ATTACHMENT 2
to FCC Public Notice DA 09-763

Draft Preliminary Views formulated and approved within the National Telecommunications and Information Administration:

Document WAC/005(13.01.09)

August 14, 2008

Ms. Helen Domenici
Chief of the International Bureau
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

Dear Ms. Domenici:

The National Telecommunications and Information Administration (NTIA), on behalf of the Executive Branch agencies, has approved the release of a package of Draft Executive Branch Preliminary Views for 2011 World Radiocommunication Conference (WRC-11). These draft preliminary views consider the Federal agency inputs toward the development of U.S. Proposals for WRC-11. The enclosure contains preliminary views for the following agenda items:

a) Agenda Item 1.5 (Resolution **954 (WRC-07)** – Harmonization of spectrum for use by terrestrial electronic news gathering systems);
b) Agenda Item 1.6 (Resolution **950 (WRC-07)** – Consideration of the use of the frequencies between 275 and 3 000 GHz);*
c) Agenda Item 1.8 (Resolutions **731 (WRC-2000)** and **732 (WRC-2000) –** Consideration of the progress of ITU-R studies concerning the technical and regulatory issues relative to the fixed service in the bands between 71 GHz and 238 GHz, taking into account Resolutions **731 (WRC-2000)** and **732 (WRC-2000)**;
d) Agenda Item 1.11 (Space Research Service (Earth-to-space) systems within the band 22.55-23.15 GHz);
e) Agenda Item 1.12 (Resolution **754 (WRC-07)** – Consideration of modification of the aeronautical component of the mobile service allocation in the 37-38 GHz band for protection of other primary services in the band**)**;
f) Agenda Item 1.13 (Resolution **551 (WRC-07)** – Use of the band 21.4-22 GHz for broadcasting-satellite service and associated feeder-link bands in Regions 1 and 3);
g) Agenda Item 1.19 (Resolution **956 (WRC-07)** – Regulatory measures and their relevance to enable the introduction of software-defined radio and cognitive radio systems);
h) Agenda Item 1.20 (Resolution **734 (WRC-07)** – Studies for spectrum identification for gateway links for high-altitude platform stations in the range from 5 850 to 7 075 MHz); and
i) Agenda Item 1.22 (Resolution **953 (WRC-07)** – Protection of radiocommunication services from emissions by short-range radio devices).

*This preliminary view only addresses the first part of the agenda item (passive services between 275 – 3 000 GHz), hereafter referred to as Agenda Item 1.6 (Res 950). The second part of the agenda item (free-space optical links), referred to as Agenda Item 1.6 (Res 955), is addressed in a separate document.

This package is forwarded for your consideration and review by your WRC-11 Advisory Committee. Darlene Drazenovich of my staff is the primary contact for NTIA.

Sincerely,

(Original Signed August 14, 2008)
Karl B. Nebbia
Associate Administrator
Office of Spectrum Management

Enclosure

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.5: to consider worldwide/regional harmonization of spectrum for electronic news gathering (ENG), taking into account the results of ITU-R studies, in accordance with Resolution **954 (WRC-07)**

ISSUE: To review the needs of ENG systems, to decide if harmonization is possible, and in what potential bands such harmonization is appropriate. This issue may also lead to requests from administrations for consideration of additional spectrum allocations.

BACKGROUND: The issue of spectrum for ENG applications has been a long-standing issue within the ITU and has been prominent for several WRC study cycles. WRC-07 decided to include an agenda item that would look at possible global/regional harmonization. The need for global/regional harmonization must also take into account advances in technology, which may account for operations that are more efficient.

There are several different broadcasting services, which operate under the umbrella of ENG and each will have its own unique requirements for harmonization based on deployment, technical parameters, and user density.

U.S. VIEW: The United States supports reviewing the requirements developed in WP 6A to determine if harmonization is feasible on a regional/global basis for ENG systems. The United States supports studies on technologies that maximize efficient and flexible use of frequencies at the national level in lieu of global/regional identification of frequency bands. If such harmonization is required and feasible, the United States supports focusing on studying the impact of identifying in the RR harmonized spectrum for ENG systems. Such identification should focus on bands where ENG systems have already been identified in ITU-R recommendations in the fixed and mobile services to determine which are appropriate, given the needs of the differing ENG systems (covered by this agenda item and Resolution **954 (WRC-07))** while protecting existing services. (August 7, 2008)

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.6: to review No. **5.565** of the Radio Regulations in order to update the spectrum use by the passive services between 275 GHz and 3 000 GHz, in accordance with Resolution **950 (Rev.WRC-07)**, and to consider possible procedures for free-space optical-links, taking into account the results of ITU-R studies, in accordance with Resolution **955 (WRC-07)**†

ISSUE: The purpose of Resolution **950 (Rev. WRC-07)** is to review No. **5.565**, excluding frequency allocations, in order to update spectrum use between 275 and 3 000 GHz by the passive services. Currently, No. **5.565** describes the need for passive observations of spectral line emissions and spectral windows in various bands throughout the 275 – 1 000 GHz range by the radio astronomy service (RAS), the Earth exploration-satellite service (passive) (EESS), and the space research service (passive) (SRS). The footnote also describes the potential for additional spectral line and continuum bands in this range to be identified in the future. Resolution **950 (Rev. WRC-07)** extends its range of consideration to 275 – 3 000 GHz for RAS, EESS (passive), and SRS (passive) use, and invites ITU-R to conduct studies toward modifying No. **5.565**.

BACKGROUND: The current Table of Frequency Allocations establishes allocations at frequencies between 9 kHz and 275 GHz. No allocations presently exist above 275 GHz, although an entry in the Table for the range 275 – 1 000 GHz contains a reference to No. **5.565**:

> **5.565** The frequency band 275-1 000 GHz may be used by administrations for experimentation with, and development of, various active and passive services. In this band a need has been identified for the following spectral line measurements for passive services:
>
> – radio astronomy service: 275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623-711 GHz, 795-909 GHz and 926-945 GHz;
>
> – Earth exploration-satellite service (passive) and space research service (passive): 275-277 GHz, 294-306 GHz, 316-334 GHz, 342-349 GHz, 363-365 GHz, 371-389 GHz, 416-434 GHz, 442-444 GHz, 496-506 GHz, 546-568 GHz, 624-629 GHz, 634-654 GHz, 659-661 GHz, 684-692 GHz, 730-732 GHz, 851-853 GHz and 951-956 GHz.
>
> Future research in this largely unexplored spectral region may yield additional spectral lines and continuum bands of interest to the passive services. Administrations are urged to take all practicable steps to protect these passive

† This preliminary view only addresses the first part of the agenda item (passive services between 275 – 3 000 GHz), hereafter referred to as Agenda Item 1.6 (Res 950). The second part of the agenda item (free-space optical links), referred to as Agenda Item 1.6 (Res 955), is addressed in a separate document.

services from harmful interference until the date when the allocation Table is established in the above-mentioned frequency band. (WRC-2000)

Passive services currently utilize portions of the 275 – 3 000 GHz range for scientific observation of both spectral line and continuum emissions. Resolution **950 (Rev. WRC-07)** resolves to review No. **5.565** to update the spectrum use between 275 and 3 000 GHz by the passive services, but specifically excludes allocations in this range.

U.S. VIEW: The United States supports the modification of No. **5.565** to include all appropriate bands of interest to RAS, EESS (passive), and SRS (passive) in the range 275 – 3 000 GHz based upon studies being conducted in Study Group 7. (August 7, 2008)

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.8: to consider the progress of ITU-R studies concerning the technical and regulatory issues relative to the fixed service in the bands between 71 GHz and 238 GHz, taking into account Resolutions **731 (WRC-2000)** and **732 (WRC-2000)**

ISSUE: The intent of this agenda item is to study compatibility between passive and active services and develop sharing criteria for co-primary active services in bands above 71 GHz. In particular, it is important to study the spectrum requirements for active services for which the technology will be commercially available at a future date. Based on proposals and documentation available at WRC-07 it is likely that some administrations may seek to develop sharing criteria for the radio regulations in the form of pfd limits on space service downlinks.

BACKGROUND: WRC-2000 adopted Resolutions **731** and **732** as part of the conference decisions on the allocation of frequency bands above 71 GHz to the Earth exploration-satellite (passive) and radio astronomy services resulting in an overall rearrangement of the allocation tables in Article **5** of the Radio Regulations. These resolutions became necessary because the ITU-R was not able to fully evaluate for the active services (e.g., fixed, mobile, radiolocation, etc.), the new arrangement of their allocations vis-à-vis the passive allocations or each other. Therefore, the conference decided to adopt these two resolutions providing for further study and possible action in the future when active services technology and emerging requirements become better known. Since that time, millimeter wave spectrum above 71 GHz has become the subject of increasing interest for commercial use due to its unique propagation characteristics and the wide bandwidth available for carrying telecommunications traffic. New technologies are now emerging that offer the possibility of using these higher frequency bands for fixed wireless applications, taking advantage of the wide bandwidths available to support applications such as extremely high speed data transmission (e.g., data rates in the 1 to 10 Gbps range) for short distance (e.g., < 1-2 km). Several administrations have made or are making provisions for such wideband terrestrial fixed wireless applications.

In a somewhat unique set of circumstances, WRC-07 did not adopt a Resolution to define this agenda item. Therefore, the definition and scope of the agenda item is unclear.

U.S. VIEW: The United States supports ITU-R studies concerning the fixed service bands between 71 and 238 GHz. The United States supports protection of the existing services allocated within this frequency range. (August 7, 2008)

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.11: to consider a primary allocation to the space research service (Earth-to-space) within the band 22.55-23.15 GHz, taking into account the results of ITU-R studies, in accordance with Resolution **753 (WRC-07)**

ISSUE: Resolution **753 (WRC-07)**, "Use of the band 22.55-23.15 GHz by the space research service," calls for consideration of sharing between space research service systems operating in the Earth-to-space direction and the fixed, inter-satellite, and mobile services in the band 22.55-23.15 GHz, with a view to consider the inclusion of the sharing criteria within the Radio Regulations and appropriate modifications to the Table of Frequency Allocations.

BACKGROUND: CITEL proposed this agenda item to WRC-07 in order to fulfill a requirement for space research service (SRS) uplink spectrum. SRS missions in near-Earth-orbit, including missions in transit to the moon and at or near the moon, will operate downlink (space-to-Earth) transmissions in the 25.5-27.0 GHz SRS allocation. This 1.5 GHz wide downlink band will be used for both scientific data retrieval and voice/video communication with the Earth. However, there is a need for a companion uplink (Earth-to-space) band to provide the mission data, command and control links for these missions. Due to the potential for many concurrent exploration-related systems and the large bandwidth requirements of these systems, especially those supporting manned missions, an uplink bandwidth of up to 600 MHz will be needed. Allocating sufficient primary SRS frequency spectrum in the 22.55-23.15 GHz band will provide the space exploration initiatives adequate uplink (Earth-to-space) bandwidth capacity in a band that is paired with the inter-satellite service and thus is a reasonable companion to the primary SRS 25.5-27.0 GHz space-to-Earth band.

Resolution **753 (WRC-07)** calls for sharing studies between SRS (Earth-to-space) and the fixed, inter-satellite and mobile services in the band 22.55-23.15 GHz to determine appropriate criteria which will provide for sharing between a new SRS (Earth-to-space) allocation and the existing services in the 22.55-23.15 GHz band. These sharing studies have been initiated in ITU-R Working Party 7B, the responsible group for CPM studies in support of WRC-11 agenda item 1.11.

U.S. VIEW: The United States supports a new SRS (Earth-to-space) primary allocation in the band 22.55-23.15 GHz taking into account the results of ITU-R studies. (August 7, 2008)

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.12: to protect the primary services in the band 37-38 GHz from interference resulting from aeronautical mobile service operations, taking into account the results of ITU-R studies in accordance with Resolution **754 (WRC-07)**

ISSUE: Resolution **754 (WRC-07)**, "Consideration of modification of the aeronautical component of the mobile service allocation in the 37-38 GHz band for protection of other primary services in the band," calls for consideration of the compatibility of the aeronautical mobile service (AMS) with other primary services in the band 37-38 GHz in order to determine appropriate compatibility criteria for inclusion within the Radio Regulations or an appropriate modifications to the Table of Frequency Allocations.

BACKGROUND: Space research service (SRS) earth station receivers are being implemented in the 37-38 GHz band to support manned missions, for both near Earth and deep space distances. Use of the wider bandwidth available in the 37-38 GHz band is required to support the increasing data requirements of planned manned missions.

Preliminary analysis within ITU-R Working Party 7B has shown that aeronautical mobile stations (assuming parameters from lower bands) are capable of causing unacceptable levels of interference for significant periods whenever they are within-line-of-sight of an SRS receiving earth station. In particular, SRS earth station receivers operating in the 37-38 GHz band have a very low interference threshold. Protection criteria applicable to these SRS Earth stations operating with either deep space or non-deep-space missions are contained in ITU-R recommendations. The operation of an aeronautical mobile station exceeding the protection criteria of the SRS for an extended period could jeopardize the success of a manned or scientific space mission. WRC-07 approved this agenda item based on information that no aeronautical mobile systems operate or plan to operate in the 37-38 GHz band.

CITEL proposed this agenda item at WRC-07 with the intent to exclude the AMS from the 37-38 GHz band in order to protect the other services using this band, particularly the space research service. Preliminary studies in the ITU have shown that sharing with traditional AMS systems is not feasible if they were to operate in the band. However, since WRC-07 adopted this agenda item, the aviation industry is considering several candidate bands, which includes the 37-38 GHz band, for a newly identified airborne application. If studies show this application can operate without exceeding applicable interference thresholds, it may be feasible to establish sharing criteria that protects the other primary services in the band 37-38 GHz.

Resolution **754 (WRC-07)** calls for sharing studies between the AMS and the SRS, fixed service, FSS and MS in the band 37-38 GHz to determine appropriate criteria to ensure the protection of the other primary services from AMS operations in the band 37-38 GHz.

U.S. VIEW: The United States supports sharing studies in the band 37-38 GHz to determine appropriate compatibility criteria for the AMS. If the studies show that sharing is feasible with

particular AMS applications, support the establishment of sharing criteria that both protects the other primary services in the band 37-38 GHz, as well as allows for such compatible AMS applications. However, if the studies show that sharing is not feasible, support the suppression of the AMS from the 37-38 GHz band. (August 8, 2008)

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.13: to consider the results of ITU-R studies in accordance with Resolution **551 (WRC-07)** and decide on spectrum usage of the 21.4-22 GHz band for the broadcasting satellite service and the associated feeder link bands in Regions 1 and 3

ISSUE: **Resolution 551 (WRC-07)**, "Use of the band 21.4-22 GHz for the broadcasting-satellite service and associated feeder-link bands in Regions 1 and 3," calls for continuation of technical and regulatory studies on harmonization of spectrum usage, including planning methodologies, coordination procedures or other procedures, and broadcasting-satellite service (BSS) technologies in the 21.4-22 GHz band and associated feeder-links, considering that *a priori* planning is not necessary and should be avoided if it prevents flexible use of the band and that interim arrangements are on a first-come, first-served basis. Resolution **551 (WRC-07)**, also calls for WRC-11 to review the results of the studies and decide the usage of the 21.4-22 GHz band and the associated feeder link bands in Regions 1 and 3.

BACKGROUND: Region 1 and 3 countries proposed this item for the WRC-11 agenda. WARC-92 allocated the band 21.4-22 GHz in regions 1 and 3 to the BSS on a primary basis beginning April 1, 2007. In Regions 1 and 3, the BSS shares with the fixed service (FS) and mobile service (MS), which are also allocated in the band on a primary basis; in Region 2 the band is allocated only to the FS and MS on a primary basis. No. **5.530 (WRC-07)** subjects the BSS allocation to the provisions of Resolution **525 (WRC-07**), the Annex of which sets out interim procedures for the introduction of BSS high definition television (HDTV) systems in this band**.** While Resolution **525 (WRC-07**) subjects BSS (HDTV) systems to applicable procedures under Articles **9** and **14**, it exempts them from coordination procedures with terrestrial systems under **RR 9.11** until definitive procedures are established by the next conference. Resolution **525 (WRC-07**) also specifies that other services operating in the band may do so on condition of not causing harmful interference to BSS (HDTV) systems and that they cannot claim protection from such systems, thus effectively making the BSS (HDTV) systems "super-primary" in this band in Regions 1 and 3. In addition, footnote No. **5.347A** states that **Resolution 739 (WRC-07)**, that calls for administrations to take all reasonable steps to ensure compatibility with radio astronomy observations in bands adjacent or neighboring to certain satellite downlink bands, applies to this band. Table 1 of **Resolution 739** (the list of band pairs that is applicable to geostationary satellite systems) includes the pair 21.4-22.0 GHz (BSS) and 22.21-22.5 GHz (radio astronomy service).

U.S. VIEW: The United States supports the protection of existing services from in-band interference and unwanted emissions. (August 8, 2008)

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.19: to consider regulatory measures and their relevance, in order to enable the introduction of software-defined radio and cognitive radio systems, based on the results of ITU-R studies, in accordance with Resolution **956 (WRC-07)**

ISSUE: Resolution **956 (WRC-07)** calls for studies into the potential need for regulatory measures regarding software-defined radio (SDR) technologies and/or cognitive radio systems (CRS), and specifies that the results of these studies should be reviewed at WRC-11 for possible action. The resolution also specifies potential issues with cognitive radio systems, including the possible need for a worldwide pilot channel for "harmonization" of such systems.

BACKGROUND: Agenda item 1.19 originated from various proposals at WRC-07. One proposal focused on cognitive radio and the possibility of a worldwide allocation for a "cognition supporting pilot channel (CPC)" – essentially, a pilot channel which would provide radio systems with cognitive capabilities with information regarding locally-available radio spectrum. Another proposal suggested more general studies regarding both cognitive radio and software-defined radio technologies. The ITU-R has not reviewed the studies mentioned in Resolution **956 (WRC-07)** *considering (j)* regarding a CPC and allocation database.

U.S. VIEW: The United States supports ITU-R studies within Working Party 1B on the relevance of regulatory measures for software-defined radio and cognitive radio systems. The United States does not support regulatory measures leading to allocations, including identification footnotes, for software-defined radio and cognitive radio systems, as these are technologies, each with its own attributes, and not radiocommunication services. In addition, the United States encourages administrations to contribute technical studies to other ITU-R working parties regarding SDR and CRS technologies, their functionalities, the key technical characteristics, requirements, performance, and benefits to the various ITU-R services. As these technologies may be used in conjunction with unlicensed/short range device (SRD) systems, it may be important to follow studies on WRC-11 agenda item 1.22 on SRD. (August 7, 2008)

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.20: To consider the results of ITU-R studies and spectrum identification for gateway links for high altitude platform stations (HAPS) in the range between 5 850-7 075 MHz in order to support operations in the fixed and mobile services, in accordance with Resolution **734 (Rev.WRC-07)**

ISSUE: Different segments of the 5 850-7 075 MHz frequency band are utilized for fixed, fixed-satellite, and mobile services. Resolution **734 (WRC-07)** proposes to study spectrum identification for gateway links for high-altitude platform stations in the range from 5 850 to 7 075 MHz. The study effort is to identify two channels of 80 MHz each for gateway links for HAPS in the range from 5 850 to 7 075 MHz, in bands already allocated to the fixed service, while ensuring the protection of existing services.

BACKGROUND: Previous WRC efforts (WRC-97, WRC-2000) had undertaken initiative to examine HAPS types of applications in various frequency bands. Due to the fact that all previous studies were carried out in frequency bands significantly higher than 5 850-7 075 MHz, new electromagnetic compatibility (EMC) studies will have to be initiated and conducted. The EMC studies will have to address HAPS ability to coexist with mobile, fixed satellite services as well as with radiolocation service, which exists in adjacent frequency bands.

Land-based and maritime radiolocation systems operate in the lower adjacent frequency band. Fixed, mobile, and fixed-satellite systems also operate in the 5 850-7 075 MHz band. Remote sensing systems operate in the 6 475-7 075 MHz band.

U.S. VIEW: The United States supports the studies for potential HAPS identification in the 5 850 – 7 075 MHz band. Identification of any spectrum for HAPS in the 6 GHz band should ensure protection of all services in the 5 850-7 075 MHz band, as well as in adjacent bands. (August 7, 2008)

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.22: to examine the effect of emissions from short-range devices on radiocommunication services, in accordance with Resolution **953 (WRC-07)**

ISSUE: Resolution 953 (WRC-07) invites the ITU-R to study the emissions from short-range devices (SRDs), and in particular radio-frequency identification devices (RFIDs), inside and outside the ISM bands. It further emphasizes the need to ensure adequate protection of radiocommunication services from SRD emissions.

BACKGROUND: Short-range devices have been studied in the past in both Working Parties 1A and 1B. ITU-R Question 213/1, "Technical and operating parameters and spectrum requirements for short-range devices" was adopted in 1997, resulting in Recommendation ITU-R SM.1538, "Technical and operating parameters and spectrum requirements for short range radiocommunication devices" in 2001. The ITU-R revised this recommendation in 2003 and in 2006, and work on further revisions continues in Working Party 1B.

Resolution **953 (WRC-07)** mentions ultra-wideband systems in *Considerings (b) and (d)*. Such devices have been studied extensively in Task Group 1/8, resulting in the production of four Recommendations: ITU-R SM.1754 (Measurement techniques of ultra-wideband transmissions), SM.1755 (Characteristics of ultra-wideband technology), SM.1756 (Framework for the introduction of devices using ultra-wideband technology) and SM.1757 (Impact of devices using ultra-wideband technology on systems operating within radiocommunication services).

Resolution **953 (WRC-07)** notes all of these recommendations in *Recognizing (a)*.

The primary change in direction between the current Resolution and past work seems to be the focus on the effect of emissions from short-range devices in general on radiocommunications, rather than technical characteristics of such devices and regulatory regimes or the emissions from a specific type of device.

U.S. VIEW: The United States views the regulation of short-range devices as primarily a national matter. The United States supports studies into the characteristics of short-range devices, including emissions and the effects of those emissions on radiocommunication services. (August 7, 2008)

Document WAC/006(13.01.09)

August 28, 2008

Ms. Helen Domenici
Chief of the International Bureau
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

Dear Ms. Domenici:

The National Telecommunications and Information Administration (NTIA), on behalf of the Executive Branch agencies, approved the release of a package of draft Executive Branch preliminary views for 2011 World Radiocommunication Conference (WRC-11). These draft preliminary views consider the Federal agency inputs toward the development of U.S. proposals for WRC-11. The enclosure contains preliminary views for the following agenda items:

j) Agenda Item 1.3 - Unmanned Aircraft Systems;

k) Agenda Item 1.4 - Aeronautical Mobile (R) Service at VHF/UHF/SHF; and

l) Agenda Item 1.21 - Radiolocation Service at 15.4-15.7 GHz.

This package is forwarded for your consideration and review by your WRC-11 Advisory Committee. Darlene Drazenovich of my staff is the primary contact for NTIA.

Sincerely,

Original Signed August 28, 2008
Karl B. Nebbia
Associate Administrator
Office of Spectrum Management

Enclosure

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.3: To consider spectrum requirements and possible regulatory actions, including allocations, in order to support the safe operation of unmanned aircraft systems (UAS), based on the results of ITU-R studies, in accordance with Resolution **421 (WRC-07)**

ISSUE: The purpose of this agenda item is to identify spectrum requirements and potentially take regulatory actions, including allocations, to support the safe operation of UASs. The ITU-R is studying sharing and compatibility with existing services already having allocations. This agenda item specifically excludes at WRC-11 the allocation of spectrum for radiocommunications related to payloads on aircraft, but invites the ITU-R to study payload radiocommunication requirements.

BACKGROUND: Unmanned aircraft systems (UASs) enable the remote piloting of aircraft over short range and significant distances within or out-of-sight of the remote pilot. These flight operations currently take place in segregated airspace, to ensure the safety of the air vehicle and other airspace users.

Administrations expect broad deployment of UASs throughout the airspace structure. As UAS deployment increases, it will be impractical for some users to deploy in segregated airspace. Some UASs will need to integrate with the current airspace users in a safe and seamless manner. To accomplish integration into non-segregated airspace, UASs will require high integrity communications link(s) between the unmanned aircraft (UA) and remote control centers capable of relaying the necessary air traffic control (ATC) messages and flight critical aircraft information. The UAS pilot will need sense and avoid functions for situational awareness.

The ICAO future communications study may be able to identify technologies with some capacity to meet the requirements for command and control (including the relaying of ATC communications). The aeronautical mobile (R) service (AM(R)S) and aeronautical mobile-satellite (R) service (AMS(R)S) are the appropriate services to accommodate command and control and ATC radiocommunications. The ITU-R is examining existing AM(R)S and AMS(R)S allocations for suitable bandwidth prior to studying new allocations.

Command & Control

In non-segregated airspace, the remote pilot must reliably monitor the status of the UA, pass control instructions to their UA, and interact with the appropriate air traffic controllers monitoring airspace within which their UA is flying. A line-of-sight link might provide these capabilities for UA flying and maneuvering in a localized area. A combination of a terrestrial radio and satellite network and could provide these capabilities to UA flying trans-horizon.

Relay of Air Traffic Control (ATC) Communications

Safe operation of manned or unmanned aircraft depends on ATC communications. Pilots act

based on ATC instructions. When the pilot is remote (not in the aircraft) the pilot and ATC must maintain a voice channel to relay information from a radio in the aircraft to the pilot on ground. Early concepts assume that this function, if digitized, could be part of the command and control links.

Sense and Avoid

The safe flight operation of UA necessitates advanced techniques to detect and track nearby aircraft, terrain, and obstacles to navigation. Unmanned aircraft must avoid these objects in the same manner as manned aircraft. The remote pilot will need to be aware of the environment within which the aircraft is operating, be able to identify the potential threats to the continued safe operation of the aircraft, and take the appropriate action. The radiodetermination service allocations could potentially accommodate the sense and avoid function. The ITU-R is examining existing ARNS allocations for suitable bandwidth prior to studying new ARNS allocations. The UAV industry is studying the suitability of other technologies for sense and avoid.

Payload

The spectrum requirements to support payload communications are not critical to the safe operation of that aircraft. The ITU-R is developing a report or recommendation on how to address UAS payload requirements.

U.S. VIEW: If studies identified in Resolution **421 (WRC-07)** support regulatory actions at WRC-11 for the operation of UAS, the United States supports possible modification to existing AM(R)S and/or AMS(R)S allocations, or, if necessary, new allocations for these two services to support the command and control and ATC communications of UAS in non-segregated airspace.
If studies identified in Resolution **421 (WRC-07),** and further ongoing studies to determine suitability of other technologies, substantiate regulatory actions at WRC-11 for the sense and avoid function of UAS, the United States supports possible modification to existing radiodetermination service allocations, or, if necessary, new allocations to that service to support the sense and avoid function of UAS in non-segregated airspace. The United States does not support new allocations for the radiocommunication requirements for UAS payloads. (August 27, 2008)

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.4: To consider, based on the results of ITU-R studies, any further regulatory measures to facilitate introduction of new aeronautical mobile (R) service (AM(R)S) systems in the bands 112-117.975 MHz, 960-1 164 MHz and 5 000-5 030 MHz in accordance with Resolutions **413 (Rev.WRC-07)**, **417 (WRC-07)** and **420 (WRC-07)**

ISSUE: WRC-11 agenda item 1.4 includes for the completion of studies listed in Resolutions **413 (WRC-07)** and **417 (WRC-07)**, and any additional regulatory measures that might be required to facilitate the introduction of new aeronautical mobile (route) service (AM(R)S) systems in the bands 112–117.975 and 960–1 164 MHz. The agenda item includes, under Resolution **420 (WRC-07),** for a new allocation to AM(R)S in the frequency band 5 000-5 030 MHz for surface applications at airports, provided that the radionavigation-satellite service (RNSS) in the 5 000-5 030 MHz band and the radio astronomy service (RAS) in the adjacent 4 990-5 000 MHz band are protected. The ITU-R will determine if the spectrum requirements for these new applications can be fulfilled in the 5 091-5 150 MHz band. Resolution **417 (WRC-07)** calls for compatibility studies between ARNS and AM(R)S systems in the 960-1164 MHz band. ITU-R studies do not exist for the 1024-1164 MHz scenario. The ITU-R needs to conduct studies in the 1024-1164 MHz band, based on the conditions outlined in Resolution **417 (WRC-07)**, as the sharing environment below and above the 1 024 MHz band is different.

BACKGROUND: WRC-07 made or modified AM(R)S allocations to support the aeronautical Future Communications System (FCS). In particular, WRC-07 modified the AM(R)S allocation in the band 112 – 117.975 MHz and allocated the band 960 – 1 164 MHz to the AM(R)S, in accordance with Resolutions **413 (WRC-07)** and **417 (WRC-07)** respectively. The resolutions specify regulatory restrictions on the operation of AM(R)S in those bands, limiting systems to those meeting International Civil Aviation Organization (ICAO) standards (i.e., ‘systems operating in accordance with international aeronautical standards’). ICAO will address compatibility of the AM(R)S with ICAO standardized systems. The ITU-R will address compatibility with in-band and adjacent band non-ICAO systems identified in the resolutions.

The United States has approved plans for the next-generation Global Positioning System (GPS) use of the 5 010-5 030 MHz band for tracking, telemetry, and command (TT&C) functions. Internationally, both the 5 000-5 010 MHz and 5 010-5 030 MHz bands are contained in specifications for TT&C links. Initial studies have shown that compatibility between planned AM(R)S and RNSS feeder links in the 5 000-5 010 MHz band is feasible under worst case conditions. For RNSS feeder links in the 5 010-5 030 MHz bands, separation distances are required, the extent of which will be determined based on ITU-R defined AM(R)S and RNSS system characteristics. These separation distances are between the TT&C stations and airports, and may be a viable solution depending upon results of studies. Though all current GPS TT&C stations are fixed, it is possible that in the future: 1) GPS TT&C stations may be transportable and 2) TT&C stations may need to be located near an airport.

The United States is providing preliminary design parameters to ITU-R WP4C for proposed GPS service links to operate in 5 010-5 030 MHz. Internationally, the 5010-5030 MHz frequency band is under consideration as a potential band for RNSS service links.

Administrations will work with ICAO and the ITU to provide the relevant data and technical expertise to conduct the required compatibility studies between the FCS and non-ICAO standardized systems, as listed in the WRC-07 resolutions, The 5 000-5 030 MHz band is the primary focus of the studies. Administrations will closely monitor the studies regarding the 960-1 164 MHz band. ICAO will undertake any compatibility issues between ICAO standardized systems.

U.S. VIEW: If the spectrum requirements for surface applications at airports cannot be fully accommodated within the 5 091-5 150 MHz band, and if compatibility studies identified in Resolution **420 (WRC-07)** ensure protection of RNSS and RAS from AM(R)S surface applications, the United States supports a new allocation to the AM(R)S in the band 5 000-5 030 MHz.

Furthermore, the United States supports compatibility studies between AM(R)S systems operating in the band 960-1 164 MHz and non-ICAO standardized ARNS systems, and based on the results of studies, will consider if further regulatory measures are required to facilitate introduction of new AM(R)S systems in the band. (August 27, 2008)

UNITED STATES OF AMERICA

PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.21: to consider a primary allocation to the radiolocation service in the band 15.4-15.7 GHz, taking into account the results of ITU-R studies, in accordance with Resolution 614 (WRC-07)

ISSUE: Under WRC-11 Agenda Item 1.21, administrations will consider a primary radiolocation service allocation in the band 15.4-15.7 GHz. Allocating a primary radiolocation service in the band 15.4-15.7 GHz will provide additional spectrum for new advanced radar systems with increased image resolution and increased range accuracy that require wider emission bandwidths than currently available. Operation of radiolocation radars in this band must not adversely affect other co-primary services in the band or the radio astronomy service in the adjacent band 15.35-15.40 GHz.

BACKGROUND: The band 15.4-15.7 GHz is allocated on a primary basis to the aeronautical radionavigation service (ARNS). There are no ICAO-standard ARNS systems currently operating in this band. While the ARNS is a safety service as delineated in No. 4.10 of the Radio Regulations, radiolocation services have demonstrated compatible operations with radionavigation radars in other frequency bands over many years. The radars achieved compatibility through similar system characteristics such as low-duty cycle emissions and scanning beams, as well as interference reduction techniques. Studies within the ITU-R addressing compatibility between radiolocation and radionavigation radars in other frequency bands provide evidence that sharing in the band 15.4-15.7 GHz between these types of systems may be feasible. Recommendation ITU-R M.1730 contains the technical characteristics and protection criteria for radiolocation radars in the band 15.7-17.3 GHz. Recommendation ITU-R M.1372 identifies interference mitigation techniques that ensure compatibility among radar systems operating in different radiodetermination services. Additionally, ITU-R Report M.2076 contains further mitigation techniques for interference from radiolocation radars into radionavigation radars operating in the 9 GHz band. These techniques may apply to the band 15.4-15.7 GHz. Potential wideband radiolocation radars operating across the entire 15.4-17.3 GHz band must ensure compatibility with systems in the existing 15.7-17.3 GHz radiolocation band. A portion of the 15.4-15.7 GHz band is allocated to the fixed-satellite service (FSS), limited to feeder links for non-geostationary orbit (NGSO) mobile-satellite service (MSS) in both space-Earth and Earth-space directions. Currently, there are no FSS systems operating in the 15.4-15.7 GHz band.

In some administrations, there is limited use of the 15.4-15.7 GHz band for non-ICAO aircraft landing systems. One administration is considering expansion of an existing airport surface detection system, currently operating in the 15.7-16.2 GHz band, to operate in the 15.4-15.7 GHz band.

U.S. VIEW: If the studies identified in Resolution **614 (WRC-07)** demonstrate that the incumbent services and systems can be protected from the potential use of the 15.4-15.7 GHz band by radiolocation systems, the United States supports a new primary allocation to the radiolocation service in the band 15.4-15.7 GHz. (August 27, 2008)

Document WAC/008(13.01.09)

Ms. Helen Domenici
Chief of the International Bureau
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

Dear Ms. Domenici:

The National Telecommunications and Information Administration (NTIA), on behalf of the Executive Branch Agencies, approved the release of an additional draft Executive Branch preliminary view for 2011 World Radiocommunication Conference (WRC-11). This draft preliminary view considers the Federal agency inputs toward the development of U.S. Proposals for WRC-11.

The enclosure contains a draft preliminary view that addresses the second part of WRC-11 Agenda Item 1.6 which is concerned with Resolution 955. This preliminary view is forwarded for your consideration and review by your WRC-11 Advisory Committee. Darlene Drazenovich of my staff is the primary contact for NTIA.

Sincerely,

(Original Signed November 25, 2008)
Karl B. Nebbia
Associate Administrator
Office of Spectrum Management

Enclosure

Radio Conference Subcommittee (RCS)

Preparation for ITU World Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.6 (Res. 955): 1.6 to review No. **5.565** of the Radio Regulations in order to update the spectrum use by the passive services between 275 GHz and 3 000 GHz, in accordance with Resolution **950 (Rev.WRC-07)**, and to consider possible procedures for free-space optical-links, taking into account the results of ITU-R studies, in accordance with Resolution **955 (WRC-07)**;[1]

ISSUES: The primary issue is whether procedures are necessary for free-space optical links above 3 000 GHz.

BACKGROUND: Resolution **955 (WRC-07)** considers possible procedures for free-space optical links. Because the atmosphere is essentially opaque at frequencies between 3 000 GHz and the near-infrared range, terrestrial free-space optical links operate at frequencies in or above the near-infrared range. Although inter-satellite links do not suffer from absorption, such links also generally use frequencies in the near-infrared range, due to the ready availability of transceiver (laser) technology in that range.

No. 1005 of the Annex to the ITU Convention indicates that the term "radiocommunication" is limited to "electromagnetic waves of frequencies arbitrarily lower than 3 000 GHz,"[2] except in the context of radiocommunication study groups addressing study questions and WRC resolutions and recommendations. However, the 2002 Plenipotentiary Conference adopted Resolution **118** (Marrakesh), which resolves that "world radiocommunication conferences can include in agendas for future conferences, items relevant to spectrum regulation of frequencies above 3 000 GHz and take any appropriate measures, including revision of the relevant parts of the Radio Regulations." The outcome of this agenda item might be impacted by the outcome of the 2010 Plenipotentiary Conference should the upper limit of 3 000 GHz remain in the definitions in No. 1005.

Because emitters used in near-infrared, free-space links have extremely narrow beamwidth, and terrestrial emitters can only cause interference over very short distances, cases of terrestrial interference will be very rare and easily resolved on a local basis. Moreover, interference between inter-satellite links would also be rare due to directed and narrow beamwidths, and the vast geometry of space.

U.S. VIEW: The United States believes that international regulations are not needed for frequencies above 3 000 GHz. Therefore, the development of procedures for free-space optical links is not necessary.

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[1] This preliminary view only addresses the second part of the agenda item (free-space optical links), hereafter referred to as Agenda Item 1.6 (Res. 955). The first part of the agenda item (275 – 3 000 GHz), referred to as Agenda Item 1.6 (Res. 950), is addressed in a separate document.

[2] In the French text, the frequency limit is "by convention". In the Spanish text it is termed "conventionally", and in the English text it is termed "arbitrarily".

Document WAC/010(31.03.09)

Ms. Helen Domenici
Chief of the International Bureau
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

Dear Ms. Domenici:

The National Telecommunications and Information Administration (NTIA), on behalf of the Executive Branch Agencies, approved the release of two additional draft Executive Branch preliminary views for the 2011 World Radiocommunication Conference (WRC-11). These draft preliminary view considers the Federal agency inputs toward the development of the U.S. Proposals for WRC-11.

The enclosure contains draft preliminary views that address WRC-11 Agenda Items 1.9 and 1.10. These preliminary views are forwarded for your consideration and review by your WRC-11 Advisory Committee. Darlene Drazenovich of my staff is the primary contact for NTIA.

Sincerely,

(Original Signed January 21, 2009)
Karl B. Nebbia
Associate Administrator
Office of Spectrum Management

Enclosure

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.9: to revise frequencies and channeling arrangements of Appendix 17 to the Radio Regulations, in accordance with Resolution **351 (Rev. WRC-07)**, in order to implement new digital technologies for the maritime mobile service

ISSUES: Appendix **17** outlines the frequencies and channelling arrangements in the high-frequency bands for the maritime mobile service (MMS). During WRC-03, changes to Appendix **17** allowed for the use of digital technology on a no-protection, non-interference basis in certain bands (footnote "p").

WRC-07 modified Resolution **351 (Rev. WRC-07)** to invite WRC-11 to consider necessary changes to Appendix **17** to implement the use of new technology by the MMS with a view to promote efficiency. To this end, the ITU-R tasks are to finalize studies:

1. to identify any necessary modifications to the frequency tables contained within Appendix **17**;
2. to identify any necessary transition arrangements for the introduction of new digital technologies and any consequential changes to Appendix **17**; and
3. to recommend how digital technologies can be introduced while ensuring compliance with distress and safety requirements.

BACKGROUND: The future spectrum needs of the maritime mobile service in the HF bands are closely related to the introduction of new data exchange technologies as an alternative standard for narrow-band direct printing (NBDP). The use of NBDP is in rapid decline worldwide. The International Maritime Organization (IMO) has noted that NBDP currently is for broadcasting of maritime safety information (MSI), ship reporting, weather forecasts, and for business communications, e.g. by fishing fleets. All these functions are achievable by alternative data communications technology.

The global maritime community expects to improve the utilization of maritime mobile service spectrum by allowing the use of data transmissions on certain Appendix **17** voice channels. This utilization of spectrum will provide additional flexibility for data exchange services.

The ITU and IMO will evaluate the HF data service for incorporation into the Global Maritime Distress Safety System (GMDSS). Additionally, the ITU and IMO will need to review communication protocols of the HF data service before completely removing the NBDP requirement from GMDSS. HF NBDP remains useful for distress communications in the Polar Regions (sea area A4) where other terrestrial means of communication are no longer reliable, and there is no coverage from geostationary satellites. Preservation of NBDP is possible using the HF distress and safety frequencies in Appendix **15**. Amendments to RR Appendix **17** may also have consequential impact to RR Appendix **25.**

U.S. VIEW: If studies under Resolution **351** (**WRC-07**) show that new digital technologies protect existing distress and safety frequencies, the United States supports the revision of RR Appendix **17** to accommodate new digital technologies for the maritime mobile service.

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.10: to examine the frequency allocation requirements with regard to operation of safety systems for ships and ports and the related regulatory provisions, in accordance with Resolution **357 (WRC-07)**

ISSUES: Resolution **357 (WRC-07)** was adopted at WRC-07 for the consideration of additional regulatory provisions and spectrum allocations for use by enhanced maritime safety systems for ships and ports. The ITU-R is studying satellite detection of Automatic Identification System (AIS) and communications to support the identification and security of cargo containers entering and leaving international ports and ships (noting WRC-11 AI 1.22). ITU-R studies also include provisions for security communications in Article 33, and safety and security communications, including e-navigation. The ITU-R will conduct studies, as a matter of urgency, to determine the spectrum requirements and potential frequency bands suitable for these systems. These studies should include the applicability of spectrum efficient technologies, as well as sharing and compatibility studies with services already having allocations in potential spectrum for ship safety and port security systems.

BACKGROUND:

Satellite Detection of AIS

International Maritime Organization (IMO) Resolution MSC 74(69) required that AIS "improve the safety of navigation by assisting in the efficient navigation of ships, protection of the environment, and operation of Vessel Traffic Services (VTS), by satisfying the following functional requirements: 1) in a ship-to-ship mode for collision avoidance; 2) as a means for littoral States to obtain information about a ship and its cargo; and 3) as a VTS tool, i.e. ship-to-shore (traffic management)." Although these IMO functional requirements clearly specify safety and surveillance functions, the ITU-R Radio Regulations only recognize the AIS-SART operation as having a safety function on the two AIS frequencies. Topics that may be appropriate for study include:

a) the need for exclusive maritime mobile-satellite service allocations to support additional channels for satellite detection of AIS and the impact of these potential new allocations to existing systems and services; and

b) the appropriate RR designation of the AIS channels, taking into account the AIS ship-to-ship collision avoidance function, AIS use in Vessel Traffic Services (VTS), and AIS general use for navigational safety.

Communications for Ship and Cargo Identification

The global maritime community has agreed on special measures to enhance ship and cargo identification and tracking, as well as ship and port security and safety. Some administrations, as well as the International Standards Organization (ISO), are studying the spectrum and standardization requirements for electronic seals and automatic identification tags used on freight containers and supply chain tags located on the freight container contents. These tags will provide a more secure international transportation system. Administrations with economic dependency upon a maritime environment expect to recognize a benefit from an international conformity on cargo standards.

Provisions for Security Communications in Article 33

Article **33** of the Radio Regulations describes the operational procedures for maritime urgency and safety communications, including the transmission of maritime safety information. The ITU-R is studying the need to modify Article **33** to include security communications and the transmissions of maritime security information.

Safety and Security Communications, including E-navigation

Modernization of shipboard and port safety and security communication systems, including e-navigation, is another important issue to the global maritime community. The IMO COMSAR and NAV subcommittees are reviewing technologies that may require amendments to the Radio Regulations and possibly new spectrum allocations. The ITU-R is studying the development of VHF radio systems and technologies, the need to retain FM voice communications, and the use of 12.5 kHz channel spacing. Other studies include narrow band digital voice and data communication using 6.25 kHz channel spacing, and broadband data communications using two or more 25 kHz adjacent channels.

There is a need to study the data requirements of the 518 kHz NAVTEX and the Inmarsat C SafetyNET to support the need for graphical navigation and meteorological, search and rescue, and security information. There is also a need to study integrated shipboard navigational display systems to support e-navigation.

U.S. VIEW: If studies identified in Resolution **357** (**WRC-07**) determine the need for additional allocations to the maritime service and existing services can be protected, the United States supports the allocation of spectrum required to support ship and port safety and enhanced maritime safety systems to the maritime mobile service.

Document WAC/011(31.03.09)

Mr. John Giusti
Acting Chief of the International Bureau
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Mr. Giusti:

The National Telecommunications and Information Administration (NTIA), on behalf of the Executive Branch Agencies, has approved the release of two additional draft Executive Branch preliminary views for WRC-11. The enclosed draft preliminary views address agenda items 1.2 (Enhancing the international spectrum regulatory framework) and 1.24 (Extension of the allocation to the meteorological-satellite service in the band 7 750-7 850 MHz).

These draft preliminary views consider the Federal agency inputs toward the development of U.S. Proposals for WRC-11. This package is forwarded for your consideration and review by your WRC-11 Advisory Committee. Ms. Darlene Drazenovich of my staff is the primary contact for NTIA.

Sincerely,

(Original Signed February 23, 2009)
Karl B. Nebbia
Associate Administrator
Office of Spectrum Management

Enclosure

Radio Conference Subcommittee (RCS)

Preparation for ITU World Radiocommunication Conferences

UNITED STATES

DRAFT PRELIMINARY VIEW ON WRC-11
AGENDA ITEM 1.2

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

ISSUE: Resolution **951 (Rev. WRC-07)** considers enhancing the international spectrum regulatory framework to maximize the flexibility and responsiveness toward new technologies and the convergence of services. This agenda item seeks to evaluate various options to include: maintenance of the current practice (no change to the international spectrum regulatory framework), the review and possible revision of existing service definitions, introduction of a new provision in the Radio Regulations enabling substitution between assignments of specific services, and introduction of composite services in the Table of Frequency Allocations.

BACKGROUND: Agenda item 1.2 originated at WRC-03 as agenda item 7.1, Resolution **951 (WRC-03)**: "Options to improve the international spectrum regulatory framework." The results of the ITU-R studies in response to Resolution **951 (WRC-03)** were included in the Director's Report to WRC-07. The conference concluded that it was necessary for the ITU-R to evaluate various options including those detailed above. To date, no ITU-R studies conclude the need to change the current international spectrum regulatory framework; however, studies to review the aforementioned options are ongoing.

U.S. VIEW: The United States is of the view that maintaining the current international spectrum regulatory framework provides flexibility to enable new technologies and convergence of services.

Radio Conference Subcommittee (RCS)

Preparation for ITU World Radiocommunication Conferences

UNITED STATES

DRAFT PRELIMINARY VIEW ON WRC-11

AGENDA ITEM 1.24

AGENDA ITEM 1.24: to consider the existing allocation to the meteorological-satellite service in the band 7 750-7 850 MHz with a view to extending this allocation to the band 7 850-7 900 MHz, limited to non-geostationary meteorological satellites in the space-to-Earth direction, in accordance with Resolution **672 (WRC-07).**

ISSUES: Resolution **672 (WRC-07)** considers expanding the existing meteorological-satellite service allocation in the 7 750-7 850 MHz band by 50 MHz to support the transmission of data from high-resolution sensors on the next-generation non-geostationary meteorological satellites.

BACKGROUND: Meteorological satellites operating in the 7 750-7 850 MHz band provide data essential for global weather forecast, climate changes, and hazard predictions. The transmission of data from high-resolution sensors on the next generation non-geostationary meteorological satellites will require more than the currently allocated 100 MHz of spectrum.

The ITU-R is studying sharing between non-geostationary meteorological satellites operating in the space-to-Earth direction and the fixed and mobile services. The ITU-R is also studying required power flux-density limits on non-geostationary meteorological-satellite space-to-Earth transmissions in the 7 850-7 900 MHz band needed to protect the terrestrial services. The outcome of this agenda item may result in consequential changes to Appendix 7 on methods for the determination of the coordination area around an earth station.

U.S. VIEW: If studies identified in Resolution **672** (**WRC-07**) indicate that sharing is feasible between the meteorological-satellite service and existing allocated services in the band 7 850-7 900 MHz, the United States supports the allocation of this additional spectrum with appropriate regulatory constraints on the meteorological-satellite service to protect the fixed and mobile services.