

DRAFT**UNITED STATES OF AMERICA****INFORMATION AND PROPOSALS FOR THE WORK OF THE CONFERENCE****Introduction**

This document provides information related to WRC-15 Agenda Item 1.1, and activities underway in the United States of America to identify and make available additional frequency bands for International Mobile Telecommunications (IMT) and to facilitate the development of terrestrial mobile broadband applications. Specifically, this paper describes a new regulatory approach for the assignment and reallocation of spectrum through a new technique called “incentive auctions.” In addition, the United States of America makes some proposals under WRC-15 Agenda Item 1.1. It is anticipated that the United States of America will submit at a later date additional proposals including proposals for future Conferences.

Background

According to a recent ITU report, mobile-broadband subscriptions have climbed from 268 million in 2007 to 2.1 billion in 2013. This reflects an average annual growth rate of 40%, making mobile broadband the most dynamic ICT market.¹ The same report shows that, in developing countries, the number of mobile broadband subscriptions more than doubled from 2011 to 2013 (from 472 million to 1.16 billion) and surpassed those in the developed countries in 2013.² Mobile broadband access has become a key driver of global economic growth, job creation and competitiveness. In developing countries, where mobile wireless is often the only means to achieve ubiquitous broadband access, it has become an economic imperative. Africa, for example, has experienced the highest growth, with mobile-broadband penetration increasing from 2% in 2010 to 11% in 2013. This dramatic growth in mobile-broadband traffic, with mobile video comprising over 50% and growing, has resulted in an acute need for additional spectrum. The 2012 World Radiocommunication Conference recognized this need and adopted WRC-15 Agenda Item 1.1, in an effort to address the looming spectrum shortage for the mobile broadband services.

In considering the global spectrum requirements under WRC-15 Agenda Item 1.1, it is important to acknowledge, as reflected in *recognizing* d of Resolution **233 (WRC-12)**, that the spectrum below 1 GHz is exceptionally suited for mobile broadband applications. In particular, the unique propagation characteristics of the bands below 1 GHz allow for wider area coverage which in turn requires less infrastructure and facilitates service delivery to rural or sparsely populated areas, as reflected in *recognizing* c of Resolution **233 (WRC-12)**.

¹ The World in 2013-ICT Facts and Figures, ITU, <http://www.itu.int/en/ITU-Statistics/Documents/facts/ICTFactsFigures2013.pdf>

² Ibid.

The 470-806/862 MHz frequency range is allocated to the broadcasting service on a primary basis in all three Regions and used predominantly for the delivery of broadcast television. Broadcasting continues to be an important service and broadcast television stations continue to provide information and video programming that is responsive to the needs and interests of the communities they serve. Moreover, broadcast television itself continues to evolve to keep pace with technological and marketplace changes. Many television broadcasters now pursue a three-screen approach, sharing their programming online and on mobile devices, in addition to providing it over the air. In fact, providing mobile access to broadcast television content is one of the key contributors to the increase in mobile data traffic that is driving demand for mobile spectrum.

The importance of broadcasting in emergencies has been recognized and highlighted in a recent ITU Report.³ As stated in this report, “television broadcasting is a critically important medium for information dissemination to the public in times of emergencies. The intrinsic one-to-many broadcast architecture and the geographic diversity of terrestrial broadcast transmission facilities provide high service reliability during crises of all types. ... The case studies in this report represent only a few of countless examples that attest to the global importance of terrestrial broadcasting, helping to protect and save lives during local, national and international emergencies.”⁴

In addition, according to new independent research by GfK Media, the number of Americans relying on over-the-air television reception only increased from 15% to 17.8% of all U.S. households from 2011 to 2012.⁵ This represents a total of more than 20.7 million households or 53.7 million consumers that rely solely on over-the-air reception. This study also found that minorities and younger adult households were more likely to rely on only over-the air reception.

Further, efforts are also underway in the United States and world-wide to develop next generation of terrestrial broadcast systems. One such initiative, the Future of Broadcast Terrestrial Television Initiative (FoBTV) is a world-wide effort to define and develop standards for such systems. A key element of any next generation broadcast system recognized by the FoBTV Initiative is: “The importance of mobility in future broadcast systems and the desire for mobile, handheld and portable devices to be capable of working across borders” The growth and importance of mobility and portable operations was also recognized in the recent ITU Report on broadcastings role in emergencies and highlights the continued need for access by broadcasters to dedicated UHF broadcast spectrum that permits the use of small antennas and portable broadcast devices.

Recognizing the growing need for mobile spectrum below 1 GHz and the continued priorities of the member states as regards UHF broadcasting, WRC-15 has been tasked to investigate regulatory solutions that would:

³ www.itu.int/go/ITU-R/RWP6A-2013

⁴ See, Proposed Draft New Report on the Importance of Terrestrial Broadcasting in Providing Emergency Information to the Public, Document 6/156-E, Document 6A/301-A, 28 October 2013, at p. 12.

⁵ See, The Home Technology Monitor Research Series, *2012 Ownership Survey and Trend Report* by GfK Media, <http://www.knowledgenetworks.com>.

- (a) Enable administrations to preserve broadcasting and other services in the UHF range and,
- (b) Allow administrations flexibility to address the mobile spectrum shortage consistent with their domestic requirements.

Information/Proposal

To achieve these same objectives, the United States recently has introduced the idea of incentive auctions as a tool to help meet both its growing broadband spectrum needs and to preserve and foster the development of existing and new broadcasting services. Incentive auctions are a voluntary, market-based means of repurposing spectrum by encouraging existing licensees to voluntarily relinquish spectrum usage rights in exchange for a share of the proceeds from an auction of new licenses to use the repurposed spectrum. The incentive auction of U.S. broadcast television spectrum will have three major pieces: (1) a “reverse auction” in which broadcast television licensees submit bids to voluntarily relinquish spectrum usage rights in exchange for payments; (2) a reorganization or “repacking” of the broadcast television bands in order to free up a portion of the ultra-high frequency (UHF) band for other uses; and (3) a “forward auction” of initial licenses for flexible use of the newly available spectrum. All three pieces are interdependent: the amount of spectrum available in the forward auction will depend on reverse auction bids and repacking, winning reverse auction bidders will be paid from the forward auction proceeds, and repacking methodology will help to determine which reverse auction bids are accepted and what channels and spectrum will be available for both broadcast stations that remain on the air and for new broadband services. Just as the United States’ introduction and experience with using auctions to award licenses have been adopted and used by other administrations. The use of this new voluntary incentive auction technique could be useful in providing a new regulatory mechanism to address mobile spectrum shortages and to balance spectrum requirements for both their mobile and broadcast domestic needs.

Proposal:

The United States proposes no change to Article 5 in 470-698 MHz band at this time. The United States may make a specific proposal and provide changes to Article 5 of the Radio Regulations prior to the Conference based on the results of the Incentive Auction described above. Any such change would be based on adding a primary mobile service allocation to a portion of the UHF broadcast band below 698 MHz and would ensure that a significant portion of the UHF band continued to be dedicated for television broadcast services.

Reasons: Globally harmonized allocations for mobile services are currently available below 1 GHz that enable the introduction of innovative broadband services, such as IMT. While additional new mobile allocations for mobile are being considered in the United States, the amount of spectrum to be reallocated below 698 MHz will be determined by market forces through an Incentive Auction. As indicated above, the United States intends to make a specific proposal in this regard after the auction and prior to the Conference. This approach will provide addition spectrum for broadband and will also ensure that dedicated UHF spectrum will be preserved for broadcasting to meet the needs of next generation broadcast systems and global initiatives, such as FoBTV, including new mobile and portable broadcast operations that will support and enhance broadcastings critical role in providing emergency information to the public, as recognized in the recent ITU Report.

