IWG-3/WRC-07/Proposal/Doc. 14Ar1

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United States of America

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.4: to consider frequency-related matters for the future development of IMT-2000 and systems beyond IMT-2000 taking into account the results of the ITU-R studies in accordance with Resolution 228 (Rev. WRC-03);

Background: WRC-2000 invited the ITU-R in Resolution 228 to continue studies on overall objectives, applications and technical and operational implementation for the future development of IMT-2000 and systems beyond IMT-2000. It also invited the ITU-R to study spectrum requirements and potential frequency ranges suitable for the future development of IMT-2000 and systems beyond IMT-2000, and to determine what time frame such spectrum would be needed. Resolution 228 (WRC-2000) also resolved that the requirements for the future development of IMT-2000 and systems beyond IMT-2000 are to be reviewed by WRC-07, taking into consideration the results of ITU-R studies presented to WRC-03. However, those studies were not completed in time for WRC-03.

WRC-03 revised Resolution 228 (Rev.WRC-03), inviting the ITU-R to further study the technical and operational issues relating to the future development of IMT-2000 and systems beyond IMT-2000 and to develop reports and recommendations as required in time for WRC-07. In particular, Resolution 228 (Rev. WRC-03) invites the ITU-R to report on the results of studies on the spectrum requirements and potential frequency ranges suitable for the future development of IMT-2000 and systems beyond IMT-2000, taking into account a variety of factors including the growth in demand for IMT-2000 services, the evolution of systems through advances in technology, the time-frame in which spectrum will be needed, and the extensive use of frequencies below those already identified for IMT-2000, i.e., below 806 MHz. It invites the ITU-R to conduct studies on the potential use of such frequencies for the future development of IMT-2000 and systems beyond IMT-2000, assessing whether their use could satisfy the needs of developing countries and countries with large areas of low-population density for more cost-effective alternatives when implementing IMT-2000 systems and systems beyond IMT-2000. Resolution 228 (Rev. WRC-03) requests that such studies consider the results of sharing and compatibility studies with services to which these bands have already been allocated.

Resolution 228 (Rev.WRC-03) also notes that the ITU-R has already begun considering appropriate naming for the future development of IMT-2000 and systems beyond IMT-

2000 for a decision in advance of WRC-07. With that in mind, Study Group 8 has developed a new Draft Resolution ITU-R M.[IMT.NAME], "Naming for International Mobile Telecommunications," for consideration by the Radiocommunication Assembly 2007. This Draft Resolution specifies the nomenclature for the future development of IMT-2000 and systems beyond IMT-2000 through names uniquely associated with the advancement and continuation of International Mobile Telecommunications (IMT). In particular, it resolves that the term "IMT-2000" encompasses also its enhancements and future developments and that the new name "IMT-Advanced" be applied to those systems, system components, and related aspects that include new radio interface(s) that support the new capabilities of systems beyond IMT-2000. It also resolves that the term "IMT" be the root name that encompasses both IMT-2000 and IMT-Advanced collectively.

Spectrum Below 806 MHz: Some Administrations have already taken steps to enable IMT-2000 systems to be implemented in bands below those currently identified, i.e., below 806 MHz. Due to the favorable propagation characteristics of lower frequencies, there are significant coverage benefits and resulting reductions in equipment requirements associated with deploying advanced wireless systems in the 698-806 MHz band, especially in areas with low population densities. These benefits are important considerations for developing countries, which may have spectrum available but not have resources to deploy nationwide systems in the higher frequency ranges identified by the ITU for IMT.

Currently, the 698-806 MHz band is used throughout most of the world for Broadcasting Services. These services are experiencing significant changes coincident with the rapid introduction of new technologies. For example, the application of digital technologies to broadcast television has resulted in significant benefits to consumers including clearer, sharper pictures, higher quality sound, enhanced features such as access to information services, and the ability to integrate televisions with computers and other digital devices. These advancements parallel the significant innovations occurring within the mobile equipment and services market, and have resulted in the availability of enhanced video and audio services on mobile phones, laptop computers, and numerous other portable digital devices.

The use of digital technology for Broadcasting Services also substantially improves the manner in which the radio frequency spectrum is used. Digital compression substantially improves spectral efficiency, enabling more services to be supported on less spectrum. As a result, Administrations planning to transition existing Broadcasting Services to digital technology may wish to make some, or all, of the spectrum available for other uses, including advanced wireless technologies like IMT.

In the United States, for example, existing broadcast television services will be cleared from the 698-806 MHz band by February 17, 2009, as part of a comprehensive plan to transition to the use of digital technology. This transition will enable the spectrum to be freed up for other uses, including new broadcast services, commercial mobile services, and public safety services, consistent with current allocations. Some commercial licenses

have already been assigned, while all remaining commercial licenses are required to be auctioned no later than January 28, 2008. Commercial deployments are expected to include advanced mobile technologies like IMT-2000, as well as advanced broadcasting technologies that will deliver multimedia content to handsets and other mobile devices.

Recognizing that Administrations are free to use the band for whatever purpose best suits their individual needs, including commercial and non-commercial applications, the identification of the 698-806 MHz band for International Mobile Telecommunications (IMT) will provide administrations with increased flexibility in selecting suitable frequencies for deployment of advanced wireless technologies. Taking into account the benefits of utilizing lower frequency bands in areas of less dense population, developing countries at WRC-03 specifically requested that bands below 806 MHz be considered for identification at WRC-07. This request was directed to all members of the ITU, both developed and developing countries.

Proposal: Resolution 228 (Rev. WRC-03) resolves that the ITU-R conduct studies on the spectrum requirements and potential frequency ranges suitable for IMT, including frequencies below those previously identified (i.e., below 806 MHz). These studies, which include sharing and compatibility studies with services already having allocations in those frequency bands, are already being undertaken. Consistent with Resolution 228 (Rev. WRC-03) and recognizing the needs of developing countries, the United States proposes that the 698-806 MHz band be allocated to the Mobile Service in all three regions and be identified for IMT. Such an identification will advance global interests in promoting the development of advanced wireless services, assist developing countries in meeting their specific needs, and otherwise meet the requirements outlined in Resolution 228.

Identification of the 698-806 MHz band for "IMT," rather than "IMT-2000" which has been the case for spectrum identified at previous WRCs, will ensure that it is identified in a manner consistent with new Draft Resolution ITU-R M.[IMT.NAME], and thus, will encompass the future development of IMT-2000 as well as systems beyond IMT-2000. The United States also proposes modifying the footnotes of bands previously identified for IMT-2000 to reflect IMT. This will ensure that all bands have consistent regulatory treatment. Conforming amendments should be made to Resolutions 212, 223, and 224 to reflect the new naming convention.

Proposal:

USA/xx/a
MOD

698-806 MHz

<table>
<tr><th colspan="3">Allocation to services</th></tr>
<tr><th>Region 1</th><th>Region 2</th><th>Region 3</th></tr>
<tr><td rowspan="4">470-698
BROADCASTING

5.149 5.291A 5.294 5.296 5.300
5.302 5.304 5.306 5.311 5.312</td><td>470-512
BROADCASTING
Fixed
Mobile

5.292 5.293</td><td rowspan="2">470-585
FIXED
MOBILE
BROADCASTING

5.291 5.298</td></tr>
<tr><td>512-608
BROADCASTING

5.297</td></tr>
<tr><td>608-614
RADIO ASTRONOMY
Mobile-satellite except aeronautical mobile-satellite (Earth-to-space)</td><td>585-610
FIXED
MOBILE
BROADCASTING
RADIONAVIGATION

5.149 5.305 5.306 5.307</td></tr>
<tr><td>614-698
BROADCASTING
Fixed
Mobile

5.293 5.309 5.311</td><td>610-698
FIXED
MOBILE 5.317A
BROADCASTING

5.149 5.305 5.306 5.307 5.311
5.320</td></tr>
<tr><td>698-790
BROADCASTING
<u>MOBILE</u>

5.149 5.291A 5.294 5.296 5.300
5.302 5.304 5.306 5.311 5.312
<u>5.XXX</u></td><td rowspan="2">698-806
BROADCASTING
<u>MOBILE</u>
Fixed

5.293 5.309 5.311 <u>5.XXX</u></td><td rowspan="2">698-806
FIXED
MOBILE 5.317A
BROADCASTING

5.149 5.305 5.306 5.307 5.311
5.320 <u>5.XXX</u></td></tr>
<tr><td>790-806
FIXED
BROADCASTING
<u>MOBILE</u>

5.312 5.314 5.315 5.316 5.319
5.321 <u>5.XXX</u></td></tr>
</table>

Reasons: To establish a primary Mobile allocation in the 698-806 MHz band throughout the world. To facilitate the development of advanced communications applications in frequency bands below 806 MHz to facilitate consistent deployment.

USA/xx/2
ADD 5.XXX

5.XXX The band, or portions of the band, 698-806 MHz is identified for use by Administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations.

Reasons: To identify spectrum for advanced communications applications including International Mobile Telecommunications (IMT) to facilitate consistent deployment.

USA/xx/3
MOD 5.317A

5.317A Administrations wishing to implement International Mobile Telecommunications-~~2000~~ (IMT-~~2000~~) may use those parts of the band 806-960 MHz which are allocated to the mobile service on a primary basis and are used or planned to be used for mobile systems (see Resolution 224 (WRC-2000)). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations.

Reasons: To facilitate the future development of IMT-2000 and systems beyond IMT-2000 by conforming existing footnotes to the new IMT naming conventions.

USA/xx/4
MOD 5.384A

5.384A The bands, or portions of the bands, 1710-1885 MHz and 2500-2690 MHz are identified for use by administrations wishing to implement International Mobile Telecommunications-~~2000~~ (IMT-~~2000~~) in accordance with Resolution 223 (WRC-2000). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations.

Reasons: To facilitate the future development of IMT-2000 and systems beyond IMT-2000 by conforming existing footnotes to the new IMT naming conventions.

USA/xx/5
MOD 5.388

5.388 The bands 1885-2025 MHz and 2110-2200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications-~~2000~~ (IMT-~~2000~~). Such use does not preclude the use of these bands by other services to which they are allocated. The bands should be made available for IMT-~~2000~~ in accordance with Resolution 212 (Rev. WRC-97). (See also Resolution 223 (WRC-2000).)

Reasons: To facilitate the future development of IMT-2000 and systems beyond IMT-2000 by conforming existing footnotes to the new IMT naming conventions.