International Civil Aviation Organization

THE SECOND MEETING OF IONOSPHERIC STUDIES TASK FORCE (ISTF/2)

15 – 17 October 2012, Bangkok, Thailand

Agenda Item 2: Review outcome of relevant meetings/conferences

d) ICAO NSP

REVIEW OUTCOME OF ICAO NAVIGATION SYSTEMS PANEL WORKING GROUP OF THE WHOLE (WGW) MEETING

(Presented by the Secretariat)

SUMMARY

ICAO Navigation Systems Panel (NSP) Working Group of the Whole (WGW) Meeting was held in Montreal from 9 to 19 May, 2012. This paper reports significant relevant outcomes of the meeting.

1. INTRODUCTION

1.1 Navigation Systems Panel (NSP) Working Group of the Whole and other NSP Working Groups and Sub-Groups met at the International Air Transport Association (IATA) Conference Facility in Montreal, Canada from 9 to 18 May, 2012. Four Sub-Groups: Cat II/III (CSG) (Rapporteur – Tim Murphy), the GNSS SARPs Sub-Group (CSSG) (Rapporteur – Eric Chatre), the Conventional Navaids and Testing Group (CNSTSG) (Rapporteur – Ken Ashton) and the Spectrum Sub-Group (SSG) (Rapporteur – Felix Butsch) held their separate meetings during the during the course of the main meeting.

1.2 Mr. Schleifer, President ICAO Air Navigation Commission (ANC), introducing ANC informed that the Commission is composed of 19 Commissioners and some industry observers. The ANC is appointed by the Council and reports to the Council only. The Commission has 6 Champion teams for different technical areas, with one of these being responsible for CNS. There are currently 13 active ANC Panels and 16 active study groups studying and assessing various technical proposals.

2. DISCUSSION

2.1 It was informed that the NSP has one new major work programme item regarding the development of SARPs material for BeiDou and another programme related to Alternative Position, Navigation and Timing infrastructure may be assigned to NSP as part of the outcome of 12th Air Navigation Conference.

GLONASS

2.2 Standards and Recommended Practices (SARPs) for GNSS elements and signals were reviewed under Agenda Item 2 of the meeting. Informing the meeting about the status of GLONASS constellation, it was informed that the full constellation state was reached at the end of 2011. It was also informed that improvements to the ground segment were also planned by the end of 2012. Meeting also reviewed various regulatory arrangements that had been made by Russian Federation in respect of aircraft equipage.

BeiDou

2.3 Initial draft standards ("A" SARPs) for the signal-in-space for BeiDou constellation, based on BeiDou ICD were presented to the meeting. It was clarified that the BeiDou Open Service (OS) is currently offered by the BI channel only (single frequency service) and dual frequency service (BI and B2) will be available subsequently. BeiDou core constellation has a built-in augmentation capability, supported by the GEO, which broadcasts augmentation data in its navigation message. The augmentation data includes GNSS satellite status, basic differential corrections etc. but the augmentation function does not follow the current ICAO SBAS standards. The augmentation function will be available only in the coverage of GEOs, whereas the basic navigation function would be available globally. The space segment deployment is being pursued with 13 Satellites already in orbit (on the day of meeting). Initial operation capability was declared on 27 December, 2011 and by the end of 2012, the system will provide services over most of the Asia-Pacific region.

Galileo

2.4 Draft standards for Galileo Open services were presented to the meeting. EC intends to proceed with a gradual service introduction strategy in order to take maximum benefit of Galileo even before the full constellation is deployed.

SBAS

2.5 Changes to SBAS SARPs to resolve differences with the avionics Minimum Operational Performance Standards (MOPS) DO 229D were proposed to the meeting for consideration. Some of these changes proposed deal with interference robustness. Meeting was informed about the swap of GEO satellites for EGNOS that occurred in early 2012, and operational implementation activities in different European States. It was informed that the certification authority for EGNOS had have been taken over by EASA. Eurocontrol commented that around 200 EGNOS based approaches were planned to be published in the coming 2 to 3 years in different European States.

WAAS

2.6 Updating the meeting about US WAAS programme, US informed about the system releases planned in short to medium term and improved robustness to minor ionospheric storms expected from changes made to the ionospheric algorithm and commented on the residual vulnerability to severe ionospheric events that justify the long term evolutions towards a dual frequency service.

GAGAN

2.7 India informed that a GEO satellite GSAT8 had been launched and integrated with the ground segment of GAGAN and is now broadcasting Type 0 message. The ionospheric algorithm developed by India has been integrated in the system software and the analysis for integrity (Hazardous Misleading Information, HMI) is progressing. India is committed to provide SBAS service meeting APV 1 requirements over major portions of the Indian land mass and RNP 0.1 in the entire Indian FIR.

2.8 Additional issues related to GBAS and SBAS implementation were also taken up for discussion. Two Information Papers addressing ionospheric aspects were presented (IP25 and IP24). They reported respectively the activities of the APANPIRG Ionospheric Studies Task Force, and on the activities of a subgroup of the International GBAS Working Group (IGWG) regarding harmonization and collection of ionospheric data in support of the GAST D validation efforts.

2.9 Meeting discussed a number of issues related to conventional navigation aids. Issues related to the spectrum management/requirement for various services and interference was also discussed.

2.10 *Development of Operational Requirements for Space Weather* prepared by the ICAO Meteorology informed the panel that work was on-going to derive operational requirements for the provision of space weather related services for international civil aviation. The work has been conducted by the International Volcano Operations Group (IAVWOPSG) and has resulted in the preparation and availability of the following documents on the IAVWOPSG website:

- Draft Operational Requirements
- Draft guidance material
- Roll-out plan/milestones for a space weather service

In accordance with the above, a State Letter was sent in January to request comments from States by 1 July, 2012. More information is available on the website www.icao.int/safety/meteorology/iavwopsg During discussions, NSP indicated that it would like to be involved in the preparation of such requirements in order to ensure that the information distributed to the operational community on space weather in the future actually reflects correctly the expected impact on navigation services.

2.11 There are no more NSP Working Group of the Whole (WGW) meetings planned for 2012.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information provided in this paper.

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