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International Civil Aviation Organization

**Twenty Fifth Meeting of the Communications/
Navigation and Surveillance Sub-group (CNS
SG/25) of APANPIRG**

Video Tele-Conference, 18 – 22 October 2021

**Review of Report
Third Meeting of GBAS/SBAS
Implementation Task Force
(GBAS/SBAS ITF/3)**

(Presented by Co-Chairs)



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Introduction

Third Meeting of the ICAO GBAS/SBAS Implementation Task Force (GBAS/SBAS TF/3)

- a) Held on 27-28 September 2021 via Video Teleconference (VTC)
- b) 134 participants from States/Administrations, ICAO, and International Organisations
- c) Total of nine (9) Working Papers (WPs), six (6) Information Papers (IPs) and one (1) Flimsy



WP11



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Discussion

Agenda Item 2: GBAS/SBAS Information Sharing Platform

Agenda Item 3: Updates from States about GBAS/SBAS
Implementation

Agenda Item 4: Technical Updates related to GBAS/SBAS

Agenda Item 5: Guidance Reference on Implementation
Process for GBAS/SBAS

Agenda Item 6: GBAS/SBAS Flight Procedure Design
Overview

Agenda Item 7: Review of Action Item List



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GBAS-SBAS Information Sharing Platform

- a) GBAS-SBAS Information Sharing Platform
 - Created on the APAC website for benefit of all States
 - Contains all those reference documents required for implementation of GBAS/SBAS
 - Link: <https://www.icao.int/APAC/Pages/GBAS-SBAS.aspx>
- b) Information available on this platform
 - Applicable and Reference Documents
 - Introduction of GBAS and SBAS concept
 - Update on the GBAS and SBAS Program per APAC State
 - List of National Focal Points
 - Map of GBAS/SBAS Implementation Status (Planned / Operational)
- c) States encouraged to
 - Suggest for any amendment in the contents
 - Update the information about focal points and GBAS/SBAS implementation status



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GBAS-SBAS Information Sharing Platform

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GBAS-SBAS Implementation

- [Applicable and Reference Documents](#)
- [Introduction of GBAS and SBAS concept](#)
- [Update on the GBAS and SBAS Programme per APAC State](#)
- [List of National Focal Points](#)
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GBAS SBAS

<input checked="" type="checkbox"/>	Number	Title	Update Date	Presenter	Edit
There are no documents in this view.					

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Updates from States about GBAS/SBAS Implementation

Three (3) working papers and six (6) Information papers presented by States, covering:

- a) Cross-border application of US SBAS (WAAS)
- b) Journey for implementation of GBAS in Australia
- c) Status updates of Japan SBAS (MSAS)
- d) Current status and expansion plan of Indian SBAS (GAGAN)
- e) Operation trial and current status of GBAS implementation at Tokyo International Airport (Haneda), Japan
- f) Certification framework for SBAS and GBAS implementation in Japan
- g) Concept of Operation (CONOPS) for GNSS event reporting proposed by Singapore
- h) GBAS Proof-of-Concept (PoC) Project between Japan and Thailand at Suvarnabhumi International Airport
- i) Implementation plan and current status of Korean SBAS (KASS - Korea Augmentation Satellite System)



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Technical Updates related to GBAS/SBAS

- a) Summary of Amendment to Annex 10, Volume I (applicable from 2 Nov 2023)
 - DFMC GNSS & SBAS
 - Galileo & BDS Standards
 - Flexibility in location of GBAS system in an airport covering multiple runways
- b) Review of the GBAS safety assessment guidance document related to anomalous ionospheric conditions and items identified for update
 - States' nomination of members to constitute an expert group for updating the document
- c) Hong Kong, China's sharing on their strategy and experience in VDB frequency assignment for GBAS and their safety and risk assessment process applied for GBAS Trial at Hong Kong International Airport



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Technical Updates related to GBAS/SBAS

Decision GBAS/SBAS ITF/3-1: Review and revise the GBAS and SBAS safety assessment guidance document related to anomalous ionospheric conditions	
<p>What: That, GBAS/SBAS ITF will review and revise the GBAS and SBAS safety assessment guidance document related to anomalous ionospheric conditions in view of GAST-D to support Cat II/III and DFMC SBAS.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: To provide updated GBAS and SBAS safety assessment guidance related to anomalous ionospheric conditions</p>	<p>Follow-up: <input checked="" type="checkbox"/> Required from States</p>
<p>When: 28 September 2021</p>	<p>Status: Adopted by TF.</p>
<p>Who: <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: GBAS/SBAS ITF</p>	



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Guidance Reference on Implementation Process for GBAS/SBAS

High level framework of guidance reference document on implementation process for GBAS/SBAS developed by the Co-Chairs

- a) Reference for the task force expert group to draft the guidance document for the Region
- b) States' nomination of members to constitute an expert group for drafting the guidance document



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Guidance Reference on Implementation Process for GBAS/SBAS

Decision GBAS/SBAS ITF/3-2: Guidance Document on Implementation Process for GBAS/SBAS	
<p>What: That, GBAS/SBAS ITF will draft a guidance reference document for implementation of GBAS/SBAS in the Asia/Pacific Region.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: To provide guidance for implementation of GBAS-SBAS in the Asia/Pacific Region</p>	<p>Follow-up: <input checked="" type="checkbox"/> Required from States</p>
<p>When: 28 September 2021</p>	<p>Status: Adopted by TF.</p>
<p>Who: <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: GBAS/SBAS ITF</p>	



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GBAS/SBAS Flight Procedure Design Overview

- GBAS/SBAS Flight Procedure Design Overview to describe the differences of these procedures vis-a-vis conventional procedures



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Review of Action List

- a) Development Awareness and Information Sharing
 - Tasks for information sharing (GBAS/SBAS Information Sharing Platform)
- b) Experience Sharing
 - Wait until COVID-19 situation to allow international travel
- c) Technical Issues
 - Management of SBAS Channel (GBAS/SBAS Information Sharing Platform)
 - VDB frequency assignment and coordination (State's WP in GBAS/SBAS ITF/3)
 - Review of the previous ionosphere studies (Co-chairs' WP in GBAS/SBAS ITF/3 and document to be updated by expert group)
 - SBAS coverage extension to neighbouring States (States' WPs in GBAS/SBAS ITF/3)
 - Relevant technical information available in GBAS/SBAS Information Sharing Platform
- d) Quick Guides and Reference
 - Reference ICAO documents (GBAS/SBAS Information Sharing Platform)
 - Develop high level guide on implementation process for GBAS and SBAS (Co-chairs' WP in GBAS/SBAS ITF/3 and document to be drafted by expert group)
- e) Training
 - To be addressed in future GBAS/SBAS ITF meetings



Annex B - WP11



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Action Required

The meeting is invited to:

- a) Review the Summary Report on the outcome of the GBAS/SBAS ITF/3 Meeting;
- b) Note **Decision GBAS/SBAS ITF/3-1 and 3-2** of the task force and the information contained in this paper; and
- c) Discuss any relevant matters as appropriate.



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