



Agenda Item 3: Implementation of Air Traffic Flow Management (ATFM) and improvement of procedures for flow coordination between agencies.

**INTERNATIONAL COLLABORATIVE DECISION-MAKING
ROUTES (CDM-ROUTES)**

(Presented by Brazil)

SUMMARY

This Information paper presents the experience of Brazil with the use of the collaborative decision to plan ATS routes where there is participation of National, International and Airspace Companies.

References

DOC 9971 (Manual on Collaborative Air Traffic Flow Management).

1. Introduction

1.1 The CDM-Routes is a process adopted by the Center for the Management of Air Navigation (CGNA) since 2011, which has the purpose of adjusting all the preferential and alternative routes of Brazilian airspace. The objective of the work is to identify the problems and to look for possible solutions in a collaborative decision-making environment.

1.2 In 2014, the CDM-Routes was attended by representatives of International Airlines, by invitation of the CGNA, when it was renamed International CDM-Routes.

1.3 In the year 2018, International CDM-Routes took place in the State of São Paulo with airspace responsible, Air Traffic Controllers (ATCO), representatives of national and international airlines with the objective of reviewing the Bank of Preferential and Alternative Routes in accordance with the operational needs of Air Traffic Control (ATC) and National and International Airlines, coordinated by CGNA, from September 17 to 21, 2018.

1.4 At the end of the CDM, a table with all routes adjusted and / or canceled according to the efficient use of airspace was presented. (Appendix to this note).

2. Discussion

2.1 In the period that comprised the CDM-Rotas, the International and Domestic Preferential Routes were analyzed, with a special focus on those originating or destined to the airports of Guarulhos, Galeão, North America and Central America. Accordingly, some routes were canceled from the Flight Information Regions (FIR) of Brasília and Curitiba. This action provided more flexibility to Airlines in the

planning of routes, especially in the Amazon FIR, in order to meet their operational needs, and should always use the airways published in AIP-Brasil.

2.2 Considering the needs of analysis of the proposals of the Airlines and presentation of alternative solutions by the ATC, the event was carried out in two stages. The first one was CDM-Routes / 11A - occurred in the period from September 10 to 14, 2018, at the Air Space Control Institute (ICEA), in São José dos Campos / SP. The organs of the Brazilian Airspace Control System (SISCEAB) participated, with the objective of prior analysis of the proposals of National and International Airlines and preparation for CDM-Routes / 11B. The second was CDM-Routes / 11B, which took place from September 17 to 21, 2018, at the Brazilian Association of Airline Companies (ABEAR) and the International Air Transport Association (IATA) in São Paulo / SP. There was participation of the SISCEAB Organs, Airlines, IATA and ABEAR, with the objective of discussing the proposals of the Airlines and updating the Bank of Preferential and Alternative Routes.

The event was structured following the agenda as follows:

a) Presentation of the ATC

The ATC involved made a series of presentations for the Air Companies present, contemplating the characteristics and particularities of their respective areas of activity, punctuating possible impacting factors and sometimes impossible to meet some requests for changes and / or creation of determined routes.

b) Analysis of the Bank of Preferential Routes in force

The preferential and alternative routes in force have been submitted to the Airlines' analysis and no proposals have been presented to modify them.

c) Analysis of the Proposals of Modifications of Preferential Routes in force

The proposed modifications of Preferential and Alternative Routes in force made by the Airlines were analyzed.

National Airlines

AIRLINES	CHANGES IN THE ROUTE IN FORCE	CHANGES IN THE ROUTE IN FORCE APPROVED	CHANGES IN THE ROUTE IN FORCE WITH ADJUSTMENTS	CHANGES IN THE ROUTE IN FORCE NOT APPROVED
GLO	43	10	5	28
TAM	-	-	-	-
AZUL	13	1	4	8
AVA	-	-	-	-
TOTAL	56	11	9	36
%	100	19.66	16.07	64.29

International Airlines

AIRLINES	CHANGES IN THE ROUTE IN FORCE	ADJUSTMENTS IN THE ROUTES IN FORCE	CHANGES IN THE ROUTE IN FORCE APPROVED	CHANGES IN THE ROUTE IN FORCE WITH ADJUSTMENTS	CHANGES IN THE ROUTE IN FORCE NOT APPROVED
AAL	-	33	33	-	-
AFR	-	10	10	-	-
FDX	4	-	4	-	-
COPA	-	-	-	-	-
DELTA	-	-	--	-	-
UAL	-	-	-	-	-
MMX	-	-	-	-	-
TOTAL	4	43	47	0	0

d) Analysis of Proposals for the Creation of New Preferential Routes

Proposals for the creation of Preferential and Alternative Routes were analyzed by Airlines.

National Airlines

AIRLINES	NEW ROUTES PROPOSALS	NEW ROUTES APPROVED	NEW ROUTES APPROVED WITH ADJUSTMENTS	NEW ROUTES NOT APPROVED
GLO	1	-	1	-
TAM	2	1	1	-
AZUL	6	4	-	2
AVA	5	1	-	4
TOTAL	14	6	2	6
%	100	42.86	14.28	42.86

International Airlines

AIRLINES	NEW ROUTES PROPOSALS	NEW ROUTES APPROVED	NEW ROUTES APPROVED WITH ADJUSTMENTS	NEW ROUTES NOT APPROVED
AAL	9	9	-	-
AFR	4	2	-	2
FDX	-	-	-	-
COPA	2	-	-	2
DELTA	13	13	-	-
UAL	2	2	-	-
MMX	1	-	-	1
TOTAL	31	26	-	5
%	100	83.87	0	16.13

e) Other topic

- Consideration was given to the need for closer contact between CGNA and International Airlines at the Strategic and Tactical levels;
- CGNA will issue guidelines to the AIS Rooms with respect to the procedures established in the CDM-Routes; and
- The CGNA is developing, with a deadline for the end of 2018, the publication channel of Preferred Routes in AISWEB, the official aeronautical information disclosure portal of DECEA, in order to reduce the workload and difficulty of traceability in NOTAM.

f) Next Meeting GEPEA / SG1 / CDM-ROTAS / 12

In this item, it was established that the next meeting is scheduled to take place from September 16 to 20, 2019, at IATA / ABEAR premises in São Paulo / SP, keeping the same agenda as the previous one.

3. Suggested Actions

Participants are invited to:

- a) Analyze the information provided in this information note; and
- b) Consider the International CDM-Routes process presented as an example to be implemented in the Region in order to increase efficiency in the use of airspace in terms of demand and capacity, with a high level of operational safety and protection of the environment in a collaborative decision-making environment.

The aforementioned corroborates the DOC 9971, that states:

2.3.4.8 CDM benefits for ATFM

Applying CDM principles to ATFM facilitates the ability to make better decisions and provides the stakeholders with enhanced situational awareness. This awareness generates an environment where such stakeholders share a better understanding of the overall situation. (DOC 9971, p. II-2-4)

APPENDIX

Bank of Preferential and Alternatives Routes adjusted after CDM-Routes

ROTA	DEP	ABB	ROTA EM VIGOR	TIPO	OBSERVAÇÕES CGNA	JUSTIFICATIVA ACC-BS	JUSTIFICATIVA ACC-CV	JUSTIFICATIVA ACC-RE	JUSTIFICATIVA ACC-AD
1	SBAR	SBGR	ATARO DCT SYD UZ10 PUBAY UZ16 POSMU DCT CNF UZ21 MOXEP	PREF	1- ATARO DCT SYD UZ10 PUBAY UZ16 POSMU DCT CNF UZ21 MOXEP (PMK: HORARIO DE EDBT ENTRE 06:31-20:59 UTC (05:01-20:59 UTC DURANTE A VIGENCIA DO HORARIO BRASILEIRO DE VERAO HBT)) 2- TOMAS UZ21 MOXEP (PMK: HORARIO DE EDBT ENTRE 22:00-06:30 UTC (20:00-05:30 UTC	MANTER ROTA EM VIGOR PARA BALANCEAMENTO DO SETOR 15		TOMAS UZ21 MOXEP	
2	SBBR	SBGR	NIMKI UZ38 MOXEP	PREF	MANTER				
3	SBBR	SBCF	MUGIS UZ35 MEBLU	PREF	MANTER				
4	SBBR	SBXP	MAWJU UZ22 ENTIT	PREF	MANTER				
5	SBBR	SBSF	MAWJU UZ22 ENTIT	PREF	MANTER				
6	SBBR	SBGL	MUGIS UZ35 LUVSU UZ24 MAYGU	PREF	MANTER				
7	SBBR	SEFL	NIMKI UZ26 TOKIM	PREF	MANTER				
8	SBCF	SBPF	KOKSU UZ14 AVILA UZ59 ZIPAR	PREF	APROVADA	ROTA PROPOSTA APROVADA		KOKSU UZ16 POSMU UZ36 SYD UZ17	
9	SBCF	SBSV	KOKSU UZ16 POSMU UZ36 MUMAS	PREF	MANTER				
10	SBCF	SBGO	SELDO UZ28 CORVO UZ46	PREF	MANTER A ROTA EM VIGOR, A FIM DE GARANTIR O ORDENAMENTO DOS TRAFEGOS NOS SETORES S14 E S07 DA FIR. BS, ALÉM DAS PROPOSTAS APRESENTAREM	MANTER ROTA EM VIGOR PARA ORDENAMENTO DOS TRAFEGOS DO S14 E S07.			
11	SBCF	SBXP	MOTMA UZ30 ENTIT	PREF	MANTER				
12	SBCF	SBSF	MOTMA UZ30 ENTIT	PREF	MANTER				
13	SBCF	SBGR	MAWBO UZ21 MOXEP	PREF	MANTER				
14	SBCG	SBGR	BRAKE UZ22 ASEFO UM411 PUPSI	PREF	MANTER		FAVORÁVEL		
15	SET 1H213H1 4H5 CV	SBGR	SBRJ 2076992018 NOTAMR SBRJ 203222018 O) SBBS/FFCA/IN/INBOIAE/000/999/2125505025V9 99 A) SBBS - /FIR BRASILIA, B) 2W04R8 18:02 - C) 1807R18 23:59 E) PROC GERENCIAMENTO FLUXO ACT ACFT PROCEDENTES DE AERODROMOS SITUADOS NOS LIMITES LATERAIS DOS SETORES 1L, 12, 13, 14 E 15 DA FIR CURITIBA COM DEST A SBGR, EFETUANDO VODS DOMESTICOS, QUE NAO SEJAM CONTEMPLADAS POR RTE PREFERENCIAIS PUBLICADAS POR NOTAM, DEVERAO SEGUIR OS SEGUINTE TRECHOS DE RTE PREFERENCIAL.	PREF	MANTER		FAVORÁVEL		

ROUTE IN FORCE	CANCELED ROUTES	MODIFIED ROUTES	ROUTES KEPT
225	52	12	161

PERCENTUAL			
ROUTE IN FORCE	CANCELED ROUTES	MODIFIED ROUTES	ROUTES KEPT
225	23.11%	5.33%	71.55%
