

**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);<sup>1</sup>

**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,”<sup>2</sup> 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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<sup>1</sup> 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.

<sup>2</sup> 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 12<sup>th</sup> 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.