

United States of America

Draft US proposal for WRC -12

Proposed Agenda Item for Integrated MSS Systems

AGENDA ITEM 8.2

Agenda Item 8.2: *to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, taking into account Resolution 806 (WRC-07),*

Background

Integrated MSS Systems¹ use technology to integrate mobile-satellite and terrestrial components (Complementary round Component, or “CGC”) within a single system. These systems will operate in the 1525- 1559 MHz and 1626.5-1660.5 MHz bands and will begin integrated MSS/CGC operations in 2011.

Currently, the Radio Regulations do not have regulatory and technical provisions to address the unique architectural and operational aspects of the Complementary Ground Component (“CGC”) of Integrated MSS Systems, nor is the allocation status of CGC addressed in the Radio Regulations in these frequency bands.

Consequently, the USA is of the view that WRC- 12 should adopt an agenda item for the World Radiocommunication Conference in 2015 to consider allocations matters for CGC, as well as regulatory provisions to associate CGC with MSS networks in the bands 1525-1544MHz, 1545-1559 MHz, 1626.5- 1645.5MHz and 1646.5-1660.5MHz. Further, because CGC is a terrestrial

¹ The ITU-R Coordination Committee for Vocabulary (“CCV”) is considering the definition of Integrated MSS System given below. This is also the working definition used in ITU-R Working Parties 4C, 4B, and 4A. See, *SUMMARY RECORD OF THE CCV/1-10 MEETING OF THE COORDINATION COMMITTEE FOR VOCABULARY (CCV)*, Document CCV/29, 22 March 2010 (Geneva). Within the ITU-R, the working definition for Integrated MSS Systems is:

An integrated MSS system is a system employing a satellite component and ground component where the ground component is complementary to the satellite component and operates as and is an integral part of the MSS system. In such systems the ground component is controlled by the satellite resource and network management system. Further, the ground component uses the same portions of MSS frequency bands as the associated operational mobile-satellite system.

deployment that must be authorized by individual administrations, it is imperative to have a harmonized framework for global CGC deployment, and for notifying CGC stations and associating those stations with their corresponding MSS networks.

Proposal

A WRC-15 Agenda Item with an attendant Resolution [CGC.Agenda (WRC-12)] is proposed for consideration at WRC-12. This proposed Agenda Item would address the allocation, regulatory, technical considerations, relating to CGC stations intended to operate with MSS systems in the bands 1525-1544 MHz, 1545-1559 MHz , 1626.5- 1645.5 MHz and 1646.5- 1660.5 MHz.

Attachment: 1

**Proposals:
MOD**

**Agenda Item 8.2
RESOLUTION 807 (WRC-07)
Preliminary agenda for the 2015 World Radiocommunication
Conference**

ADD USA/AI 8.2 /01

• **X.X Complementary Ground Component of Integrated MSS Systems** to consider, based on ITU-R studies, possible regulatory, technical and allocation provisions in the Radio Regulations to support the implementation and operation of Complementary Ground Component (“CGC”) stations of a mobile-satellite service (MSS) systems operating in the bands 1525-1544 MHz, 1545 -1559 MHz, 1626.5- 1645.5 MHz and 1646.5- 1660.5 MHz taking into account MOD Recommendation 206 (WRC-12) and Resolution [CGC.Agenda (WRC-12)] and the results of compatibility and sharing studies with other radio services.

Reason: Integrated MSS Systems are deploying in the bands 1525-1544 MHz, 1545 -1559 MHz, 1626.5- 1645.5 MHz and 1646.5- 1660.5 MHz in 2011. These deployments will be both regional and global. This agenda item will allow WRC -15 to consider possible regulatory, technical and allocation actions to support the deployment of complementary ground component stations of Integrated MSS Systems.

ADD USA/ AI 8.2/02

Resolution [CGC.Agenda] [(WRC-12)]

Consideration of Regulatory, Technical and Allocation Actions for Integrated MSS Systems ²in the Bands 1525-1544 MHz, 1545 -1559 MHz, 1626.5- 1645.5 MHz and 1646.5- 1660.5 MHz

The World Radiocommunication Conference (Geneva, 2012),

considering

² An Integrated MSS System is a system employing a satellite component and complementary ground component (“CGC”) where the ground component is complementary to the satellite component and operates as and is an integral part of the MSS system. In such systems the ground component is controlled by the satellite resource and network management systems. Further, the ground component uses the same portions of MSS frequency bands as the associated operational mobile-satellite system.

- a) that mobile-satellite service (MSS) systems may provide service to a wide area;
- b) that MSS systems can have limited capability for providing radiocommunication services in urban areas due to natural or man-made obstacles;
- c) that a complementary ground component of an integrated MSS system can mitigate blockage areas, as well as allow for indoor service coverage;
- d) that MSS systems can improve coverage of rural areas, thus being one element that can bridge the digital divide in terms of geographical coverage;
- e) that MSS systems are suitable for public protection and disaster relief communications, as stated in Resolution **646 (WRC-03)**;
- f) that an MSS system with an integrated Complementary Ground Component (CGC) system will extend and improve the availability of radiocommunications services in areas where reliable current and next generation communications are not otherwise provided with one or more space stations or cannot otherwise be assured, and in this way increase spectrum efficiency in bands allocated to the Mobile-Satellite service;
- g) that the bands 1 525-1 544 MHz, 1 545-1 559 MHz, and 1 626.5-1 645.5 MHz, 1 646.5-1 660.5 MHz are allocated on a co primary basis to the mobile-satellite service and other services;
- h) that within their territories in the bands identified in *considering f)*, some administrations have authorized or plan to authorize MSS system operators to establish an integrated complementary ground component to their MSS systems (“Integrated MSS System”);
- i) that Integrated MSS Systems meet certain conditions such as:
 - i) the ground component is complementary to, and operates as an integral part, of the MSS system and, together with the satellite component, provides an integrated MSS service offering;
 - ii) the ground component is controlled by the satellite resource and network management system; and
 - iii) the ground component reuses the MSS frequencies of the associated mobile-satellite system;
- j) that ITU-R has performed frequency sharing studies and has determined that the coexistence between independent systems in the MSS and systems in the mobile services in the same spectrum without harmful interference is not feasible in the same or adjacent geographical area;

recognizing

- a) that within the ITU-R, studies are underway regarding the compatibility of the CGC element of Integrated MSS Systems with other services in the bands 1525-1544 MHz, 1545 -1559 MHz, 1626.5- 1645.5 MHz and 1646.5- 1660.5 MHz;
- b) that some administrations have already performed such studies;
- c) that in the bands 1545-1555 MHz, 1646.5- 1656.5 MHz complementary terrestrial networks are already permitted for use in conjunction with AMS(R)S systems;
- d) that in providing radiocommunication services there is continuing need to exploit technological developments to increase the efficiency of use of finite radiocommunication spectrum resources as technology permits; and
- e) that some administrations have deployed Integrated MSS Systems beginning in 2011.

noting

- a) that the combined wide-area and urban coverage capabilities of Integrated MSS Systems may contribute to meeting the particular needs of developing countries such as is noted in Resolution 212 (Rev.WRC-07);
- b) that the radionavigation-satellite service in the 1 559-1 610 MHz band and the radio astronomy service in the bands 1 610.6-1 613.8 MHz and 1 660-1 670 MHz need to be protected from harmful interference;
- c) that there are a limited number of frequency bands allocated to the MSS, and that Integrated MSS Systems can coexist with MSS systems without CGC;

resolves

1. that WRC-15 consider, based on the result of ITU-R studies, possible regulatory, technical and allocation provisions, to support the implementation and operation of the Complementary Ground Component (“CGC”) stations with their corresponding MSS systems operating in the bands 1525- 1544 MHz,1545-1559 MHz,1626.5- 1645.5MHz and 1646.5- 1660.5 MHz.
2. that, subject to confirmation by WRC-15, in the bands 1525-1544 MHz, 1545-1559 MHz, 1626.5-1645.5 MHz and 1646.5-1660.5 MHz, Integrated MSS Systems be defined as mobile-satellite service (MSS) systems employing a satellite component and ground component where the ground component is:
 - complementary to the satellite component and operates as and is an integral part of the MSS system;
 - controlled by the satellite resource and network management system;

- and uses the same portions of MSS frequency bands as the associated operational mobile-satellite system,

invites ITU-R

1. taking into account MOD Recommendation 206 (WRC-12), to conduct in time for WRC-15 the necessary studies to determine technical, regulatory, operational and allocation actions to support the operation of complementary ground component stations of Integrated MSS Systems;
2. that the studies referred to in *invites ITU-R* 1 include:
 - a) the results of sharing and compatibility studies with services already having allocations in the specified bands in resolves 1; and
 - b) the development of necessary regulatory mechanisms to enable coordination, notification and recording in the Master International Frequency Register of the CGC of a mobile-satellite network operating in the bands in the specified bands of resolves 1.

Reason: This Resolution serves as a vehicle to place on the agenda of WRC-15 consideration of possible regulatory, technical and allocation actions to support Integrated MSS Systems and their associated Complementary Ground Components.

Annex

Subject: 2012 World Radiocommunication Conference Agenda Item 8.2 Proposal to consider adopting technical regulatory and allocation provisions to enable the Complementary Ground Component of Integrated MSS Systems to operate on a co primary basis with the MSS allocation in certain frequency bands.

Origin: United States of America

Proposal:

to consider adopting regulatory, technical and allocation provisions in the Radio Regulations to enable the Complementary Ground Component (“CGC”) of a mobile-satellite service (MSS) system to operate on a co- primary basis with the MSS allocation in the bands 1525-1544 MHz, 1545 -1559 MHz, 1626.5- 1645.5 MHz and 1646.5- 1660.5 MHz taking into account MOD Recommendation 206 (WRC-12) and Resolution [CGC.Agenda (WRC-12)] and the results of any compatibility and sharing studies with other radio services.

Background/reason:

Radiocommunication services concerned: Mobile Satellite, Mobile, Aeronautical Mobile Satellite (R) Service, GMDSS, Radio Astronomy and other services allocated in the bands

Indication of possible difficulties: TBD

Previous/ongoing studies on the issue:

to be carried out by: ITU-R Study Group 4, Working Party 4B and 4C

with the participation of: ICAO, IMO

ITU-R Study Groups concerned: Study Groups 4, 5 and 7

ITU resource implications, including financial implications (refer to CV126): -- Minimal.

Common regional proposal: No

Multicountry proposal: No

Number of countries:

Remarks None