



**Agenda Item 2: Optimisation of SAM airspace**

- a) PBN implementation in TMA spaces
- b) Implementation of version 5 of the SAM route network and CAR interfaces

**PBN IN ARGENTINA - DEVELOPMENTS**

(Presented by Argentina)

<b>SUMMARY</b>	
This working paper presents an update of PBN implementation projects and action plans in Argentina, the status and developments of the BAIREES terminal modification project, and the implementation of version 5 of the SAM route network.	
<b>References:</b>	
<ul style="list-style-type: none"><li>• Doc 9750 – Global air navigation plan</li><li>• Doc 9992 - Manual on the use of PBN in airspace design</li><li>• Doc 10068 – Manual on the development of a regulatory framework for instrument flight procedure design service</li></ul>	
<b>ICAO strategic objectives</b>	<i>A – Safety</i> <i>B – Air navigation capacity and efficiency</i> <i>E – Environmental protection</i>

**1. Background**

1.1. The GREPECAS/18 meeting agreed on the need to continue taking appropriate measures to ensure the publication and implementation of PBN-based IFR routes and procedures for terminal control areas in order to enhance and maintain safety.

1.2. Regarding conclusion SAM/IG/14-4 (*Follow-up of PBN goals established in the Declaration of Bogota*), Argentina has not yet been able to comply with the redesign of terminals and the implementation of PBN procedures for runway ends at international airports, in accordance with pre-established metrics.

1.3. All modifications presented and introduced by EANA are the result of the work done by the different sectors of EANA, as well as of joint work with the various participating stakeholders.

## 2. Work performed and under way

2.1. Modifications in the terminals of Argentina are described in the table below.

TRELEW	JUNE 2018
PUERTO MADRYN	
MAR DEL PLATA	JUNE 2018
EL CALAFATE	JULY 2018
MENDOZA	JULY 2018
ROSARIO	OCTOBER 2018
NEUQUEN	OCTOBER 2018
BARILOCHE	NOVEMBER 2018
COMODORO RIVADAVIA	DECEMBER 2018
BAHIA BLANCA	JANUARY 2019
RESISTENCIA	JULY 2018
CORRIENTES	
COMODORO RIVADAVIA	AUGUST 2019
BAIRES *	DECEMBER 2019
JUJUY	DECEMBER 2019
TERMAS DE RIO HONDO (TUCUMAN)	JANUARY 2020
SAN LUIS	JANUARY 2020
TUCUMAN	JANUARY 2020
RECONQUISTA	JANUARY 2020
LA RIOJA	JANUARY 2020
PARANA	MARCH 2020
SAUCE VIEJO	
CORDOBA	MARCH 2020
USHUAIA	APRIL 2020
RIO GRANDE	APRIL 2020
POSADAS (ENCARNACIÓN)	MAY 2020
BAIRES INTERMEDIO	SEPTEMBER 2020

2.2 In order to design instrument procedures in the BAIRES TMA for Ezeiza (RWY 17 was only visual runway end) and El Palomar airports, modifications were made to airspace, restricted/prohibited areas the airport work sector, in view of the increasing volume of general aviation movements in the country (Moron). The first VACs (visual app charts) were developed to organise traffic flow.

2.3 The Second meeting for route optimisation (RO) in Argentina was held in 2019 with the participation of ATCOs from all over the country, safety management representatives, and representatives of the different commercial aviation companies. Proposals were presented, analysed, and used as material for the relevant airspace modifications. The Design Department assessed the 30 proposals, their possible impact on the published instrument procedures, and the need to review and modify the latter.

2.4 The routes providing the following savings were published, based on annual flights:

<b>NM SAVED</b>	<b>FUEL (KG)</b>
<b>423,537</b>	<b>2,199,175</b>
<b>ESTIMATED CO2 SAVINGS</b>	
<b>6,927,400</b>	

**Implementation plan - Circular 353**

2.5 ANAC published the AIC to advise about the modifications. GESEA is currently coordinating with the aeronautical authority. All the procedures to be modified were submitted by EANA S.E. to ANAC for analysis and publication when appropriate.

**Redesign of the BAIRES TMA**

2.6 The BAIRES terminal includes the airports of Ezeiza (SAEZ), Aeroparque (SABE), El Palomar (SADP), San Fernando (SADF) and Morón (SADM), whose specific needs and requirements require an update of arrival, departure and approach procedures.

2.7 Given the significance and impact involved, EANA is carrying out two parallel projects of similar characteristics but of different impact and type of execution:

- BAIRES (intermediate)
  - In April 2017, meetings started with the different units at the terminal to define possible modifications
  - During a period of more than one year, 21 meetings were held, resulting in a conceptual design for the BAIRES terminal.
  - In October 2018, the Design Department started implementation.
  - In May 2019, the flight paths developed by the ATCOs working at the terminal started to be uploaded to the STR (real-time simulator) for validation.
  - The real-time uploading processes need to be adjusted to enable procedure uploading and analysis.
  - Presentation to airlines.
  - Flight procedure design expected to start in December 2019. More than 90 new instrument procedures foreseen.
  
- BAIRES (future)
  - Public tender 06/2018. October 2018. Opening of envelopes 25 January 2019
  - The company in charge of the project is Indra Business Consulting, in collaboration with Tetrattech, DFS Aviation Service, and IDS.
  - Process consistent with Document 9992.
  - The kick-off meeting to explain the scope of the project was held in August, with the participation of representatives of the operational sectors of EANA (operations, safety, legal, CNS, *inter alia*), ATCOs of the units affected by the project, including representatives of the Montevideo and Uruguay terminals, the ATCO labour union, the aeronautical authority of Argentina, and commercial, general and sport aviation.
  - The first meeting was held on 23-24 October to develop the project CONOPS with the companies involved.
  - The implementation stage is expected to start in early 2022, with emphasis on training in procedures.

**3. Suggested action**

3.1 The Meeting is invited to:

- a) Take note of the information contained in this working paper; and
- b) make comments and suggestions regarding the various projects being carried out by the ANSP of Argentina.

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