International Civil Aviation Organization

INFORMATION PAPER

Twenty-fourth Meeting of the Meteorology Sub-group (MET SG/24) of the Asia and Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG)

Web-conference, 16 – 20 November 2020

Agenda Item 3: Planning and monitoring

SPACE WEATHER UPDATES

(Presented by the Secretariat)

SUMMARY

This paper highlights updates provided in ICAO State letter Ref.: AN 10/1 –20/115, dated 29 October 2020, on the provision of space weather information.

1. INTRODUCTION

1.1 ICAO State letter Ref.: AN 10/1 –20/115, dated 29 October 2020 (see **Attachment** for details), on the subject "Provision of space weather information" informs States about the introduction of message header per space weather impact for the dissemination of space weather advisories and trials on the dissemination of space weather advisories with "test" status, and invites States to undertake actions towards the reception and dissemination of space weather advisories with dissemination header per space weather impact, and to provide (ICAO) feedback about the reception of future (test) space weather advisories.

2. DISCUSSION

2.1 The space weather information service to support international air navigation was implemented on 7 November 2019. Since the beginning of the service the designated global space weather centres have performed several trials and issued advisories with status "test". Those (test) advisories were disseminated through the aeronautical fixed service (AFS).

2.2 Since November 2019, a single message header has been used for all space weather impacts. To facilitate the routing, parsing and processing of space weather advisories, the concept for one dissemination header per space weather impact was implemented effective on 5 November 2020.

2.3 New headers were also introduced on 5 November 2020 for advisories issued by the fourth designated global space weather centre; the China-Russian Federation consortium (CRC).

2.4 Additionally, new headers were also introduced on 5 November 2020 for the advisories issued by the United Kingdom, in its role of backup partner for Finland within PECASUS.

2.5 In view of the above, the NOCs, ROCs, RODBs and IROGs need to be ready to receive and disseminate all space weather advisories. In particular, regional and national documentation with regard to OPMET data dissemination and air navigation plans need to be updated, as soon as possible, with the new headers.

2.6 Monitoring of the distribution of (test) space weather advisories are expected to continue after 5 November 2020 and, therefore, ICAO has requested States to continue to provide feedback about their reception through the NOCs, ROCs, and RODBs they depend on.

3. ACTION BY THE MEETING

3.1 Note the information contained in this paper.

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International Civil Aviation Organization | Organisation de l'aviation civile internationale | Organización de Aviación Civil Internacional | Международная организация гражданской авиации | منظمة الطيران المدني الدولي | 国际民用航空组织

Tel.: +1 514-954-8219 ext. 6717

29 October 2020

Ref.: AN 10/1 –20/115

Subject: Provision of space weather information - introduction of message header per space weather impact for the dissemination of space weather advisories and trials on the dissemination of space weather advisories with "test" status

Action required: a) note the information; b) undertake actions towards the reception and dissemination of space weather advisories with dissemination header per space weather impact; c) provide feedback about the reception of future (test) space weather advisories

Sir/Madam,

1. I have the honour to inform you that in accordance with Annex 3 — *Meteorological Service for International Air Navigation* and pursuant to International Civil Aviation Organization (ICAO) Council Decision 215/7 on the designation of provider States of space weather information, the space weather information service to support international air navigation was implemented on 7 November 2019. The global service has been provided by the States which have accepted the responsibility to provide global space weather centres, namely, the Australia-Canada-France-Japan (ACFJ) consortium, the Pan-European Consortium for Aviation Space Weather User Services (PECASUS) (Finland, Belgium, Austria, Germany, United Kingdom, Italy, Poland, Netherlands and Cyprus), and the United States.

2. Since the beginning of the service and in accordance with actions and decisions agreed upon by the Meteorology Panel (METP) Coordination Group on Initial Coordination and Governance of the Space Weather Information Service (SWXC CG), the designated global space weather centres have performed several trials and issued advisories with status "test". Those (test) advisories were disseminated through the aeronautical fixed service (AFS) following rules and recommendations from the World Meteorological Organization (WMO) for transmission of such operational meteorological information including the usage of message headers.

3. Since November 2019, a single message header has been used for all space weather impacts: impacts on high frequency communications (HF COM), global navigation satellite system (GNSS)-based navigation and surveillance, satellite communications (SATCOM) and increased radiation on board aircraft (RADIATION). To facilitate the routing, parsing and processing of space weather

999 Robert-Bourassa Boulevard
Montréal, Quebec
Canada H3C 5H7
Tel.: +1 514-954-8219
Fax: +1 514-954-6077
Email: icaohq@icao.int
www.icao.int

advisories, the SWXC CG agreed on the concept for one dissemination header per space weather impact and defined new headers accordingly. The introduction of these new message headers is expected to be effective on 5 November 2020.

4. In accordance with Council Decision 219/7 on the designation of the China-Russian Federation consortium (CRC) as provider of the fourth global space weather centre, the SWXC CG defined further message headers for advisories that will be issued by this centre. Those new headers will be introduced on 5 November 2020.

5. Additionally, the SWXC CG has identified a need for advisory headers to be used by the United Kingdom, in its role of backup partner for Finland within PECASUS, to prevent technical challenges when using the Automatic Message Handling System (AMHS) for the dissemination of space weather advisories. Those additional headers will also be introduced on 5 November 2020.

6. The attention of States is drawn to the fact that National Operational Meteorological (OPMET) Centres (NOCs), Regional OPMET Centres (ROCs), Regional OPMET Data Banks (RODBs) and Inter-regional OPMET Gateways (IROGs) need to be ready to receive and disseminate all space weather advisories. In particular, regional and national documentation with regard to OPMET data dissemination and air navigation plans need to be updated, as soon as possible, with the new headers.

7. Monitoring of the distribution of (test) space weather advisories has been performed in the past nine months aiming at assessing a wide and global distribution of those messages. Further trials with issuance of (test) space weather advisories are expected to be carried out after 5 November 2020; therefore, States are kindly requested to provide feedback about their reception through the NOCs, ROCs, and RODBs they depend on.

8. Finally, please note that additional information about the introduction of new dissemination headers for space weather advisories is available under Public Documents on the ICAO METP website at https://www.icao.int/airnavigation/METP/Pages/Public-Documents.aspx.

Accept, Sir/Madam, the assurances of my highest consideration.

Fang Liu
Secretary General