Recommendation 1 for Committee Decision

Prepared by: **Working Group on Information Dissemination and Capacity Building**

Date of Submission: **05November 2015**

Issue Title: **Proposed template for cooperation between existing and developing Provider and GNSS user information centers**

Background/Brief Description of the Issue:

A proposed template for cooperation between Global Navigation Satellite Systems (GNSS) service centers has been presented to the Working Group. Webpages with Provider links have been developed and will be posted on the ICG Information Portal and offered to Providers for posting on their web-sites once it has been completed.

Discussion/Analyses:

The ability to quickly answer user inquiries is critical to instilling confidence in the GNSS being used. Problems encountered with equipment and disruption reports need to be quickly referred to subject matter experts and law enforcement authorities for disposition. A template has been developed that attempts to identify the manner in which certain types of questions can be forwarded back and forth between service centers to the benefit of the user, and establish the existing or developing center as the representative for their GNSS.

Recommendation for Committee Action:

The Providers and GNSS user information centres should continue developing and adopting a process for referring inquiries to each other where appropriate.

Recommendation 2 for Committee Decision

Prepared by: **Working Group on Information Dissemination and Capacity Building**

Date of Submission: **05November 2015**

Issue Title: **Increase ICG Member Cooperation and Support in GNSS Education**

Background/Brief Description of the Issue:

This recommendation was based on China's presentation on updated GNSS educational activities at Beihang University.

Discussion/Analyses:

Enhanced access by developing countries to training and educational resources is needed in order to build their capacity in the use of GNSS technologies.Develop and distribute educational booklets covering fundamentals of GNSS that could serve as educational resources for the United Nations-affiliated Regional Centres for Space Science and Technology Education and other institutionsin all regions.

In this regard, the work of Beihang University of China and the Moscow State University of Geodesy and Cartography (MIIGAIK) of the Russian Federation was highlighted.

It was also noted that an international exchange program is an enriching experience on many levels. It affects both personal and professional development, stimulates creative ideas, and enhances relationships among the institutions at the national, regional and international levels. Faculty and staff alike will experience firsthand different approaches to education, teaching styles, and research. Therefore, working, teaching or conducting research in different environments presents new and rewarding challenges, in particular for the United Nations-affiliated Regional Centres for Space Science and Technology Education.

Recommendation for Committee Action:

In order to support rising demands in the use of space technology, in particular in developing countries, increased cooperation is needed in GNSS knowledge sharing (e.g. textbooks/teaching materials, faculty/students exchange programmes) among ICG members and the United Nations-affiliated Regional Centres for Space Science and Technology Education and other centers of excellence and institutions, such as Beihang University and Moscow State University of Geodesy and Cartography (MIIGAIK).

Recommendation 3 for Committee Decision

Prepared by: **Working Group on Information Dissemination and Capacity Building**

Date of Submission: **05November 2015**

Issue Title: **Expand Capacity Building and GNSS outreach activities**

Background/Brief Description of the Issue:

In reference to the recommendation "Capacity Building and GNSS outreach activities in South-East Asia" (Ninth Meeting of the International Committee on Global Navigation Satellite Systems (ICG-9), Prague, Czech Republic) to expand the action.

Discussion/Analyses:

It was highlighted that the work of the Moscow State University on Geodesy and Cartography (MIIGAIK) was developing GLONASS/GNSS education courses, including distance learning education programmes. Therefore, these courses, provided through a distance-learning degree programme, could be a good resource for effectively teaching diverse levels of trainees of all disciplines at the United Nations-affiliated Regional Centres for Space Science and Technology Education.

Recommendation for Committee Action:

The Office for Outer Space Affairs, in cooperation with the ICG members and the United Nations-affiliated Regional Centres for Space Science and Technology Education and other centers of excellence and institutions, should organize workshops/technical seminars in the field of GNSS and its applications in all regions.

It was noted that courses prepared by the Moscow State University on Geodesy and Cartography (MIIGAIK) could be provided through a distance-learning degree programme to the United Nations-affiliated Regional Centres for Space Science and Technology Education. In addition, a faculty/student exchange programme could be established with MIIGAIK of the Russian Federation and Beihang University of China.

Recommendation 4 for Committee Decision

Prepared by: **Working Group on Information Dissemination and Capacity Building**

Date of Submission: **05November 2015**

Issue Title: **Consideration of the value of National Positioning Navigation and Timing (PNT) Advisory Committees**

Background/Brief Description of the Issue:

This recommendation is based on a United States proposal by Dr. Brad Parkinson in the Ninth Meeting of the International Committee on Global Navigation Satellite Systems (ICG-9), 2014, Prague, Czech Republic and briefing made by the United States representative in the Working Group C.

Discussion/Analyses:

Space-based positioning, navigation and timing (PNT) capabilities are truly a global utility that positively affect the daily lives of many people around the globe.

The United .States National Space-Based PNT Advisory Board provides independent advice to the United States government on Global Positioning Systems (GPS)-related policy, planning, program management, and funding profiles in relation to the current state of national and international satellite navigation services. The PNT Advisory Board provides advice, as directed by the United States government's PNT Executive Committee (EXCOM), on the United States. PNT policy, planning, program management, and funding profiles in relation to the current state of national and international space-based PNT services. This advice consists of assessments and recommendations to facilitate the accomplishment of the goals and objectives of the United States. PNT Policy on behalf of the PNT EXCOM. The PNT Advisory Board evaluates national and international needs for changes in space-based PNT capabilities, assesses possible trade-offs among options, and provides independent advice and recommendations on requirements and program needs. These evaluations are considered in recommending a national PNT strategy and in development of annual updates to a United States PNT Policy 5-Year Plan. Board members are selected subject-matter experts within a variety of GPS user communities.

Recommendation for Committee Action:

It is proposed that ICG member countries consider the value of National and Regional PNT Advisory Committees and share their findings at ICG meetings when available.