

ATTACHMENT 1
to FCC Public Notice DA 09-1994

**Recommendations approved at
1 September 2009 Meeting of
the Advisory Committee for
the 2011 World Radiocommunication Conference**

Maritime Aeronautical and Radar Services

DOCUMENT WAC/046(01.09.09)

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

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)*

Background Information: 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.

Some administrations expect 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 communication links 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 International Civil Aviation Organization (ICAO) future communications study may be able to identify technologies with some capability 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 aeronautical allocations to satisfy spectrum requirements 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 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 communication channel to relay information from a radio in the aircraft to the pilot on the 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 a manner equivalent to that of a 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 aeronautical radionavigation service (ARNS) allocations for suitable bandwidth prior to studying new ARNS allocations. The UAS industry is studying the suitability of various technologies for sense and avoid.

Payload

Resolution 421 (WRC-07) *Resolves 1* specifically excludes the allocation of spectrum at WRC-11 for payload applications. However, *invites ITU-R 3* does call for the development of an ITU-R report or recommendation on how to accommodate the radiocommunication requirements for UAS payloads. The purpose of this agenda item is not to seek new spectrum allocations to meet payload requirements.

This agenda item seeks to identify the spectrum requirements necessary to support the safe operation of UASs in current and future airspace structures. Spectrum for UAS for safety and regularity of flight in non-segregated airspace can be accommodated in will need-AM(R)S, AMS(R)S, or ARNS allocations or in other allocations that can meet performance requirements established by ICAO/ITU-R Recommendation. ~~in order to receive the sufficient status and protection from harmful interference.~~

The 5 030-5 091 MHz band is an appropriate band to satisfy the terrestrial, line-of-sight, spectrum requirements for the command and control of UASs in non-segregated airspace. Currently, there is minimum usage in this band worldwide. The lack of an existing or planned microwave landing system deployment in the United States ensures availability of appropriate aeronautical spectrum for a terrestrial line-of-sight UAS system in the 5 030-5 091 MHz band.

Proposal:

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations
(See No.2.1)

MOD USA/AI 1.3/1

4 800-5 570 MHz

Allocation to services		
Region 1	Region 2	Region 3
5 030-5 091 	AERONAUTICAL RADIONAVIGATION <u>AERONAUTICAL MOBILE (R)</u> 5.367 5.444	

Reasons: To provide an AM(R)S allocation to support line-of-sight control links for unmanned aircraft (UA).

Terrestrial Services

DOCUMENT WAC/049(01.09.09)

United States of America

PROPOSAL FOR THE WORK OF THE CONFERENCE

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);*

Background:

WRC-07 established Resolution 954 (WRC-07), which 'invites ITU-R to carry out studies of ENG regarding possible solutions for global/regional harmonization in frequency bands and tuning ranges, taking into account: available technologies to maximize efficient and flexible use of frequency; system characteristics and operational practices which facilitate the implementation of these solutions...' CPM11-1 established a framework for the studies to be undertaken as outlined in Resolution 954 (WRC-07) under WRC-11 Agenda Item 1.5.

Resolution 954 calls for the ITU-R to include in its studies "...sharing and compatibility issues with services already having allocations in frequency bands and tuning ranges which have potential for ENG use" and "to propose operational measures to facilitate operation of ENG equipment consistent with global circulation of radiocommunication equipment..." Furthermore the ITU-R is to "...report the results of those studies to the World Radiocommunication Conference 2011".

There is no specific mention of addressing changes to the Article 5 of the Radio Regulations in either the agenda item text or in Res 954. Thus careful consideration needs to be given to any solutions for this agenda item that refer to regulatory changes in Article 5. It may be possible that rationalization (the use of available technology to maximize efficient and flexible use of frequency assets) would be effective in utilizing existing spectrum allocations in the mobile and fixed service where ENG is employed

Recommendation ITU-R M.1824, "*System characteristics of television outside broadcast, electronic news gathering and electronic field production in the mobile service for use in sharing studies*", provides digital and analogue system parameters for BAS in the mobile service. Recommendation ITU-R F.1777, "*System characteristics of television outside broadcast, electronic news gathering and electronic field production in the fixed service for use in sharing studies*", provides digital and analogue system parameters for BAS in the fixed service. Report ITU-R BT.2069, "*Spectrum usage and operational characteristics of terrestrial electronic news gathering systems (ENG)*,"

Television Outside Broadcast (TVOB) and Electronic Field Production (EFP)”, provides specifications for BAS.

Spectrum harmonization provides many benefits but may not be feasible given the disparate use of spectrum by countries around the world and the differing broadcasting standards used in the three ITU Regions. Instead a mechanism for spectrum rationalization may be more productive in allowing broadcasters to gain knowledge of, and access to, the spectrum used to support ENG operations in a given country or Region. This will help to ensure that international news-worthy events can be covered with a minimum of disruption to both foreign broadcasters and domestic regulators alike. The harmonization, or rather rationalization, of spectrum for ENG use should be considered on a band-by-band basis for each of the separate applications described in Report ITU-R BT. 2069-2. Furthermore it is recognized that the transition from analog to digital broadcasting will impact how ENG operations are conducted.

Proposals:

/USA/ /1.5/1

ADD

DRAFT RESOLUTION [USA-1.5/1] (WRC-11)

Spectrum Management Guidelines for Electronic News Gathering (ENG)¹

The World Radiocommunication Conference (Geneva, 2011),

considering

- a) that some administrations may have different operational needs and spectrum requirements for electronic news gathering;
- b) that the dynamic nature of the use of ENG, which is driven by scheduled, unscheduled and unpredictable events such as breaking news, emergencies and disasters makes it highly desirable to facilitate the rapid and less restricted deployment and operation of ENG systems from one country to another,

recognizing

- a) that broadcasting ancillary services can be utilized as part of an administration’s telecommunications/information and communication technologies (ICTs) systems in service of management in emergency and disaster situations for early warning, prevention, mitigation, and relief;
- b) that Recommendation ITU-R M.1824 provides system characteristics of television outside broadcast, electronic news gathering (ENG) and electronic field production (EFP) in the mobile service for use in sharing studies;

- c) that Recommendation ITU-R F.1777 provides system characteristics of television outside broadcast, electronic news gathering and electronic field production in the fixed service for use in sharing studies;
- d) that a large number of bands in Mobile and Fixed spectrum are already used to host various elements of electronic news gathering applications;
- e) that Report ITU-R BT.2069 provides spectrum usage and operational characteristics of terrestrial ENG, television outside broadcast (TVOB) and EFP systems,

noting

- a) that when an international news worthy event happens, ENG operations must be deployed in a very short time-frame;
- b) that frequency coordination must be undertaken with the Administration where an international news-worthy event takes place;
- c) that advance information on the frequencies available for ENG use in any given Administration may ease interoperability and/or internetworking, especially in international news-worthy events that draw broadcasters regionally or globally,

noting further

- a) that it is in the interest of administrations and broadcasters to have access to updated information on national spectrum planning for ENG use,

resolves

- 1) to encourage administrations to assist the broadcasting community in developing a database of currently available ENG frequencies, ENG technical and operational requirements, and spectrum authorization points of contact as appropriate,

instructs the Director of the Radiocommunication Bureau

- 1) to maintain a link on the ITU-R website to the broadcast community's database(s) referenced in the resolves above;
- 2) to report on the progress on this Resolution to subsequent World Radiocommunication Conferences,

urges administrations

- 1) to provide the broadcasting community with the relevant information concerning their national ENG frequency allocations, ENG spectrum management practices, and appropriate points-of-contact for ENG usage within their administration;
- 2) to assist the broadcasting community in keeping the ENG database current.

Reason: It is important that information be provided and maintained on ENG usage around the world. Resolution USA-1.5/1 provides a mechanism to rationalize ENG spectrum usage by maintaining a data-base of country specific ENG bands with required technical and operational requirements for deployment. This will provide ENG users and operators with the needed information to ensure that they deploy equipment that will operate within a given country and allow them to seek spectrum use approval in an expeditious manner. It will also provide manufacturers with a knowledge base of

required frequency bands and deployment requirements needed to build common-use equipment for the worldwide ENG market.

DOCUMENT WAC/050(01.09.09)

United States of America

DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

Agenda item 1.17: *to consider results of sharing studies between the mobile service and other services in the band 790-862 MHz in Regions 1 and 3, in accordance with Resolution 749 (WRC-07), to ensure the adequate protection of services to which this frequency band is allocated, and take appropriate action;*

Background:

The transition to digital television is underway in many countries worldwide. The eventual global transition to digital television will make spectrum available for introduction of the new services, including next generation wireless services. The WRC-11 decisions under the Agenda Item 1.17 are therefore, important to operators, manufacturers and, most importantly, consumers worldwide.

At WRC-07, there were difficult discussions surrounding the future use of the 790-862 MHz band in Region 1 and in the end FN 5.316B was agreed allocating 790-862 MHz to the Mobile service, except aeronautical, on a primary basis starting from 17 June 2015, the DTV transition date in the GE06 Agreement. The footnote also states that the use of stations of the mobile service is subject to the successful application of the procedures of the GE06 Agreement for those countries party to it. FN 5.316 was updated and FN 5.316A was developed, allocating 790-862 MHz to the Mobile service in 65 Region 1 countries effective immediately and in force until 16 June 2015. FN 5.317A identifies for IMT those parts of the band 790-960 MHz in Region 1 which are allocated to the Mobile service on a primary basis.

Due to the extensive debates in Region 1 concerning this band, Resolution 749 (WRC-07): *Studies on the use of the band 790-862 MHz by mobile applications and by other services*, was developed.

The GE06 Agreement contains a plan for digital TV covering frequencies including the 790-862 MHz band in Region 1 (parts of Region 1 situated to the west of meridian 170° east and north of parallel 40° south, except the territory of Mongolia) and one country in Region 3. The GE06 Agreement also contains regulatory provisions concerning sharing between the terrestrial broadcasting service and other terrestrial services, as well as the list of other primary terrestrial services. The GE06 Agreement appears to provide sufficient regulatory framework to address sharing issue between the mobile service and other services in the band 790-862 MHz between countries that are signatories to this agreement.

With regard to Region 3, it is important to recognize that allocation to the mobile service in the band 790-862 MHz has been in effect since WARC-71. If there have been no reported instances of interference, then this should be taken into account when considering any regulatory changes.

With regard to Region 2, WRC-07 allocated the band 698-806 MHz to the mobile service on a co-primary basis and identified it for use by IMT systems. Some Region 2 administrations have successfully completed the realignment of allocations in this spectrum while others are progressing towards that goal. In addition, WRC-07 determined that there is no need to conduct a further review of the regulatory provisions concerning the use of the band 790-862 MHz in Region 2. That decision is explicitly affirmed in the Agenda Item 1.17 and the associated Resolution 749 (WRC-07).

Proposal:

ARTICLE 5
Frequency allocations
Section IV – Table of Frequency Allocations
(See No. 2.1)

* * * * *

USA/1.17/1 NOC

460-890 MHz

Allocation to services		
Region 1	Region 2	Region 3
460-470	FIXED MOBILE 5.286AA Meteorological-satellite (space-to-Earth) 5.287 5.288 5.289 5.290	
470-790 BROADCASTING	470-512 BROADCASTING Fixed Mobile 5.292 5.293	470-585 FIXED MOBILE BROADCASTING 5.291 5.298
	512-608 BROADCASTING 5.297	585-610 FIXED MOBILE BROADCASTING RADIONAVIGATION 5.149 5.305 5.306 5.307
	608-614 RADIO ASTRONOMY Mobile-satellite except aeronautical mobile-satellite (Earth-to-space)	610-890 FIXED MOBILE 5.313A 5.317A BROADCASTING 5.149 5.305 5.306 5.307 5.311A 5.320
	614-698 BROADCASTING Fixed Mobile 5.293 5.309 5.311A	
	698-806 BROADCASTING Fixed MOBILE 5.313B 5.317A	
	790-862 FIXED BROADCASTING MOBILE except aeronautical mobile 5.316B 5.317A 5.312 5.314 5.315 5.316 5.316A 5.319	
862-890 FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 5.319 5.323	5.293 5.309 5.311A 806-890 FIXED MOBILE 5.317A BROADCASTING 5.317 5.318	

Reasons: WRC-12 Agenda Item 1.17 is limited to terrestrial services only in Regions 1 and 3 and only in the band 790-862 MHz. There are no bases for any changes in the Radio Regulations that would impact the terrestrial services in the band 790-862 MHz in Region 2. Therefore, the

United States proposes NOC with respect to any change to Article 5 that could impact Region 2 services in the band 790-862 MHz. The worldwide introduction of new telecommunications services in the mobile and fixed service allocations in this band requires stable allocations that are harmonized to the greatest degree possible.

DOCUMENT WAC/051(01.09.09)

United States of America DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

WRC-12 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).*

BACKGROUND: Resolution 956 (WRC-07) resolves to invite ITU-R to study whether there is a need for regulatory measures to enable the introduction of software-defined radio and cognitive radio systems.

Software defined radios (SDR) and cognitive radio systems (CRS) are technologies which may offer improved efficiency to the overall spectrum use and provide additional flexibilities to radiocommunication services. They are not radiocommunication services themselves, but rather are technologies that may be deployed in radiocommunication systems.

Any system that incorporates SDR, CRS or combined SDR/CRS technologies shall operate in accordance with the provisions of the Radio Regulations and administration rules governing the use of the frequency band in which the systems are intended to operate. To date, some administrations have allowed such systems to operate on a licence-exempt, non-harmful interference basis. In the U.S., the regulatory body has provided through equipment authorization requirements operating parameters for SDR/CRS devices to ensure that such devices will not cause harmful interference to allocated radiocommunication services.

Relevant ITU-R working parties are conducting technical studies, as noted in Resolution 956 (WRC-07). The United States will participate as appropriate in these studies. The United States does not believe that changes to the Radio Regulations are needed to address these technologies. In particular, 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. With respect to the definitions, description, or characterization of SDR or CRS, there is no need to include a definition of SDR or CRS in the Radio Regulations.

PROPOSALS:

NOC USA/AI 1.19/1

ARTICLE 1 Terms and definitions

Reason: No changes to the Radio Regulations are necessary to enable the introduction of SDR and CRS technologies. SDR and CRS techniques can be used with a range of technologies, and in a range of frequency bands subject to appropriate equipment authorization procedures to ensure that authorized devices operate within the limitations an administration applies to the frequency bands in which these systems are *permitted* to operate. Any definitions developed for SDR and CRS could be captured in an ITU-R Recommendation.

NOC USA/AI 1.19/2

ARTICLE 5

Frequency allocations

Reason: No changes to the Radio Regulations are necessary to enable the introduction of SDR and CRS technologies. SDR and CRS techniques can be used with a range of technologies, and in a range of frequency bands subject to appropriate equipment authorization procedures to ensure that authorized devices operate within the limitations an administration applies to the frequency bands in which these systems are *permitted* to operate.

DOCUMENT WAC/052(01.09.09)

United States of America DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

WRC-12 Agenda Item 1.22: *to examine the effect of emissions from short-range devices on radiocommunication services, in accordance with Resolution 953 (WRC-07).*

BACKGROUND: Resolution 953 (WRC-07) requests the ITU-R to study emissions from SRDs, in particular RFIDs, inside and outside the frequency bands designated in the Radio Regulations for ISM applications to ensure adequate protection of radiocommunication services.

The United States, like many other administrations, has adopted a flexible regulatory regime, primarily in the ISM bands, that sets basic technical requirements that facilitate spectrum sharing among license-exempt devices, including short-range devices, while minimizing constraints on product designs. The technical requirements placed on these devices ensure adequate protection of radiocommunication services operating in the same or adjacent frequency bands. This regime has led to the implementation of a variety of devices, including cordless telephones, wireless access systems, RFIDs, alarm systems and baby monitors.

Short-range devices have been studied by the ITU-R and the results are contained in Recommendation ITU-R SM.1538-2. This Recommendation provides descriptions of short range device applications, common frequency ranges and regulatory regimes adopted by several Administrations.

The United States believes that the regulation of short-range devices is primarily a national matter and that there is no need for any modifications to the international Radio Regulations to accommodate these devices.

PROPOSALS:

NOC USA/AI 1.22/1

ARTICLE 5 Frequency allocations Section IV – Table of Frequency Allocations (See No. 2.1)

Reason: The regulation of short-range devices is primarily a national matter and does not require any modifications to the Radio Regulations. There is no need for international regulation of such devices. Technical aspects of these devices, including facilitating harmonization of frequency bands, can be covered in ITU-R Recommendations.

DOCUMENT WAC/053(01.09.09)

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

(Editorial notes: Redline in Background section is against the NTIA draft proposal.

Redline in the Proposal section is against the 2008 Edition of the Radio Regulations and is offered as a substitute for the NTIA Proposal section.)

Agenda Item 1.23: *to consider an allocation of about 15 kHz in parts of the band 415-526.5 kHz to the amateur service on a secondary basis, taking into account the need to protect existing services*

Background Information: The spectrum between 415-526.5 kHz is currently allocated to the maritime mobile and aeronautical radiolocation services, with some variances in the allocations among the three ITU Regions. The maritime mobile service is a primary user of the frequency band under consideration for this agenda item. Footnote No. 5.82A advises, "The use of the band 495-505 kHz is limited to radiotelegraphy." Footnote No. 5.82B advises, "Administrations authorizing the use of frequencies in the band 495-505 kHz by services other than the maritime mobile service shall ensure that no harmful interference is caused to the maritime mobile service in this band or to the services having allocations in the adjacent bands, noting in particular the conditions of use of the frequencies 490 kHz and 518 kHz, as prescribed in Articles 31 and 52." NAVTEX services operate on 490 kHz and 518 kHz per Resolution 339 (Rev. WRC-07). There is a common primary mobile service allocation across all three Regions in the band 495-505 kHz. In Region 2, the primary mobile service allocation extends to 510 kHz.

~~The band 495-505 kHz provides international harmonization and necessary maritime propagation characteristics for global harmonization of maritime services.~~

~~The maritime community also has emerging requirements for globally harmonized interoperable maritime spectrum in support of safety and security requirements in 415-526.5 kHz. The band 495-505 kHz was previously designated for mobile service distress and calling. The frequency of 500 kHz was designated as an international calling and distress frequency. Over the past two decades, safety and security operations near 500 kHz have been replaced through the operation of the Global Maritime Distress Safety System. As a result, designation of 500 kHz as an international distress and calling frequency was suppressed at WRC-2000, and the broader designation of 495-505 kHz as a distress and calling band was suppressed at WRC-07.~~

Maritime ship-to-ship and ship-to-shore telegraphy near 500 kHz has diminished, but is still utilized on occasion by maritime mobile licensees and, in the United States, Coast Guard Auxiliary operators.

Worldwide, the amateur service successfully shares spectrum as a secondary user to the fixed service between 10.100 and 10.150 MHz. In some countries around the world, including the United States, amateurs utilize specific channels between 5.25 and 5.45

MHz as secondary users to the fixed and mobile services. The primary interference avoidance technique on these bands has been a listen-before-transmit protocol, supplemented by appropriate regulatory power limitations. These techniques have led to successful sharing arrangements, which should be replicable at or near 500 kHz.

Proposal:

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations
(See No. 2.1)

MOD USA/A11.23/1

495-1 800 kHz

Allocation to services		
Region 1	Region 2	Region 3
495-505		
MOBILE 5.82A <u>Amateur</u> 5.82B		
505-526.5 505-510 MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION <u>Amateur ADD 5.[AM]</u>	505-510 MARITIME MOBILE 5.79 <u>Amateur ADD 5.[AM]</u>	505-526.5 505-510 MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Land Mobile <u>Amateur ADD 5.[AM]</u>
5.72		
510-526.5 MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION	510-525 MOBILE 5.79A 5.84 AERONAUTICAL RADIONAVIGATION	510-526.5 MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Land Mobile

ADD USA/A11.23/2

5.[AM]: Administrations authorizing the use of frequencies in the band 505-510 kHz by the amateur service shall ensure that no harmful interference is caused to the other services in this band or to the services having allocations in the adjacent bands, noting in particular the conditions for use of the frequencies 490 kHz and 518 kHz, as prescribed in articles 31 and 52.

Reasons: The maritime and amateur communities support the continued use 415-526.5 kHz for the existing maritime services and other existing services. Amateur radiotelegraphy may share segments of the spectrum between 495 and 510 kHz utilizing a listen before transmit protocol without interfering with existing services. At least 5 kHz separation is afforded to NAVTEX operation.

Space Services

DOCUMENT WAC/047(01.09.09)

United States of America

DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

WRC-11 Agenda Item: 1.13 *to consider the results of ITU-R studies in accordance with Resolution 551 (WRC-07) and decide on the 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;*

Background information:

In the U.S., the 23 GHz band is widely used in urban areas for many applications. The primary ones are for backhauling wireless telephone traffic and for carrying business data and communications in corporate networks. The propagation characteristics at 23 GHz make it particularly suitable for wireless backhaul over relatively short distances. These links provide connectivity between mobile cell towers and the central network facilities of the local carrier. The growing sophistication of end-user wireless devices and services, from cell phones to advanced wireless services and from voice to music and to real-time video, contributes to increases in demand for backhaul capacity. At the same time, as wireless providers continue subdividing their cells to extract maximum usage from costly spectrum, the number of towers requiring backhaul increases in proportion. The band provides a vital resource for meeting this need. As of June 2007, there were more than 4500 assignments in the sub-band 21.4-22 GHz in the U.S. alone. There are numerous deployments in this frequency band in other Region 2 countries as well. It is therefore imperative to ensure that WRC-11 adopt regulatory solution(s) that preserve the basic principle of equality to spectrum access in all Regions consistent with No. 4.8.

WARC-92 allocated the BSS in Regions 1 and 3 in the 21.4-22 GHz band with 1 April 2007 as the date of entry into force of the allocation. It also adopted Resolution 525 which provided interim procedures for the introduction, before and after 1 April 2007, of high definition television systems (HDTV) of the broadcasting-satellite service (BSS) in the band 21.4-22.0 GHz in Regions 1 and 3 on a first-come-first-served basis. Resolution 525 has been revised several times since 1992. Prior to 1 April 2007, in Regions 1 and 3, an interim coordination procedure applied to operational BSS (HDTV) systems in the band 21.4 – 22.0 GHz for the protection of terrestrial services operating in the same band based on pfd coordination thresholds. WRC-07 modified Resolution 525 by removing protection of terrestrial networks and removing the procedures of No. 9.11. However, since Resolution 525 is applied by footnote 5.530, which appears to the right of the broadcasting-satellite service allocations in Regions 1 and 3, the Resolution 525 (Rev. WRC-07) provisions do not apply to any service in Region 2. (See No. 5.50 and 5.51). Thus, the procedures for the protection of terrestrial services in Region 2 from the BSS in Regions 1 and 3 are not addressed in Resolution 525.

With regard to Region 2, the coordination requirements for the BSS systems that were introduced in the 21.4-22 GHz band prior to 1 April 2007 are explicitly clear. Inter-Regional

protection of the FS was provided by Resolution 33 (Rev. WRC-03) which included a coordination procedure applicable in all frequency bands allocated to the BSS. The WRC-03 version of Resolution 525 (Rev. WRC-03) was consistent with Resolution 33 (Rev. WRC-03) in that these systems are subject to No. 9.11 coordination procedures. Resolution 525 (Rev. WRC-03) required coordination if the power flux-density at the Earth's surface produced by emissions from a space station, on the territory of any other country, exceeded:

–115 dB(W/m²) in any 1 MHz band for angles of arrival between 0° and 5° above the horizontal plane; or

–105 dB(W/m²) in any 1 MHz band for angles of arrival between 25° and 90° above the horizontal plane; or

values to be derived by linear interpolation between these limits for angles of arrival between 5° and 25° above the horizontal plane.

These threshold values for triggering coordination with terrestrial services are consistent with reference power flux density for the BSS values that have been developed and given in Recommendation ITU-R BO.1776. They are also consistent with the power flux-density limits recommended for this band in Recommendation ITU-R F.760. It is important to recognize that the ITU-R BO.1776 is referenced in Resolutions 525 (Rev. WRC-07) and 551 (Rev. WRC-07).

The coordination requirements for the BSS systems in the 21.4-22.0 GHz band introduced after 1 April 2007 in respect to terrestrial services of Region 2 are conflicting and ambiguous. Resolution 525 (Rev. WRC-07), as discussed previously, only applies to Regions 1 and 3 while Resolution 33 (Rev. WRC -03) applies for inter-Regional coordination, but it has no pfd criterion for triggering coordination.

Considering the ambiguity associated with the implementation of the BSS allocation and the difficulty of coordinating space stations with terrestrial stations, the U.S. notes that sharing between satellite services in Regions 1 and 3 and terrestrial services in Region 2 can be most simply implemented through a pfd limits regime in Article 21, Section V. In the present case, the pfd values developed and given in Recommendation ITU-R BO.1776 and also applied to the BSS systems that were introduced in the subject band prior to 1 April 2007 could be used as a power flux-density limit that would apply to all BSS systems in region 1 and 3 for purposes of sharing with the Fixed and Mobile services in Region 2. Such a limit would only apply to BSS satellite networks' beams on the territories of Region 2 countries.

Proposal:

/USA/1.23/1 MOD

ARTICLE 21

Terrestrial and space services sharing frequency bands above 1 GHz

Section V – Limits of power flux-density from space stations

TABLE 21-4 (CONTINUED) (Rev.WRC-07)

Frequency band	Service*	Limit in dB(W/m ²) for angles of arrival (δ) above the horizontal plane			Reference bandwidth
		0°-5°	5°-25°	25°-90°	
19.3-19.7 GHz 22.55-23.55 GHz 24.45-24.75 GHz 25.25-27.5 GHz 27.500-27.501 GHz	Fixed-satellite (space-to-Earth) Earth exploration-satellite (space-to-Earth) Inter-satellite Space research (space-to-Earth)	-115 ^{13A}	-115 + 0.5(δ - 5) ^{13A}	-105 ^{13A}	1 MHz
<u>21.4-22.0 GHz</u>	<u>Broadcasting – satellite (space-to-Earth)</u>	<u>-115 ^{14bis}</u>	<u>-115 + 0.5(δ - 5) ^{14bis}</u>	<u>-105 ^{14bis}</u>	<u>1 MHz</u>
31.0-31.3 GHz 34.7-35.2 GHz (space-to-Earth transmissions referred to in No. 5.550 on the territories of countries listed in No. 5.549)	Space research	-115	-115 + 0.5(δ - 5)	-105	1 MHz

^{14bis} 21.16.X These limits shall apply only on territories of Region 2 countries.

Reasons: Sharing between satellite services in Regions 1 and 3 and terrestrial services in Region 2 can be implemented most simply through power flux density (pfd) limits specified in Article 21, Section V. The proposed pfd values are consistent with Recommendation ITU-R BO.1776. It is

important to recognize that ITU-R BO.1776 is referenced in Resolutions **525** (Rev. WRC-07) and **551** (Rev. WRC-07). It is also important to recognize that these same pfd values are applied to the BSS systems that were introduced in the 21.4-22.0 GHz band prior to 1 April 2007. The proposed modification would provide regulatory certainty to satellite services as a defined set of pfd limits would be known and extensive coordination with uncertain outcome would not be required. The proposed modification would also reduce the administrative burden for administrations in all Regions.

DOCUMENT WAC/048(01.09.09)

United States of America DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.7: *to consider the results of ITU-R studies in accordance with Resolution 222 (Rev.WRC-07) in order to ensure long-term spectrum availability and access to spectrum necessary to meet requirements for the aeronautical mobile-satellite (R) service, and to take appropriate action on this subject, while retaining unchanged the generic allocation to the mobile-satellite service in the bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz.*

Background

The mobile satellite service allocations in 1525- 1559 MHz and 1626.5 – 1660.5 MHz continue to support valuable communications requirements and are needed to address the future communications requirements for commercial MSS as well as Global Maritime Distress and Safety System and aeronautical mobile satellite service (R) service (AMS(R)S) requirements.

The MSS allocations with associated footnote provisions, providing priority and preemptive access to the MSS systems for communications to support AMS(R)S, have allowed sufficient flexibility to satisfy the AMS(R)S communications requirements in this band. There is no need to modify the MSS allocations and the associated footnote regulatory provisions for AMS(R)S.

The USA proposes No Change (NOC) to the Table of Allocations for the MSS allocations in the 1525-1559 MHz and 1626.5- 1660.5 MHz and the associated footnote regulatory provisions for AMS(R)S.

Proposal:
USA/xx / 1 NOC

ARTICLE 5

Frequency allocations

1 525-1 530 SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A Earth exploration-satellite Mobile except aeronautical mobile 5.349 5.341 5.342 5.350 5.351 5.352A 5.354	1 525-1 530 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A Earth exploration-satellite Fixed Mobile 5.343 5.341 5.351 5.354	1 525-1 530 SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A Earth exploration-satellite Mobile 5.349 5.341 5.351 5.352A 5.354
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Reason: The mobile satellite service allocations continue to be necessary to satisfy future requirements. No modifications are required to satisfy aeronautical mobile satellite (R) service requirements.

USA/xx / 2 NOC

ARTICLE 5

Frequency allocations

1 530-1 535 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.353A Earth exploration-satellite Fixed Mobile except aeronautical mobile 5.341 5.342 5.351 5.354	1 530-1 535 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.353A Earth exploration-satellite Fixed Mobile 5.343 5.341 5.351 5.354
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Reason: The mobile satellite service allocations continue to be necessary to satisfy future requirements. No modifications are required to satisfy aeronautical mobile satellite (R) service requirements.

USA/xx / 3 NOC

ARTICLE 5

Frequency allocations

1 535-1 559	MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.341 5.351 5.353A 5.354 5.355 5.356 5.357 5.357A 5.359 5.362A
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Reason: The mobile satellite service allocations continue to be necessary to satisfy future requirements.

No modifications are required to satisfy aeronautical mobile satellite (R) service requirements.

USA/xx / 4 NOC

ARTICLE 5

Frequency allocations

1 626.5-1 660	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.355 5.357A 5.359 5.362A 5.374 5.375 5.376
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Reason: The mobile satellite service allocations continue to be necessary to satisfy future requirements. No modifications are required to satisfy aeronautical mobile satellite (R) service requirements.

USA/xx / 5 NOC

ARTICLE 5

Frequency allocations

1 660-1 660.5	MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY 5.149 5.341 5.351 5.354 5.362A 5.376A
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Reason: The mobile satellite service allocations continue to be necessary to satisfy future requirements. No modifications are required to satisfy aeronautical mobile satellite (R) service requirements.

USA/xx / 6 NOC

ARTICLE 5

Frequency allocations

5.357A In applying the procedures of Section II of Article 9 to the mobile-satellite service in the bands 1 545-1 555 MHz and 1 646.5-1 656.5 MHz, priority shall be given to accommodating the spectrum requirements of the aeronautical mobile-satellite (R) service providing transmission of messages with priority 1 to 6 in Article 44. Aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44 shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution 222 (WRC-2000)* shall apply.) (WRC-2000)

Reason: The mobile satellite service allocations continue to be necessary to satisfy future requirements. No modifications are required to satisfy aeronautical mobile satellite (R) service requirements.

Regulatory Issues

DOCUMENT WAC/041(01.09.09)

UNITED STATES

PRELIMINARY VIEWS ON WRC-11

WRC-11 Agenda 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: Identification of concepts and allocation procedures for enhancing the ITU Radio Regulations (RR) to meet requirements of current and future radio applications while taking into account existing services and usage;

BACKGROUND: WRC-07 considered the report of ITU studies in response to Resolution 951 (WRC-03) on methods to improve the international spectrum regulatory framework. This report identified a number of options for addressing the evolution of radio applications, systems and technologies which include the following:

- Option 1:* keeping the current service definitions and not introducing any changes to the ITU Radio Regulations (RR) with respect to this agenda item;
- Option 2:* reviewing and possibly revising the current service definitions or adding one or more new services to the list of service definitions, each one encompassing several of the existing ones;
- Option 3:* introducing a new provision in the RR enabling substitution between assignments of specific services;
- Option 4:* introducing composite services in the Table of Frequency Allocations.

WRC-07 also adopted a revised version of Resolution 951, calling for urgent studies in order to develop as appropriate, new concepts and procedures for enhancing the Radio Regulations to meet the demands of current, emerging and future radio applications, while taking into account existing services and usage. In particular, it calls for studies aimed at: a) evaluating options for enhancing spectrum management solutions for increased flexibility in meeting new demands; b) developing applicable concepts and procedures including sharing studies on a band-by-band basis to support these options; c) preparing relevant technical and regulatory solutions for consideration and appropriate action at WRC-11.

DISCUSSION: The United States recognizes the importance of a spectrum regulatory framework that allows flexible spectrum use, to the extent practicable, so as to allow for the evolution of services and technologies, taking into account existing services and usage. Accordingly, the United States has, consistently adopted domestic service rules to accommodate emerging technologies, or, in various instances, sought changes in the ITU Radio Regulations in order to accommodate new or evolving systems. These approaches have allowed the timely deployment of new technologies. In either case, such changes have been sought after careful evaluation, on a case-by-case basis, of the new service's requirements, and their ability to co-exist with other co-frequency systems.

U.S. VIEW: The United States is of the view that support for proposals for enhancing the international regulatory framework in specific situations should be evaluated using the guidelines set forth in Annex 2 of Res. 951(WRC-07). The United States is also of the view that studies should be conducted on a frequency band by frequency band basis consistent with the guidelines

in this Annex. The United States may consider supporting proposals under Agenda Item 1.2 on a case by case basis, taking into account the guidelines in the Annexes to Resolution 951. The United States does not support large-scale modifications to the international regulatory framework since it believes that the current regulatory framework, including the WRC process, is sufficiently flexible to accommodate new technologies.

DOCUMENT WAC/042(01.09.09)

United States of America

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

WRC-11 Agenda Item 7: *to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: "Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks", in accordance with Resolution 86 (Rev. WRC-07)*

Background information: Access to the geostationary orbit (GSO) has become increasingly difficult over the years, in large part due to difficulties in fully coordinating new orbital positions and applying the relevant provisions of the Radio Regulations. As highlighted at the most recent ITU Radiocommunications Bureau (BR) workshop on efficient use of the spectrum/orbit resource and in ITU administrative circular CR/301, it has been noted that some unused frequency and GSO resources remain recorded in the Master International Frequency Register, which serves to worsen this problem. As such, improving transparency into actual usage of frequency and GSO resources could help to improve this situation.

For non-planned satellite bands, No. 11.44 of the Radio Regulations (RR) requires that the notified date of bringing into use of any assignment to a space station of a satellite network shall not be later than seven years following the date of receipt of the relevant complete information under RR No. 9.1 or 9.2, as appropriate. Additionally, this provision states that any frequency assignment not brought into use within the required period shall be cancelled by the BR. When the notified date of bringing into use of frequency assignments is earlier than the date of submission of the Notification request, the Notification request itself is considered by the BR as confirmation that the frequency assignments have been brought into use. Furthermore, RR No. 11.47 clarifies the requirement for administrations to inform the BR of frequencies assignments brought into use for the case of assignments being Notified before being brought into use. Therefore, it can be considered that there are two separate requirements. Under the first, the BR must receive the Notification information for frequency assignments in a network by the end of the regulatory lifetime of the satellite network filing, whereas under the second the BR must have been informed that the frequency assignments have actually been brought into use by a date certain.

The potential difficulty with the current process is that it can result in uncertainty for administrations as to the status of frequency assignments for several reasons. For example, while administrations can examine the SRS database for details pertaining to notified frequency assignments that have been submitted to the BR (Part I-S), or examined by the BR and found to be in conformity with the Radio Regulations (Part II-S), they cannot readily determine whether or not administrations have informed the BR that frequency assignments have been brought into use, and if so the date on which they were brought into use. This can result in uncertainty for administrations as to the provisional or definitive status of frequency assignments in the MIFR, or whether an administration has missed the deadline under RR No. 11.44 entirely and it is simply a matter of time before the provisionally notified frequency assignments are suppressed. Additionally, there is currently no specific requirement to inform the BR within a specified time limit that frequency assignments have actually been brought into use. As such, assignments can be brought into use on a given date and the Notification information for these assignments can be

submitted to the BR at any later date, provided that the date of that submission is earlier than the end of the time limit for notifying the network.

The uncertainty associated with frequency assignments and satellite networks actually brought into use can be addressed by requiring administrations to inform the BR within a specified time period that frequency assignments associated with a satellite network have actually been brought into use and by having the BR make information received from administrations regarding such bringing into use publicly available. The BR has established, on a trial basis, two web pages for providing such information: <http://www.itu.int/ITU-R/space/snl/listinuse/> for non-planned bands and http://www.itu.int/ITU-R/space/snl/listinuse_plan/ for planned bands. The BR should be instructed to continue to build the list of networks contained on these pages and to make these pages permanent. In addition, it would also be useful if, on this same web page, a hyperlink were included to the Resolution 49 information associated with the bringing into use of the frequency assignments in question.

In addition to the uncertainty associated with frequency assignments and satellite networks actually brought into use, there can also be uncertainty associated with the Annex 2 data of Resolution 49. This is due to the fact that Resolution 49 calls for data to be submitted as early as possible before the end of the regulatory lifetime of the filing, or as early as possible before satellite launch and, for a variety of reasons, it is possible for certain of these data elements to change after such initial submission of the data. Such changes add to the uncertainty associated with the GSO resources actually being used by administrations.

In order to address the uncertainties associated with Resolution 49 data, it is proposed to modify this Resolution. The proposed changes entail requiring submission of Resolution 49 data only after the BR has been informed that frequency assignments have been brought into use. In this way, the Resolution 49 data would become definitive as there will be certainty associated with the data called for in Annex 2 of the Resolution (i.e. launch date, launch provider, name of satellite, frequency bands on the satellite, etc.).

Proposal:

USA/xx/1

MOD

The uncertainty associated with frequency assignments and satellite networks actually brought into use could be addressed as follows:

11.44 The notified date²⁰ of bringing into use of any assignment to a space station of a satellite network shall be not later than seven years following the date of receipt by the Bureau of

²⁰ **11.44.1** In the case of space station frequency assignments that are brought into use prior to the completion of the coordination process, and for which the Resolution 49 (Rev.WRC-1203)* data have been submitted to the Bureau, the assignment shall continue to be taken into consideration for a maximum period of seven years from the date of receipt of the relevant information under No. 9.1. If the first notice for recording of the assignments in question under No. 11.15 has not been received by the Bureau by the end of this seven-year period, the assignments shall no longer be taken into account by the Bureau and administrations. The Bureau shall inform the notifying administration of its pending actions three months in advance.

In the case of satellite networks for which relevant advance publication information has been received prior to 22 November 1997, the corresponding period will be nine years from the date of publication of this information. (WRC-2000)

the relevant complete information under No. 9.1 or 9.2, as appropriate. Any frequency assignment not brought into use within the required period shall be cancelled by the Bureau after having informed the administration at least three months before the expiry of this period. (See also Resolution 49 (WRC-12)). (WRC-0312)

USA/xx/2

MOD

11.47 All frequency assignments notified in advance of their being brought into use shall be entered provisionally in the Master Register. Any frequency assignment to a space station provisionally recorded under this provision shall be brought into use no later than the end of the period provided under No. 11.44. Any other frequency assignment provisionally recorded under this provision shall be brought into use by the date specified in the notice, or by the end of the extension period granted under No. 11.45, as the case may be. Unless the Bureau has been informed by the notifying administration of the bringing into use of the assignment, it shall, no later than fifteen days before either the notified date of bringing into use, in the case of an earth station, or the end of the regulatory period established under No. 11.44 or No. 11.45, as appropriate, send a reminder requesting confirmation that the assignment has been brought into use within that regulatory period. If the Bureau does not receive that confirmation within thirty days following the notified date of bringing into use, in the case of an earth station, or the period provided under No. 11.44 or No. 11.45, as the case may be, it shall cancel the entry in the Master Register. The Bureau shall, however, inform the administration concerned before taking such action. (See also Resolution 49 (WRC-12)). (WRC-0712)

^a ~~Note by the Secretariat: This Resolution was revised by WRC-07.~~

RESOLUTION BIU

Publication of bringing into use data for satellite networks

The World Radiocommunication Conference (Geneva, 2012),

considering

- a) that access to the geostationary orbit (GSO) has become increasingly difficult over the years ;
- b) that this difficulty is due, in large part, to difficulties in fully coordinating new orbital positions and applying the relevant provisions of the Radio Regulations;
- c) that it has been noted that unused frequency and GSO resources remain recorded in the Master International Frequency Register, and this further adds to the difficulty in accessing the GSO;
- d) that it is currently cumbersome, and in some cases not possible, for administrations to determine if the Bureau has been informed that frequency assignments associated with a given satellite network have been brought into use;
- e) that improving the ability of administrations to identify the networks for which the Bureau has been informed have been brought into use would help to address some of the aforementioned difficulties;
- f) that a readily accessible website, maintained by the Bureau, on which information related to the date of bringing into use of satellite networks is displayed would improve the access to this information by administrations,

resolves to instruct the Director of the Radiocommunications Bureau

1 to take the necessary steps to create a website, as part of the Bureau's collection of web pages, on which data pertaining to the bringing into use of frequency assignments associated with specific satellite networks is displayed;

2 upon receipt from an administration of information indicating the date of bringing into use of frequency assignments associated with a particular satellite network, to include the information associated with this indication on this website along with an indication as to whether, in the Bureau's view, the frequency assignments are confirmed as being brought into use;

3 to also include on this website other pertinent information that will allow a unique correlation of the indication that frequency assignments have been brought into use with a particular satellite network;

4 to include on this website a hyperlink to the associated Resolution 49 data, submitted on or after the date of bringing into use, for the particular frequency assignments and satellite network.

Reasons:

To improve transparency into GSO resources actually being used by making bringing into use data for frequency assignments and satellite networks readily available.

The uncertainty associated with when frequency assignments are actually brought into use and with possible inaccuracies with Resolution 49 Annex 2 data can be addressed as follows:

RESOLUTION 49 (Rev.WRC-~~1207~~)

Administrative due diligence applicable to some satellite radiocommunication services

The World Radiocommunication Conference (Geneva, 20~~1207~~),

considering

- a) that Resolution 18 of the Plenipotentiary Conference (Kyoto, 1994) instructed the Director of the Radiocommunication Bureau to initiate a review of some important issues concerning international satellite network coordination and to make a preliminary report to WRC-95 and a final report to WRC-97;
- b) that the Director of the Bureau provided a comprehensive report to WRC-97, including a number of recommendations for action as soon as possible and for identifying areas requiring further study;
- c) that one of the recommendations in the Director's report to WRC-97 was that administrative due diligence should be adopted as a means of addressing the problem of reservation of orbit and spectrum capacity without actual use;
- d) that experience ~~may need to be~~ gained in the application of the administrative due diligence procedures adopted by WRC-97 indicates certain changes should be made to those procedures, and that several years may be needed to see whether administrative due diligence measures produce satisfactory results;
- e) that new regulatory approaches may need to be carefully considered in order to avoid adverse effects on networks already going through the different phases of the procedures;
- f) that Article 44 of the Constitution sets out the basic principles for the use of the radio-frequency spectrum and the geostationary-satellite and other satellite orbits, taking into account the needs of developing countries,

considering further

- g) that WRC-97 decided to reduce the regulatory time-frame for bringing a satellite network into use;
- h) that WRC-2000 has considered the results of the implementation of the administrative due diligence procedures and prepared a report to the 2002 Plenipotentiary Conference in response to Resolution 85 (Minneapolis, 1998),

resolves

- 1) that the administrative due diligence procedure contained in Annex 1 to this Resolution shall be applied as from 22 November 1997 for a satellite network or satellite system of the fixed-satellite service, mobile-satellite service or broadcasting-satellite service for which the advance publication information under No. 9.2B, or for which the request for modifications of the Region 2 Plan under Article 4, § 4.2.1 b) of Appendices 30 and 30A that involve the addition of new frequencies or orbit positions, or for which the request for modifications of the Region 2 Plan under Article 4, § 4.2.1 a) of Appendices 30 and 30A that extend the service area to another

country or countries in addition to the existing service area, or for which the request for additional uses in Regions 1 and 3 under § 4.1 of Article 4 of Appendices 30 and 30A, or for which the submission of information under supplementary provisions applicable to additional uses in the planned bands as defined in Article 2 of Appendix 30B (Section III of Article 6) has been received by the Bureau from 22 November 1997, or for which submission under Article 6 of Appendix 30B (Rev.WRC-07) is received on or after 17 November 2007, with the exception of submissions of new Member States seeking the acquisition of their respective national allotments¹ for inclusion in the Appendix 30B Plan;

~~2 — that for a satellite network or satellite system within the scope of § 1 or 3 of Annex 1 to this Resolution not yet recorded in the Master International Frequency Register (MIFR) by 22 November 1997, for which the advance publication information under No. 1042 of the Radio Regulations (Edition of 1990, revised in 1994) or for the application of Section III of Article 6 of Appendix 30B has been received by the Bureau before 22 November 1997, the responsible administration shall submit to the Bureau the complete due diligence information in accordance with Annex 2 to this Resolution not later than 21 November 2004, or before the expiry of the notified period for bringing the satellite network into use, plus any extension period which shall not exceed three years pursuant to the application of No. 1550 of the Radio Regulations (Edition of 1990, revised in 1994) or the dates specified in the relevant provisions Article 6 of Appendix 30B, whichever date comes earlier. If the date of bringing into use, including extension specified above, is before 1 July 1998, the responsible administration shall submit to the Bureau the complete due diligence information in accordance with Annex 2 to this Resolution not later than 1 July 1998; (Reason: Overtaken by time)~~

~~2bis — that for a satellite network or satellite system within the scope of § 2 of Annex 1 to this Resolution not recorded in the MIFR by 22 November 1997, for which the request for a modification to the Plans of Appendices 30 and 30A has been received by the Bureau before 22 November 1997, the responsible administration shall submit to the Bureau the complete due diligence information in accordance with Annex 2 to this Resolution as early as possible before the end of the period established as a limit to bringing into use in accordance with the relevant provisions of Article 4 of Appendix 30 and the relevant provisions of Article 4 of Appendix 30A; (Reason: Overtaken by time)~~

¹ See § 2.3 of Appendix 30B (Rev.WRC-07).

~~3 — that for a satellite network or satellite system within the scope of § 1, 2 or 3 of Annex 1 to this Resolution recorded in the MIFR by 22 November 1997, the responsible administration shall submit to the Bureau the complete due diligence information in accordance with Annex 2 to this Resolution not later than 21 November 2000, or before the notified date of bringing the satellite network into use (including any extension period), whichever date comes later; (Reason: Overtaken by time)~~

~~4 — that six months before the expiry date specified in *resolves 2* or *2bis* above, if the responsible administration has not submitted the due diligence information, the Bureau shall send a reminder to that administration; (Reason: Overtaken by time)~~

~~5 — that if the due diligence information is found to be incomplete, the Bureau shall immediately request the administration to submit the missing information. In any case, the complete due diligence information shall be received by the Bureau before the expiry date specified in *resolves 2* or *2bis* above, as appropriate, and shall be published by the Bureau in the International Frequency Information Circular (BR-IFIC); (Reason: Overtaken by time)~~

~~6 — that if the complete due diligence information is not received by the Bureau before the expiry date specified in *resolves 2* or *2bis* above, the request for coordination or request for a modification to the Plans of Appendices 30 and 30A or for application of Section III of Article 6 of Appendix 30B as covered by *resolves 1* above submitted to the Bureau shall be cancelled. Any modifications of the Plans (Appendices 30 and 30A) shall lapse and any recording in the MIFR as well as recordings in the Appendix 30B List shall be deleted by the Bureau after it has informed the concerned administration. The Bureau shall publish this information in the BR-IFIC; (Reason: Overtaken by time)~~

further resolves

that the procedures in this Resolution are in addition to the provisions under Article 9 or 11 of the Radio Regulations or Appendices 30, 30A or 30B, as applicable, and, in particular, do not affect the requirement to coordinate under those provisions (Appendices 30, 30A) in respect of extending the service area to another country or countries in addition to the existing service area,

instructs the Director of the Radiocommunication Bureau

to report to future competent world radiocommunication conferences on the results of the implementation of the administrative due diligence procedure.

ANNEX 1 TO RESOLUTION 49 (Rev.WRC-0712)

1 Any satellite network or satellite system of the fixed-satellite service, mobile-satellite service or broadcasting-satellite service with frequency assignments that are subject to coordination under Nos. 9.7, 9.11, 9.12, 9.12A and 9.13 and Resolution 33 (Rev.WRC-03) shall be subject to these procedures.

2 Any request for modifications of the Region 2 Plan under the relevant provisions of Article 4 of Appendices 30 and 30A that involve the addition of new frequencies or orbit positions or for modifications of the Region 2 Plan under the relevant provisions of Article 4 of Appendices 30 and 30A that extend the service area to another country or countries in addition to the existing service area or request for additional uses in Regions 1 and 3 under the relevant provisions of Article 4 of Appendices 30 and 30A shall be subject to these procedures.

3 Any submission of information under Article 6 of Appendix 30B (Rev.WRC-07), with the exception of submissions of new Member States seeking the acquisition of their respective national allotments² for inclusion in the Appendix 30B Plan, shall be subject to these procedures.

4 An administration indicating to the Bureau that frequency assignments requesting coordination for a satellite network under § 1 above have been brought into use shall send to the Bureau ~~as early as possible before the end of the period established as a limit to bringing into use in No. 9.1,~~ the complete due diligence information relating to the identity of the satellite network and the spacecraft manufacturer specified in Annex 2 to this Resolution. The indication to the BR that frequency assignments have been brought into use shall be made no later than 30 days after the date on which the frequency assignments have actually been brought into use. Additionally, the information called for in Annex 2 to this Resolution shall be submitted no earlier than the date on which the frequency assignments have actually been brought into use, and no later than 30 days after the date on which the frequency assignments have actually been brought into use.

5 An administration indicating to the Bureau that frequency assignments associated with a requested modification of the Region 2 Plan or with additional uses in Regions 1 and 3 under Appendices 30 and 30A under § 2 above have been brought into use shall send to the Bureau ~~as early as possible before the end of the period established as a limit to bringing into use in accordance with the relevant provisions of Article 4 of Appendix 30 and the relevant provisions of Article 4 of Appendix 30A,~~ the complete due diligence information relating to the identity of the satellite network and the spacecraft manufacturer specified in Annex 2 to this Resolution. The indication to the BR that frequency assignments have been brought into use shall be made no later than 30 days after the date on which the frequency assignments have actually been brought into use. Additionally, the information called for in Annex 2 to this Resolution shall be submitted no earlier than the date on which the frequency assignments have actually been brought into use, and no later than 30 days after the date on which the frequency assignments have actually been brought into use.

6 An administration indicating to the Bureau that frequency assignments associated with the application of Article 6 of Appendix 30B (Rev.WRC-07) under § 3 above have been brought into use shall send to the Bureau ~~as early as possible before the end of the period established as a limit to bringing into use in § 6.1 of that Article,~~ the complete due diligence information relating to the identity of the satellite network and the spacecraft manufacturer specified in Annex 2 to this Resolution. The indication to the BR that frequency assignments have been brought into use shall be made no later than 30 days after the date on which the frequency assignments have actually been brought into use. Additionally, the information called for in Annex 2 to this Resolution shall be submitted no earlier than the date on which the frequency assignments have actually been brought into use, and no later than 30 days after the date on which the frequency assignments have actually been brought into use.

7 The information to be submitted in accordance with § 4, 5 or 6 above shall be signed by an authorized official of the notifying administration or of an administration that is acting on behalf of a group of named administrations.

8 On receipt of an indication that frequency assignments for a particular satellite network have been brought into use, the BR shall post such information to a web page as detailed in Resolution BIU.

89 On receipt of the due diligence information called for in Annex 2 to this Resolution under § 4, 5 or 6 above, the Bureau shall promptly examine that information for completeness. If the information is found to be complete, the Bureau shall publish the complete information in a special section of the BR IFIC within 30 days (See also Resolution BIU).

² See § 2.3 of Appendix 30B (Rev.WRC-07).

910 If the information submitted under § 9 above is found to be incomplete, the Bureau shall immediately request the administration to submit the missing information. In such cases, the administration shall provide the missing information within [1] month[s] after receiving the request for the additional information from the Bureau. ~~In all cases, the complete due diligence information shall be received by the Bureau within the appropriate time period specified in § 4, 5 or 6 above, as the case may be, relating to the date of bringing the satellite network into use. 10 — Six months before expiry of the period specified in § 4, 5 or 6 above and if the administration responsible for the satellite network has not submitted the due diligence information under § 4, 5 or 6 above, the Bureau shall send a reminder to the responsible administration.~~

11 If the complete due diligence information is not received by the Bureau within the time limits specified in this Resolution, the networks covered by § 1, 2 or 3 above shall no longer be taken into account and shall not be recorded in the MIFR. The provisional recording in the MIFR shall be deleted by the Bureau after it has informed the concerned administration. The Bureau shall publish this information in the BR IFIC.

With respect to the request for modification of the Region 2 Plan or for additional uses in Regions 1 and 3 under Appendices 30 and 30A under § 2 above, the modification shall lapse if the due diligence information is not submitted in accordance with this Resolution.

With respect to the request for application of Article 6 of Appendix 30B (Rev.WRC-07) under § 3 above, the network shall also be deleted from the Appendix 30B List. When an allotment under Appendix 30B is converted into an assignment, the assignment shall be reinstated in the Plan in accordance with § 6.33 c) of Article 6 of Appendix 30B (Rev.WRC-07).

~~12 — An administration notifying a satellite network under § 1, 2 or 3 above for recording in the MIFR shall send to the Bureau, as early as possible before the date of bringing into use, the due diligence information relating to the identity of the satellite network and the launch services provider specified in Annex 2 to this Resolution.~~

~~123~~ When an administration has completely fulfilled the due diligence procedure but has not completed coordination, this does not preclude the application of No. 11.41 by that administration.

ANNEX 2 TO RESOLUTION 49 (Rev.WRC-07)

A Identity of the satellite network

- a) Identity of the satellite network
- b) Name of the administration
- c) Country symbol
- d) Reference to the advance publication information or to the request for modification of the Region 2 Plan or for additional uses in Regions 1 and 3 under Appendices 30 and 30A; or reference to the information processed under Article 6 of Appendix 30B (Rev.WRC-07)
- e) Reference to the request for coordination (not applicable for Appendices 30, 30A and 30B)

- f)* Frequency band(s)
- g)* Name of the operator
- h)* Name of the satellite
- i)* Orbital characteristics.

B Spacecraft manufacturer*

- a)* Name of the spacecraft manufacturer
- b)* Date of execution of the contract
- c)* Contractual “delivery window”
- d)* Number of satellites procured.

C Launch services provider

- a)* Name of the launch vehicle provider
- b)* Date of execution of the contract
- c)* Launch or in-orbit delivery window
- d)* Name of the launch vehicle
- e)* Name and location of the launch facility.

Reasons:

To improve the accuracy of Resolution 49 data recorded by the ITU.

* NOTE – In cases where a contract for satellite procurement covers more than one satellite, the relevant information shall be submitted for each satellite.

DOCUMENT WAC/043(01.09.09)

UNITED STATES OF AMERICA

DRAFT PROPOSAL FOR WRC-11

AGENDA ITEM 7: to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: "Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks", in accordance with Resolution 86 (Rev. WRC-07)

ISSUE: Application of Nos. 9.51 and 9.52 with respect to coordination under No. 9.7

BACKGROUND: After a Coordination Request is submitted to the ITU, the Bureau identifies the administrations with which coordination has to be effected. Within four months of the publication of the Coordination Request each of the identified administrations has to either agree with the coordination or explicitly express its disagreement. Almost without exception, administrations choose the second option. This proposal contains the necessary changes to the Radio Regulations in order to ensure that lack of response from an administration is understood by the Bureau as disagreement and therefore eliminate a significant amount of correspondence that in most cases does not contribute in any way to expedite the coordination process.

For sake of discussion assume that the coordination request of a network of administration A has been published and that administration B has been identified by the Bureau under No. 9.7 as one of the administrations with which coordination has to be effected.

Then, according No. 9.51, administration B, within four months of the publication of the coordination request, shall "either inform the requesting administration of its agreement or act under No. 9.52", with the latter meaning that administration B will express its disagreement, i.e. the need for coordination.

In the vast majority of cases, administrations respond in accordance with No. 9.52 without providing any reasons for their disagreement. It is certainly the easiest and safest way to proceed.

It follows from the above that the required formal answer under Nos. 9.51 or 9.52 has lost its value in the framework of GSO to GSO coordination. An improvement to this aspect of the process can be realized by lifting the mandatory nature of this requirement for coordination requests made under No. 9.7 (GSO vs. GSO).

In an improved process, after the coordination request of a satellite network of administration A is published together with the initial list of administrations and corresponding provisional list of satellite networks with which coordination has to be effected, administrations would review this list. In case an administration wants to add or remove itself and/or a network, then it would send this request to the Bureau, as well as to administration A, within four months of the date of publication of the coordination request. However, if an administration agrees with the initial list of administrations and provisional list of corresponding networks published by the Bureau, no action would be required. In particular, an administration already included in the list would not

be removed from the final list due to lack of response under No.9.52 as such lack of a response would be understood by the Bureau to mean that this administration believes that coordination with one or more of its networks is required. Removing the requirement to respond under No. 9.52 will eliminate a significant amount of correspondence that in most cases does not contribute in any way to expedite the coordination process.

U.S. PROPOSAL: In view of the above the United States proposes that changes to Article 9 of the Radio Regulations be introduced in order to allow that: (1) if an administration, in respect to a coordination request from another administration, is not in a position to give its agreement under No. 9.51 then this administration would not need to respond to such a request; and (2) the lack of such a response would be understood by the Bureau to mean that this administration believes that coordination with one or more of its networks is required.

Annex 2

Proposed Modifications to Some Provisions of the Radio Regulations

MOD

9.51 Following its action under No. 9.50, the administration with which coordination was sought under Nos. 9.7 to 9.7B shall, within four months of the date of publication of the BR IFIC under No. 9.38 or its addenda published under No. 9.42, respectively, either inform the requesting administration and the Bureau of its agreement or act under No. 9.52.

Reason: To explicitly state that different 4-month windows apply to the original publication and each of its addenda published within or just after the first 4-month period.

MOD

9.52 If an administration, following its action under No. 9.50, does not agree to the request for coordination, it shall, within four months of the date of publication of the BR IFIC under No. 9.38, or of the date of dispatch of the coordination data under No. 9.29, inform the requesting administration of its disagreement and shall provide information concerning its own assignments upon which that disagreement is based. It shall also make such suggestions as it is able to offer with a view to satisfactory resolution of the matter. A copy of that information shall be sent to the Bureau.^{24A} Where the information relates to terrestrial stations or earth stations operating in the opposite direction of transmission within the coordination area of an earth station, only that information relating to existing radiocommunication stations or to those to be brought into use within the next three months for terrestrial stations, or three years for earth stations, shall be treated as notifications under Nos. 11.2 or 11.9.

Reason: To indicate that the following footnote is added:

ADD

^{24A} **9.52.1** In the case of coordination requests under No. 9.7, an affected administration not responding under Nos. 9.51 or 9.52 within four months of the date of publication of the BR IFIC made under No. 9.38 shall continue to be regarded as an affected administration. The fact that this administration did not reply under No.9.52 will be considered as a confirmation – for its part – of the BR publication and will not change its status under No. 9.36 nor the list of its networks established under No. 9.36.2.

Reason: This footnote to No. 9.52 lifts the mandatory nature of making comments under No. 9.52 for the coordination category of No. 9.7 (GSO/GSO). A non-reply will be understood as a confirmation of the BR IFIC publication made under No. 9.38, with respect to the list of affected administrations (No. 9.36) and the list of satellite networks compiled under No. 9.36.2.

MOD

9.60 If, within the same four-month period specified in Nos. 9.51 or 9.51A, an administration with which coordination is sought under Nos. ~~9.7A to or 9.7B and or~~ 9.15 to 9.19 fails to reply or to give a decision under Nos. 9.51 or 9.51A or, following its disagreement under No. 9.52, fails to provide information concerning its own assignments on which its disagreement is based, the requesting administration may seek the assistance of the Bureau. The administration initiating the coordination under No. 9.7 may also request the assistance of the Bureau when this administration considers that any of the affected administrations is not willing to participate in the coordination process or does not want to cooperate in the resolution of the problems in the manner foreseen under No. 9.53.

Reason: As the new provision footnote No. 9.52.1 above proposes to lift the mandatory nature of No. 9.52 for the coordination category of No. 9.7 (GSO/GSO), this category has to be excluded from the current formulation of No. 9.60. However, the possibility for the initiating administration to ask the Bureau's assistance in case of difficulties should be maintained.

MOD

9.62 If the administration concerned ~~still~~ fails to respond within thirty days of the Bureau's action under No. 9.61, the provisions of Nos. 9.48 and 9.49 shall apply.

Reason: The word "still" is not applicable to the situation addressed in the last sentence of the modified No. 9.60.

DOCUMENT WAC/044(01.09.09)

UNITED STATES OF AMERICA

DRAFT PROPOSAL FOR WRC-11

AGENDA ITEM 7: to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: "Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks", in accordance with Resolution 86 (Rev.WRC-07)

ISSUE: List of networks with which coordination needs to be effected (No. 9.36 of RR)

BACKGROUND: For the coordination between geostationary satellite networks (No. 9.7), the Bureau identifies the administrations with which coordination has to be effected as well as the respective satellite networks. However, the list of identified satellite networks is for information only. Coordination would be facilitated if, after receiving comments from all interested administrations, the Bureau would render definitive the list of networks with which coordination has to be effected. This proposal contains the necessary changes to the Radio Regulations in order to achieve this goal.

The regulations currently in force - namely provisions Nos. 9.36 and 9.36.2 – indicate that the Bureau, when it examines a request for coordination in application of Nos. 9.34 – 9.38, shall identify any administration with which coordination may need to be effected.

Provision No. 9.36.2 further specifies that *"in the case of coordination under Nos. 9.7, 9.7A and 9.7B, the Bureau shall also identify the specific satellite networks or earth stations with which coordination needs to be effected. In the case of coordination under No. 9.7 the list of the networks identified by the Bureau under No. 9.27 is for information purposes only, to help administrations comply with this procedure."*

In this context, for sake of discussion assume that the coordination request of a network of administration A has been published and that administration B has been identified by the Bureau under No. 9.7 as one of the administrations with which coordination has to be effected.

As the list of the satellite networks of administration B provided by the Bureau is "for information purposes only", administration A will not necessarily know the complete list of networks of administration B that have to be considered until bilateral coordination between A and B is conducted. This is not desirable, especially because detailed coordination is often conducted between operators, whereas satellite networks are submitted to the ITU by administrations. Operator-to-operator coordination agreements are subsequently ratified by the administrations involved and a formal coordination meeting between administrations may never happen. Therefore the operator of administration A associated with the satellite network under consideration may never know the complete list of networks of administration B with which coordination is required.

Provision No. 9.36.2 stipulates that the Bureau identifies the satellite networks with which coordination needs to be effected in the framework of the coordination procedure foreseen in Article 9 (Section II) for the coordination forms 9.7 to 9.7B. The Bureau uses for this

identification either the “coordination arc” (CA) concept or the method described in Appendix 8 ($\Delta T/T > 6\%$). On the above basis, the BR establishes the list of affected administrations (No. 9.36) and a list of satellite networks which may be affected by the network contained in the “incoming” coordination request. The latter list, however, may not be complete or definitive for a given coordination request. Under the provisions of No. 9.41 the administrations which are not included in the list under No. 9.36 may request their inclusion in this list, identifying networks outside the coordination arc for which the value of $\Delta T/T$ calculated by the method in Appendix 8 exceeds 6%.

In addition, administrations which are included in the list of 9.36 may at a later time request that, in addition to the networks included in the list of No. 9.36.2, other networks should also be included in the coordination process. The latter case does not seem to be covered by the provisions of No. 9.41 which treats only cases of administrations not included in the first list established under No. 9.36 rather than the networks. Consequently, this problem needs to be solved by the administrations during bilateral coordination discussions. A further difficulty is that the additions under No. 9.41 to the list of the affected administrations can only be handled by addenda to the BR first publication under No. 9.38 at different times, after the first publication (see Nos. 9.41 and 9.42). While the additionally affected administrations are in this way published and consequently known by all the administrations after the 4 month comment period, the complete list of networks to be considered is not available, as the list of networks originally published under No. 9.36.2 is not updated.

Having experienced the above difficulties, a Rule of Procedure (RoP) concerning the application of Provisions Nos. 9.41 and 9.42 has been established. This RoP is attached to the present document for information. (Annex 1). The RoP recognizes that under the current regulations the list of affected networks (No. 9.36.2) cannot be considered as exhaustive. In addition, it is also recognized that when administrations disagree on the list of networks to be considered the problem can only be solved by the Bureau at the very end of the notification process (Article 11, Nos. 11.32A, and probably 11.41)

It is noted that the wording of No. 9.41 excludes from its application those administrations which have been selected for inclusion in the list of affected administration under No. 9.36. These administrations may also find that some of their networks which were not included in the list of No. 9.36.2 – since they were outside the coordination arc – should be included into the coordination procedure as their $\Delta T/T$ value exceeds the threshold value of 6%. Logically for these administrations the concept of No. 9.41 should also apply. The current Rule of Procedure on Nos. 9.41 – 9.42 recognizes this problem (see §.2.1 of the RoP in Annex 1) and suggests that such cases should be considered under No. 9.52 (disagreement communicated to the initiating administration). For such a case the Rule states that the administration should, *“while applying No. 9.52 and without having to apply No. 9.41, bring into the bilateral coordination discussion any of their networks located outside the coordination arc which meet the $\Delta T/T > 6\%$ criterion.”*

In view of the above considerations, it seems logical and necessary to open the application of the concept of No. 9.41 also for those administrations which have already been identified as affected administrations under No. 9.36, to allow for the possible addition of networks which were not identified under No. 9.36.2 where the only criterion applied was the coordination arc.

In summary, an improvement to the process would be for the list of networks identified under No. 9.36.2 with respect to coordination under No. 9.7 to be considered provisional and not “for information only”. Currently, according to No. 9.41, within the period of four months following the publication of a coordination request, administrations are able to request that an administration be added or removed from the list generated by the Bureau. In an improved process, this possibility would be expanded so that requests could also be made to add or remove

networks from the list generated by the Bureau.¹ The Bureau would then study all these requests (see No. 9.42) and subsequently publish, at the earliest possible date, a definitive list of administrations and corresponding satellite networks with which coordination would be required.

Consequential changes to Article 9 and Appendix 5 of the Radio Regulations will be required in order to implement these proposals.

U.S. PROPOSAL: In view of the above the United States proposes that changes to Article 9 and Appendix 5 of the Radio Regulations be introduced in order to allow that a definitive list of administrations and corresponding satellite networks with which coordination needs to be effected be generated as early as possible in the coordination process. These changes are specified in Annex 2.

¹ Requests for addition of an administration should also include the specification of the networks of this administration to be considered in the coordination.

Annex 1

Extracts from the Rules of Procedure

9.41 – 9.42

1 The Board has closely studied the situation and the reasons that led to the adoption of the coordination arc (CA) principle at WRC-2000 and in particular Nos. 9.41 and 9.42. In doing so, it was guided by *recognizing* and *considering* of Resolution 55 (WRC-2000), by Article 9 in general, and by Nos. 9.36, 9.36.2 and Appendix 5.

2 The Board has accordingly arrived at the following conclusions regarding the application of the provisions of No. 9.41 by an administration which considers that its name should have been identified under No. 9.36 in the context of a request for coordination stemming from the application of No. 9.7 (including for cases not having to do with application of coordination arc):

2.1 Once an administration has been identified and included in the coordination requirements of a particular assignment published in a coordination special section, coordination is to be effected between administrations (not between networks) who decide, based on Appendix 5, which networks they wish to take into account in their bilateral discussions. The list of satellite networks published under No. 9.36.2 is intended for information purposes only, and thus should not be considered as exhaustive. Administrations identified on the basis of CA can, while applying No. 9.52 and without having to apply No. 9.41, bring into the bilateral coordination discussions any of their networks located outside of the coordination arc which meet the $\Delta T/T > 6\%$ criterion. In this case, no action is undertaken by the Bureau under No. 9.42.

2.2 Administrations not identified by CA are entitled, based on the $\Delta T/T > 6\%$ criterion, to be included in coordination, in application of Nos. 9.41 and 9.42. Requests under No. 9.41 must be substantiated by $\Delta T/T > 6\%$ calculations. To minimize the administrative burden on the Bureau and administrations, it shall be deemed sufficient for an administration wishing to be added in a coordination request under No. 9.41 to provide $\Delta T/T > 6\%$ calculations for only one pair of assignments for each satellite network to be further considered in the coordination process (a pair consisting of one assignment of the published network and one assignment of the network of the requesting administration); the Bureau will then examine all assignments of the specific networks of the requesting administration and then establish coordination requirements for all the assignments of the network referred to in the publication vis-à-vis the requesting administration under No. 9.42 commensurate with the results of such examination.

3 In case of continuing disagreement between the administration of the published network and an administration involved in coordination under Nos. 9.7 or 9.42, which cannot be resolved between them at coordination stage, the two administrations may communicate to the Bureau a mutually agreed list of networks to be taken into account for examination under No. 11.32A at notification stage. If the two administrations cannot agree on such a list, the Board decided that examination under No. 11.32A at notification stage will be carried out with respect to all networks of the latter administration, indicated in application of § 2 of this Rule, whose assignments, identified in accordance with § 1 of Appendix 5, have $\Delta T/T$ greater than 6%.

Annex 2

Proposed Modifications to Some Provisions of the Radio Regulations

MOD

²¹ **9.36.2** In the case of coordination under Nos. 9.7, 9.7A and 9.7B, the Bureau shall also identify the specific satellite networks or earth stations with which coordination needs to be effected. (See also No. 9.42.1.) ~~In the case of coordination under No. 9.7 the list of the networks identified by the Bureau under No. 9.27 is for information purposes only, to help administrations comply with this procedure.~~

Reason: To make the list of affected networks an exhaustive, official list for the coordination under 9.7 and therefore avoid unnecessary discussions between administration concerning the status of the assignments/networks which are to be included or not in the bilateral coordination negotiations. According to the addition proposed under No. 9.42.1 hereafter this list will be updated after each action under Nos. 9.41-9.42, and at the end of this procedure, will be made available to the administrations as an exhaustive and official list of networks with which coordination needs to be effected.

MOD

9.41 Following receipt of the BR IFIC referring to requests for coordination under Nos. 9.7 to 9.7B, an administration believing that it should have been included in the request or the initiating administration believing that an administration or any of its networks identified under No. 9.36 in accordance with the provisions of No. 9.7 (GSO/GSO) (items 1) to 8) of the frequency band column), No. 9.7A (GSO earth station/non-GSO system) or No. 9.7B (non-GSO system/GSO earth station) of Table 5-1 of Appendix 5 should not have been included in the request, shall, within four months of the date of publication of the relevant BR IFIC, inform the initiating administration or the identified administration, as appropriate, and the Bureau, giving its technical reasons for doing so, and shall request that its name and the complete associated list of its networks be included or that the name of the identified administration or any of its networks be excluded, as appropriate.

Reason: To allow the initiating administration to propose changes not only to the list of administrations identified by the BR but also to the list of networks associated with these administrations. To require that an administration that wants to be included in the coordination, but has not been identified by the BR, also identify all of its specific networks to be considered.

ADD

9.41A Following receipt of the BR IFIC referring to requests for coordination under Nos. 9.7 to 9.7B, an administration already identified under No. 9.36 as an affected administration, may propose changes to the list of its networks provisionally identified by the BR. In particular, if this administration considers that the value of $\Delta T/T$ calculated by the method in § 2.2.1.2 and 3.2 of Appendix 8 exceeds 6% for some other network(s) outside the coordination arc in addition to those included in the provisional list of networks under No. 9.36.2, it may request the inclusion of this (these) other network(s) in the list. This administration shall, within four months of the date of publication of the

relevant BR IFIC, inform the initiating administration and the Bureau of any proposed changes to the list established under No. 9.36.2, giving its technical reasons for doing so.

Reason: To make available for administrations already identified as affected administration under No. 9.36 (because of their networks within the coordination arc) the possibility of adding networks outside the coordination arc provided the trigger level of ΔTIT is exceeded for these networks and of proposing any other changes to the list of networks identified by the BR.

MOD

9.42 The Bureau shall study this information received under Nos. 9.41 and 9.41A on the basis of Appendix 5 and shall inform both administrations of its conclusions. Should the Bureau agree to include or exclude, as appropriate, the administration and/or associated networks in the request, it shall publish an addendum to the publication under No. 9.38^{22A}

Reason: To make explicit reference to the two preceding provisions as now both are concerned and that inclusions and exclusions to the list may refer to administrations and/or networks.

Reason: To update the list originally established under No. 9.36.2 with the inclusions and/or exclusions of administrations and/or networks submitted by administrations under Nos. 9.41 and 9.41A and considered justifiable after studied by the BR under No. 9.42. The administration may use this list in their coordination negotiations as an exhaustive list of networks with which coordination has to be effected.

ADD

9.43A The list of networks identified for those administrations not responding under No. 9.41A within the time limit specified therein shall be regarded as definitive.

Reason: To make explicit that lack of a reply from an administration under No. 9.41A will be understood by the BR as agreement of that administration with its inclusion in the provisional list as well as with the associated list of its networks.

Appendix 5 (Table 5-1)

MOD

Reference of Article 9 ²	Remarks
No. 9.7 GSO/GSO	With respect to the space services listed in the threshold/condition column in the bands in 1), 2), 3), 4), 5), 6), 7) and 8), an administration may request, pursuant to No. 9.41 to be included in requests for coordination, <u>or under No.9.41A to include into it additional networks</u> , indicating the networks for which the value of $\Delta T/T$ calculated by the method in § 2.2.1.2 and 3.2 of Appendix 8 exceeds 6%. When the Bureau, on request by an affected administration, studies this information pursuant to No. 9.42, the calculation method given in § 2.2.1.2 and 3.2 of Appendix 8 shall be used

Reason: To add a reference to the new provision No. 9.41A which allows those administrations already identified as affected administration under No. 9.36 (because of their networks within the coordination arc) to add networks outside the coordination arc, provided the trigger level of $\Delta T/T$ is exceeded for these networks.

² It is to be noted that in the above simplified presentation only the first and last columns of table 5-1 of Appendix 5 are shown. The other columns of this table are not to be modified.

DOCUMENT WAC/045(01.09.09)

United States of America DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

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

Background information

In Resolution **806 (WRC-07)**, "Preliminary agenda for the 2015 World Radiocommunication Conference," WRC-07 included preliminary Agenda Item 2.2 dealing with the review of the use of the band 5091-5150 MHz by the fixed-satellite service (FSS) for feeder links to non-GSO, mobile-satellite service systems.

At WRC-95, allocation was made to the fixed-satellite service in the 5091-5150 MHz band for feeder links to non-GSO mobile-satellite service systems, in the Earth-to-space direction, on a primary basis under **No. 5.444A**.

The 5091-5150 MHz band was originally designated for expansion of the international standard Microwave Landing System (MLS) and Recommendation ITU-R S.1342 describes a method for determining coordination distances between international standard MLS stations operating in the band 5030-5090 MHz and FSS stations providing Earth-to-space feeder links in the 5091-5150 MHz band.

At WRC-07, an additional allocation was made, in the 5091-5150 MHz band, to the aeronautical mobile service (AMS) for use by aeronautical telemetry for flight test, aeronautical mobile (route) service and aeronautical security applications. Compatibility between the newly allocated aeronautical mobile service planned usage and the existing fixed-satellite service usage was demonstrated by extensive studies carried out by the ITU-R in the lead up to WRC-07.

This allocation is currently used by the HIBLEO-4FL network and has been used compatibly with other services since 1998. The extensive studies undertaken in preparation for WRC-07 resulted in the creation of **No. 5.444B** and Resolutions **748(WRC-07)**, **418(WRC-07)** and **419(WRC-07)** and demonstrated compatibility between the fixed-satellite service and the aeronautical mobile (route) service, the planned usage by the aeronautical mobile service used for aeronautical mobile telemetry for flight test, and aeronautical security transmissions, respectively.

The operator of the HIBLEO-4FL network has embarked on the replenishment of its satellite constellation with the expected entry into service of new spacecraft during 2010. As these new spacecraft will be replacements for existing equipment, they will also utilize the 5091-5150 MHz range for feeder links in the Earth-to-space direction. The replacement satellites are expected to remain in service beyond the year 2025.

As a result of these developments, continued FSS use of the 5091-5150 MHz band for feeder links of the MSS, Earth-to-space, is required. Taking into account the time constraints contained in **No. 5.444A**, it is necessary to comply with Resolution **114 (WRC-03)** prior to 2018. Recognizing the considerable effort expended in studying the compatibility between feeder links, Earth-to-space, for MSS systems and the Aeronautical Mobile Service in preparation for WRC-07, and since the interference budgets and scenarios studied before remain the same for the HIBLEO-4FL replacement spacecraft, study of technical and operational issues can and should be limited to the sharing of this band between new systems of the aeronautical radionavigation service and the FSS providing feeder links of the non-GSO systems in the MSS.

The continued use of this allocation by feeder uplinks is of great importance in providing continuing service by MSS systems to developing countries, under-served areas and critical response in the event of natural disasters and other civil emergencies.

Proposal:
Agenda Item 8.2

RESOLUTION 806 (WRC-07)

Preliminary agenda for the 2015 World Radiocommunication Conference

NOC

USA/xx/1

2.2 to review the use of the band 5 091-5 150 MHz by the fixed-satellite service (Earth-to-space) (limited to feeder links of the non-GSO mobile-satellite service) in accordance with Resolution 114 (Rev.WRC-03);

Reasons: Maintaining this item on the Agenda for the 2015 World Radiocommunication Conference will allow studies of compatibility between the aeronautical radionavigation service and FSS feeder links of non-GSO mobile-satellite service systems and allow uninterrupted operation of MSS systems into the future.
