Agenda Item 2: Report of activities of the GESEA and Subgroups

REPORT OF ACTIVITIES OF GESEA SUBGROUP 1

(Presented by Secretariat)

SUMMARY

This working paper presents the report of the activities of Subgroup 1 of the GESEA and proposes actions to be considered by the SAM States for the progress in the initiatives related to The Planning of the Airspace.

References:

- Report of GESEA/SG1/3 Meeting.
- Report of SAM/IG/27.

1. Background

1.1 There has been no meeting of GESEA Subgroup 1 (SG1) since SAM/IG/27. In this sense, the progress reported below were developed within the scope of the Task Forces.

1.2 In order to organize the GS1 Work Plan, the progress of the States on the initiatives and deliverables developed by Task Groups was analyzed. At the same time, tasks to be carried out in 2023 for the implementation of the elements of optimization of the airspace and the ATM were agreed, as described below.

2. Discussion

Strategic Direct Routing (EDE)

2.1 The status of the implementation of the EDE is presented as **Appendix A** to this working paper. There was no progress in SAM States. It is important to highlight that the EDE continues to be the main strategy for the implementation of the initiatives linked to the FRTO module of the GANP. The EDE is essential for the development of aviation in the South American region, taking into account the global scenario with high costs due to fuel prices, and the sustainability goals established by ICAO through the reduction of CO2 emissions.

Implementation of User Preferred Routes (UPR)

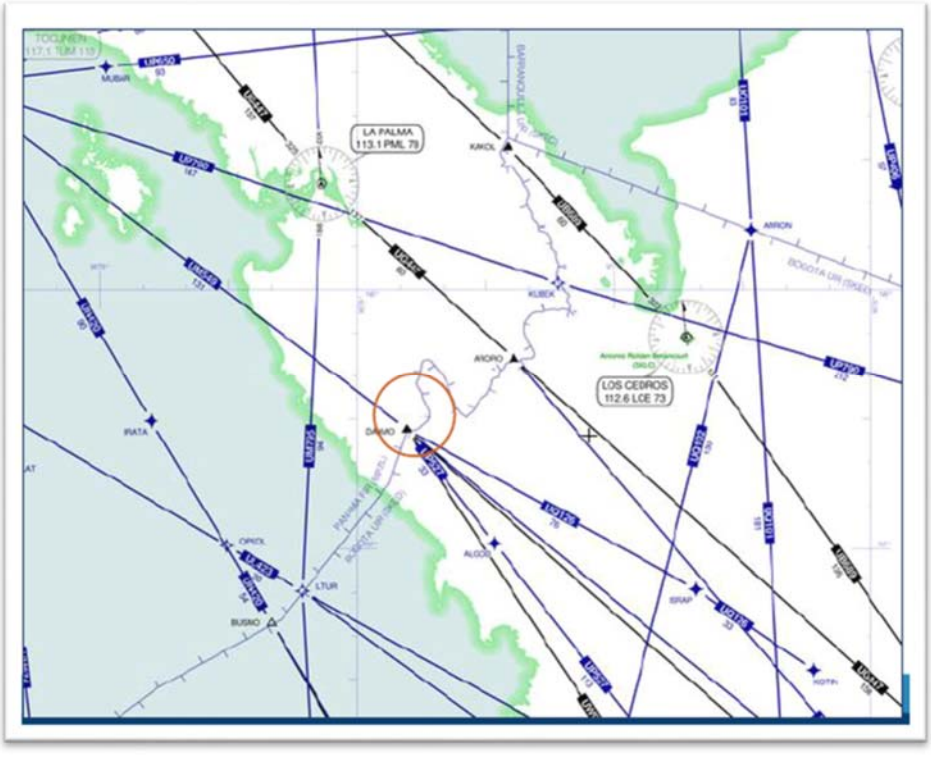
2.2 Based on a strategy developed within the CIIFRA group, the GEPEA/SG1 DCT-FRA Task Force has started an initiative for the implementation of UPRs in States where EDE has not yet been implemented, as a way to obtain early benefits of fuel savings and reduction of CO2 emissions. In this context, the UPR route catalogue was developed within the scope of CIIFRA, with a view to harmonizing the proposals for the implementation of UPRs in the NACC and SAM Regions. Routes involving only the NACC region or NACC and SAM regions are attached as **Appendix B**. Routes involving only SAM region are attached as **Appendix C**.

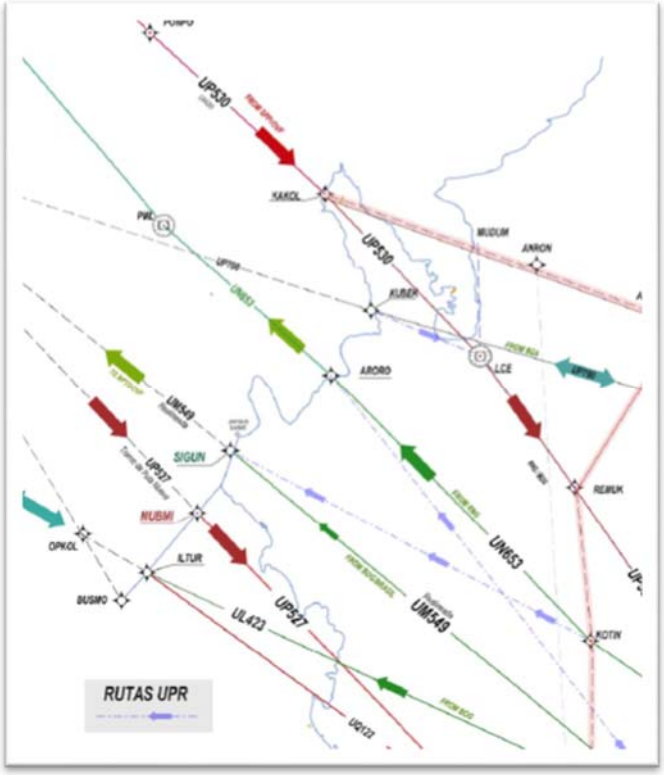
2.3 Routes involving only the NACC region or the NACC and SAM regions are being coordinated by the CIIFRA group and routes involving only SAM region are being implemented by GESEA.

2.4 Regarding routes involving only the SAM region, GOL airline has submitted UPRs for 09 city pairs, which need coordination with Argentina, Brazil and Uruguay. The routes have already been evaluated and approved by Brazil, with additional distance reductions, compared to GOL's proposals. A specific meeting was held between the aforementioned States, but it was not possible to advance in this implementation in the Montevideo FIR, taking into account technical problems in one of the radars that support the ATS surveillance service. Regarding the UPRs that involve only Argentina and Brazil, the analysis by EANA is awaited. As an example, a single route, between SBFZ and SABE, only the Brazilian airspace, will provide a saving of 44NM and 159Kg of fuel if compared to the current route (UN741), from its approval by Uruguay.

Air Traffic Flow between Colombia and Panama

2.5 On July 6, 2022, a specific meeting was held to discuss the implementation of EDE in Colombia and Panama. At this meeting, the project to restructure air traffic flows between the Bogotá and Panama FIR was presented. After the meeting, ICAO Lima has made the necessary coordination to reach a bilateral agreement between the states of Panama and Colombia, where it was determined to separate the transit flow that enters with the outflow to the Bogotá and Panama RIS, through the design of parallel RNAV 5 regional routes at the limit of the aforementioned RIS. See graphs below, about the current situation (example; confluence in DAKMO) and with the projected optimization.





2.6 In this way, it will be possible to reduce the risk windows caused by the high volume and conflicts of air traffic that evolves in this joint sector, as well as increase the possibilities of CCO/CDO operations and reduce the workload of the ATCOs involved. It was agreed to publish in both States the SUP/AMDT on October 6, 2022 with effect from December 1, 2022. Aerocivil Colombia has published an instructional video (7 minutes) about this project, in the link:

https://www.youtube.com/watch?v=b4zs3bt_dQc

2.7 Colombia has reported that a project is being carried out to re-sectorizing the Bogotá FIR, with a view to dividing the workload related to the air traffic sequence for SKBO, SKRG and SKCL Airports, as well as for MPTO. In addition, the most appropriate division of the workload may allow in the future the use of UPRs and corresponding evolution for EDE and FRA.

EDE-FRA Implementation Guide Material

2.8 The preliminary version of the EDE-FRA Implementation Guide Material can be found on the GESEA TEAMS Channel. In this version, the material related to the work developed by CIIFRA was included, taking into account the intention that this guide material be applied by the NACC and SAM regions.

2.9 Considering the complexity of developing this guide material and the resulting need for full-time dedication of approximately 2 weeks, it would be advisable for the meeting to consider requesting the support of project RLA/06/901 for its preparation, through the hiring of experts from SAM States.

Airspace Planning: Regional Documentation and Training

2.10 The work done to develop Regional Airspace Planning documentation is presented WP/2.2. With the material completed and approved by SAM/IG/28, the Workshop for Airspace Planners will be held in **Lima from November 7 to 11, 2022**.

Update of the PBN SAM Roadmap and operational concept document (CONOPS) for SAM airspace

2.11 The documents approved by SAM/IG//27, "Operational Concept for SAM Airspace Efficiency and Capacity (CONOPS EC/SAM) 2022-2026" and "Performance-Based Optimization of SAM Airspace - Roadmap 2022 –2026, both in English and Spanish, are available at the following link;

https://oaci.sharepoint.com/:f:/r/sites/SAM-CAR-ANS-GESEA/Shared%20Documents/GESEA/BIBLIOTECA?csf=1&web=1&e=g9HxPO

2.12 For monitoring the 2022-2026 Roadmap purposes, as agreed in SAM/IG/27, States must keep their progress in the implementation of PBN updated in the new Table XLS that is available at the link;

https://oaci.sharepoint.com/:x:/r/sites/SAM-CAR-ANS-GESEA/Shared%20Documents/GESEA/SG1%20PLAN%20EA/4.%20%20PBN%20en%20SAM%20para%20Hoja%20de%20Ruta%2022-26/GESEA%20SG2%20PBN%20progress%20abril%202022.xlsx?d=wbb975ff827ab414bb66e8d184f366334&csf=1&web=1&e=HNSPKE

Optimization of Regional routes 2022 - 2023. Implementation of RNAV-5

2.13 Colombia and Panamá have worked on a set of improvements for RNAV 5 routes and airspace of the adjacent sector to their FIRs. See paragraphs 2.5, 2.6 and 2.7 above.

Planes de Contingencia ATS

2.14 The results of the SAM SUR Workshop/Meeting, held in Lima, Peru, from September 5 to 9, 2022, are presented in WP/2.9. The recommendation issued and the results of the work on aircraft separation optimization, LOA ATS and ATS Contingency Plans are presented. The second version of this Workshop, called SAM NORTE, will be held in Lima, from **October 24 to 28, 2022**.

3. Suggested actions

3.1 The Meeting is invited to:

a) Take note of the information presented in this working paper;

b) assess the status of EDE implementation in the SAM Region (Appendix A);

c) analyse the convenience of requesting support from project RLA/06/901 for the development of Regional guidance material, through the recruitment of experts from SAM States.

APPENDIX A

Status of EDE Implementation in the South American Region

(Reviewed by SAM/IG/27)

- **Argentina. -** The EDE has not yet been implemented. The TMA Baires is in the process of being implemented, which is expected to affect the airspace of several FIRs neighboring Ezeiza, therefore, the issue of EDE implementation has not yet been defined.
- **Bolivia. -** The EDE has not yet been implemented. Progress in the implementation of the ATS surveillance service in the FIR La Paz was reviewed, and it is hoped that the coverage of pilot-controller VHF communications will also be extended, and it is foreseen that with the fulfillment of these technical conditions the EDE can be implemented.
- **Brazil. -** The EDE is implemented in all the FIRs of Recife and Amazonica and in most of Brasilia and Curitiba FIR, as published in the AIP Brazil (ENR 1.9 AIR TRAFFIC FLOW MANAGEMENT AND AIRSPACE MANAGEMENT).
- **Chile. –** EDE implemented in a portion of the ocean space, according to AIC NR 19 - 28 OCT 2020.
- **Colombia. –** The EDE is not implemented. Sup AIP A64/C86, 04 NOV 2020, has been cancelled, taking into account the increase in the volume of air traffic in the Barranquilla and Bogotá FIR.
- **Ecuador.** – EDE implemented in the entirety of the Guayaquil FIR, as published in AIP as part of ENR 1.10.
- **Panama. –** The EDE has not yet been implemented. However, it was indicated that there is a tactical application for direct flight for a long time. The applicable conditions have been published in AIP ENR 1.8-1.
- **Peru. –** EDE implemented in the upper oceanic airspace of the FIR Lima, through Supplement AIP 01/21, as of June 1, 2021 In a first stage, the entry and / or exit to / from the EDE space of the FIR Lima must be done through travel points published in the AIP Peru.
- **Uruguay. -** The EDE is not implemented. It was stated that all SID/STAR procedures and ATS routes within FIR Montevideo have a direct and very efficient configuration. The option of publishing specific information in AIP was analyzed, in a way that facilitates the knowledge of the airlines for the presentation of flight plans with origin in Montevideo, which could access the application of EDE in the neighboring FIR spaces. In addition, there will possibly be more information that will be subject to the implementation process of the Baires TMA, which is expected to affect the airspace of the Montevideo FIR.
- **Venezuela. –**The EDE was implemented in most of the Maiquetia FIR through sup AIP C03A03/21 on the AIRAC date of May 2021.

CIIFRA Route Catalog

UPDATED: August 29, 2022

Airline	City Pair	Southbound Route	Northbound Route	Status	Start Date	End Date
Aerolinas Argentinas (ARG)	SAEZ - KJFK - SAEZ	Not requested	SAEZ PTA6A KUKEN UL324 MIGOT UM402 BVI UM423 KIKER DCT DONQU L454 OKONU DCT YAALE Y495 CAMRN DCT KJFK	Approved	7/15/2022	10/13/2022
Aerolinas Argentinas (ARG)	SAEZ - KMIA - SAEZ	KMIA GWAVA1 URSUS UP406 BILSI UL795 LORBA DCT EMABU UP525 SJE UB689 LET UP525 RCO UL417 LOKOX UM784 BOLET UL404 ISOPO UT672 MULTA UW24 SNT SNT6A SAEZ	SAEZ BIVAM2A BIVAM UW8 PAR UL417 PABON EJA KILER UM779 ZEUSS VIICE1 KMIA	Approved		3/5/2023
Aerolinas Argentinas (ARG)	KMIA - SAEZ	KMIA GWAVA1 URSUS UP406 BILSI UL795 LORBA DCT EMABU UP525 SJE **UB689 PABON ISARA PUBUM SNT** SNT6A SAEZ	Not requested	To be coordinated		
Aerolinas Argentinas (ARG)	MMUN - SAEZ	MMUN CZM1A CZM **UB881 ANIKO DCT RADIM DCT LIXAS UL203** ARNEL UM542 TAL UV1 JCL UL550 ROS UT672 MULTA UW24 SNT SNT7U SAEZ	Not requested	Approved	8/29/2022	11/27/2022
American (AAL)	KMIA - SPJC - KMIA	KMIA MAYNR1 FUNDI DCT LEPON DCT ARNAL DCT TINPA DCT VAMOS DCT GYV DCT VAKUD DCT ATATU ATATU2 SPJC	SPJC ISRE2F ISREN DCT VAKUD UL780 GYV DCT VAMOS DCT TINPA DCT LEVOR UP536 GCM UG448 ATUVI DCT IKBIX SNDBR2 KMIA	Approved	6/15/2022	10/7/2022
American (AAL)	KDFW - SPJC	KDFW ARTZ8 TNV MUSYL L207 IPSEV UL207 CPE IOS URPOS LIXAS UL203 ATENO UM5 42 TAL UV1 ATATU ATATU2 SPJC	Not requested	To be coordinated		
American (AAL)	KMIA - SCEL - KMIA	KMIA MAYNR1 FUNDI LEPON ARNAL TINPA VAMOS GYV VAKUD ATUTU ILMAR UL302 SIMOK SIMO5D SCL	SCEL DONT4B DONTI UL780 ISREN VAKUD UL780 GYV VAMOS TINPA LEVOR UP536 GCM UG448 ATUVI IKBIX SNDBR2 KMIA	Approved	TBD	TBD
Caribbean (BWA)	TTPP - KMIA - TPPP	KMIA SKIPS2 SKIPS Y290 HAGIT Y421 HARBG L452 ANADA UG449 PERGA ITRAK NAPKO LEXOR TALUS TTPP	TTPP DCT ANADA DCT MUNOZ DCT HARBG Y330 FODED DCT MADIZ DCT FOXID DCT FLIPR FLIPR7 KMIA	Approved		11/4/2022
Caribbean (BWA)	TTPP - KJFK - TTPP	KJFK JFK SHIPP SPDEY DOGRS BLUUU DUMPR ISLES SQUAD DARUX ENAPI SHEIL ODUCA GEECE PERGA ITRAK NAPKO LEXOR TALUS TTPP	TTPP POS GEECE ODUCA L459 SHEIL ENAPI DARUX L459 SAVIK YAALE YETTI MOUGH OWENZ PREPI LEECY CAMRN KJFK	Unable		
Copa (CMP)	MPTO - SBGL - MPTO	MPTO DCT OREPI DCT DAKMO UW36 VASIL DCT OBKIL DCT GAVIT DCT ILKOD DCT 0835S05957W DCT PALEP DCT 1404S05339W DCT NAXIV DCT SAMGA DCT OGMUK UTBOM2A SBGL	SBGL EVRAD1A ENSOD DCT VULER DCT GELIB DCT NAXIV DCT SAMAR DCT ESDAG DCT 0901S05939W DCT MIMUM DCT 0428S06440W DCT GAVIT DCT OBKIL UM549 DAKMO DCT ISOKO ISOKO1 MPTO	Approved	5/9/2022	No end date
Copa (CMP)	MPTO - KLAX - MPTO	KLAX PNDAH2 TCATE DCT PPE DCT ALGUN DCT OTOSO DCT IPSAG DCT OTITI DCT EMOBI DCT EMADA DCT IOS DCT ANSON DCT VUMAN VUMAN1A MPTO	MPTO SIMAN2A SIMAN DCT AMUBI DCT VOKAS DCT ATUTO DCT AXOMU DCT RAULS DCT CVM DCT AVAPA DCT ASUTA DCT AMMOR OLAAA2 KLAX	In coordination		
Delta (DAL)	KATL - SPJC - KATL	KATL SMLTZ2 WALET DCT YUESS Q79 MCLAW Y442 FUNDI DCT LEPON DCT ARNAL DCT TINPA DCT VAMOS DCT GYV DCT VAKUD DCT ATATU ATATU2 SPJC	SPJC ISREN2F ISREN DCT VAKUD UL780 GYV DCT VAMOS DCT TINPA DCT LEVOR UP536 GCM UG448 ATUVI DCT IKBIX Y183 PEAKY Q87 MATLK Q77 SHRKS DCT LAIRI DCT LARZZ JJEDI2 KATL	Approved		10/14/2022
Delta (DAL)	KATL - SBGR - KATL	KATL VRSTY2 MCN DCT YANTI Q89 MANLE Y185 RENAH Y355 FIPEK Y294 GESSO L467 ANADA DCT KORTO DCT SUMVA ... SBGR	SBGR ... SUMVA DCT KORTO DCT ANADA L452 HARBG Y421 HAGIT Y306 VENDS Y185 MANLE Q89 SHRKS DCT LAIRI DCT LARZZ JJEDI2 KATL	Approved		10/25/2022
Delta (DAL)	KATL - SAEZ - KATL (Option 1)	KATL SMLTZ2 WALET DCT YUESS Q79 FEMID DCT DHP A509 URSUS UP406 BILSI EMABU UP525 RCO UL417 TOPOG UL404 ISOPO UT672 MULTA UW24 SNT SNT6A SAEZ	SAEZ BIVAM2A BIVAM UW8 PAR UL417 BORDO Y259 OCTAL Q77 SHRKS DCT LAIRI DCT LARZZ JJEDI2 KATL	Approved		10/7/2022
Delta (DAL)	KATL - SAEZ - KATL (Option 2)	KATL VRSTY2 MCN DCT YANTI Q89 SHRKS DCT CRG DCT DEBRL DCT OMN DCT URSUS UP406 BILSI UL795 LORBA DCT EMABU DCT BOBKA DCT VULNO DCT LONAX DCT PUPAS DCT LET DCT ARNUB DCT ISARA DCT PUBUM UL417 TOPOG UL404 ISOPO UT672 MULTA UW24 SNT SNT6A SAEZ	SAEZ BIVAM2A BIVAM UW8 PAR UL417 PUBUM DCT CITRA DCT PUDBU DCT ARUXA DCT LONAX DCT IROTI DCT NEVPA UL417 LENAX DCT ALTIB UM779 ZEUSS DCT OCTAL Q77 SHRKS DCT LAIRI DCT LARZZ JJEDI2 KATL	Approved	6/24/2022	10/7/2022
Delta (DAL)	KATL - SCEL - KATL	KATL VRSTY2 MCN DCT YANTI Q89 SHRKS DCT DEBRL Q97 EBAYY DCT DHP A509 URSUS UL780 SULNA DCT TOY UV208 SIMOK SIMO6B SCEL	Not requested	To be coordinated		
Gol Linhas Aéreas (GOL)	SBBR - MMUN - SBBR	MMUNR12R BOTOP2A BOTOP UM782 ARNAL DCT ROKIN DCT IROTI DCT TME DCT KODSI DCT AKPEP DCT MIBAB DCT ISIPA DCT RAXIL DCT XINGU DCT MALMI UZ33 PAPES OBDOG2A SBBRR11L	SBBRR11R KOTVU3B PAPES UZ33 MALMI DCT TELOS DCT PUMTU DCT DEMIT UM656 EKOXU DCT MIBAB DCT AKPEP DCT KODSI DCT TME DCT DIBAM UW10 MGN DCT ALPON DCT LEVOR DCT BIRLO DCT ANIKO DCT PAULE PAULE1H MMUNR12L	To be coordinated		
Gol Linhas Aéreas (GOL)	SBGR - MDPC - SBGR	Not requested	SBGRR09L UKBEV1D UKBEV UZ26 KEXIT UZ46 ROMIK DCT OPRUX DCT LIVAB DCT VUREB DCT DARLO DCT UTMID DCT EDPET DCT BUVIP DCT LDP DCT ANBAG UM423 MTA DCT UTGIS DCT ARMUR DCT SATOE RNAV MDPCR08	To be coordinated		

United (UAL)	KIAH - MSLP - KIAH	KIAH.RITAA6.WWREN..KANNA..KEKRI..TADET..BASKO..VSA..ASOKU..OLISU..MSLP	MSLP..OLISU.UG436.AUR.UW3.ASOKU..VSA..BASKO..TADET..KEKRI..MAM.J25.CRP.HTOWN2.KIAH	Approved		Ad Hoc Basis
United (UAL)	KIAH - MMPR - KIAH	KIAH ... CRP MTY OTEKA KEDMA MMPR	MMPR ... XUDED UT148 OTEKA MTY CRP ... KIAH	Approved		11/30/2022
United (UAL)	KIAH-MMSD-KIAH	KIAH ... PNG DCT CODLE DCT TENAY MMSD	MMSD DCT USBOG DCT OLESI DCT CUL UJ10 SLW J29 CRP KIAH	To be coordinated		
United (UAL)	KIAH-MMGL-KIAH	KIAH ... DEVOE AXEDO LIVRI ... MMGL	MMGL ... GOYAS ALOVO DEVOE CRP ... KIAH	To be coordinated		
Emirates (UAE)	MMMX -SEQM Option 2	TEVOS UT113 OAX DCT IPSUM UL318 PALAD	Not requested	To be coordinated		
Emirates (UAE)	MMMX -SEQM Option 1	TEVOS UT113 OAX DCT ALSAL UL318 PALAD	Not requested	To be coordinated		
Emirates (UAE)	KORD-SEQM	BACEN DCT BLOKR DCT BEKKI DCT ENL DCT SQS J35 MCB DCT HRV L333 PISAD UL333 ILUBA UN420 SPP DCT RHT DCT TOKUT UM674 NEGAL DCT	Not requested	To be coordinated		
Emirates (UAE)	MMGL-KIAH	Not requested	OTOKI DCT URVIK DCT MTY J29 CRP DCT LMEDA	To be coordinated		

CIIFRA SAM Internal Route Catalog

UPDATED: August 19, 2022

Airline	City Pair	Southbound Route	Northbound Route	Status	Start Date
Gol Linhas Aéreas (GOL)	SBGR - SAME - SBGR	SBGRR09L ZORZA1A SOVSI UZ85 ATIMA DCT ESNOG DCT ARULA UM400 SIKOB DCT	SAMER36 SALBO1C SALBO UL531 CBA DCT IREKA UW14 UROLI DCT GEBUN DCT VUNAT		
Gol Linhas Aéreas (GOL)	SCEL - SBGR	No southbound route	SCELR17R GUVOL5B GUVOL DCT ORABA DCT ERE UW14 UROLI DCT GEBUN DCT TERER		
Gol Linhas Aéreas (GOL)	SAAR - SBGR	No southbound route	SAARR20 DABOT1G DABOT DCT RIOKA DCT GEMSU DCT VUNEG UZ71 BOLIP UZ28 XONUG		
Gol Linhas Aéreas (GOL)	SACO - SBGR	No southbound route	SACOR01 IRAVO1 GEMOP DCT SIKOB DCT TIGDI DCT ESUKA DCT SUMPO UZ28 XONUG		
Gol Linhas Aéreas (GOL)	SBFZ - SABE	SBFZR13 RODIT1A RODIT UM654 ANSOK DCT UGPIR DCT MOTGI DCT UBLAM DCT TOGAL UL324 KUKEN KUKEN2Q SABER13	No northbound route		
Gol Linhas Aéreas (GOL)	SBMO - SABE - SBMO	SBMO SBMOR12 ESBIR2A DENDO DCT MAPVU DCT VUTNO DCT OPVUK UZ21 LOKAM UZ85 BIVAR DCT VUGUP DCT MAZAR DCT URURI DCT KUKEN KUKEN2Q SABER13 SABE	SABE SABER13 KUKEN7 KUKEN DCT URURI DCT PUBED DCT DOLDI DCT XONUG DCT BIVAR DCT KONVI UZ23 BHZ DCT VUTNO DCT MAPVU DCT MCE DCT SBMOR12 SBMO		
Gol Linhas Aéreas (GOL)	SABE - SBSG - SABE	SBSG SBSGR12 AMVUK1C VACAR DCT MOSMU UZ30 ENTIT DCT DIDAB DCT DOLDI DCT PUBED DCT URURI DCT KUKEN KUKEN2Q SABER13 SABE	SABE SABER31 KUKEN7 KUKEN DCT URURI DCT EPGEP DCT UMGES DCT GELAB DCT UKBAG DCT SIGIR DCT ALGAP DCT OFITO DCT RAXIK DCT VACAR VACAR1G SBSGR12 SBSG		
Gol Linhas Aéreas (GOL)	SABE - SBRF - SABE	SBRF SBRFR18 SATMA2A MCE DCT ELEFA DCT REMIG UZ30 ENTIT DCT KIGES DCT SUMPO SABE UN741 PUBED DCT UMRUD UN741 PAPIX PAPIX1R SABER31	SABE SABER13 KUKEN7 KUKEN DCT URURI DCT PUBED DCT DOLDI DCT XONUG DCT BIVAR DCT KONVI UZ23 BHZ DCT VUTNO DCT MAPVU DCT ARU BUVAD1A SBRFR18 SBRF		
Gol Linhas Aéreas (GOL)	SABE - SBSV - SABE	SBSV SBSVR10 GEDEX2A TOLOG DCT LOMOR DCT VUKAT UZ57 OPVUK UZ21 LOKAM UZ85 BIVAR DCT VUGUP DCT MAZAR DCT URURI DCT KUKEN KUKEN2Q SABER13 SABE	SABE SABER13 KUKEN7 KUKEN DCT URURI DCT PUBED DCT CTB DCT KONVI UZ23 BHZ DCT VUTNO DCT MUMAS ASUGA1A SBSVR10 SBSV		