

Ms. Mindel De La Torre  
Chief of the International Bureau  
Federal Communications Commission  
445 12<sup>th</sup> Street SW  
Washington, DC 20554

Dear Ms. De La Torre:

The National Telecommunications and Information Administration (NTIA) on behalf of the Executive Branch agencies, approves the release of the attached Executive Branch proposal for WRC-12 agenda item 8.2 broadband wireless access. NTIA proposes to modify Resolution 806 (WRC-07) to add a WRC-15 future conference agenda item for broadband wireless access.

NTIA considered the Federal agencies' input toward the development of U.S. proposals for WRC-12. NTIA forwards this package for your consideration and review by your WRC-12 Advisory Committee. Dr. Darlene Drazenovich is the primary contact from my staff.

Sincerely,

*(Original Signed January 28, 2011)*

Karl B. Nebbia  
Associate Administrator  
Office of Spectrum Management

**UNITED STATES OF AMERICA**  
**DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE**

**Agenda item 8.2:** *to recommend to the Council, items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, taking into account Resolution 806 (WRC-07)*

**Background Information:** The dual trends of greater bandwidth demands and the desire of users for mobile access have led to broadband wireless access (BWA) and other emerging technologies. Few technological developments hold as much potential to enhance economic development and improve the quality of our lives as wireless high-speed access to the Internet. Expanded broadband wireless access potentially will trigger the creation of innovative new businesses, provide cost-effective connections in developing countries and under-served areas, increase productivity, improve public safety, and allow for the development of mobile telemedicine, telework, distance learning, and other new applications that will transform lives.

*Healthcare*

Information technology plays a key role in improving health and health care delivery. BWA can improve care quality, safety, efficiency, and reduce disparities in health care. Increased access to broadband will serve to engage patients and families in managing their health and enhance care coordination.

Broadband access might help ensure adequate privacy and security of health information. Increased access to broadband wireless systems can dramatically improve the collection, presentation and exchange of health care information, and provide clinicians and consumers the tools to transform care. Technology alone cannot heal, but when appropriately incorporated into care, technology can help health care professionals and consumers make better decisions, become more efficient, engage in innovation, and understand both individual and public health more effectively.

*Education*

Broadband can be an important tool to help educators, parents and students meet major challenges in education. A country's economic welfare and long-term success depend on improving learning for all students, and broadband-enabled solutions hold tremendous promise to help reverse patterns of low achievement and lack of access. With broadband, students and teachers can expand instruction beyond the confines of the physical classroom and traditional school day. Broadband can also provide more customized learning opportunities for students to access high-quality, low-cost and personally relevant educational material. Broadband can improve the flow of educational information, allowing teachers, parents and organizations to make better decisions tied to each student's location, needs and abilities. Improved information flow can also make educational product and service markets more competitive by allowing school districts and other organizations to develop or purchase higher-quality educational products and services.

### *Economic Growth*

Broadband and the Internet make it possible for small businesses to reach new markets and improve their business processes. They have also become a critical pathway for individuals to gain skills and access careers. It is a core infrastructure component for local communities seeking to attract new industries and skilled work forces. As a result, small businesses, workers, and communities must have the broadband infrastructure, training and tools to participate and compete in a changing economy. Broadband can help every community.

### *Government Services*

Smarter use of broadband can facilitate a vast change in government. Like private companies, government can make its services available 24 hours a day, seven days a week, 365 days a year. Broadband-enabled online services can create paths across government's bureaucratic silos so that someone wanting to access unemployment benefits can deal with the local government and the federal government at the same time. Broadband holds the potential to move all government forms online, eliminating paperwork. Broadband allows for online tutorials for simple government services, which can help free government employees to focus on the most complicated cases. And broadband can increase efficiency by increasing the speed and depth of cooperation across departments and across different levels of government.

### *Civic Engagement*

Civic engagement starts with an informed public, and broadband can help by strengthening the reach and relevance of mediated and unmediated information. Broadband can enable government to share unmediated information more easily. Providing more information and data to the public about the processes and results of government can strengthen the citizenry and its government. Broadband can also empower citizens to engage their government through new broadband-enabled tools. Broadband has already increased access to information and revolutionized the way citizens interact with each other.

### *Public Safety*

There are significant benefits, including cost efficiencies and improved technological advancement, if the public safety community can increasingly use applications and devices developed for commercial wireless broadband networks. Ultimately, this system must be flexible, allowing public safety entities to forge incentive-based partnerships with commercial operators and others. This system will allow the public safety community to realize the benefits of commercial technologies, which will reduce costs and ensure the network evolves.

As the use of BWA and other emerging technologies expands, however, existing fixed and mobile service allocations available for BWA may not be adequate to meet the growing demand. Furthermore, the benefits of global or regional harmonization of frequency bands for new BWA and other emerging technologies may not be realized unless adequate spectrum is identified for this purpose. One administration has estimated that a total of 500 MHz may need to be available for fixed and mobile broadband use within the coming 10 years.

### **Proposal:**

MOD USA/8.2/1

RESOLUTION 806 (WRC-12)

**Agenda for the 2015 World  
Radiocommunication Conference**

Deleted: 07

Deleted: Preliminary a

The World Radiocommunication Conference (Geneva, 2012),

Deleted: 07

**Reasons:** To modify the agenda for WRC-15 to add a new item.

ADD USA/8.2/2

**2.n** based on studies to determine spectrum requirements for broadband applications and available spectrum in existing fixed and/or mobile allocations in the frequency range 400-4 400 MHz, to consider possible additional allocations to the fixed and/or mobile services in the frequency range 400-4 400 MHz, in accordance with Resolution [USA-~~nn~~] (WRC-12)

**Reasons:** Available spectrum for BWA services may not be adequate to meet the growing worldwide demand. This agenda item will consider additional allocations, based on identified spectrum requirements, to meet this demand.

ADD USA/8.2/3

RESOLUTION [USA-NN] (WRC-12)

**Additional allocations to the fixed and mobile services for future broadband  
wireless access (BWA) systems in the frequency range 400-4 400 MHz**

The World Radiocommunication Conference (Geneva, 2012),

*considering*

- a) that there is increased worldwide demand for broadband wireless access (BWA) services;
- b) that multimedia applications on mobile devices have increased the bandwidth requirements and expectations of mobile users;
- c) that the availability of new and innovative telecommunication devices has spurred demand for wireless access to the Internet;
- d) that expanded broadband wireless access is expected to trigger new business opportunities, provide the potential for cost-effective connections in developing countries and underserved areas, increase productivity and improve public safety;
- e) that expanded broadband wireless access also is expected to allow for the development of mobile telemedicine, telework, distance learning, and other new applications;

- f)* that it is uncertain whether current allocations to the fixed and/or mobile service will be sufficient to meet projected requirements for BWA;
- g)* that there may be a need for additional suitable spectrum worldwide to meet this demand,  
*further considering*
- a)* that among other bands, the bands 1 695-1 710 MHz and 4 200-4 400 MHz may provide opportunities for BWA, if improved efficiency in the meteorological services and the aeronautical radionavigation service can be achieved;
- b)* that the band 1 700-1 710 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis worldwide, and that the band 1 690-1 700 MHz is allocated to the mobile, except aeronautical mobile, service on a secondary basis in Region 1;
- c)* that the band 1 675-1 710 MHz is allocated to the meteorological-satellite (space-to-Earth) service, and that the band 1 675-1 700 MHz is allocated to the meteorological aids service on a primary basis worldwide;
- d)* that the band 1 700-1 710 MHz is allocated to the fixed service on a primary basis worldwide, and that the band 1 690-1 700 MHz is allocated to the fixed service on a secondary basis in Region 1;
- e)* that the band 4 200-4 400 MHz is allocated on a primary basis to the aeronautical radionavigation service (ARNS);
- f)* that the use of the band 4 200-4 400 MHz is reserved exclusively for radio altimeters installed on board aircraft and for the associated transponders on the ground (No. **5.438**), and that radar altimeters provide a critical safety service (No. **4.10**) used for aircraft landings and ground proximity warning;
- g)* that the standard frequency and time signal-satellite service may be authorized to use the frequency 4 204 MHz for space-to-Earth transmissions, and that such transmissions shall be confined within the limits of  $\pm 2$  MHz, subject to agreement contained under No. **9.21** (No. **5.440**);
- h)* that the Earth exploration-satellite (passive) and space research services may be authorized for use in the 4 200-4 400 MHz band on a secondary basis (No. **5.439**);
- i)* that the potential for reallocating portions of the lower and upper ends of the band 4 200-4 400 MHz is based on preliminary radar altimeter emission data indicating that those portions of the band may not currently be heavily used by radar altimeters,  
*recognizing*
- a)* the need to protect existing services when considering frequency bands for possible additional mobile and/or fixed service allocations for identification for BWA;
- b)* the economic benefits that the further development of BWA is expected to bring to countries;
- c)* the role that BWA could play in bridging the digital divide, especially in underdeveloped or rural areas of the world;

- d) the need to balance commercial wireless service use of the radio spectrum with other priorities established by individual administrations;
- e) that any fixed and mobile service bands that are found suitable for BWA applications should not preclude the use of these allocations for other fixed and mobile service applications or establish priority in the Radio Regulations;
- f) that in support of Report ITU-R M.1186 (1990) on the use of the frequency band 4 200-4 400 MHz by radio altimeters, the International Civil Aviation Organization (ICAO) conducted a survey of its member states and major manufacturers of radio altimeters;
- g) that Report ITU-R M.1186 (1990) concludes that the whole of the band 4 200-4 400 MHz should remain allocated to ARNS and reserved exclusively for radio altimeters to at least the year 2015;
- h) that Report ITU-R M.1186 (1990) states that based on a limited sample of currently available radar altimeters in the frequency band 4 200-4 400 MHz, that it would be imprudent to reduce the frequency band while the current equipment is still in operation;
- i) that Report ITU-R M.1186 (1990) states that new or alternative FM continuous wave techniques might provide the same accuracy in smaller bandwidth and, if this proves to be true, that it may be possible to reduce the allocated bandwidth in the frequency band 4 200-4 400 MHz (around the year 2015),

*noting*

that ITU-R is reviewing and updating M- and F-Series Reports and Recommendations on the characteristics and framework of BWA systems, taking into account the current state of wireless technology,

*resolves*

- 1 to invite ITU-R to conduct studies on the spectrum requirements for BWA, including determination of whether existing fixed and/or mobile service allocations are sufficient to satisfy any validated requirements;
- 2 to invite ITU-R to conduct sharing and compatibility studies between BWA and existing services, taking into account the *noting*, if existing fixed service and mobile service allocations are found to be insufficient to meet the projected requirements of BWA, as per *resolves* 1, in the frequency range 400-4 400 MHz, with a view to:
  - identifying suitable spectrum for BWA in existing mobile and/or fixed service bands, with particular attention on those bands currently identified in the Radio Regulations for International Mobile Telecommunications use, for possible re-identification for, or inclusion of, BWA;
  - considering allocations of additional spectrum to the mobile and/or fixed service, as required, for identification for BWA;
  - protecting the incumbent services in these bands and those in adjacent bands that could be impacted by the expected increased density resulting from the deployment of ubiquitous mobile broadband devices, including the expected use in some administrations on an unlicensed basis;

3 to invite ITU-R, as a priority, to conduct the studies described in *resolves 2* specifically in the following bands:

- 1 695-1 710 MHz, which has frequency allocations as described in *further considerations b) through d)*;
- 4 200-4 400 MHz, which has frequency allocations as described in *further considerations e) through i)* and *recognizings f) through i)*;

4 to report the results of studies in *resolves 1, 2 and 3* to WRC-15,

*invites administrations*

to contribute to these sharing studies by, *inter alia*, providing information on their use of the existing services in candidate bands and expected characteristics of future broadband wireless systems,

*invites ITU-R*

to complete the necessary studies, as a matter of urgency, taking into account the needs of the current uses of the allocated bands and adjacent bands, as well as the rapidly expanding demand worldwide for BWA services and the need to provide adequate spectrum for that purpose,

*instructs the Secretary-General*

to bring this Resolution to the attention of the International Maritime Organization (IMO), International Civil Aviation Organization (ICAO), World Meteorological Organization (WMO) and other international and regional organizations concerned.

**Reasons:** This resolution provides guidance to the ITU-R on conducting studies in support of the agenda item.

ATTACHMENT

**Proposal for an additional WRC-15 agenda item to provide identified spectrum for broadband wireless access systems**

**Subject:** Proposed WRC-15 agenda item to provide identification of spectrum for broadband wireless access systems

**Origin:** United States of America

---

**Proposal:** *To study additional new fixed and mobile service allocations for broadband wireless access.*

---

**Background/reason:**

Demand for broadband data supporting access to government services, telemedicine, and other essential applications is growing worldwide. This agenda item will provide an opportunity to determine the need for spectrum, and to identify suitable spectrum for this purpose through sharing studies of candidate frequency bands.

---

**Radiocommunication services concerned:**

MSS, F, M, RA, SRS, RLS, ARS, EESS, ARNS, RNSS, BS, BSS, SO, RDSS, Metatds, Metsat

---

**Indication of possible difficulties:**

---

**Previous/ongoing studies on the issue:**

*Several studies have been performed in SG 5 on Broadband Wireless Access*

---

**Studies to be carried out by:**

WP 5A

**with the participation of:**

WP's 4A, 4B, 4C, 5B, 5C, 5D, 6A, 7B, 7C, 7D

---

**ITU-R Study Groups concerned:**

SG's 4, 5, 6, 7

---

**ITU resource implications, including financial implications (refer to CV126):**

Nothing beyond normal ITU-R work

---

**Common regional proposal:** Yes/No

**Multicountry proposal:** Yes/No

**Number of countries:**

---

**Remarks** \_\_\_\_\_