



International Civil Aviation Organization

**Seventh Meeting of the Aerodrome Safety, Planning & Implementation Group
(ASPIG/7) (Riyadh, Saudi Arabia, 6-10 April 2025)**

Agenda Item 2: Regional Performance Framework for Aerodrome Safety

USE OF ALPHANUMERIC CALLSIGNS TO REDUCE CALLSIGN CONFUSION

(Presented by ACI, CANSO, IATA and UAE)

SUMMARY

This paper aims to promote the use of alphanumeric callsigns in APAC and MID regions as a means of reducing the risk of callsign confusion and hence improve aerodrome safety and in particular, runway safety. The meeting will be invited, inter alia, to consider proposing the use of alphanumeric callsign as a Safety Enhancement Initiative in the next editions of Regional Aviation Safety Plans

1. INTRODUCTION

1.1 The danger of an aircraft taking action on an instruction directed to another aircraft in-flight or on the ground can lead to safety incidents and events. Miscommunication can occur between ATC and flight crews if identification is at a risk of being confused. Callsign confusion is not a rare occurrence when aircraft with ‘callsign similarity’ operate in the same airspace volume, or at the same aerodrome, during the same time frame.

1.2 Similarities between callsigns, resulting in callsign confusion, can be within the same airline and/or between more than one airline. A recent example of such confusion involved two flights, from the same airline, with similar sounding flight numbers, 349 and 399 on 6 August 2024 over the Mumbai airspace at flight level 360.

1.3 Callsign similarity/confusion is a known risk factor contributing to mid-air collision (MAC) and runway incursion (RI) events, both Global High-Risk Categories of Occurrence (G-HRC) identified in Doc 10004: GASP 2023-2025.

1.4 It is not only an airspace matter – callsign confusion on runways and taxiways can have many undesirable outcomes including the following examples with potentially severe aerodrome safety and air navigation efficiency consequences:

1.5 Risk to the accuracy of communication between Airfield Ops and ATC particularly during low visibility;

- a) Monitoring of VHF during peak times becomes more difficult increasing chance of errors being missed;
 - b) Confused communication between AOCC and Airfield Operations on live flights;
 - c) Communication accuracy between AOCC and ATC via phone;
- 1.6 Risk of runway and taxiway incursion and ground collision between aircraft and ground vehicle, or aircraft with aircraft; and
- 1.7 Risk of wrong entry into a closed WIP area, wrong parking stand, or taking a wrong and longer taxiing route resulting in loss of surface navigation efficiency e.g. longer taxiway occupancy times can lead to congestion, and a need for redirecting aircraft to the right stands.

2. DISCUSSION

2.1 Callsign confusions have been on the agenda of numerous safety related meetings at ICAO and many International Organizations.

2.2 Many of these organizations recommend the use of alphanumeric callsigns as a means to reduce the likelihood of callsign confusions. For example, the [Global Action Plan for the Prevention of Runway Incursions](#) first published by Eurocontrol in 2006 and the [Guidance Materials Related to Callsign Similarity](#) published by RASG-MID in May 2015 recommends the use of alphanumeric callsigns as a means to reduce the likelihood of callsign confusion.

2.3 An alphanumeric callsign is a combination of English alphabetical letters, i.e. A to Z, and numbers, i.e. 0 to 9, to uniquely identify an aircraft, flight or even vehicle on the ground, to provide many more possible combinations than a conventional numerical callsign consisting of numbers only, thereby reducing the chance of similar callsigns. The following are some examples of conventional ICAO callsigns converted into alphanumeric callsigns to reduce the risk of callsign confusions:

Operator	ICAO Call Sign (conventional)	ICAO Alpha Numeric Call Sign
Emirates	UAE408	UAE58E
Qatar Airways	QTR672	QTR71C
Qatar Airways	QTR663	QTR43F
Ryanair	RYR9647	RYR9QV

2.4 The issue of callsign confusion (“CSC”) and similarity, and the implementation of alphanumeric callsigns have been followed up several times at ICAO MID region since the publication of the [Guidance Materials Related to Callsign Similarity](#) in May 2015.

2.5 For example, in June 2015, MIDANPIRG/15 adopted the following conclusion:

CONCLUSION 15/2: CALL SIGN SIMILARITY PROVISIONS AND GUIDELINES:

That, States be urged to:

- a) take necessary measures to ensure that their Aircraft Operators (AOs) implement a mechanism to de-conflict callsign similarity between the same AO flights and thereafter between their local AOs and other Middle East AOs flights;
- b) report call sign similarity/confusion cases using the template at Appendix 4.1C; and
- c) develop a simplified mechanism to trigger the reporting of call sign similarity/confusion by ATCOs.

2.6 This was followed by a 2017 ICAO MID ATM-SG/3 encouragement for States inter alia to “follow up with their operators to implement the procedures for the de-conflicting of callsign similarities in coordination with the CSC initiative team”.

2.7 However, MIDANPIRG/20 held in 2023 “noted with concern the reduced level of implementation ...” in reference to MIDANPIRG Conclusion 15/2.

2.8 It should be considered that the implementation of alphanumeric callsigns is not wholly in the hands of aircraft operators and is dependent on airport and air navigation service provider systems acceptance and the updating of procedures to accept/recognise alphanumeric callsigns. It is important for all stakeholders to work together to ensure safety of aircraft be it in flight or on the ground.

2.9 In the below map the **green dots** are airports that were capable of handling alphanumeric callsigns and **red dots** not yet capable as of 2024, according to the data of a single airline with global operations



3. CONCLUSION AND RECOMMENDATION

3.1 It may be surmised that the slow take up of alphanumeric callsigns that MIDANPIRG/20 noted at certain States are due to:

- a) *Lack of awareness of the issue of callsign confusion;*
- b) *Lack of understanding of alphanumeric callsigns as a possible solution to such confusion; and*

c) Resistance to change the existing methods of working.

3.2 To overcome the issues listed in paragraph 3.1, it is recommended that:

- a) The issue of callsign confusions be reported to the next MIDANPIRG meeting and be put on the agenda of ASPIG/8;*
- b) Consider inviting Eurocontrol to share the use of Call Sign Similarity Tool (CSST) in reducing callsign conflict*
- c) States to consider including callsign de-confliction initiatives into National Safety Plan or State Safety Programme with a target implementation timeline by 2026.*
- d) Capacity Building, as part of ASPIG's and MIDANPIRG future work programme, be organized for both States that have implemented and not implemented alphanumeric callsigns, together with their ANSPs, aerodrome operators and airlines and other stakeholders, to discuss the issue of callsign confusions, solutions thereto, including alphanumeric callsigns;*
- e) ASPIG consider proposing the inclusion of alphanumeric callsigns as a mitigation to addressing the risk associated to callsigns confusion as part of the MID safety enhancement initiative in the 2026 to 2028 edition of the Regional Aviation Safety Plan (RASP).*

4. ACTION BY THE MEETING

4.1 The Meeting is invited to:

- a) Note the information in this paper; and
- b) Review the recommendations made in paragraph 3.2 above.

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