



PUBLIC NOTICE

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February 3, 2006

THE FCC'S ADVISORY COMMITTEE FOR THE 2007 WORLD RADIOCOMMUNICATION CONFERENCE APPROVES RECOMMENDATIONS ON WRC-07 ISSUES

IB Docket No. 04-286

On January 25, 2006, the World Radiocommunication Conference Advisory Committee (WRC-07 Advisory Committee) approved recommendations to the Commission on a number of issues that will be considered by the 2007 World Radiocommunication Conference (WRC-07). The WRC-07 Advisory Committee was established by the Commission in January 2004 to assist it in the development of proposals for WRC-07. To that end, the WRC-07 Advisory Committee has forwarded the recommendations it has developed since the beginning of 2004 to the Commission for consideration. We appreciate the substantial amount of work that the WRC-07 Advisory Committee has put into developing its recommendations. We have attached to this Public Notice the WRC-07 Advisory Committee's recommendations that were approved at the January 25, 2006 meeting and request comments on these recommendations.

Based upon our initial review of the recommendations forwarded to the Commission, the International Bureau in coordination with other Commission Bureaus and Offices tentatively concludes that we can generally support the attached WRC-07 Advisory Committee recommendations. We seek comments on the recommendations that appear in all of the WRC-07 Advisory Committee documents and on our initial impressions.

In addition, the National Telecommunications and Information Administration (NTIA) has provided to the Commission draft preliminary views and proposals that have been developed by the Executive Branch Agencies. We also request comments on these documents.

The comments provided will assist the FCC in its upcoming consultations with the U.S. Department of State and NTIA in the development of U.S. positions for WRC-07. The recommendations that are attached to this Public Notice may evolve in the course of interagency discussions as we approach WRC-07 and, therefore, do not constitute a final U.S. Government position on any issue.

The complete text of these recommendations is also available in the FCC's Reference Information Center, Room CY-A257, 445 12th Street, SW, Washington, DC 20554 or by accessing the FCC's WRC-07 world wide web site at: <http://www.fcc.gov/wrc-07>. Comments on the recommendations may be filed by referencing IB Docket 04-286 using the Commission's Electronic Comment Filing System (ECFS) or by

filing paper copies. Parties are encouraged to file electronically by following the instructions at: <http://www.fcc.gov/cgb/ecfs> Parties who choose to file paper copies only should submit an original and four copies of each filing. Guidelines and address for paper filings are available at: <http://www.fcc.gov/osec> . In addition, please submit one copy of your comments electronically or by paper to Alexander Roytblat, FCC WRC-07 Director, Federal Communications Commission, Room 6-A865, 445 12th Street, SW, Washington, DC 20554; e-mail: WRC07@fcc.gov. Comments should refer to IB Docket No. 04-286 and to specific recommendations by document number. The deadline for comments on the recommendations is February 24, 2006.

I. Recommendations by the Advisory Committee for the 2007 World Radiocommunication Conference:

INFORMAL WORKING GROUP 1 (IWG-1)

Terrestrial and Space Science Services

Document WAC/086(25.01.06):

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.2 (Res 746): to consider allocations and regulatory issues related to the Earth exploration-satellite (passive) service, space research (passive) service and the meteorological satellite service in accordance with Resolutions 746 (WRC-03) and 742 (WRC-03);

Background Information: This proposal addresses *resolves 1* of Resolutions 746 (WRC-03), "to invite ITU-R to conduct sharing analyses between geostationary meteorological satellites operating in the space-to-Earth direction and the fixed, fixed-satellite and mobile services in the band 18.0-18.4 GHz to define appropriate sharing criteria with a view to extending the current 18.1-18.3 GHz geostationary meteorological satellite allocation in the space-to-Earth direction to 300 MHz of contiguous spectrum." Presently the meteorological-satellite (MetSat) service (space-to-Earth), limited to the geostationary-satellite orbit (GSO), is allocated by footnote 5.519 in the band 18.1-18.3 GHz. The band is allocated on a primary basis to the fixed-satellite service (FSS), the fixed service and the mobile service in all three Regions and these allocations also exist for these same services in the band 17.8-18.1 GHz in all Regions. In both bands, the FSS is allocated in both the space-to-Earth and Earth-to-space directions. Additionally, in the 18.1-18.4 GHz band, the FSS (space-to-Earth) allocation has associated with it Nos. 5.484A and 5.516B. The first provision applies to non-Geostationary FSS satellite systems. The latter provision states that the band 18.3-19.3 GHz has been identified for use by high-density applications in the FSS in Region 2.

WP-7B has been the lead ITU-R group concerned with analyzing the sharing potential with other services in the band and it has exchanged several Liaison Statements with WP-4A. As a consequence of the information provided by WP-4A, those involved in the design of the next generation GSO meteorological satellites have optimized the design to maximize the level of homogeneity between FSS and Metsat systems. It is envisioned that this would maximize compatibility and facilitate coordination under No. 9.7 for operation of both types of systems in the space-to-Earth direction.

In accordance with No. 5.516 the band 18.0-18.1 GHz in the Earth-to-space direction is used for feeder links for the broadcasting-satellite service. Compatibility studies have been performed to estimate the typical required separation distances in reverse band sharing situations between receiving MetSat earth stations and transmitting BSS feeder uplink stations. In the worst case, it has been determined that around 40 km separation is required. Therefore it is expected that with some care in situating the limited number of MetSat receive stations international coordination would rarely be required under No. 9.17A.

While the expected design of the GSO MetSat satellite networks envisioned for operation in the 300 MHz wide band appears to be generally compatible with FSS systems being implemented, it would appear that, for Region 2, operating MetSat systems below 18.3 GHz would avoid several potential difficulties. Given the desire to have a common MetSat allocation in all three Regions, it is proposed to expand the additional allocation in No. 5.519 from 18.1-18.3 GHz to 18.0-18.3 GHz, including the limitation to geostationary satellites and the requirement to meet the provisions of Article 21, Table 21-4.

In addition, ITU-R studies have shown that, in conjunction with extending the MetSat allocation, extending the existing FSS coordination arc principle in this band to the case of MetSat systems coordinating with FSS networks has the potential to reduce the workload of the Bureau in identifying affected administrations and fulfils the purposes envisioned by Resolution 901 (WRC-03). As such, a consequential modification to Table 5-1 of Appendix 5 to include this change is also proposed. It is noted that as with the current No. 9.7, an administration may request, pursuant to No. 9.41, to be included in requests for coordination involving the MetSat or FSS service in this band, 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%.

Proposal:

USA/ /1 MOD

5.519 *Additional allocation:* the band 18.0-18.3 GHz is also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Its use is limited to geostationary satellites and shall be in accordance with the provisions of Article 21, Table 21-4.

Reasons: Expanding the current 18.1-18.3 GHz geostationary meteorological-satellite service (space-to-Earth) allocation to the band 18.0-18.1 GHz by modifying No. 5.519 will provide greater flexibility for the meteorological-satellite service and extend the current criteria (i.e., the limitation to geostationary satellites and the requirement to meet the provisions of Article 21, Table 21-4) to protect existing services.

5.Metsat In the band 18.0-18.1 GHz, earth stations of the meteorological satellite service (space-to-Earth) in Region 1 and 3 shall not claim protection from the broadcasting-satellite service feeder-link earth stations operating under Appendix 30A, nor put any limitations or restrictions on the locations of the broadcasting-satellite service feeder-link earth stations anywhere within the service area of the feeder link.

Reasons: Analysis has shown that under worst case assumptions a maximum separation distance of 40 km would be required between a Metsat receiving station and a BSS feeder-link transmitting station in order to protect the Metsat receiving station. This minimal separation requirement should ensure that operation of a Metsat receive station would be a domestic issue. Nevertheless, this provision would ensure that Metsat receive stations could not affect the APP 30 A Plan.

Allocation to services		
Region 1	Region 2	Region 3
15.4-15.43	AERONAUTICAL RADIONAVIGATION 5.511D	
15.43-15.63	FIXED-SATELLITE (Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION 5.511C	
15.63-15.7	AERONAUTICAL RADIONAVIGATION 5.511D	
15.7-16.6	RADIOLOCATION 5.512 5.513	
16.6-17.1	RADIOLOCATION Space research (deep space) (Earth-to-space) 5.512 5.513	
17.1-17.2	RADIOLOCATION 5.512 5.513	
17.2-17.3	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.512 5.513 5.513A	
17.3-17.7 FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation 5.514	17.3-17.7 FIXED-SATELLITE (Earth-to-space) 5.516 BROADCASTING-SATELLITE Radiolocation 5.514 5.515 5.517	17.3-17.7 FIXED-SATELLITE (Earth-to-space) 5.516 Radiolocation 5.514
17.7-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE ADD 5.519 <u>5.Metsat</u>	17.7-17.8 FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.516 BROADCASTING-SATELLITE Mobile 5.518 5.515 5.517	17.7-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE ADD 5.519 <u>5.Metsat</u>
	17.8-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE ADD 5.519	

18.1-18.4

FIXED

FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B
(Earth-to-space) 5.520

MOBILE

MOD 5.519 5.521

Reasons: Consequential to adding the additional 100 MHz in the band 18.0-18.1 GHz to
No. 5.519. In addition, 5.Metsat ensures that Metsat receive stations cannot affect the
App 30A Plan.

TABLE 5-1 (continued) (Rev. WRC-03Z)

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks
No. 9.7 GSO/GSO (cont.)		3) 17.7-20.2 GHz, (Regions 2 and 3), 17.3-20.2 GHz (Region 1) and 27.5-30 GHz	i) Bandwidth overlap, and ii) any network in the FSS and any associated space operation functions (see No. 1.23) with a space station within an orbital arc of $\pm 8^\circ$ of the nominal orbital position of a proposed network in the FSS		
		4) <u>18.0-18.3 GHz</u>	i) <u>Bandwidth overlap, and</u> ii) <u>any network in the FSS or MetSat service and any associated space operation functions (see No. 1.23) with a space station within an orbital arc of $\pm 8^\circ$ of the nominal orbital position of a proposed network in the FSS or MetSat service</u>		
		<u>5</u> 4) Bands above 17.3 GHz, except those defined in § 3) and 4)	i) Bandwidth overlap, and ii) any network in the FSS and any associated space operation functions (see No. 1.23) with a space station within an orbital arc of $\pm 8^\circ$ of the nominal orbital position of a proposed network in the FSS (see also Resolution 901 (WRC-03))		
		<u>6</u> 5) Bands above 17.3 GHz	i) Bandwidth overlap, and ii) any network in the FSS or BSS, not subject to a Plan, and any associated		

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks
No. 9.7 GSO/GSO (cont.)		76) All frequency bands, other than those in 1), 2), 3), 4), 5) and 65), allocated to a space service, and the bands in 1), 2), 3), 4), 5) and 65) where the radio service of the proposed network or affected networks is other than the space services listed in the threshold/condition column, or in the case of coordination of space stations operating in the opposite direction of transmission	space operation functions (see No. 1.23) with a space station within an orbital arc of $\pm 16^\circ$ of the nominal orbital position of a proposed network in the FSS or BSS, not subject to a Plan, except in the case of a network in the FSS with respect to a network in the FSS (see also Resolution 901 (WRC-03)) i) Bandwidth overlap, and ii) Value of $\Delta T/T$ exceeds 6%	Appendix 8	In application of Article 2A of Appendix 30 for the space operation functions using the guardbands defined in § 3.9 of Annex 5 of Appendix 30, the threshold/condition specified for the FSS in the bands in 2) applies. In application of Article 2A of Appendix 30A for the space operation functions using the guardbands defined in § 3.1 and 4.1 of Annex 3 of Appendix 30A, the threshold/condition specified for the FSS in the bands in 4) applies

Reasons: Consequential modification to the additional allocation to MetSat in the band 18.0-18.1 GHz. ITU studies have shown that extending the $\pm 8^\circ$ coordination arc, currently applicable to FSS networks in this band, to the meteorological-satellite (MetSat) services in this band would reduce the workload of the Bureau in identifying affected administrations and the number of unnecessary coordinations for such systems while maintaining the rights of administrations to be included in requests for coordination involving the MetSat or FSS service in this band.

INFORMAL WORKING GROUP 4 (IWG-4)

Broadcasting and Amateur Issues

Document WAC/083(25.01.06):

DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

Agenda Item 1.6 (Res. 414): *to consider additional allocations for the aeronautical mobile (R) service in parts of the bands between 108 MHz and 6 GHz, in accordance with Resolution 414 (WRC-03) and, to study current satellite frequency allocations, that will support the modernization of civil aviation telecommunication systems, taking into account Resolution 415 (WRC-03);*

Background Information: This proposal considers additional allocations for the aeronautical mobile (R) service (AM(R)S) in parts of the bands between 108 MHz and 6 GHz, in accordance with Resolution 414 (WRC-03).

Existing AM(R)S bands are nearing saturation in high traffic areas. In addition, new applications and concepts in air traffic management put further pressure on existing AM(R)S bands.

Resolution 414 (WRC-03) states that new technologies to support air navigation may not conform to the definition of aeronautical radionavigation in the Radio Regulations. WRC-03 provided a mechanism to implement these new aviation technologies by adding AM(R)S use in the band 108 - 117.975 MHz by footnote 5.197A in accordance with Resolution 413 (WRC-03). One emerging application driving requirements for new AM(R)S spectrum is the integration of command and control for unmanned aircraft (UA) into air traffic services (ATS) airspace. Conversely, AM(R)S spectrum is not appropriate for UA payload data use, such as downlinking information and operational data from the UA.

ITU-R Working Party 8B (WP 8B) and the International Civil Aviation Organization (ICAO) developed a draft operational concept, and technology selection criteria and procedures for new aviation technology. WP 8B and ICAO determined that the new aviation systems require two distinct categories of AM(R)S spectrum. The first category for surface applications could support high data throughput over moderate transmission distances. There is a high degree of reuse of this spectrum. For surface applications, ICAO and WP8B recommended 5 091 - 5 150 MHz as a suitable band. WP 8B is also studying the band 5 091-5 150 MHz under agenda item 1.5 for the purpose of aeronautical mobile telemetry applications.¹

The second category for bidirectional air to ground applications could support a moderate data throughput over longer propagation distances out to radio line-of-sight. These applications require a number of distinct channels to allow for sector-to-sector assignments. For radio line-of-sight applications, ICAO and WP 8B recommended 960 - 1 024 MHz as a suitable band.

¹ Note that frequencies in the band 108-117.975 MHz are not currently being considered by the U.S. for new aviation technology.

Proposal:

USA/ / 1 MOD

890-1 300 MHz

Allocation to services		
Region 1	Region 2	Region 3,
890-942 FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 Radiolocation 5.323	890-902 FIXED MOBILE except aeronautical mobile 5.317A Radiolocation 5.318 5.325	890-942 FIXED MOBILE 5.317A BROADCASTING Radiolocation 5.327
	902-928 FIXED Amateur Mobile except aeronautical mobile 5.325A Radiolocation 5.150 5.325 5.326	
	928-942 FIXED MOBILE except aeronautical mobile 5.317A Radiolocation 5.325	
942-960 FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 5.323	942-960 FIXED MOBILE 5.317A	942-960 FIXED MOBILE 5.317A BROADCASTING 5.320
960-1 164	AERONAUTICAL RADIONAVIGATION 5.328 ADD 5.328[C]	

Reasons: To provide allocations to support evolving AM(R)S applications.

USA/ 12 MOD

4 800-5 570 MHz

Allocation to services		
Region 1	Region 2	Region 3
4 800-4 990	FIXED MOBILE 5.442 Radio astronomy 5.149 5.339 5.443	
4 990-5 000	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive) 5.149	
5 000-5 010	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (Earth-to-space) 5.367	
5 010-5 030	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-space) 5.328B 5.443B 5.367	
5 030-5 150	AERONAUTICAL RADIONAVIGATION 5.367 5.444 5.444A ADD 5.367[A]	

Reasons: To provide allocations to support evolving AM(R)S applications.

USA/ 13 ADD

5.328CThe band 960 - 1 024 MHz may also be used by the aeronautical mobile (R) service on a primary basis, limited to systems operating in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution **AM(R)S 960** and shall not cause harmful interference to nor claim protection from stations operating in the aeronautical radionavigation service operating in accordance with international aeronautical standards.

Reasons: To provide allocations to support evolving AM(R)S applications. Compatibility with regard to existing aeronautical radionavigation service (ARNS) systems will be addressed as a part of standards development for the new AM(R)S system.

USA/ 14 ADD

5.367AThe band 5 091-5 150 MHz may also be used by the aeronautical mobile (R) service on a primary basis, limited to systems operating in accordance with recognized international aeronautical standards.

Reasons: To provide allocations to support evolving AM(R)S applications. Compatibility with regard to existing aeronautical radionavigation service (ARNS) systems will be addressed as a part of standards development for the new AM(R)S system.

USA/ 15 ADD

RESOLUTION AM(R)S 960 (WRC-07)

Use of the band 960-1 024 MHz by aeronautical services

The World Radiocommunication Conference (Geneva, 2007),

considering

- a) the current allocation of the frequency band 960-1 164 MHz to the aeronautical radionavigation service (ARNS);
- b) the use of the band 960 - 1 215 MHz by the aeronautical radionavigation service is reserved on a worldwide basis for the operation and development of airborne electronic aids to air navigation and any directly associated ground-based facilities per No. **5.328**;
- c) that new technologies are being developed to support communications and air navigation, including airborne and ground surveillance applications;
- d) that new applications and concepts in air traffic management which are data intensive are being developed,

recognizing

- a) that precedence must be given to the ARNS operating in the frequency band 960 - 1 164 MHz;
- b) that, in accordance with Annex 10 of the Convention of the International Civil Aviation Organization (ICAO) on international civil aviation, all aeronautical systems must meet standards and recommended practices (SARPs) requirements;
- c) that compatibility criteria between aeronautical mobile (route) service (AM(R)S) systems and the ARNS operating in the frequency band 960-1 024 MHz will be established by ICAO through the development of relevant Standards and Recommended Practices (SARPs) for the communication systems;
- d) that all compatibility issues between AM(R)S systems operating in the 960-1024 MHz band and ARNS systems in that band must be addressed and resolved prior to such AM(R)S systems being placed into use,

noting

that no compatibility criteria currently exist between AM(R)S systems proposed for operations in the frequency band 960 - 1 024 MHz and the existing ARNS aeronautical systems in the band,

resolves

1 that the provisions of this Resolution and of No. 5.328C shall enter into force on [x] November 2007;

2 that any AM(R)S systems planned to operate in the frequency band 960-1 024 MHz shall, as a minimum, have performance standards published in Annex 10 of the ICAO Convention on International Civil Aviation, and that those performance standards will ensure compatibility with ARNS systems operating in accordance with international (ICAO) standards;

3 that any AM(R)S systems operating in the band 960-1 024 MHz shall impose no constraints on the operation and future development of co-band aeronautical radionavigation systems operating in accordance with international (ICAO) standards,

instructs the Secretary-General

to bring this Resolution to the attention of ICAO.

USA/ 16 NOC

RESOLUTION 413 (WRC-03)

Use of the band 108-117.975 MHz by Aeronautical Service

INFORMAL WORKING GROUP 5 (IWG-5)

Regulatory Issues

Document WAC/084(25.01.06):

DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

MODIFICATIONS TO APPENDIX 4

ADVANCE PUBLICATION OF A NON-GEOSTATIONARY-SATELLITE NETWORK NOT SUBJECT TO COORDINATION UNDER SECTION II OF ARTICLE 9

Agenda Item 1.12: 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 (WRC-03);

Background information: Resolution 86 (Rev. Marrakesh, 2002) requested that WRC-03 and subsequent Conferences review the regulatory procedures associated with the advance publication, coordination, notification and recording of frequency assignments pertaining to satellite networks. WRC-03 identified in Resolution 86 (WRC-03) the scope and the criteria to be used for the implementation of Resolution 86 (Rev. Marrakesh, 2002). Resolves 1 of Resolution 86 (WRC-03) specifically states that WRC-07 should "consider any proposals which deal with deficiencies in the advance publication, coordination, notification and recording procedures of the Radio Regulations (RR) for space services which have either been identified by the Board and included in the Rules of Procedure or which have been identified by administrations or by the Bureau as appropriate."

Currently, Appendix 4 makes certain data elements optional for the case of "Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9". These fields include i) the necessary bandwidth; ii) the carrier frequency or frequencies of the emission; iii) the maximum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type; iv) the minimum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type; v) the minimum power density, in dB(W/Hz), supplied to the input of the antenna for each carrier type; and vi) the required C/N ratio. This information is required in order to determine whether unacceptable interference may be caused by the planned satellite network or system and communicate this information to the publishing administration and the Bureau under No. 9.3. To only require this information at the notification stage makes any analysis too late to benefit either administration. While most administrations have been supplying this data as part of the Advance Publication Information (API), there have been instances where the information was not made available. Therefore modifications to Appendix 4 are necessary to allow necessary analysis to take place during API.

Proposal

APPENDIX 4

ANNEX 2 Characteristics of satellite networks, earth stations or radio astronomy stations

USA/ /1 MOD

Table of characteristics to be submitted for space and radio astronomy services
(WRC-0307)

Items in Appendix	<p align="center">C - CHARACTERISTICS TO BE PROVIDED FOR EACH GROUP OF FREQUENCY ASSIGNMENTS FOR A SATELLITE ANTENNA BEAM OR AN EARTH STATION OR RADIO ASTRONOMY ANTENNA</p>	<p align="center">Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9</p>
C.7	<p>NECESSARY BANDWIDTH AND CLASS OF EMISSION (in accordance with Article 2 and Appendix 1)</p>	
C.7.a	<p>the necessary bandwidth and the class of emission: for each carrier In the case of Appendix 30B, required only for notification under Article 8</p>	OX³
C.7.b	<p>the carrier frequency or frequencies of the emission(s)</p>	OX³
C.8	<p>POWER CHARACTERISTICS OF THE TRANSMISSION</p>	
C.8.a	<p>For the case where individual carriers can be identified:</p>	
C.8.a.1	<p>the maximum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type Required if C.8.b.1 is not provided</p>	O_I³
C.8.a.2	<p>the maximum power density, in dB(W/Hz), supplied to the input of the antenna for each carrier type² Required if C.8.b.2 is not provided</p>	+
C.8.b	<p>For the case where it is not appropriate to identify individual carriers:</p>	
C.8.b.1	<p>the total peak envelope power, in dBW, supplied to the input of the antenna For coordination or notification of an Appendix 30A earth station the values shall include the maximum range of power control Required if C.8.a.1 is not provided</p>	O_I³
C.8.b.2	<p>the maximum power density, in dB(W/Hz), supplied to the input of the antenna² For coordination or notification of an Appendix 30A earth station the values shall include the maximum range of power control Required if C.8.a.2 is not provided</p>	+

C.8.c.1	the minimum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type If not provided, the reason for absence under C.8.c.2	$\underline{Q+^3}$
C.8.c.2	if C.8.c.1 is not provided, the reason for absence of the minimum value of the peak envelope power	$\underline{+^3}$
C.8.c.3	the minimum power density, in dB(W/Hz), supplied to the input of the antenna for each carrier type ² If not provided, the reason for absence under C.8.c.4	$\underline{Q+^3}$
C.8.c.4	if C.8.c.3 is not provided, the reason for absence of the minimum power density	$\underline{+^3}$
C.8.e.1	for space-to-Earth, Earth-to-space or space-to-space links, for each carrier type, the greater of either the carrier-to-noise ratio, in dB, required to meet the performance of the link under clear-sky conditions or the carrier-to-noise ratio, in dB, required to meet the short-time objectives of the link inclusive of necessary margins If not provided, the reason for absence under C.8.e.2	$\underline{Q+^3}$
C.8.e.2	if C.8.e.1 is not provided, the reason for absence of the carrier-to-noise ratio	$\underline{+^3}$

³ This item is optional for amateur satellite frequency assignments.

Reasons: In order to allow for meaningful interference analysis to take place for the case of "Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9", make additional technical information mandatory at the API stage.

Document WAC/085(25.01.06):

DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

Agenda Item 7.2 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 802 (WRC-03),

Background Information: In the Preliminary Agenda for WRC-2010, agenda item 2.2 states: "to consider frequency allocations between 275 GHz and 3 000 GHz taking into account the result of ITU-R studies in accordance with Resolution 950 (WRC-03);"

Studies in the ITU-R, most notably WP1A, WP3J, WP3M, WP4A, WP7B, WP7C, WP7D, WP8A, WP9B, have very clearly identified the interest within the active and passive services in using frequencies in the spectral region above 275 GHz. Resolution 950 (WRC-03) has allowed for the submission of details on systems operating in this range into the Master International Frequency Register (MIFR). However, there is no registered use to date by any of the active services. On the other hand, the radio astronomy, Earth exploration-satellite (passive) and the space research (passive) services all make extensive use of this spectral region. Within the radio astronomy service, several administrations have already made significant infrastructure investments in radio astronomy sites around the world. This extensive use of this spectral region by the passive services along with the lack of use of the same by the various active services indicates that the general consideration of frequency allocations between 275 and 3000 GHz is premature and such consideration would likely take up a great deal of resources in preparing for

the 2010 Conference. As an alternative, reviewing and revising No. 5.565 would be desirable while at the same time require far less preparation by administrations for the 2010 Conference.

Proposal:

USA/ /1 MOD

RESOLUTION 803 (WRC-0307)

~~Preliminary~~ Agenda for the 2010 World Radiocommunication Conference

The World Radiocommunication Conference (Geneva, 2003),

USA/ /2 SUP

~~2.2 to consider frequency allocations between 275 GHz and 3 000 GHz taking into account the result of ITU-R studies in accordance with Resolution 950 (WRC-03);~~

USA/ /3 ADD

2.X to review and revise No. 5.565 with a view to updating the list of frequencies for passive services in the spectral region from 275 – 3000 GHz, taking into account the results of ITU-R studies in accordance with Resolution 950.

Reasons: The extensive use of this spectral region by the passive services along with the lack of use of the same by the various active services indicates that the general consideration of frequency allocations between 275 and 3000 GHz is premature and such consideration would likely take up a great deal of resources in preparing for the 2010 Conference. As an alternative, reviewing and revising No. 5.565 would be desirable while at the same time require far less preparation by administrations for the 2010 Conference.

USA/ /4 MOD

RESOLUTION 950 (WRC-0307)

**Consideration of the use of the frequencies
between 275 and 3000 GHz**

The World Radiocommunication Conference (Geneva, 2003),

considering

- a) that, in the Table of Frequency Allocations, frequency bands above 275 GHz are not allocated;
- b) that, notwithstanding *considering a)*, No. 5.565 makes provision for the use of the frequency band 275-1 000 GHz for the experimentation with, and development of various passive services and all other services and recognizes the need to conduct further ~~experimentation and research;~~

- c) that No. 5.565 also makes provision for the protection of passive services until, and if, such time as the Table of Frequency Allocations may be extended;
- d) that, in addition to the spectral lines identified by No. 5.565, research activities in the bands above 275 GHz may yield other spectral lines of interest, such as those listed in Recommendation ITU-R RA.314;
- e) that within various Radiocommunication Study Groups, studies on systems between 275 and 3 000 GHz, including system characteristics of suitable applications, are being considered;
- f) that the present use of the bands between 275 and 3 000 GHz is mainly related to the passive services, however, with anticipated technology development, the bands may become increasingly important for suitable active service applications;
- g) that sharing studies in ITU-R among passive services and all other services operating in frequencies between 275 and 3 000 GHz have not been completed,

recognizing

- a) that propagation characteristics at frequencies above 275 GHz, such as atmospheric absorption and scattering, have a significant impact on the performance of both active and passive systems and need to be studied;
- b) that it is necessary to investigate further the potential uses of the bands between 275 and 3 000 GHz by suitable applications,

noting

- a) that significant infrastructure investments are being made under international collaboration for the use of these bands between 275 and 3 000 GHz, for example, the Atacama Large Millimetre Array (ALMA), a facility under construction that will provide new insights on the structure of the universe;
- b) that Radiocommunication Bureau Circular Letter CR/137 identified additional information for the Bureau to record characteristics of active and passive sensors for Earth exploration-satellite service and space research service satellites, in frequency bands below 275 GHz,

further noting

- a) that a process and format similar to that provided in *noting b)* could be used to record systems operating in the 275 to 3 000 GHz band;
- b) that recording active and passive systems operating in the 275 to 3 000 GHz band will provide information until the date when, and if, it is determined that changes to the Radio Regulations are needed,

resolves

- 1 — to consider at WRC-10 frequency allocations between 275 GHz and 3 000 GHz taking into account the result of the ITU-R studies;

2 that administrations may submit for inclusion in the Master International Frequency Register details on systems which operate between 275 and 3 000 GHz and which may be recorded by the Radiocommunication Bureau under Nos. 8.4, 11.8 and 11.12,

invites ITU-R

to conduct the necessary studies in time for consideration by WRC-10 with a view to the modification of No. 5.565 or the possible extension of the Table of Frequency Allocations above 275 GHz, including advice on the applications suitable for such bands,

instructs the Director of the Radiocommunication Bureau

to accept submissions referred to in *resolves-2*, and to record them in the Master International Frequency Register.

Draft Preliminary Views and Proposals*
for the
2007
World Radiocommunication Conference
developed by the
Executive Branch Agencies
and provided by the
National Telecommunications and
Information Administration (NTIA)

* These draft preliminary views and proposals are being reviewed by the Informal Working Groups of the Advisory Committee, and a number of them have received recommendations for changes as set forth in the in the previous section of this public notice.

II. Draft Proposals on WRC-07 Agenda Items received from the National Telecommunications and Information Administration (NTIA):

Document WAC/075(25.01.06):

DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

Agenda Item 1.2 (Res 746): to consider allocations and regulatory issues related to the Earth exploration-satellite (passive) service, space research (passive) service and the meteorological satellite service in accordance with Resolutions **746 (WRC-03)** and **742 (WRC-03)**;

Background Information: This proposal addresses *resolves 1* of Resolutions **746 (WRC-03)**, "to invite ITU-R to conduct sharing analyses between geostationary meteorological satellites operating in the space-to-Earth direction and the fixed, fixed-satellite and mobile services in the band 18.0-18.4 GHz to define appropriate sharing criteria with a view to extending the current 18.1-18.3 GHz geostationary meteorological satellite allocation in the space-to-Earth direction to 300 MHz of contiguous spectrum." Presently the meteorological-satellite (MetSat) service (space-to-Earth), limited to the geostationary-satellite orbit (GSO), is allocated by footnote **5.519** in the band 18.1-18.3 GHz. The band is allocated on a primary basis to the fixed-satellite service (FSS), the fixed service and the mobile service in all three Regions and these allocations also exist for these same services in the band 17.8-18.1 GHz in all Regions. In both bands, the FSS is allocated in both the space-to-Earth and Earth-to-space directions. Additionally, in the 18.1-18.4 GHz band, the FSS (space-to-Earth) allocation has associated with it Nos. **5.484A** and **5.516B**. The first provision applies to non-Geostationary FSS satellite systems. The latter provision states that the band 18.3-19.3 GHz has been identified for use by high-density applications in the FSS in Region 2.

WP-7B has been the lead ITU-R group concerned with analyzing the sharing potential with other services in the band and it has exchanged several Liaison Statements with WP-4A. As a consequence of the information provided by WP-4A, those involved in the design of the next generation GSO meteorological satellites have optimized the design to maximize the level of homogeneity between FSS and Metsat systems. It is envisioned that this would maximize compatibility and facilitate coordination under No. **9.7** for operation of both types of systems in the space-to-Earth direction.

In accordance with No. **5.516** the band 18.0-18.1 GHz in the Earth-to-space direction is used for feeder links for the broadcasting-satellite service. Compatibility studies have been performed to estimate the typical required separation distances in reverse band sharing situations between receiving MetSat earth stations and transmitting BSS feeder uplink stations. In the worst case, it has been determined that around 40 km separation is required. Therefore it is expected that with some care in situating the limited number of MetSat receive stations international coordination would rarely be required under No. **9.17A**.

While the expected design of the GSO MetSat satellite networks envisioned for operation in the 300 MHz wide band appears to be generally compatible with FSS systems being implemented, it would appear that, for Region 2, operating MetSat systems below 18.3 GHz would avoid several potential difficulties. Given the desire to have a common MetSat allocation in all three Regions, it is proposed

to expand the additional allocation in No. 5.519 from 18.1-18.3 GHz to 18.0-18.3 GHz, including the limitation to geostationary satellites and the requirement to meet the provisions of Article 21, Table 21-4.

In addition, ITU-R studies have shown that, in conjunction with extending the MetSat allocation, extending the existing FSS coordination arc principle in this band to the case of MetSat systems coordinating with FSS networks has the potential to reduce the workload of the Bureau in identifying affected administrations and fulfils the purposes envisioned by Resolution 901 (WRC-03). As such, a consequential modification to Table 5-1 of Appendix 5 to include this change is also proposed. It is noted that as with the current No. 9.7, an administration may request, pursuant to No. 9.41, to be included in requests for coordination involving the MetSat or FSS service in this band, 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%.

Proposal:

ARTICLE 5

Frequency allocations

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

USA/ / 1 MOD

5.519 *Additional allocation:* the band 18.0-18.3 GHz is also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Its use is limited to geostationary satellites and shall be in accordance with the provisions of Article 21, Table 21-4.

Reasons: Expanding the current 18.1-18.3 GHz geostationary meteorological-satellite service (space-to-Earth) allocation to the band 18.0-18.1 GHz by modifying No. 5.519 will provide greater flexibility for the meteorological-satellite service and extend the current criteria (i.e., the limitation to geostationary satellites and the requirement to meet the provisions of Article 21, Table 21-4) to protect existing services.

USA/ / 2 MOD

15.4-18.4 GHz

Allocation to services		
Region 1	Region 2	Region 3
.....	17.8-18.40 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	

18.10-18.4

FIXED

**FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B
(Earth-to-space) 5.520**

MOBILE

MOD 5.519 5.521

Reasons: Consequential changes due to the modification of No. **5.519**.

APPENDIX 5 (REV.WRC-03)

Identification of administrations with which coordination is to be effected or agreement sought under the provisions of Article 9

TABLE 5-1 (REV.WRC-03)

**Technical conditions for coordination
(see Article 9)**

TABLE 5-1 (CONTINUED) (REV.WRC-03)

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks
No. 9.7 GSO/GSO (cont.)		3) 17.7-20.2 GHz, (Regions 2 and 3), 17.3-20.2 GHz (Region 1) and 27.5-30 GHz	i) Bandwidth overlap, and ii) any network in the FSS and <u>or MetSat service</u> any associated space operation functions (see No. 1.23) with a space station within an orbital arc of $\pm 8^\circ$ of the nominal orbital position of a proposed network in the FSS <u>or MetSat service</u>		

Reasons: Consequential modification to the additional allocation to MetSat in the band 18.0-18.1 GHz. ITU studies have shown that extending the $\pm 8^\circ$ coordination arc, currently applicable to FSS networks in this band, to the meteorological-satellite (MetSat) services in this band would reduce the workload of the Bureau in identifying affected administrations and the number of unnecessary coordinations for such systems while maintaining the rights of administrations to be included in requests for coordination involving the MetSat or FSS service in this band.

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.3: in accordance with Resolution 747 (WRC-03), consider upgrading the radiolocation service to primary allocation status in the bands 9 000 - 9 200 MHz and 9 300 - 9 500 MHz, and extending by up to 200 MHz the existing primary allocations to the Earth exploration-satellite service (active) and the space research service (active) in the band 9 500 - 9 800 without placing undue constraint on the services to which the bands are allocated.

Background Information: The proposal addresses the upgrade of radiolocation service in the band 9 000-9 200 MHz and 9 300-9 500 MHz. As identified in Resolution 747 (WRC-03), there is a need to provide contiguous primary spectrum around the 9 GHz band in order for existing and planned radiolocation systems to satisfy their required missions. Changes in technology and emerging requirements for increased image resolution and increased range accuracy necessitate wider contiguous emission bandwidths. Therefore, there is a need to upgrade the status of frequency allocations to the radiolocation service in the frequency range 9 000 - 9 200 MHz and 9 300 - 9 500 MHz.

The bands 9 000 - 9 200 MHz and 9 300 - 9 500 MHz are allocated on a primary basis to aeronautical radionavigation and radionavigation, respectively. The Radio Regulation No. 4.10 recognizes radionavigation as a safety service. The radiolocation services and the radionavigation service have demonstrated compatible operations over many years through the use of similar system characteristics such as low-duty cycle emissions, scanning beams and interference reduction techniques. For example, past operational experience in the 2 900-3 100 MHz band as found in Report ITU-R M.2032 "Tests illustrating the compatibility between maritime radionavigation radars and emissions from radiolocation radars in the band 2 900 - 3 100 MHz" confirms that it is possible to mitigate interference from radiolocation radars to maritime radionavigation radars in the band.

Some studies have been completed within ITU-R WP 8B that characterize the technical performance and protection criteria of radiolocation and radionavigation systems that ensure compatible operations in the bands 9 000 - 9 200 MHz and 9 300 - 9 500 MHz. Recommendation ITU-R M.1313 contains the technical characteristics and protection criteria for maritime radars in the band 9 300 - 9 500 MHz and that Recommendation ITU-R M.1372 identifies interference reduction techniques which enhance compatibility among radar systems.

The ITU-R studies that have been completed so far, such as on maritime radionavigation radars and emissions from radiolocation radars in the band 9 200 - 9 500 MHz illustrate compatibility between the two services in this band and are an indicator of how the sharing would be with other radionavigation systems. These studies indicate that typical maritime radionavigation radars can suppress emissions from other radars, even when the maritime radars receive interference with very high interference-to-noise (I/N) ratios if the unwanted pulsed waveform is asynchronous and has a low effective duty cycle. These study results support the successful historical sharing experience between the two services in the 9 200-9 500 MHz band. As most maritime radars in the 9 000 - 9 500 MHz bands are very similar in design and operation, one