



International Civil Aviation Organization

**THE THIRD MEETING OF IONOSPHERIC
STUDIES TASK FORCE (ISTF/3)**

15 – 17 October 2013, Seoul, Republic of Korea



Agenda Item 4: Review TOR of the Task Force including the needs for space weather studies

REVIEW TERMS OF REFERENCE OF ISTF

(Presented by the Secretariat)

SUMMARY

The paper presents the Terms of Reference of Ionospheric Studies Task Force for review. The need identified by the CNS SG/17 to include space weather studies is also highlighted for consideration by the meeting.

1. INTRODUCTION

1.1 The Fifteenth Meeting of the Communications, Navigation and Surveillance /Meteorology Sub-group (CNS/MET SG/15) of Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) held in July 2011 made Decision 15/13 for establishment of the Ionospheric Studies Task Force.

1.2 The decision was made based on the recommendation resulting from a Workshop on the subject. Subsequently, APANPIRG was informed of the establishment of the Task Force at its Twenty Second Meeting.

1.3 The Task Force was established with the objective to study the need for Regional Ionospheric Threat models for GBAS and SBAS and create these models if required.

1.4 ISTF/1 meeting further agreed that the first step should be to confirm if there is a need to use a more complex (compared to the existing model) ionospheric model in the APAC region after analysis of the shared data and then go to the next step of developing it if it is required. It was clarified that the ionospheric characterization requirements for GBAS and SBAS are different and hence different models may need to be developed for them.

2. DISCUSSION

2.1 Terms of Reference adopted by the CNS/MET SG/15 was reviewed by the ISTF/1 meeting and some changes were suggested to make the terms more relevant to the objectives of the Task Force. Specific modifications were recommended in TOR items 6 and 7.

2.1.1 The Sixteenth Meeting of the Communications, Navigation and Surveillance /Meteorology Sub-group (CNS/MET SG/16) of APANPIRG held in July 2012 reviewed and agreed the proposal for the TOR amendment. The following Decision was adopted:

Decision 16/13 – Terms of Reference for the Ionospheric Studies Task Force (ISTF)

That, the revised Terms of Reference for the Ionospheric Studies Task Force (ISTF) provided in **Appendix G** be adopted.

2.1.2 The revised TOR adopted by CNS/MET SG/16 are provided in the Attachment to this paper for review by the meeting.

2.2 The Seventeenth Meeting of the Communications, Navigation and Surveillance Sub-group (CNS SG/17) of APANPIRG held in May 2013 noted the outcome of the ISTF/2 meeting.

2.3 The CNS SG also discussed the issue of space weather studies and agreed that space weather was very closely relevant to the activities of the Ionospheric Studies Task Force.

2.4 The CNS SG/17 meeting noted that the Ionospheric Prediction Service (IPS), a service of the Australian Department of Industry, Science and Resource had also related activities like impact assessment of space weather on Ground Based Augmentation System (GBAS) and NICT in Japan also conducted activities in the field of space weather and its influence on radio propagation. It was informed that the Electronic Navigation Research Institute (ENRI) and National Institute of Information and Communication Technology (NICT) (both from Japan) were conducting extensive study on Space Weather effect on GNSS performance.

2.5 As a result of discussion, a Decision was adopted by the CNS SG/17 meeting supporting further study on the subject by ISTF:

Decision 17/13 – Space Weather Studies

That, the Terms of Reference of Ionospheric Studies Task Force be modified to include Space Weather studies particularly with reference to its effects on aeronautical Communication and Navigation.

2.5.1 ISTF chair indicated that the TOR amendment could be more specific and would be discussed in the next ISTF meeting.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review the TOR provided in the Attachment to this paper and recommend any changes as required;
- b) consider Decision 17/13 of CNS SG and develop specific wording to be reflected in the revised TOR of the ISTF;
- c) consider the following draft Decision:

Draft Decision 3/x – Terms of Reference Ionospheric Studies Task Force (ISTF)

That, the revised Terms of Reference for the Ionospheric Studies Task Force (ISTF) provided in **Appendix X** be adopted.

CNS/MET SG/16
Appendix G to the Report

REVISED TERMS OF REFERENCE OF ISTF

1. Take the responsibility for identification of the available GNSS data source
2. Make recommendation on sharing scenario for Ionospheric data collected
3. Make recommendations on selecting ionospheric data sources and sharing scenario for the collected data
4. Steer process for evaluation of the data analysis
5. Study the need for development of Regional Ionospheric Threat Models for GBAS and SBAS
6. Development of Regional Ionospheric Threat Models for GBAS and SBAS if the need is identified
7. Establish rules for use of shared data and the result of study for non-commercial purpose
