



ICAO

International Civil Aviation Organization

**Twenty Eighth Meeting of the Communications/
Navigation and Surveillance Sub-group (CNS SG/28)
of APANPIRG**

Bangkok, Thailand, 01 July - 05 July 2024

Agenda Item 6: Navigation

6.4 Other navigation related issues

BDS STANDARDIZATION STATUS IN ICAO

(Presented by China)

SUMMARY

This paper provides the status of BeiDou Navigation Satellite System (BDS) standardization in ICAO, including the BDS SARPs endorsement progress, the BDS related contents in GNSS manual revision and augmentation system SARPs development.

1. INTRODUCTION

1.1 The proposed amendment to Annex 10, Volume I including the BDS core constellation has been effective on 31 July, 2023 and applicable on 2 November 2023.

1.2 The BDS related DFMC GNSS standardization work in ICAO NSP extended from core constellation SARPs to augmentation system SARPs development and GNSS manuals revision since 2021.

1.3 This paper presents the BDS SARPs endorsement progress and BDS related ICAO standards development status.

2. DISCUSSION

BDS SARPS ENDORSEMENT PROGRESS

2.1 The declaration of BDS commissioning on July the 31st, 2020 accelerated the progress of the BDS SARPs development and validation progress in ICAO Navigation Systems Panel (NSP). The ICAO NSP delivered the proposed amendments to Annex 10 – Volume I to include the BDS core constellation at the NSP/6 meeting in November 2020.

2.2 A state letter containing the proposed amendments to Annex 10 – Volume I was sent by ICAO to contract States in July 2021. During this process, no comment was received on BDS SARPs.

2.3 The commitment letter from China of the provision of BDS Open Service (OS) to civil aviation was accepted by ICAO council in February 2022, which contains the BDS commitment of providing BDS OS to civil aviation for the foreseeable future, on a continuous, worldwide basis and free of direct user charges. Final review of proposed amendment to Annex 10, Volume I was done at Air Navigation Commission 220th session in June, 2022. The final review of BDS SARPs was passed by the ICAO Council in March 2023. The proposed amendment to Annex 10, Volume I has been effective on 31 July, 2023 and applicable on 2 November 2023.

STATUS OF GNSS MANUALS REVISION

2.4 In March and April 2024, the relevant chapters of H-ARAIM in the GNSS manual were reviewed during three GNSS manuals adhoc meetings. Dealing with the suggestions for revision submitted by experts, the preliminary draft has been presented for GSWG review at JWGs/12 in May 2024. The complete draft will be delivered or GSWG review at JWGs/13 in November 2024.

STATUS OF DFMC GBAS SARPs

2.5 At NSP 7 GWG agreed that a small SARPs drafting group would be formed to begin writing SARPs for DFMC GBAS. We have joined the group to timely update the information such as the BDS satellite ephemeris mask for GBAS Type 1 message and the ground accuracy parameters of BDS in DFMC GBAS and so on. A first draft of the DFMC GBAS Annex 10 changes was introduced during JWGs/10 as WP 19. The DFMC GBAS SARPs Drafting ad-hoc continued to meet once or twice per month since JWGs/11. Version 1.0 of the draft DFMC GBAS Annex 10 changes were available in JWGs/12.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the BDS SARPs endorsement progress and BDS related contents in GNSS manual revision and augmentation system SARPs development in this paper; and
- b) discuss any relevant matter as appropriate.
