

IWG 4-98

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Authors:

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Damon C. Ladson

dladson@wiltshiregrannis.com

Thomas Tycz

ttycz@g2w2.com

United States of America

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 7: *To consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: “advance publication, coordination, notification and recording procedures of the Radio Regulations for frequency assignments pertaining to space services,”¹ in accordance with Resolution 86 (Rev. WRC 07).*

Background

Integrated MSS Systems² use technology to integrate mobile-satellite components with terrestrial components (Complementary Ground Component, or “CGC”) within a single system. These systems will operate in the bands 1525- 1559 MHz and 1626.5-1660.5 MHz, and will begin in 2011.

¹ Int’l Telecomm. Union [ITU], *Implementation of Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference*, at *resolves to invite future world radiocommunication conferences ¶ 1*, Resolution 86 (Rev. WRC-07) (2007).

² 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.

Currently, the Radio Regulations do not have regulatory and technical provisions to address the unique architectural, technical, and operational aspects of CGC stations of Integrated MSS Systems.

Because the CGC is a terrestrial deployment that must be authorized by individual administrations, it is imperative to have a harmonized framework for global CGC deployment.

Thus, until a future WRC is able to address the allocation status of CGC within Integrated MSS Systems, it is necessary to adopt provisions that provide a mechanism for administrations to notify and record its CGC stations in accordance with the requirements of Nos. 11.2 and 11.3 of the Radio Regulations, and to associate CGC stations with their corresponding MSS networks. This is particularly important as some CGC deployments may be within the territory of an administration that is not the notifying administration of the corresponding MSS network.

Thus, it is important that WRC-12 adopt provisions that provide a mechanism to notify and record CGC stations, thereby informing administrations that CGC stations are being implemented, and also to associate CGC stations with their corresponding MSS network operating in the bands 1525-1544MHz, 1545- 1559 MHz ,1626.5-1645.5 MHz and 1646.5-1660.5 MHz bands.

Proposal

Modifications to Recommendation 206 (WRC-07) are proposed to:

- a) define integrated MSS systems,
- b) expedite studies in ITU-R on the compatibility of Integrated MSS systems and other radio services allocated in the bands 1525-1544 MHz, 1545-1559 MHz , 1626.5-1645.5 MHz and 1646.5-1660.5 MHz and in adjacent bands in time for consideration by WRC-15,
- c) invite administrations to notify CGC stations and to associate CGC stations with specific MSS networks through the use of the remarks field of the Appendix 4 Annex 1 notice,
- d) invite administrations to use these notified CGC stations and system characteristics in bilateral and multilateral consultations with administrations.

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MOD

RECOMMENDATION 206 (Rev.WRC-12)

Use of Integrated Mobile-Satellite Service Systems, in some frequency bands identified for the satellite component of International Mobile Telecommunications

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 may have a limited capability for providing radiocommunication services in urban areas due to natural or man-made obstacles and that the ground component of an Integrated MSS System can mitigate blockage areas, as well as allow for indoor service coverage;
- c) that MSS systems can improve coverage of rural areas, thus being one element that can bridge the digital divide in terms of geography;
- d) that MSS systems are suitable for public protection and disaster relief communications, as stated in Resolution **646 (WRC-03)**;
- e) that certain frequency bands are identified in Resolution **225 (Rev.WRC-07)** for administrations wishing to implement the satellite component of International Mobile Telecommunications (IMT);
- f) that the bands mentioned in *considering e*) are allocated on a primary basis to the mobile-satellite services and other services and that not all of them are allocated to the mobile service;
- g) that the bands 1 980-2 010 MHz and 2 170-2 200 MHz are identified for use by the satellite component of IMT-2000 in accordance with Resolution **212 (Rev.WRC-07)**;
- h) that within their territories in some or parts of the bands identified in *considering e*) and *g*) and in parts of the band 2 010-2 025 MHz in some countries in Region 2, some administrations have authorized or plan to authorize MSS system operators to establish an integrated ground component to their MSS systems (“Integrated MSS System”) and under certain conditions determined at the national level 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;

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- iii) the ground component uses the same designated portions of the frequency band as the associated operational MSS system;
- i) 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 ITU-R has not performed studies on sharing, technical or regulatory issues with regard to integrated MSS and complementary ground component systems, but that some administrations have performed such studies;

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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;

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c) that the MSS needs to be protected from harmful interference that may be caused by the introduction of the ground component of Integrated MSS Systems;

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d) that Nos. **5.353A** and **5.357A** are applicable to MSS systems in different portions of the bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz with respect to the spectrum requirements and prioritization of communications for the Global Maritime Distress and Safety System and the aeronautical mobile-satellite (R) service;

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e) that the provisions of *recognizing d)* need to be taken into account in the operation of the Integrated MSS Systems;

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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)**;

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b) that some administrations that are planning to implement or are implementing Integrated MSS Systems within their national territories have imposed limitations, in rules and authorization actions, on the e.i.r.p. density that the ground component of such systems may produce into bands allocated to the radionavigation-satellite service;

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c) that there are a limited number of frequency bands allocated to the MSS, that these bands are already congested, and that the introduction of integrated ground components may in some instances make spectrum access for other MSS systems more difficult;

d) that administrations implementing Integrated MSS Systems may provide, in bilateral or multilateral consultations among administrations, information on system characteristics of the complementary ground component,

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e) that administrations implementing CGC stations within their territory may

a) notify these CGC stations in accordance with Nos. 11.2 and 11.3 and

b) associate these CGC stations with the mobile satellite service network with which it operates as an Integrated MSS System.

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recommends

- a) that, in the bands 1 525-1 544 MHz, 1 545-1 559 MHz, 1 626.5-1 645.5 MHz, and 1 646.5-1 660.5 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 to study, as a matter of urgency, compatibility between Integrated MSS Systems in frequency bands identified in the above *recommends* and radio services in the same and adjacent bands, taking into account existing systems and those proposed to be used soon, and the above *considerings, recognizing, and notings*;
- 2 to include the results of the studies referred to in *invites ITU-R 1* in ITU-R Reports or Recommendations, as appropriate;
- 3 to complete these studies in time for consideration by WRC-15.

invites administrations

- 1 to participate as necessary in the ITU-R studies taking into account *recognizing a) and noting b)*;
- 2 to notify CGC stations implemented within their territory, using Appendix 4 Annex 1 and indicate, in accordance with this Recommendation in the remarks field (13.1) of the Annex 1 notice, that the CGC stations are associated with the MSS network of an Integrated MSS System and specify the MSS network identification number;
- 3 to include CGC stations and system characteristics, notified in accordance with *invites administrations 2 above*, within bilateral or multilateral consultations among administrations with respect to associated MSS Systems in the 1 525-1 544 MHz, 1 545-1 559 MHz, 1 626.5-1 645.5 MHz and 1 646.5-1 660.5 MHz bands.

Reason: To define Integrated MSS Systems; to provide a mechanism to notify and record CGC stations, thereby informing administrations that CGC stations are being implemented; and to associate CGC stations with their corresponding MSS network operating in the 1525-1544MHz, 1545- 1559 MHz ,1626.5-1645.5 MHz and 1646.5-1660.5 MHz bands.

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1 525-1 544 MHz, 1 545-1 559 MHz, 1 610-1 626.5 MHz,

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1 626.5-1 645.5 MHz, 1 646.5-1 660.5 MHz and 2 483.5-2 500 MHz

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