

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.2: Taking into account the results of studies carried out in accordance with Resolution 951 (Rev. WRC-07), to take appropriate action with a view to enhancing the international regulatory framework.

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).

ISSUES: The current Radio Regulations lack provisions to guide and regulate the implementation and operation of Integrated Systems.² Further, there are no provisions in the ITU’s satellite coordination procedures for recognizing, notifying, recording and coordinating the ground component of an Integrated System.³

BACKGROUND: Integrated Systems employ technology that integrates mobile-satellite and terrestrial components into a single system using common frequencies. Currently, there are provisions in the Radio Regulations to accommodate satellite systems and terrestrial networks separately, but none that accommodate the unique aspects of Integrated Systems. Provisions lacking include regulations as to appropriate MSS frequency bands and technical conditions for deploying Integrated Systems, as well as an absence of procedures in the existing satellite coordination process for notifying, recording, and coordinating the terrestrial component of an Integrated System.

Associated with WRC-2011 Agenda Items 1.2 and 7 are Resolution 951 (Rev. WRC-07) and Resolution 86 (Rev. WRC-07), respectively. These Resolutions guide administrations on methods to address the allocation, technical and coordination matters related to Integrated Systems.

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 Integrated Systems refer to systems employing MSS and terrestrial components where the ground component is complementary to and operates as a part of the MSS system and, together with the satellite component, provides an integrated service offering. In such systems the ground component is controlled by the satellite resource and network management system. Further, the ground component uses the same designated portions of the frequency band as the associated operational MSS system. These systems are referred to as MSS-ATC (MSS-Ancillary Terrestrial Component) in the United States and Canada, and MSS-CGC (MSS-Complementary Ground Component) in Europe.

³ See Int’l Telecomm. Union [ITU], *Radio Regulations*, at Article 5 (2004).

Resolution 951 (Rev. WRC-07) resolves, “to develop concepts and procedures for enhancing the Radio Regulations to meet the demands of current, emerging and future radio applications, while taking into account existing services and usage.”⁴ In this regard, Resolution 951 (Rev. WRC-07) provides several options for enhancing the international regulatory framework to meet the demands of emerging services. Among these are Option 2 to revise current service definitions or add a new service definition⁵ and Option 4 to introduce composite services in the Table of Frequency Allocations or a combination of these.⁶ Resolution 951 also considers that “the allocations to the radiocommunication services should aim to reach the best outcome in terms of spectrum efficiency.”⁷

Recommendation 206 (WRC-07)⁸ recognizes that some administrations are implementing Integrated Systems. This is occurring on both a regional and global basis. Recommendation 206 (WRC-07) invites ITU-R participants to perform studies on sharing, technical and regulatory issues regarding these Integrated Systems. Currently, with respect to Recommendation 206 (WRC-07), the ITU-R is progressing work on defining Integrated Systems,⁹ along with their architectures, applications and performance objectives. Additionally, Integrated System proponents are preparing documents to initiate studies on Integrated System compatibility with other services.

DISCUSSION: Integrated Systems were not contemplated in the development of the current Radio Regulations. Consequently, the Radio Regulations are lacking provisions needed to adequately accommodate Integrated Systems. In particular, there are no regulatory provisions specifying which MSS frequency bands are appropriate for accommodating Integrated Systems, nor what technical conditions may be necessary to ensure these systems are deployed in a manner compatible with other potentially affected allocated services. Further, questions exist as to the allocation status of the ground component of an integrated systems, should there be interference or spectrum access disputes vis-à-vis other allocated services. Moreover, there is a complete lack of provision in the satellite coordination procedures for notifying, recording and coordinating the ground component of an Integrated System.

Other organizations have recognized the lack of Radio Regulation provisions to cover the

⁴ ITU, *Enhancing the International Spectrum Regulatory Framework*, at resolves ¶ 1, Resolution 951 (Rev. WRC-07) (2007).

⁵ *Id.* at Annex 1 Option 2.

⁶ *Id.* at Annex 1 Option 4.

⁷ *Id.* at considering, ¶ e.

⁸ ITU, *Consideration on the Possible Use of Integrated Mobile-Satellite Service and Ground Component Systems in Some Frequency Bands Identified for the Satellite Component of International Mobile Telecommunications*, at noting ¶ b, Recommendation 206 (WRC-07) (2007).

⁹ ITU, *Terminology Used for Networks Using Both Satellite and Terrestrial Links*, Working Party 4B, Annex 14 to Document 4B/51-E (2008).

case of Integrated Systems. In Europe, the CEPT Conference Preparatory Group Project Team A (CPG-PTA) has taken a preliminary position that the existing radio regulatory provisions do not allow a full deployment of MSS systems with CGC because of the absence in the ITU-R of procedures for their notification, registration and coordination.¹⁰ Furthermore, the CPG-PTA indicates that the most appropriate option for in particular the frequency bands 1980 - 2010 MHz/2170 - 2200 MHz 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.”¹¹ CPG-PTA recognizes that introducing such a definition may require consideration of additional matters.

Some Administrations are already adopting rules and providing for the implementation of Integrated Systems. However, this approach has been from either a domestic or sub-regional perspective, lacking the global scope necessary to adequately address satellite-based networks. Integrated Systems are unique in that, depending on the mobile user’s location, traffic patterns and demand; transmission platforms (*i.e.* satellite and terrestrial) will vary dynamically. Consequently, for interference control or protection purposes, from a user handset perspective it is important to control and protect both platforms. Providing some form of recognition and regulatory certainty is therefore important to providing service. This situation could be addressed by modifications to Article 5 that might define Integrated Systems, and, under specified conditions, would provide equal allocation status to both the satellite and terrestrial components of an Integrated System. One way to accomplish this would be through an Article 5 footnote applied to the 1525-1559 MHz and 1626.5-1660.5 MHz bands which would impart allocation status and incorporate by reference a Resolution defining Integrated Systems and specifying technical conditions for operating their ground component. This could be accomplished within the parameters of WRC-2011 Agenda Item 1.2¹² and its associated Resolution 951 (Rev. WR-07).

Coupled with the needed provisions discussed above, there is a need to adopt provisions to take an Integrated System’s terrestrial component into account in the satellite coordination procedures. Currently, there are no provisions for notifying and recording the terrestrial component of an Integrated System. Because the architectural and operational features of an Integrated System are such that the MSS component and terrestrial component are inextricably linked within a single network, it is important to protect both delivery platforms. This will provide the recognition and regulatory

¹⁰ Conference of European Postal and Telecommunications Administrations (CEPT), *Working Document Agenda Item 1.2*, at 11, CPG-PTA Temp 03.

¹¹ *Id.* at 12.

¹² The United States observes that Agenda Item 1.2 could be broad in its application, and cautions that it should be used sparingly. For example, rather than as a vehicle for wholesale policy change within the Radio Regulations, the United States believes it should be used to address specific needs, such as those of Integrated Systems which are already deploying yet in some aspects are not addressed in any manner in the Radio Regulations.

certainty that is essential for providing a viable service. Consequently, modifications to Radio Regulations Appendix 4 (and possibly consequential changes to related parts of the Radio Regulations) are needed to provide for notifying and recording the terrestrial component of Integrated Systems, as well as a method within the relevant parts of the Radio Regulation to associate such assignments with its operational MSS system.¹³

As mentioned earlier, in some Administrations Integrated Systems are being deployed today and additional deployments are poised for 2010. WRC-2011 – though late in the operational schedule for operators of some Integrated Systems – presents the first opportunity to address these deficiencies and provide needed changes for notifying and recording of the assignments of a Complementary Ground Component and to associate such assignments with the operational MSS network. These changes could be accomplished within the framework of WRC-2011 Agenda Item 7.

The preliminary views below express some of the desired changes to the Radio Regulations needed to adequately address Integrated Systems.

Preliminary Views

Agenda Item 1.2

U.S. VIEW: The United States is of the view that in accordance with Resolution 951 (Rev. WRC-07), the Radio Regulations could be revised to accommodate Integrated Systems by, among other things, modifying Article 5 to, under specified conditions, recognize the existence of the terrestrial component of a Integrated System operating in the bands 1525 - 1544 MHz, 1545 - 1559 MHz, 1626.5 - 1645.5 MHz and 1646.5 - 1660.5 MHz. These changes could, adding a new footnote to Article 5 of the Radio Regulations to provide primary allocation status to an Integrated System's terrestrial component, and by incorporating a suitable Resolution to define Integrated Systems and specify any technical conditions necessary for their operation. The United States is also of the view, that in accordance with Recommendation 206 (WRC-07), ITU-R studies to support modifying the Radio Regulations should be carried out.

Agenda Item 7

U.S. VIEW: The United States is of the view that the Radio Regulations could be modified by introducing changes to Radio Regulations Appendix 4 to notify and record the frequency assignments of the terrestrial component associated with the operational MSS network of an Integrated System. For example, the modifications may include a requirement that terrestrial base stations of an Integrated System be notified in

¹³ Other organizations have recognized the lack of Radio Regulation provisions to cover the case of Integrated Systems. In Europe, the CPG PTA has taken a preliminary position that the existing radio regulatory provisions do not allow a full deployment of MSS systems with CGC because of the absence in the ITU-R of procedures for their notification, registration and coordination. See Conference of European Postal and Telecommunications Administrations [CEPT], *Working Document Agenda Item 1.2*, at 11, CPG-PTA Temp 03.

accordance with Annex 1 of Appendix 4 regarding the characteristics of terrestrial services.¹⁴ Additionally, Item 13 of Annex 1 Appendix 4 “Remarks” may need to be modified to indicate that there should be a mandatory remark, pursuant to Resolution [Integrated Systems], that the notified base stations are associated with a specific MSS network as submitted for coordination and notification pursuant to a specific IFIC CR/C or notification.

¹⁴ See *Radio Regulations*, *supra* note 2.