

United States of America

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

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: At WRC-07, one Administration proposed changes to Article 5 of the Radio Regulations, as well as associated consequential changes, to provide for Integrated MSS Systems.¹ At WRC-07, discussions on this matter led to WRC-07 adopting Recommendation 206 (WRC-07).

Recommendation 206 (WRC-07) recognized that some administrations were already implementing Integrated MSS Systems, and recommended that the ITU-R conduct studies on such systems, and also invited administrations to participate in these studies. Since WRC-07, in accordance with Recommendation 206 (WRC-07), a number of studies related to Integrated MSS Systems have been initiated in ITU-R Working Party 4C and Working Party 4B. These studies are progressing and should be completed well in advance of WRC-15.

Discussion: Currently, the Radio Regulations do not have regulatory and technical provisions to address the unique regulatory and operational aspects of the complementary ground component (“CGC”) of an Integrated MSS Systems. The attached proposals address this situation.

Integrated MSS Systems intended to operate in the bands 1525-1559 MHz and 1626.5- 1660.5 MHz, will begin operations, including deploying CGC networks, in 2011. It is essential that at the first opportunity a World Radiocommunication Conference adopt provisions to clarify the status of the CGC component in the bands 1525-1559 MHz and 1626.5 – 1660.5 MHz, as well as the conditions under which such systems shall be permitted. Further, because the CGC component will be authorized by individual administrations, it is imperative to provide guidance for the notification of CGC networks to the ITU-R, as well as to provide a harmonized framework for their global deployment. The attached proposals provide a WRC-15 agenda item to address these matters, as well as an associated Resolution

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.

Proposals:

Agenda Item 8.2

RESOLUTION 806 (WRC-07)

Preliminary agenda for the 2015 World Radiocommunication Communication Conference

USA/ /01 **ADD**

X.X 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, 1545 -1559 MHz, 1626.5- 1645.5 MHz and 1646.5- 1660.5 MHz taking into account Recommendation 206 (WRC-07), Resolution [IMS1.5/1/6GHz (WRC-12)] and Resolution [CGC.Agenda (WRC-12)] and the results of any compatibility and sharing studies with other radio services operating in these bands.

Reason: Integrated MSS Systems are deploying in the bands 1525-1544, 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 adopt regulatory, technical and allocation provisions to enable the deployment of the complementary ground component with MSS systems.

USA/ /02 **ADD**

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

Consideration of Regulatory, Allocation and Technical Provisions of Integrated MSS Systems² in the Bands 1525-1544, 1545 -1559 MHz, 1626.5- 1645.5 MHz and 1646.5- 1660.5 MHz

The World Radiocommunication Conference (Geneva, 2012),

considering

- a) that mobile-satellite service (MSS) systems may provide service to a wide area;
- b) that MSS systems can have limited capacity 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;

²An 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 systems. Further, the ground component uses the same portions of MSS frequency bands as the associated operational mobile-satellite system.

- c) that MSS systems can improve coverage of rural areas, thus being one element that can bridge the digital divide in terms of geographical coverage;
- d) that MSS systems are suitable for public protection and disaster relief communications, as stated in Resolution 646 (WRC-03);
- e) 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;
- f) 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;
- g) 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”);
- h) 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 service offering;
 - ii) the ground component is controlled by the satellite resource and network management system;
 - iii) the ground component reuses the MSS frequencies of the associated operational 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, 1545 -1559 MHz, 1626.5- 1645.5 MHz and 1646.5- 1660.5MHz;
- 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;
- e) that some administrations will deploy 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;
- d) that on an interim basis administrations implementing Integrated MSS Systems shall, in accordance with Resolution [CGC.Notify (WRC-12)], provide to the Radiocommunications Bureau, information on system characteristics of their CGC component.

Resolves

1. that in time for consideration at the World Radiocommunication Conference -15, the ITU-R should conclude compatibility studies regarding Integrated MSS Systems and other services operating in the bands 1525- 1544 MHz,1545-1559 MHz,1626.5- 1645.5MHz and 1646.5- 1660.5 MHz.
2. that in time for consideration at the WRC-15, to develop 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 1525- 1544 MHz,1545-1559 MHz,1626.5- 1645.5MHz and 1646.5- 1660.5 MHz
- 3 that WRC-15 is to consider adopting regulatory, technical and allocation provisions in the Radio Regulations to enable the Complementary Ground Component (“CGC”) of a mobile satellite service system to operate on co primary basis with the mobile satellite service allocation in the bands 1525- 1544 MHz,1545-1559 MHz,1626.5- 1645.5MHz and 1646.5- 1660.5 MHz taking into account Recommendation 206 (WRC-07), Resolution [IMS 1.5/1.6 GHz (WRC-12)] and Resolution [CGC.Agenda (WRC-12)] and the results of any compatibility and sharing studies with other radio services operating in these bands.
- 4 that on an interim basis, and 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 the mobile-satellite service as defined in No 1.25 includes Integrated MSS Systems defined as:

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. ;

invites ITU-R

- 1 to conduct in time for WRC-15 the necessary studies leading to technical, regulatory and operational recommendations to the Conference, enabling that Conference to decide on appropriate allocations for the operation of complementary ground component of Integrated MSS systems on a co primary basis with the mobile satellite service allocation,
- 2 that the studies referred to in invites ITU-R 1 should include sharing and compatibility studies with services already having allocations in the bands 1525- 1545MHz, 1545-1559 MHz, 1626.5- 1645.5 MHz and 1646.50 1660.5 MHz;
- 3 to produce a report or a recommendation, as appropriate, on how to accommodate Integrated MSS systems in the bands in invites ITU-R 2,

Reason: To provide for consideration of new Radio Regulations to address Integrated MSS Systems which will begin deploying in 2011.