International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Eighteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/18)
Punta Cana, Dominican Republic, 9 to 14 April 2018

Agenda Item 4: **Regional air navigation planning and implementation performance framework: Review of programmes and projects**

4.3 Projects under the Automation and ATM Situational Awareness Programme (BO-RSEQ, B0-FICE, B0-SNET, B0-ASUR and B0-SURF)

(Presented by IATA)

SUMMARY	
This information paper presents a follow-up of the optimization and harmonization of the Longitudinal Separation Minima in the CAR and SAM FIR's boundaries	
REFERENCES: - Doc. 4444 – PANS/ATM - SAM/IG Meetings - NACC/WG Meeting	
ICAO strategic objectives:	A – Safety B – Air navigation capacity and efficiency E – Environmental protection

1. Background

1.1 After a thorough analysis, several meeting in CAR and SAM Regions considered that the implementation of an Optimization of longitudinal separation could be gradual and that it was advisable that this optimization be applied regionally to increase airspace efficiency and capacity.

1.2 The regional application of an optimized longitudinal separation minima was discussed during the ICAO/IATA/CANSO Performance-Based Navigation (PBN) Harmonization, Modernization and Implementation Meeting for the Caribbean (CAR) Region, held in Fort Lauderdale (February 28 March – 01 April, 2016)

1.3 Since the longitudinal optimization procedures were established in the PANS ATM DOC 4444, they could be implemented as the Letters of Operational Agreement between different adjacent FIRs were reviewed.

2. Discussion

2.1 The optimization of longitudinal separation, either in a conventional or radar operational environment, is expected to increase efficiency of operations in the CAR and SAM Region, as well to reduce the work load of ATCO and pilots, taking into consideration that the aircraft would be "naturally separated" and a few intervention of the ATCO would be needed to change aircraft's Flight Level. This reduction on the workload would lead to a safety improvement.

2.2 Taking into consideration that the optimization of longitudinal separation from 10 minutes or 80 NM directly to a separation of 20 NM in a conventional environment could represent a significant impact on the operational procedures currently applied, the SAMIG and NACC/WG has established a strategy to apply a gradual optimization, through an action plan developed by the States involved, using initially 40 NM longitudinal separation, that is double the separation minimum required under Doc 4444.

2.3 After a substantial progress on the implementation of 40 NM separation minima, some states has started the implementation of the regular separation minima: 20 NM, which is the final objective in most cases.

2.4 Taking into consideration the existing radar coverage in some portions of the CAR and SAM Region and the projects on expansion of this coverage, it is natural the evolution for the separation of 10 NM, with a view of a better use of existing CNS infrastructure.

2.5 The non-harmonized longitudinal separation minima has a domino effect on the flight operations, due to the need of coordination between ACCs responsible by ATS in neighboring FIRs, causing the use on non-optimum flight profiles and resulting in unnecessary fuel burn and CO2 emissions. So it is important that all states in CAR and SAM Regions, with reliable VHF coverage, agree on implementation of 20 NM separation minima, with objective of avoiding the mentioned domino effect.

2.6 Most of the CAR and SAM States are already applying 40 NM Longitudinal Separation Optimization, as reflected in the figure shown in the **appendix A** to this information paper.

2.7 It is important to make a close follow-up of the implementation of the longitudinal separation optimization, to guarantee a harmonization between CAR and SAM States. In this sense, the SAM Region is applying the table shown in the **appendix B** to this information paper and it would be recommended that NACC Office use the same table, in order to have a better follow-up of the application of the optimized longitudinal separation minima.

3. **Conclusion:**

3.1 There was a significant progress on implementation of 40 NM Longitudinal Separation Minima in the CAR/SAM Regions. It is expected that 20 NM Longitudinal Separation Minima implementation minima be expedited and finalized in 2018.

3.2 The meeting is invited take note of the information provided in this paper.

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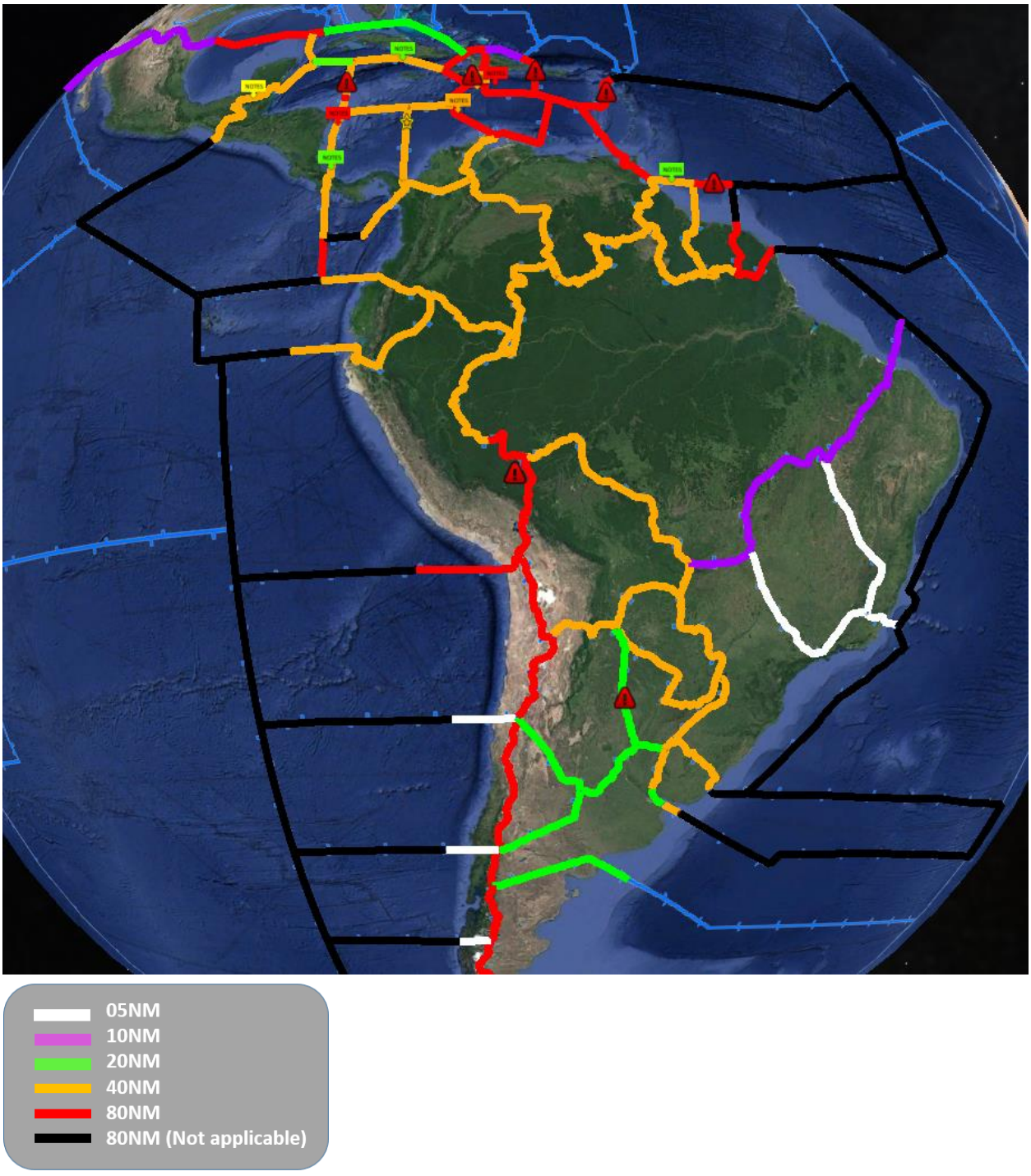
APPENDIX A



APPENDIX B
Status of Optimized Longitudinal Separation Implementation

ARGENTINA *updated SAMIG20, oct 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation date	20 NM GNSS/ DME	Implementation date	
CORDOBA	IQUIQUE	OG				
	LA PAZ	YES	01/01/17			
	EZEIZA			YES	13/10/2016	
	MENDOZA			YES	13/10/2016	
	RESISTENCIA			YES	13/10/2016	Issues with VHF coverage
RESISTENCIA	ASUNCION	YES	01/01/17			
	LA PAZ	YES	01/01/17			
	CORDOBA			YES	13/10/2016	
	CURITIBA	YES	01/01/17			
	EZEIZA			YES	13/10/2016	
	MONTEVIDEO	YES	01/01/17			
EZEIZA	COMODORO RIVADAVIA			YES	13/10/2016	
	MENDOZA			YES	13/10/2016	
	PUERTO MONTT	OG				
	CORDOBA			YES	13/10/2016	
	RESISTENCIA			YES	13/10/2016	
	MONTEVIDEO	YES	01/01/17	YES	2010	PAPIX, KUKEN and DORBO 20 NM
MENDOZA	EZEIZA			YES	13/10/2016	
	SANTIAGO	OG				
	CORDOBA			YES	13/10/2016	
COMODORO RIVADAVIA	EZEIZA			YES	13/10/2016	
	PUNTA ARENAS	OG				
	PUERTO MONTT	OG				

BOLIVIA *Updated Workshop OSL, nov. 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
LA PAZ	AMAZÓNICO	YES	01/01/17			.
	ASUNCION	YES	01/01/17			.
	CURITIBA	YES	01/01/17			.
	CORDOBA	YES	01/01/17			.
	LIMA	OG				
	IQUIQUE	OG				
	RESISTENCIA	YES	01/01/17			.

BRASIL *Updated Workshop OSL, nov. 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
AMAZÓNICO	BRASILIA	---	---	---	---	10 NM
	BOGOTÁ	YES	13/10/16			
	CAYENNE	---	---	---	---	10 MINUTES
	CURITIBA	---	---	---	---	10 NM
	GEORGETOWN	YES	07/01/16			
	LA PAZ	YES	01/01/17			
	LIMA	YES	31/03/16			
	MAIQUETIA	YES	23/10/16			
	PARAMARIBO	YES	13/10/16			
	RECIFE	---	---	---	---	10 NM
	ATLANTICO	---	---	---	---	10 MINUTES
BRASILIA	AMAZÔNICO	---	---	---	---	10 NM
	CURITIBA	---	---	---	---	5 NM
	RECIFE	---	---	---	---	5 NM
CURITIBA	ASUNCION	YES	Mar/2016			
	AMAZONICO	---	---	---	---	10 NM
	BRASILIA	---	---	---	---	5 NM
	LA PAZ	YES	01/01/17			
	MONTEVIDEO	YES	01/01/17			
	RECIFE	---	---	---	---	5 NM
	RESISTENCIA	YES	01/01/17			
	ATLÂNTICO	---	---	---	---	10 MINUTES
RECIFE	AMAZÔNICO	---	---	---	---	10 NM
	BRASÍLIA	---	---	---	---	5 NM
	CURITIBA	---	---	---	---	5 NM
	ATLÂNTICO	---	---	---	---	10 MINUTES
ATLÁNTICO	AMAZÔNICO	---	---	---	---	10 MINUTES
	CURITIBA	---	---	---	---	
	RECIFE	---	---	---	---	
	CAYENNE	---	---	---	---	

CHILE *Updated Workshop OSL, nov. 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
SANTIAGO	IQUIQUE	NA	---	----	-----	5 NM
	MENDOZA	OG				
	PUERTO MONTT	NA	----	----	----	5 NM
IQUIQUE	CORDOBA	OG				
	LA PAZ	OG				
	LIMA	OG				
PUERTO MONTT	SANTIAGO	NA	---	----	----	5 NM
	PUNTA ARENAS	NA	----	----	---	5 NM
	EZEIZA	OG				
	COMODORO RIVADAVIA	OG				
PUNTA ARENAS	PUERTO MONTT	NA	----	----	----	5 NM
	COMODORO RIVADAVIA	OG				

COLOMBIA *Updated Workshop OSL, nov. 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
BOGOTÁ	AMAZÔNICO	YES	30/09/16			
	CENAMER	NO				
	GUAYAQUIL	YES	13/10/16			
	LIMA	YES	10/11/16			
	MAIQUETIA	YES	21/03/17			
	PANAMÁ	YES	13/10/16			
	BARRANQUILLA	YES	05/10/16			
BARRANQUILLA	MAIQUETIA	YES	21/03/17			
	PANAMÁ	YES	13/10/16			
	BOGOTÁ	YES	05/10/16			
	KINGSTON	YES	15/06/13			
	CURAÇAO	NO				

ECUADOR *Updated Workshop OSL, nov. 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
GUAYAQUIL	BOGOTÁ	YES	13/10/16			

GUYANA FRANCESA *Updated SAMIG20, oct 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
CAYENNE	AMAZÔNICO	---	---	---	---	10 MINUTES
	PARAMARIBO	---	---	---	---	10 MINUTES
	PIARCO					No hay información

GUYANA *Updated SAMIG20, oct 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
GEORGETOWN	AMAZONICO	YES				
	PIARCO					No hay información
	MAIQUETIA	OG				
	PARAMARIBO	YES				

PANAMÁ *Updated Workshop OSL, nov. 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
PANAMÁ	BOGOTÁ	YES	Oct/16			
	BARRANQUILLA	YES	Oct/16			
	CENAMER	YES	15/11/16			
	KINGSTON	YES	10/12/16			

PARAGUAY *Updated Workshop OSL, nov. 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
	CURITIBA	YES	Mar/16 fecha SAMIG 16			
	LA PAZ	YES	01/01/17			
	RESISTENCIA	YES	01/01/17			Is not being applied. Coordination with Argentina is required.

PERU *Updated Workshop OSL, nov. 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
LIMA	AMAZONICO	YES	31/03/16			
	BOGOTÁ	YES	31/03/16			
	OCEANICO	NA	---	---	---	
	IQUIQUE	OG				
	GUAYAQUIL	YES	10/11/16			
	LA PAZ	OG				

SURINAME *Updated SAMIG20, oct 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
PARAMARIBO	AMAZÓNICO	YES	13/10/16			OG
	GEORGETOWN	YES	29/03/16			Signed
	PIARCO	N/A	---	---	---	Oceanic Separation
	CAYENNE	N/A	---	---	---	Oceanic Separation

URUGUAY *Updated SAMIG20, oct 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
MONTEVIDEO	CURITIBA	YES	01/01/17			
	EZEIZA	YES	01/01/17	YES	2010	PAPIX, KUKEN, DORBO 20NM
	RESISTENCIA	YES	01/01/17			

VENEZUELA *Updated Workshop OSL, nov. 2017						
ACC	ACC ADJ	Longitudinal Separation				RMK
		40 NM GNSS/ DME	Implementation Date	20 NM GNSS/ DME	Implementation Date	
MAIQUETIA	AMAZONICO	YES	12/12/15			
	BOGOTA	YES	21/03/17			
	BARRANQUILLA	YES	21/03/17			
	PIARCO	OG				
	CURAZAO	NO				Curazao does not agree
	SAN JUAN	NO				San Juan cannot implement
	GEORGETOWN	OG				