

IWG-4/064

5/04/2010

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DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 4: *in accordance with Resolution 95 (Rev.WRC 07), to review the resolutions and recommendations of previous conferences with a view to their possible revision, replacement or abrogation;*

Background: Integrated MSS Systems¹ employ technology that integrates mobile-satellite components and terrestrial components (“complementary ground component or ‘CGC’”) into a single system reusing MSS frequencies for both components. Currently, there are provisions in the Radio Regulations to accommodate satellite systems and terrestrial networks separately, but additional provisions are needed to accommodate the unique aspects of Integrated MSS Systems.

Recommendation 206 (WRC-07) recognized that some administrations are implementing Integrated MSS Systems. This is, or will be, occurring on both a regional and global basis beginning as early as 2011. Recommendation 206 (WRC-07) invited the ITU-R to perform studies on sharing, technical and regulatory issues regarding these Integrated Systems. 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 Parties 4B and 4C. Importantly, at least one Integrated MSS System authorized to operate in the bands 1525-1559 and 1626.5-1660.5 MHz will begin deployment of CGC networks in 2011.

Discussion: With the imminent deployment of full Integrated MSS Systems in the 1525-1559 and 1626.5-1660.5 MHz bands, and because specific provisions for the

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).

complementary ground component of an Integrated MSS System are needed in the current Radio Regulations,² it is imperative that on an interim basis as a minimum, provisions are adopted into the Radio Regulations at WRC-12 to provide regulatory guidance for the treatment of Integrated MSS Systems, pending the completion of ITU-R studies, and consideration of Integrated MSS System matters at the next WRC. This will provide regulatory certainty and guidance for administrations to permit CGC deployment in their territories. This will ease rollout of service as well as promote more efficient use of spectrum and will facilitate interference control and protection.

² Other organizations have recognized the lack of Radio Regulation provisions to cover the case of Integrated Systems. For example, in Europe, the CEPT Conference Preparatory Group Project Team A (CPG-PTA) has taken a preliminary position that the existing radio need additional provisions for regulatory provisions for full deployment of MSS systems with CGC because of the absence in the of procedures for CGC notification, registration and coordination to facilitate the full deployment of MSS systems with CGC . (See Conference of European Postal and Telecommunications Administrations [CEPT], *Working Document Agenda Item 1.2*, at 11, CPG-PTA Temp 03.) Furthermore, the CPG-PTA indicates that the most appropriate option is to introduce a new definition for the service combining features of mobile service and mobile satellite service to enable the introduction of CGC, for example an “Integrated Satellite service.” (*Id.* at 12.)

RESOLUTION ~~JIMS 1.5/1.6 GHz~~ (WRC-12)

Use of Integrated Mobile-Satellite Service and complementary ground component systems 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,

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;

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 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 are allocated on a co primary basis to the Mobile Satellite service and other services

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;

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g) that within their territories in the bands identified in *considering e)*, 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 service offering;
- ii) the ground component is controlled by the satellite resource and network management systems;
- iii) the ground component reuses the same MSS frequencies as the associated operational mobile-satellite 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, l,

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 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;

b) that in providing radiocommunication services, there is a need continually to exploit technological developments to increase the efficiency of use of finite radiocommunication spectrum resources as technology permits;

c) that some administrations have already performed such studies;

d) 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;

e) that MSS systems employing complementary ground components should be able to co-exist with other MSS systems;

f) that WRC-16 has an agenda item to consider regulatory, technical and allocation provisions to enable the CGC of MSS systems to operate on a co primary basis with the MSS allocation, in accordance with Resolution [CGC-Agenda]

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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,

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 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;

c) that there are a limited number of frequency bands allocated to the MSS, and that Integrated MSS Systems can co-exist with MSS systems without CGC;

d) that administrations implementing Integrated MSS Systems shall, in accordance with Resolution [CGC.Notify], provide to the Radiocommunications Bureau, information on system characteristics of their [CGC/ the ground component;

resolves

1. that on an interim basis until WRC-15, in the bands 1525-1559 and 1626.5-1660.5 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. ;

2.

3. that in time for consideration at the next World Radiocommunication Conference, the ITU-R should conclude compatibility studies regarding Integrated MSS Systems and other services operating in the bands 1 525 - 1544 MHz, 1 545 - 1 559 MHz, 1626.5 - 1645.5 MHz ,and 1646.5 - 1660.5 MHz.

instructs the radiocommunication Bureau,

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to accept notifications for CGC stations in the bands 1 525 - 1544 MHz, 1 545 - 1 559 MHz, 1626.5 - 1645.5 MHz, 1646.5 - 1660.5 MHz in accordance with [Resolution [CGC.Notify]].

Reason: Pending action at the next WRC, to provide guidance on the treatment of Integrated MSS Systems.

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RECOMMENDATION

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1525-1559 MHz/1626.5-1660.5

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**some frequency bands
identified for the satellite component of International
Mobile Telecommunications**

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[that the bands 1 525-1 544 MHz, 1 545-1 559 MHz,

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1 626.5-1 645.5 MHz, and 1 646.5-1 660.5 MHz

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are among those identified in Resolution **225 (Rev.WRC-07)** for administrations wishing to implement the satellite component of International Mobile Telecommunications (IMT);]

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) that the bands mentioned in *considering*

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f) are allocated on a primary basis to the mobile-satellite services and other services;

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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)**;

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uses the same designated portions of the frequency band as the associated operational MSS system

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a) *that ITU-R has not performed studies on sharing, technical or regulatory issues with regard to integrated MSS and ground component systems,*

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1525-1559 and 1626.5-1660.5 MHz

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consider an allocation for Integrated MSS systems

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

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these bands are already congested, and that the introduction of

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integrated ground components may in some instances make spectrum access for other MSS systems more difficult;

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bilateral consultations of administrations,

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to invite ITU-R to conduct studies, as appropriate, taking into account existing systems and those proposed to be used soon and the above *considering, recognizing and noting*

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1525-1559 and 1626.5-1660.5

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