



International Civil Aviation Organization

MIDANPIRG Communication, Navigation and Surveillance Sub-Group

Seventh Meeting (CNS SG/7)
(Cairo, Egypt, 31 May - 02 June 2016)

Agenda Item 4: CNS Planning and implementation in the MID Region

GNSS PLANNING AND IMPLEMENTATION

(Presented by the Secretariat)

SUMMARY

This paper presents the GNSS planning and implementation including the outcome of the ACAC/ICAO MID Workshop on GNSS and the outcome of the MSG/5 meeting.

Action by the meeting is at paragraph 3.

REFERENCES

- ACAC/ICAO MID Workshop on GNSS SoD
- MSG/5 MEETING Report

1. INTRODUCTION

1.1 The ACAC/ICAO MID Workshop on GNSS, was successfully held at Golden Tulip Farah Hotel, Rabat, Morocco, 5 April 2016. Full details available at: <http://www.icao.int/MID/Pages/2016/ACAC-ICAO%20GNSS.aspx>

1.2 The MSG/5 meeting was held at the ICAO Middle East Regional Office in Cairo, Egypt, from 18 to 20 April 2016. Full details available at: <http://www.icao.int/MID/Pages/2016/MSG5.aspx>

2. DISCUSSION

GNSS Plans

2.1 The frequency band 1559-1610 MHz is used for elements of GNSS, frequency interference-free operation of GNSS is essential, and this band need to be protected. The meeting may wish to note that footnotes 5.362B and/or 5.362C have been suppressed although some MID States until the last days didn't delete their names from these footnotes. Accordingly, the meeting may wish to urge MID States provide enough protection to this band and make proper regulations, also to have proper procedures for the follow up of any intentional/unintentional interference in this band .

2.2 The meeting may wish to note that Joint ACAC/ICAO MID Workshop on GNSS was organized in Rabat, Morocco, 5 April 2016. The workshop among other subjects covered the following:

- an overview about the latest developments related to GNSS; including SBAS and GBAS;
- the African experience related to the GNSS initiatives in aeronautical domain;
- information on the European Geostationary Navigation Overlay Service (EGNOS) status, development and its roadmap; and
- awareness on some of the projects launched by European Commission to support the EGNOS extension to tiers States.
- GAGAN status and plans

2.3 The Workshop was a good opportunity for detailed discussions on topics to support the elaboration of a suitable strategy on GNSS, such as possible GNSS augmentations systems options, roadmap and synergy with regional Initiative. Representatives from ACAC and ICAO MID Region States and relevant stakeholders including airlines and industry participated in the Workshop and shared their views and perspectives. The workshop recommendations are at **Appendix A**.

2.4 The meeting may wish to note that ICAO NSP/2 meeting (1-11 December 2015) developed new guidance on GNSS monitoring for inclusion in the GNSS Manual. Corresponding updates to Annex 10 to become applicable by November 2018.

2.5 The MSG/5 meeting recalled that MIDANPIRG Conclusion 15/28 invited States to use the GNSS Radio Frequency Interference guidance prepared by the CNS SG and endorsed by MIDANPIRG/15 conclusion 15/28, for the development/amendment of their regulatory provisions related to the use of GNSS and associated threats. Furthermore, the meeting noted that ACAC/ICAO are planning to organize a joint Workshop on GNSS vulnerabilities in 2017.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review and initiation action for the implementation of the recommendation in **Appendix A**; and
- b) encourage States and Stake holders to actively participate in the Workshop on GNSS vulnerabilities in 2017.

APPENDIX A

RECOMMENDATIONS

- ACAC has to continue raise awareness regarding the Global Navigation **Satellites** System (GNSS: EGNOS, GBAS) (Workshops, Seminar and training etc.);
- ACAC GNSS WG AN Provide regular papers to the MIDANPIRG CNS SG;
- States to provide effective spectrum management and protection of Global Navigation Satellite System (GNSS) frequencies to reduce the likelihood of unintentional interference or degradation of GNSS performance;
- States engage all Stakeholders in all planning process;
- plan the upgrade of Air Navigation systems based on the identification of needs and expectation of the air space users and the identification of the optimum solution from operational and economic perspective. Maximize the use of the available technologies before investing in any new technologies;
- States to share experience on GNSS and ASBU B0 Modules implementation including sharing of training and implementation packages and visits to other States;
- State to identify operational requirements/Scope and improvements and plan for implementation accordingly taking into account the cost benefits of the different Augmentation systems available;
- GAGAN (ISRO/AAI) to provide to CNS SG/7 details on the services and the requirement for extension of these services to the MID Region;
- EC to provide working papers to the CNS SG/7 on the progress achieved in the MID/ACAC States from the MEDUSA including the work programme for the Workshop in September which will discuss the template of the International Agreements;
- States participated in the MEDUSA interested in further progress on EGNOS activities have to send official letters to EC, and provide updates on their GNSS plans and implementations Status to the CNS SG/7;
- EC is ready to assist any ACAC States not participated in MEDUSA for the conduct of the cost benefit analysis free of charge upon official request from the CAA or ACAC;
- JPO and MID Region to share their experience on legal and institutional frame work on EGNOS implementation. JPO is also ready will provide support to interested African States;
- ACAC and ICAO assist in harmonization to enhance interoperability and maximize available resources;
- ACAC GNSS WG with ICAO Support to carry out the study to assess the likelihood and effects of Global Navigation Satellite System Vulnerabilities in the MID Region airspace;
- CNS SG and GNSS WG to develop MID Region GNSS mitigation strategy;

- Regional and Global coordination should be improved in order to define and meet the requirements of the Regional ANP and GANP; and
- Evaluation of the implementation of GBAS system costs and benefits in the area of Arab Countries.

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