



International Civil Aviation Organization

MIDANPIRG Air Traffic Management Sub-Group

Ninth Meeting (ATM SG/9)

(Sharm El Sheikh, Egypt, 14 – 16 November 2023)

Agenda Item 4: Planning and Implementation issues related to ATM/SAR

CHALLENGES CONFRONTING ATS ROUTE DESIGNATOR IN THE MID REGION

(Presented by Egypt/NANSC)

SUMMARY
<p>This Paper discusses National Air Navigation Services Company's (NANSC) initiatives, under the regulatory guidance of the Egyptian Civil Aviation Authority (ECAA), to prepare for the full implementation of basic ATS route designator management in Cairo FIR as a pilot in the Middle East region.</p> <p>It also acknowledges the challenges confronting the MID region in fully implementing ATS route designators.</p> <p>Action by the meeting is at paragraph 3.1</p>
REFERENCE(S)
<ul style="list-style-type: none"> - EGYPT AIP - ICAO ANNEX 11 - ICAO DOC. 9613 - ICAO MID DOC 007 - MID ANP, VOLUME II PART IV - WP/25 presented by NANSC in ATM SG/8 meeting (Amman, Jordan, 7-10 November 2022)

1. INTRODUCTION

1.1 According to ICAO Annex 11, The basic ATS routes designator shall consist of one letter of the alphabet followed by a number from 1 to 999.

1.2 The Selection of the letter shall be made from the following table:

ATS route designator letters	A, B, G, R				L, M, N, P				H, J, V, W				Q, T, Y, Z			
	PR	NPR	R	N-R												
Usage	X			X	X		X			X		X		X	X	

PR: Part of Regional network

NPR: Not part of regional network

R: RNAV route

N-R: Not RNAV route

1.3 ICAO SARPs in Annex 11 stipulate that basic ATS route designators shall be assigned in accordance with the following principles:

- a) All main trunk routes shall be assigned a unique basic designator that remains consistent throughout their entire length, regardless of the terminal control areas, states, or regions they traverse.
- b) When two or more trunk routes share a common segment, the segment shall be assigned each of the designators of the routes concerned, unless this would hinder the provision of air traffic service. In such cases, a single designator shall be assigned by mutual agreement.
- c) A basic designator assigned to one route must not be assigned to any other route.
- d) States must notify the ICAO-MID Regional Office of their requirements for designators for coordination.

2. DISCUSSION

2.1 The Cairo FIR has 57 ATS routes, of which 56 are RNAV5. A study of Cairo FIR ATS route designators found that:

- 26 routes (46%) are consonant with Annex 11.
- 6 routes (10%) are partially consonant with Annex 11.
- 25 routes (44%) are not consonant with Annex 11.

2.2 A recent study found that there are many challenges towards 100% consistency with the requirements of Annex 11 in ATS Route designator, including:

- a) **ICAO guidance materials.** It does not clearly distinguish between regional and non-regional (domestic) ATS routes in terms of their definition and specifications.
- b) **Shortage of available designators.** Due to the high demand for the establishment of new ATS routes, particularly PBN routes, there is a shortage of available designators. One possible solution to this problem is to agree on the extension of the use of the same designators across ICAO regions.
- c) **Harmonization of ATS routes between ICAO regions.** This can be a challenge due to different requirements and practices in different regions. For example, some regions may use a different numbering system for ATS routes than others.
- d) **Coordination with adjacent FIRs.** When extending an ATS route into an adjacent FIR, it is important to coordinate with the authorities of that FIR to ensure that the designator is not already in use and that the route is compatible with the adjacent FIR's airspace structure and traffic flow patterns.
- e) **Compatibility with automated systems.** ATS route designators should be compatible with the data processing and display requirements of ATS and aircraft systems. This can be a challenge for older systems that may not be able to handle certain characters or designator formats.

- f) **Future requirements.** ATS route designators should be assigned in a way that allows for future expansion and changes to the airspace structure without the need for fundamental changes to the designator system.
- g) **The increasing complexity of the airspace structure.** with more and more routes being established to accommodate new technologies and traffic patterns.
- h) **The need to integrate ATS routes with other airspace systems.** such as unmanned aircraft systems (UAS) traffic management (UTM) systems.
- i) **The need to make ATS route designators more flexible and adaptable to change.**

2.3 The consistent assignment of designators to main trunk routes offers several benefits, including:

- **Reduced workload for air traffic controllers:** Air traffic controllers only need to learn one designator for a main trunk route, regardless of its length or the states or regions it traverses. This reduces their workload and improves efficiency.
- **Improved safety:** Consistent designator assignment helps to reduce the risk of confusion and errors in air traffic control and flight planning.
- **Increased efficiency:** Consistent designator assignment facilitates the use of automated air traffic service data processing and computerized airborne navigation equipment.
- **Enhanced predictability:** ATS route designators make it easier for pilots to predict their flight paths and arrival times, which can improve the efficiency of flight planning and operations.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) agree upon the following:
 - address challenges mentioned in para. 2.2. to the ATM SG to take proper action; and
 - Mechanism of Full implementation of MID ATS route designator.