



WORKING PAPER

FOURTEENTH AIR NAVIGATION CONFERENCE

Montréal, Canada, 26 August to 6 September 2024

Agenda Item 3: Air Navigation System Performance Improvement

3.1: Proposals to improve the efficiency of air navigation services contributing to LTAG

NEED FOR CLARIFICATION OF THE USE OF THE NOTAM CODE FOR THE GROUND SEGMENT OF THE GROUND-BASED AUGMENTATION SYSTEM (GBAS)

(Presented by Dominican Republic, co-sponsored by 19 Latin American Civil Aviation Commission (LACAC) Member States²)

EXECUTIVE SUMMARY

This paper points to the need to clarify the use of NOTAM Codes (second and third letter) for reference to the ground segment (receiving antennae, processors and very high frequency (VHF) data broadcast (VDB) of the CAT I, II and III ground-based augmentation system (GBAS).

Action: The Conference is invited to consider the introduction of new NOTAM Codes (second and third letters) for the GBAS ground segment.

1. INTRODUCTION

1.1 In accordance with the provisions of Article 28 of the Convention on International Civil Aviation (Chicago Convention) concerning air navigation facilities, services, and standard systems, the Dominican Republic provides, in its territory, airports, radio services, meteorological services and other air navigation facilities and services to facilitate international air navigation in accordance with the standards and practices recommended or established from time to time, pursuant to the Convention.

1.2 We also adopt and put into operation the appropriate standard systems of communications procedure, codes, markings, signals, lighting and other operational practices and rules which may be recommended or established from time to time, pursuant to the Convention.

1.3 In the first decade of the 21st century, we were pioneers in the Caribbean and South American (CAR/ SAM) Regions in the implementation of global navigation satellite system (GNSS) flight

¹ Spanish version provided by Dominican Republic.

² Argentina, Aruba (Kingdom of the Netherlands), Belize, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela (Bolivarian Republic of)

procedures for approaches, standard departures and arrivals, and area navigation (RNAV) visual approach charts for all our international airports.

1.4 In the second decade, we have again become pioneers with the deployment of ground-based augmentation system (GBAS) landing system (GLS) Category I precision approaches supported by GBAS at one of our main airports.

2. DISCUSSION

2.1 The ground-based augmentation system consists of three segments: the satellite constellation, the ground segment (ground stations) and aircraft receivers. However, the selection criteria for the drafting and issuing of NOTAMs set out in the seventh edition (2022) of *Aeronautical Information Services Manual* (Doc 8126) include only the codes GA and GW for GNSS systems, without indicating whether those codes can be used to refer to the state of the GBAS ground segment.

2.2 When a degradation of the ground station segment occurs, the air navigation services providers (ANSPs) need to issue a NOTAM with the GA code or use the generic code XX. There is no specific code available for referring to the ground component of the GBAS system, and if the GA code is used, it is not clear whether the service is down because of a failure in the constellation or a failure in the GBAS ground segment.

2.3 *ICAO Abbreviations and Codes* (Doc 8400) provides the code and decode for the GLS, the Instrument landing system (ILS) and the Microwave landing system (MLS). The decode of the second and third letters of the NOTAM Code is specified for ILS and MLS (see the appendix), but no codes are indicated for GLS.

3. CONCLUSION

3.1 Paragraph 6.3.3.4 of the seventh edition (2022) of Doc 8126, Part III — *Aeronautical information in a standardized presentation and related services* states that the NOTAM Code selected describes the most important status or condition to be promulgated, and that in case an appropriate NOTAM Code does not exist for the information to be promulgated, the letters "XX" shall be used for the subject. However, it should be kept in mind that the use of "XX" in the NOTAM Code should be carefully assessed, as it prevents users from using the NOTAM Code as an effective filter mechanism.

3.2 In view of the above, we invite the meeting to consider the usefulness of assigning NOTAM Codes (second and third letters) for the GBAS ground segment and GLS approaches.

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APPENDIX

**THE NOTAM CODE — DECODE
SECOND AND THIRD LETTERS**

<i>Code</i>	<i>Signification</i>	<i>Uniform abbreviated phraseology</i>
CNS	GNSS services (G)	
	GA GNSS airfield-specific operations (specify operation)	gnss airfield
	GW GNSS area-wide operations (specify operation)	gnss area
CNS	Instrument and microwave landing systems (I)	
IC	Instrument landing system (specify runway)	ils
ID	DME associated with ILS	ils dme
IG	Glide path (ILS) (specify runway)	ils gp
II	Inner marker (ILS) (specify runway)	ils im
IL	Localizer (ILS) (specify runway)	ils llz
IM	Middle marker (ILS) (specify runway)	ils mm
IN	Localizer (not associated with ILS)	llz
IO	Outer marker (ILS) (specify runway)	ils om
IS	ILS Category I (specify runway)	ils cat I
IT	ILS Category II (specify runway)	ils cat II
IU	ILS Category III (specify runway)	ils cat III
IW	Microwave landing system (specify runway)	mls
IX	Locator, outer (ILS) (specify runway)	ils lo
IY	Locator, middle (ILS) (specify runway)	ils lm

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