS Committee of the GREPECAS ATM/CNS Subgroup
(CNS/COMM/6)

Santo Domingo, Dominican Republic, 30 June to 4 July 2008

CNS/COMM/6-WP/13

16/05/08

Agenda Item 4: Review of CNS deficiencies and other general matters

4.1 Review of the status of air navigation deficiencies related to CNS systems

REVIEW OF CNS DEFICIENCIES IN THE CAR/SAM REGIONS

(Presented by the Secretariat)

SUMMARY

This working paper contains information about activities carried out by the GREPECAS mechanism regarding the analysis of deficiencies and the current status of communications, navigation and surveillance deficiencies reported in the CAR and SAM Regions. It is proposed that this paper be examined with a view to its updating and recommending the relevant solutions.

References:

- Report of the GREPECAS/14 meeting, San José, Costa Rica, 16-20 April 2007;
- Report of the ASB/8 meeting, Lima, Peru, 5-6 March 2008; and
- Deficiency database updated at the ICAO NACC and SAM Regional Offices.

Strategic Objectives:	<i>This working paper is related to Strategic objectives A and D.</i>
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1. Introduction

1.1 In keeping with the uniform methodology for the identification, assessment and reporting of air navigation deficiencies developed by the ICAO Council, GREPECAS and its contributory bodies have been examining periodically the status of implementation of the CAR/SAM Regional Air Navigation Plan periodically at their meetings, with a view to the identification and assessment of deficiencies. The ICAO Regional Offices, in coordination with the States, should keep updated the lists of deficiencies and recommend solutions for each of them.

1.2 The GREPECAS/14 meeting, held in San José, Costa Rica on 16-20 April 2007, reviewed the lists of air navigation deficiencies that exist in the CAR/SAM Regions, including the report of the ASB/7 meeting and agreed to Conclusion 14/59 - *National Coordinator Responsible for Updating the GREPECAS Air Navigation Deficiency Database* and Decisions 14/58 – *Elimination of Appendix B* and 14/60 – *Procedures for Classifying and Resolving GREPECAS “U” Deficiencies*.

1.3 The eighth meeting of the GREPECAS Aviation Safety Board (ASB/8), held in Lima, Peru, on 5-6 March 2008, examined the status of the conclusion and decisions formulated at the GREPECAS/14 meeting, as well as the list of CAR/SAM deficiencies.

1.4 Upon studying Conclusion 14/59 - *National Coordinator Responsible for Updating the GREPECAS Air Navigation Deficiency Database (GANDD)*, the ASB/8 meeting took note of the list of national coordinators responsible for updating the deficiency database (GANDD) published in the web pages of the ICAO Lima and Mexico Regional Offices.

1.5 The ASB/8 meeting reported that the deficiency database had been improved and that the procedure used by national coordinators to update the database information was very simple. A *Powerpoint* presentation explaining the operation of the GANDD can be found in the web pages of the Mexico and Lima Regional Offices.

1.6 In analysing Decision 14/58 – *Elimination of Appendix B*, the ASB/8 meeting eliminated said Appendix. As for Decision 14/60 – *Procedures for Classifying and Addressing GREPECAS “U” Deficiencies*, the ASB/8 meeting noted that a criterion had been developed for the classification of “U” deficiencies. This criterion recommended the application of the risk analysis method following ICAO Safety Management System (SMS) methodology.

1.7 In this regard, the ASB/8 meeting formulated Draft Decision ASB/8/1 - *Standard classification of air navigation deficiencies*, so that the Secretary of GREPECAS might study the possibility of applying the new classification procedure for “U” deficiencies to the classification of “A” and “B” deficiencies and present the results to the ASB/9 meeting; and Conclusion ASB/8/2 – *Classification of “U” deficiencies*, so that States/Territories and International Organisations that make a risk assessment of each “U” deficiency might determine the risk index of each deficiency in accordance with the ICAO SMS methodology for risk assessment and that the Secretary of GREPECAS might present the results of the aforementioned assessment to the ASB/9 meeting, scheduled to take place before the GREPECAS/15 meeting.

1.8 The risk index table contained in **Appendix A** to this working paper is used for risk assessment. In assessing the risk of “U”-type deficiencies using the table in Appendix A, if the results show 5A, 5B, 5C, 4A, 4B, and 3A values, the deficiencies would be classified as “U”-type.

1.9 The parts corresponding to the deficiencies found in CNS systems/services in CAR/SAM States/International Organisations are shown in **Appendices B** (CAR) and **C** (SAM) to this working paper.

2. Analysis

2.1 The Meeting should carefully review the lists of CNS deficiencies contained in Appendices B and C, so that the CNS Committee may examine them and recommend appropriate solutions for each CNS deficiency. The Meeting could also report any deficiency that has been resolved, as appropriate.

2.2 It is also quite possible that not all existing cases of deficiencies appear in the lists shown in Appendices B and C. Therefore, the CNS Committee could identify other deficiencies, based on the FASID Tables, the relevant SARPs and information that could be provided by CNS Committee members and observers.

3. **Suggested action**

3.1 The Meeting is invited to:

- a) take note of the information contained in this working paper;
- b) take note of the risk index table for classifying the “U”-type deficiencies listed in Appendix A to this working paper;
- c) update the status of implementation/resolution of the corresponding CNS deficiencies listed in Appendices B and C and recommend amendments and corrective action, as needed, for each deficiency classified as priority “U,” “A”, and “B”;
- d) identify other CNS deficiencies that could exist in the CAR and SAM Regions and propose the corresponding corrective actions; and
- e) send the results of its review to the GREPECAS/15 meeting and send to the ASB/9 meeting the parts concerning urgent deficiencies, both of which actions should be taken through the ATM/CNS Subgroup.

APPENDIX A

ICAO SMS RISK ANALYSIS

Probabilidad del riesgo	Severidad del riesgo				
	Catastrófico A	Peligroso B	Mayor C	Menor D	Insignificante E
Frecuente 5	5A	5B	5C	5D	5E
Ocasional 4	4A	4B	4C	4D	4E
Remoto 3	3A	3B	3C	3D	3E
Improbable 2	2A	2B	2C	2D	2E
Extremadamente improbable 1	1A	1B	1C	1D	2E

The deficiencies resulting within the evaluation risk: 5A, 5B, 5C, 4A, 4B and 3A will be classified as “U”.

OUTSTANDING DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE CNS FIELD IN THE CAR REGION

IDENTIFICATION			DEFICIENCY				ACTION PLAN			
ID	Requirements	States/facilities	Description	Date first reported	Remarks	Priority	Description	Executing body	Date of completion	Remarks
1	2	3	4	5	6	7	8	9	10	11

ABW Aruba

CNS	29	CAR	Surveillance Systems (Table CNS 4A)	Aruba/Reina Beatrix APP/Aruba's radar	Current radar deficiency of Aruba relates to replacement of antenna motor and substitution of wave-guide.	6/2000	A	Repair the radar.	Aruba	
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ANT Netherlands Antilles

CNS	23	CAR	Radio Navigation Aids (Table CNS 3) - VOR/DME ABA	Netherlands Antilles	DME in bad conditions, and the VOR and DME need to be replaced. VOR/DME ABA is installed in Aruba/Reina Beatrix Intl., but is the responsibility of Netherlands Antilles.	6/2000	A	VOR DME equipment need to be replaced. Action Plan: The Administration has no plans to replace the VOR/DME ABA installed in Aruba.	Netherlands Antilles	
CNS	27	CAR	Radio Navigation Aids (Table CNS 3) - ILS Cat. I	Netherlands Antilles/Philipsburg/Princess Juliana, St. Maarten I.	This ILS is not implemented.	2/1999	A	The facility was recommended for final approach and landing. Netherlands Antilles plans to implement the ILS or GNSS Cat I system should be updated. Action Plan: GNSS procedures will be applied.	Netherlands Antilles	The ILS required for the St. Maarten airport could not be installed due to construction obstacles.
CNS	28	CAR	Radio Navigation Aids (Table CNS 3) - VOR/DME	Netherlands Antilles/Willemstad/Hato, Curacao	The VOR and the DME are implemented, but the VOR is disabled due to close construction.	2/1999	A	The facility was recommended for en-route, navigation, terminal area and approach and landing. There are plans in the Netherlands Antilles to replace this facility by a new VOR/DME. Action Plan: A new VOR/DME will be installed in the Hato International Airport, Curacao in 2007.	Netherlands Antilles	DEC/ 2007
CNS	51	CAR	ATS Speech Circuits Plan (Table CNS 1C) Curaçao ACC-Baranquilla ACC	Netherlands Antilles and Colombia	Due to a broken down the circuit was discontinued and the impossibility to replace the Curaçao terminal equipment. For this, the IDD is use.	3/2003	A	Informed in the C/CAR WG/3 Meeting Implement in a short-term this circuit through a MEVA II and REDDIG interconnection	Netherlands Antilles and Colombia	

BHS Bahamas

CNS	24	CAR	Radio Navigation Aids (Table CNS 3) - ILS Cat. I Runway 14	Bahamas/Freeport Intl.	This ILS is not in service.	0/	A	The facility was recommended for final approach and landing. Bahamas plans to replace the ILS.	Bahamas	
CNS	49	CAR	Radio Navigation Aids (Table CNS 3) VOR/DME West End	Bahamas/West End	The VOR/DME stations is recommended in the FASID, but it is not implemented.	1/2004	B	This station is recommended for the West End Intl. Airport, Grand Bahamas Island.	Bahamas	

BLZ Belize

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1	2	3	4	5	6	7	8	9	10	11
CNS 9	CAR ATS Speech Circuits Plan (Table CNS 1C) - Belize APP- Puerto Barrios TWR	Belize- Guatemala/COCESNA	The required circuit is not implemented.	11 / 1999	COCESNA informed that the Puerto Barrios Airport changed to a National Airport, therefore, this circuit would no longer be an international requirement.	A	Study and implement a possible via. Action Plan: The category of the Puerto Barrios airport was changed to domestic; therefore, this circuit is no longer an international requirement.	Belize, Guatemala and COCESNA		
CNS 57	CAR ATS speech circuits plan (Table CNS 1C) Belize APP - Merida ACC	Belize and Mexico	The circuit is out of service since 1 June 2003.	6 / 2003	Informed during the CA/ANE/WG/3 Meeting and reported by the DCA of Belize.	A	To implement a direct circuit to establish communications in 15 seconds.	Mexico and Belize		

GTM Guatemala

CNS 18	CAR ATS Speech Circuits Plan (Table CNS 1C) - La Mesa APP - Puerto Barrios TWR	Guatemala- Honduras- COCESNA	The required circuit is not implemented. An IDD is being used.	11 / 1999	COCESNA informed that the required circuit is not being implemented, due to the fact that there are no facilities, but possible communications links will be analyzed.	A	COCESNA informed that the airport changed to national category. Action Plan: The category of the Puerto Barrios airport was changed to domestic; therefore, this circuit is no longer an international requirement.	Guatemala, Honduras and COCESNA		
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MEX Mexico

CNS 54	CAR VHF/AMS-voice. Aeronautical Mobile Service Plan (Table CNS 2A)	United States	Lack of VHF-AMS oral coverage under the FL280 in Houston oceanic FIR in the CTA Merida boundaries with the CTA Monterrey. This requirement does not figure in the Table CNS 2A of the FASID, which ICAO is coordinating with the United States.	1 / 2002	RO/ATM mission	U	To implement the required equipment for the operation of VHF/AMS oral functions. Implement a VHF remote stations in Mexico, based in a current agreement between Unites States and Mexico, as well as its mitigation by implementing ADS-B.	United States/Mexico		Budget specific approval for this purpose.
CNS 56	CAR ATS speech circuits plan (Table CNS 1C) Belize APP - Merida ACC	Belize and Mexico	The circuit is out of service since 1 June 2003.	6 / 2003	Informed during the CA/ANE/WG/3 Meeting and reported by the DCA of Belize.	A	To implement a direct circuit to establish communications in 15 seconds. Action Plan: ICAO will convene a Meeting with the participation of Belize, Mexico and COCESNA to analyse this situation.	Mexico and Belize		The MID/ACC reports indicate that the traffic registered is very scarce between MID/ACC and BZE/APP and the coordination is made through CENAMER/ACC- MID/ACC as established in the corresponding Letter of Agreement between both Units.

TTO Trinidad and Tobago

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1	2	3	4	5	6	7	8	9	10	11
CNS	2 CAR AFTN Plan (Table CNS 1A) AFTN Circuits Georgetown's)- Port of Spain (M)	Guyana-Trinidad & Tobago/AFTN COM Centres	The circuit was upgraded to 300 baud as interim measure, but the availability is low.	3/2001	Reported by CAR/SAM AIS/ATM/CNS 02/00 Informal Meeting	A	To implement a circuit by 2400 bps, IA-5 code and X.25 protocol. Guyana is planning to implement this circuit through REDDIG. The AFTN traffic of Guyana was temporarily rerouted through Caracas, Venezuela.	Guyana and Trinidad and Tobago	DEC/ 2004	
CNS	4 CAR ATS Speech Circuits Plan (Table CNS 1C) - Piarco ACC/Georgetown ACC (CM5 Circuit)	Trinidad and Tobago-Guyana	The circuit is reliable only at 90%.	3/1998	Reported by the NACC and SAM Regional Offices.	A	There are plans to implement this circuit through REDDIG.	CAAs Trinidad & Tobago and Guyana	DEC/ 2004	
CNS	22 CAR VHF/HF-AMS Communications Plan (Table CNS 2A) TTZP Piarco HF Voice	Trinidad and Tobago/CAR-A(3), CAR-B(1), SAM-2(2)	Several reports of pilots indicated that Piarco ACC was not available via HF frequencies. The Piarco centre has not implemented all required frequency, so it does not has 24 hours a day communication availability.	3/2001	Reported by the CAR/SAM AIS/ATM/CNS 02/00 Informal Meeting and examined by the 26th and 27th Eastern Caribbean Informal Working Group.	U	It has been agreed that airlines contact Piarco ACC through ARINC's HF radio facilities in New York, this temporary solution was implemented. Through an ICAO Technical cooperation project a new equipment has been installed and according to information from Trinidad and Tobago, it was expeted that its commissioning would be in September 2005.	CAA Trinidad and Tobago.	SEP/ 2005	
CNS	52 CAR ATS Speech Circuits Plan (Table CNS 1C) Piarco ACC/Paramaibo ACC	Trinidad and Tobago-Suriname	A IDD is used; but according to the FASID a direct circuit (D) is required	11/2003	Reported in RO/CNS mission	A	There are plans to implement this circuit through REDDIG.	Trinidad and Tobago-Suriname	DEC/ 2004	
CNS	53 CAR Communications Plan VHF/HF AMS (Table CNS 2A) TTCP Crown Point Intl. Airport - APP-I	Trinidad & Tobago	The APP-I service is not implemented	11/2003	Reported in the RO/CNS mission	A	Implement the APP/service station, but Trinidad & Tobago informed that the APP service at Crown Point Intl. Airport is provided by Piarco. Trinidad & Tobao will sent a letter to ICAO proposing the removal of this requirement in the table CNS 2A of the FASID.	Trinidad & Tobago		

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1	2	3	4	5	6	7	8	9	10	11
ARG Argentina										
CNS 11 SAM	Aeronautical Mobile Service Plan. Table CNS 1A. Lack of HF communications coverage in the Ezeiza FIR, Oceanic Sector	Argentina	Deficiencies in the HF communications have been identified in the oceanic part of the Ezeiza FIR.	SEP/ 1994	GREPECAS/4. IATA Report.	U	Total renewal of the HF equipments in Ezeiza (October 1999). The HF transmitter and receiver field antenna repaired on October 1999. FA Atlantic circuit, links verified 86,84%. New position was incorporated for the FA Atlantico. Operational extension of ACC Ezeiza and TMA Baires. Incorporation of means of communications between the aeronautical station and the remote equipment, obtaining the noise suppression in aeronautical station of the ACC. Receive only one HF frequency it is missing the monitor of other HF frequencies of the family assigned.	Argentina CAA		Installation of a module in the Ezeiza ACC that permit the selection of more than one HF frequency.
BRA Brasil										
CNS 19 SAM	Radio Navigation Service Plan. Table CNS 3. VOR/DME	Brazil, Corumba	This VOR/DME is not implemented	MAY/ 1989	This VOR would support air navigation along the air routes UA300 and UA304. Currently, an NDB is operating at the significant point	A	VOR/DME will be not installed . They asked to remove it fromTable CNS 3 of FASID	Brazil		It will be not implemented
CNS 23 SAM	Radio Navigation Service Plan. Table CNS 3. VOR/DME	Brazil, Ilheus	This VOR/DME is not implemented	MAY/ 1989	This facility, recommended for en route navigation, would support the air route UA314. Currently, an NDB is operating at the significant point	B	VOR/DME will be not installed . Brazil asked to remove it fromTable CNS 3 of FASID	Brazil		It willbe not implemented
ECU Ecuador										
CNS 29 SAM	Aeronautical Mobile Service Plan. Table CNS 1A. Lack of HF AMS communications in the Guayaquil FIR	Ecuador	Guayaquil AMS HF system out of service	SEP/ 2004	Due to civil works in Guayaquil International Airport the HF station of the mobile aeronautical service is out of service .	A	No information was received on action plan to re install the HF equipments.	Estado		
GUY Guyana										

OUTSTANDING DEFICIENCIES

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1	2	3	4	5	6	7	8	9	10	11
CNS 30	SAM FASID Table CNS 3	Timehri /Cheddi Jagan Intl Airport	ILS system out of service . This system was installed in 1978. Difficults in its maintenance.	OCT/ 2004	Since the ends of 2003 the ILS system is completely out of service. Lack of spare parts to repair the equipments .This was verified during the CNS mission in Guyana on October 2004.	A	No plan to implemt in a short term.	State		Lack of resource
CNS 31	SAM FASID Table CNS 3	Timehri /Cheddi Jagan Intl Airport	DME system out of service . This system was installed in 1978. Difficults in its maintenance. Both DME unities out of service in their RF final power.	OCT/ 2003	Since the ends of 2003 the DME system is completely out of service. Lack of spare parts to repair the equipments .This was verified during the CNS mission in Guyana on October 2004.	A	No plan to implemt in a short term.	State		Lack of resource
PRY Paraguay										
CNS 15	SAM Radio Navigation Service Plan. Table CNS 3. DME	Paraguay ASUNCION/S. Pettrossi	This DME is not implemented	MAY/ 1989	This DME is associated with the ILS for approach and landing operations. NDBs are used as markers	A	PARAGUAY informed that they are not going to install the DME associated to the ILS , because the ILS counts with a medium and external radio marker.	Paraguay		It will be not implemented
CNS 21	SAM Radio Navigation Service Plan. Table CNS 3. VOR	Paraguay, Mariscal Estigarribia	This VOR is not implemented	MAY/ 1989	This facility, recommended for en-route navigation, would support air routes UA320 and UA321	A	The modernization project of the Paraguayan air navigation system considers the VOR/DME. Date of VOR/DME implementation was not supplied.	Paraguay		
PER Peru										
CNS 25	SAM Radio Navigation Service Plan. Table CNS 3. ILS CAT II	Peru LIMA-CALLAO/Jorge Chavez	The current ILS sytem meets CAT I performance	MAY/ 1989	According to the Plan, the ILS requires Category II signal quality	B	Peru has indicated that the airport meets operational conditions for the Category. Only pending is ILS flight inspection.	Peru		
SUR Suriname										
CNS 26	SAM Radio Navigation Service Plan. Table CNS 3. NDB	Suriname PARAMARIBO/Zorg en Hoop	This NDB is not implemented	MAY/ 1989	This facility was recommended for terminal navigation	B	The NDB won't be installed The Aeronautical Administration of Surinam asked to remove the NDB from Table 3 of FASID.	Suriname		It will be not implemented
VEN Venezuela										

OUTSTANDING DEFICIENCIES

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE CNS FIELD IN THE SAM REGION

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CNS 14 SAM	Aeronautical Mobile Service Plan. Table CNS 1A. Lack of VHF communications in the Maiquetia FIR	Venezuela	Due to the lack of VHF coverage in some segments of ATS routes crossing the Maiquetia FIR, ATS is not yet provided in the required level	MAY/ 2001	AP/ATM/2 meeting.	U	A new VHF communication system for Maiquetia ACC was acquired through the ICAO Technical Cooperation Section with the aim to guarantee the complete coverage of the ACC. The system is in the installation phase and it is foreseen its operation at the middle of 2008.	Venezuela CAA	OCT/ 2007	