

ATTACHMENT B
to FCC Public Notice DA 15-604

**Draft Proposals formulated and approved within the National Telecommunications and
Information Administration:**

WAC/105(20.05.15)

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

Dear Ms. De La Torre:

The National Telecommunications and Information Administration (NTIA) on behalf of the Executive Branch agencies, approves the release of the draft Executive Branch proposal for WRC-15 which address agenda items 1.1 mobile broadband in the bands (1300-1390 MHz), (2700-2900 MHz), and (4 GHz), 7 (Issue D-modern electronic means of communications), 9.2 (Inconsistencies in RR Application), and 10 (Future Conference Agenda Item). NTIA proposes no change to agenda item 1.1 in the bands (1300-1390 MHz), (2700-2900 MHz), and (4 GHz). NTIA proposes modifications to Resolutions 907 and 908 under agenda item 7. Under agenda item 9.2, NTIA proposes modification to Article 4. Under agenda item 10 this future conference agenda item for WRC-21 proposes to provide recognition and protection to space weather sensors in the Radio Regulations.

NTIA considered the federal agencies' input toward the development of U.S. proposals for WRC-15. NTIA forwards this package for your consideration and review by your WRC-15 Advisory Committee. Mr. Charles Glass is the primary contact from my staff.

Sincerely,

(Original Signed January 22, 2015)

Paige R. Atkins
Acting Associate Administrator
Office of Spectrum Management

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.1: *to consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution 233 (WRC-12)*

Background Information: The 2012 World Radiocommunication Conference (WRC-12) recognized a need for additional radio spectrum to support the increasing mobile data traffic, and placed consideration of additional spectrum allocations for terrestrial mobile broadband applications on the agenda for WRC-15. The ITU established the Joint Task Group (JTG) 4-5-6-7 to consider spectrum requirements for IMT/mobile broadband and conduct compatibility studies taking into account protection requirements of other services from concerned ITU-R Working Parties.

JTG 4-5-6-7 conducted studies on the compatibility between IMT systems and the radars that operate in the 1 300-1 400 MHz range and all studies show that co-frequency, co-coverage sharing between radars, and IMT systems is not feasible. These studies are contained in the JTG 4-5-6-7 Chairman's Report (Annex 25). Additionally, the studies show that global harmonization of this band for IMT use may not be feasible and that any possible use of portions of this frequency range for IMT is possible only at the national or local level. Therefore, any WRC-15 action on this range for IMT identification is unwarranted. Moreover, there is no technical analysis that would support global use of the band for IMT and the suggested mitigation techniques that might allow compatible operations at the local or national level have not been determined to be practical by the expert working parties of the ITU-R.

In Region 1 and the United States, the frequency range 1 350-1 400 MHz (1 350-1 390 MHz in the United States) has a primary mobile service (MS) allocation. The JTG did not conduct sharing studies between IMT and other MS systems operating in the band. Therefore, no technical basis exists to assess the compatibility between these differing MS applications. Given the importance of these MS operations in the United States, including critical aeronautical mobile telemetry (AMT) operations, and the lack of studies in the ITU-R on compatibility between the differing MS uses of the band, the United States cannot support identification for IMT use in the 1 300-1 400 MHz frequency range.

Given the results of the JTG studies and the adverse effects on incumbent service operations that would be adversely affected by IMT use of the band, the United States proposes no change to the ITU Radio Regulations regarding IMT for the 1 300-1 400 MHz band.

Proposals:

NOC

USA/1.1/1

ARTICLE 5

Frequency allocations

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

1 300-1 400 MHz

Allocation to services		
Region 1	Region 2	Region 3
1 300-1 350	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.337 RADIONAVIGATION-SATELLITE (Earth-to-space) 5.149 5.337A	
1 350-1 400 FIXED MOBILE RADIOLOCATION 5.149 5.338 5.338A 5.339	1 350-1 400 RADIOLOCATION 5.338A 5.149 5.334 5.339	

Reasons: JTG studies show that sharing on a global scale between IMT and incumbent radiolocation systems is not feasible. The JTG did not conduct studies on the compatibility between IMT and other mobile service applications. Thus, there is no technical basis on which to make a determination regarding compatibility between IMT and other MS applications in the band.

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

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Background Information: The 2012 World Radiocommunication Conference (WRC-12) recognized a need for additional radio spectrum to support the increasing mobile data traffic, and placed consideration of additional spectrum allocations for terrestrial mobile broadband applications on the agenda for WRC-15. The ITU established the Joint Task Group (JTG) 4-5-6-7 to consider spectrum requirements for IMT/mobile broadband and conduct compatibility studies taking into account protection requirements of other services from concerned ITU-R Working Parties.

JTG 4-5-6-7 conducted compatibility studies between IMT and incumbent radar systems operating in the 2 700-2 900 MHz frequency band. All these studies show co-frequency, co-coverage sharing is not feasible between radars and IMT systems. Adjacent-frequency sharing could be possible, but only after applying modifications to both the IMT systems and existing radar systems; imposing geographic separations between IMT and radar systems; and instituting a spectrum guard band between the IMT frequencies and radar frequencies. The guard band size is dependent on the assumed IMT/radar modifications and the imposed geographic separations. These studies are contained in the JTG 4-5-6-7 Chairman's Report (Annex 30). Based on the JTG 4-5-6-7 compatibility studies, global harmonization of the 2 700-2 900 MHz frequency band for IMT use is not feasible, and any possible IMT use in portions of this frequency band would be only at the national or local level, after coordination with neighboring countries (i.e., those within 700 km) to ensure protection of their radar use.

In the United States, the frequency band 2 700-2 900 MHz is extensively used for air traffic control (ATC), weather, and defense radar systems. The ATC and weather applications are safety of flight and deserving of the additional protections offered by Radio Regulations No. 4.10. Domestic studies determined incumbent radar systems utilize the full 2 700-2 900 MHz frequency band, and re-planning those radar systems into a smaller portion of the band to open spectrum for IMT is not possible. As a result, the United States cannot accommodate the necessary adjacent-frequency sharing conditions, including the required guard band, to support IMT implementation in this frequency band.

Given the JTG and domestic sharing study results between incumbent radar systems and IMT, and the incumbent radar spectrum requirements, the United States proposes no change to the ITU Radio Regulations regarding mobile service allocations and/or IMT identification for the 2 700-2 900 MHz frequency band.

Proposals:

NOC

USA/1.1/1

ARTICLE 5

Frequency allocations

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

2 700-2 900 MHz

Allocation to services		
Region 1	Region 2	Region 3
2 700-2 900	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423 5.424	

Reasons: JTG studies show that sharing on a global scale between IMT and incumbent radar systems is not feasible, and domestic studies show that the United States fully utilizes the frequency band for incumbent radar systems.

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.1: *to consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution 233 (WRC-12)*

Background Information: The 2012 World Radiocommunication Conference (WRC-12) recognized a need for additional radio spectrum to support the increasing mobile data traffic, and placed consideration of additional spectrum allocations for terrestrial mobile broadband applications on the agenda for WRC-15. The ITU established the Joint Task Group (JTG) 4-5-6-7 to consider spectrum requirements for IMT/mobile broadband and conduct compatibility studies taking into account protection requirements of other services from concerned ITU-R Working Parties.

JTG 4-5-6-7 conducted compatibility studies between IMT and fixed service (FS) and mobile service (MS) systems operating in the 4 400-4 990 MHz frequency range. The JTG 4-5-6-7 Chairman's Report contains the studies between IMT systems and the FS in Annex 18, and studies between IMT systems and the MS in Annex 33. Study Group 5 (SG 5) approved the IMT-FS sharing studies at its November 10-11, 2014 meeting. The JTG did not agree to the IMT-MS sharing studies; consequently, SG 5 did not consider the IMT-MS sharing studies.

The JTG studies generally show significant or extreme (hundreds of kilometers) separation distances between IMT stations and both FS and MS stations. These studies determined co-frequency, co-coverage sharing is difficult or infeasible between FS or MS systems and IMT. The IMT-MS sharing studies show extreme separation distance requirements, including distances exceeding 500 km. Moreover, the JTG did not agree on the underlying premise of the MS-IMT studies for the 4 400-4 500 and 4 800-4 990 MHz bands and that incumbent systems would have to vacate portions of the frequency range to allow use by IMT applications. The JTG studies noted this would result in loss of spectrum for the incumbent services. The United States believes this would negatively affect operations and future planning of the incumbent FS and MS uses in the 4 400-4 990 MHz frequency range.

Given the results of the JTG studies, and the adverse effects on the incumbent services' operations by IMT use of the bands, the United States proposes no changes to the ITU Radio Regulations for the contiguous 4 400-4 990 MHz frequency range for all three regions.¹

¹ *Editor's Note:* The United States intends to broaden the existing Inter-American Telecommunications Commission (CITEL) Inter-American Proposal (IAP) IAP/1.1/9 in Document 3694-1 to encompass the entire 4400-4990 MHz frequency range. If the U.S. cannot gain additional signatories for the broader proposal, this proposal enables the U.S. to sign onto the IAP supporting no change to the 4500-4800 MHz range and create two additional no change proposals covering the 4400-4500 MHz and 4800-4990 MHz frequency bands.

Proposals:

NOC

USA/1.1/1

ARTICLE 5

Frequency allocations

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

2 700-4 800 MHz

Allocation to services		
Region 1	Region 2	Region 3
4 400-4 500	FIXED MOBILE 5.440A	
4 500-4 800	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE 5.440A	

4 800-5 570 MHz

Allocation to services		
Region 1	Region 2	Region 3
4 800-4 990	FIXED MOBILE 5.440A 5.442 Radio astronomy 5.149 5.339 5.443	

Reasons: JTG studies show co-frequency, co-coverage sharing between IMT and incumbent fixed and mobile service systems is not feasible in the 4 400-4 990 MHz frequency range without disrupting current and planned incumbent operations in the frequency range.

UNITED STATES OF AMERICA

PROPOSALS FOR THE WORK OF THE CONFERENCE

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) to facilitate rational, efficient, and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit*

Issue D: General use of modern electronic means of communications in coordination and notification procedures

Background Information: Business efficiencies can be achieved by using modern electronic means compared to older technologies, and that there are advantages to using a generic reference to modern electronic means instead of naming specific technologies, e.g., “telegram”, “telex”, and “fax” in regulatory text.

Resolution **907 (WRC-12)** is directly related to this issue and the United States proposes to amend it to ensure that, wherever the words “telegram”, “telex” or “fax” are inserted in provisions related to coordination and notification procedures of satellite networks (including Radio Regulations Appendices **30, 30A, 30B** and relevant Resolutions), modern electronic means can be used instead. The BR would also continue to be tasked to implement the resolves part and to report to administrations on such an implementation. The proposed modifications to Res **907 (WRC-12)** preserve the rights of administrations to use traditional means of communications.

Similarly, Res **908 (WRC-12)** deals with electronic submission and publication of advance publication of information. The BR’s SpaceWISC application fulfills the mandate of this Resolution (see Circular Letter CR/376). Building upon this, the United States proposes to expand the scope of this Resolution to all kind of satellite network filings and to request the BR to analyze whether it is possible to have a single consolidated interface for both the submission of satellite network filings and the related correspondence (correspondence between the BR and the notifying administration, comments submitted following the publication of the special section, correspondence between administrations about the special section, etc.).

These proposals are aligned with the single method proposed in the CPM text for WRC-15 agenda item 7, Issue D.

Proposals:

MOD USA/7/1

RESOLUTION 907 (WRC-~~12~~15)

Use of modern electronic means of communication for administrative correspondence related to advance publication, coordination and notification of satellite networks including that related to Appendices 30, 30A and 30B, earth stations and radio astronomy stations

The World Radiocommunication Conference (Geneva, 20~~12~~15),

considering

that the use of electronic means of communication for administrative correspondence related to advance publication, coordination and notification of satellite networks, earth stations and radio astronomy stations would facilitate the tasks of the Radiocommunication Bureau and of administrations and has the potential to improve the coordination and notification process by reducing the amount of duplicated correspondence,

noting

that Decision 5 (Rev. ~~Guadalajara~~Busan, ~~2014~~2014) includes, in its Annex 2, paragraph ~~2829~~2829, which proposes to “Discontinue to the greatest extent possible communications by fax and traditional postal mail between the Union and Member States and replace it with modern electronic communication methodsmove, to the extent practicable, from present communications by fax between the Union and Member States to modern electronic communication methods”,

recognizing

that administrations could use the time freed by a reduction of administrative correspondence to effect coordination,

resolves

1 that modern electronic means of communication shall be used whenever possible in the administrative correspondence between administrations and the Radiocommunication Bureau related to advance publication, coordination and notification, including correspondence related to Appendices **30**, **30A**, and **30B** and relevant Resolutions, ~~where applicable, to due diligence~~ for satellite networks, earth stations and radio astronomy stations;

2 that, wherever the words “telegram”, “telex” or “fax” are inserted in provisions related to advance publication, coordination and notification of satellite networks, earth stations and radio astronomy stations, including the provisions contained in Appendices 30, 30A, 30B and relevant Resolutions, modern electronic means shall be used instead, whenever possible;

23 that other, traditional means of communication can continue to be used if modern electronic means are not available,

instructs the Radiocommunication Bureau

1 to provide administrations with the necessary technical means to ensure that the modern electronic correspondence between administrations and the Radiocommunication Bureau is secure;

- 2 to inform administrations of the availability of such means and of the associated schedule of implementation;
- 3 to automatically acknowledge receipt of all electronic correspondence;
- 4 to report to the next world radiocommunication conference on the experience gained in the application of this Resolution, with a view to making any necessary consequential amendments to the Radio Regulations,

urges administrations

to use, to the extent possible, modern electronic means of communication in the administrative correspondence between themselves related to advance publication, coordination and notification of satellite networks, including that related to Appendices **30**, **30A** and **30B**, and to earth stations and radio astronomy stations, recognizing that other means of communication may still be used if necessary (see also *resolves 23*).

Reasons: To specifically address replacement of the words “telegram”, “telex”, and “fax” with the generic phrase modern electronic means.

MOD USA/7/2

RESOLUTION 908 (WRC-~~12~~15)

Electronic submission and publication of advance publication information satellite network filings

The World Radiocommunication Conference (Geneva, 20~~12~~15),

considering

- a) that the volume of advance publication information (API), coordination requests (CR/C), notification, application of Appendices 30, 30A and 30B on for satellite networks or systems subject to the coordination procedure under Section II of Article 9 of the Radio Regulations has been steadily increasing in recent years;
- b) ~~that this increasing trend may be due in part to the fact that there is no cost-recovery fee for these APIs;~~
- c) ~~that the Bureau has also observed that many of the APIs are not followed by a coordination request within the period of 24 months prescribed under No. 9.5D;~~
- d) that a significant amount of effort is therefore required to update/maintain the relevant databases by deleting either in total or partially the obsolete APIs;

considering further

- a) that a paperless electronic approach for the submission of APIs on satellite networks filings would make API this information readily accessible to all, and would limit the workload for administrations and the Bureau in the processing of APIs for satellite networks or systems subject to coordination these filings;
- b) ~~that, at the end of 24-month period prescribed in No. 9.5D, the entries will automatically be removed from the list;~~
- c) ~~that coordination requests that are submitted within the 24-month period, together with relevant API information (date of receipt, nominal orbital position), will then be processed and entered in the SNS database in the normal way;~~

noting

- ~~a) that the API requested under Section IB of Article 9 of the Radio Regulations contains only a limited amount of information, the most pertinent being the date of receipt of complete information, the frequency bands and, for GSO networks, the orbital position;~~
- ~~b) that the current API publication will continue to apply to the advance publication of information on satellite networks or systems which are not subject to coordination procedures under Section II of Article 9;~~
- a) that, through Circular Letter CR/363376, the Bureau informed administrations that implemented a web-based application (SpaceWISC), as of 1 March 2015, was developed for the submission and publication of API notices for satellite networks or systems subject to coordination and for the administrations' comments under No. 9.5B;
- b) that, through Circular Letter CR/360, the Bureau informed administrations that a web-based on-line distribution of the International Frequency Information Circular BR IFIC (Space services) on DVD-ROM in ISO format was developed, allowing the data to be available without delay on the BR IFIC publication date and administrations to get a secure local reproduction of the BR IFIC (Space services) DVD-ROM.

resolves

~~that administrations shall submit API all satellite network filings, under Articles 9 and 11 as well as Appendices 30, 30A, 30B and relevant Resolutions, using a secure paperless electronic approach upon being advised that the means for such an electronic submission of API a satellite network filing for satellite networks or systems subject to coordination has been implemented and upon receiving assurances that such means are indeed secure,~~

instructs the Director of the Radiocommunication Bureau

- 1 to implement a secure paperless electronic approach for the electronic submission and publication of API satellite network filings for satellite networks or systems subject to coordination, taking into account the conditions mentioned in the resolves of this resolution;
- 2 to study and implement, as appropriate, a consolidated approach for both the electronic submission of satellite network filings and their related correspondence.

Reasons: To 'extend' Res 908 (WRC-12) from the successfully implemented secure paperless electronic approach for submission and publication of APIs (SpaceWISC) to all satellite network filings.

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 9: *to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the Convention:*

9.2 *on any difficulties or inconsistencies encountered in the application of the Radio Regulations;*

Issue: CLARIFICATION IN THE RADIO REGULATIONS OF THE USE OF THE SPACE RESEARCH SERVICE (DEEP SPACE)

Background Information: During the preparations for WRC-12 Agenda item 1.25 and WRC-15 Agenda item 1.9.1, there were discussions of the protection of near-Earth operation of deep space missions that produced a misunderstanding of whether those near-Earth operations of deep space missions should be protected in the same manner as for transmissions/receptions in the deep space region. In examining the wording of RR Nos. **5.460** and **5.465**, which apply to the 7 145-7 235 MHz and 8 400-8 500 MHz space research allocations, it was concluded that there may be an interpretation of these footnotes which are physically impossible to comply with and lead to constraints on the use of frequencies that are not compatible with the design of a spacecraft meant for deep space operations. To resolve the issue, it was proposed that the definition of the space research service in Article **1** should be modified to indicate that a deep space station may use an SRS deep space allocation when it has to operate in the region of space between the Earth and deep space (i.e. near Earth region) during launch and early orbit phases, Earth flybys, or when returning to Earth. Consequential modifications to RR footnotes **5.460** and **5.465** were also suggested. These views were transmitted to the Special Committee for consideration and to the Director, BR for possible inclusion in his Report to the WRC under Agenda Item 9.2.

The Special Committee (SC) noted that there were other footnotes than just **5.460** and **5.465** in Article **5** that were designated for deep space and there should be further study of those footnotes. The SC concluded that Article **1** was not in its mandate and referred this issue to CPM-15 under Agenda Item 9.2. The United States has examined all the deep space allocations in Article **5** (both footnote and Table allocations) and concluded that none of those provisions need to be modified if a provision is added in Article **4** to describe the use of deep space SRS allocations when spacecraft operate near the Earth. Consequently, that is what is proposed herein.

It is noted that the United States has a companion proposal under Agenda Item 1.11 to modify footnote **5.460** that is consistent with this proposal and provides further clarity. Depending on the results under that agenda item, No. **5.460** may need some consequential edits consistent with this proposal.

Proposals:

MOD

ARTICLE 4

Assignment and use of frequencies

ADD

4.xx Space research service allocations with a “deep space” designation are restricted for use by space networks that principally operate in or to the deep space region. Such space networks are also authorized to use these allocations during launch and near-Earth operational phases.

Reasons: To clarify that space research service allocations designated for deep space use may also be used to support near-Earth operational phases such as during launch, early orbit, Earth flyby and sample return.

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 10: *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: Prediction and detection of disruptive geomagnetic storms and other space perturbations (hereinafter “space weather”) are critical to many economic and infrastructure areas, globally. Some of the larger vulnerable economic areas are satellite operations, air transport and electric power distribution. Failure to detect and predict disruptive conditions could result in loss of life and property as well severe impact to the economy. This is not intended to imply in any way that these operations are part of a safety service; rather that these space weather observations are critical to many aspects of national economies and the world population.

The motivating factor behind this proposal is the concern that space weather sensor technology has been developed and operational systems have been deployed without much regard for domestic or international spectrum regulations, or for the potential need for protection from interference. Systems of importance to national economies and the safety of the world population should have some level of recognition and protection in the international Radio Regulations.

It was recognized that obtaining protection from harmful interference to these systems after the fact may be challenging, at best. Given their importance, exploring the options for protection without placing additional restrictions on incumbent services has merit. Study Group 7 has agreed to a Question at its October 2014 meeting to study the technical and operational characteristics and spectrum requirements of space weather detection systems. The Question also calls for the study to determine the most appropriate service or designation for space weather sensors.

Proposal:

MOD USA/10/1

RESOLUTION [PRELIM WRC-21 AGENDA]

Agenda for the ~~2018-2021~~ World Radiocommunication Conference

The World Radiocommunication Conference (Geneva, 2015),

ADD USA/10/2

X.X in accordance with Resolution AAA, to review the results of studies relating to the technical and operational characteristics, spectrum requirements and appropriate radio service designations for space weather sensors with a view to providing appropriate recognition and protection in the Radio Regulations without placing additional constraints on incumbent services.

Reasons: To provide recognition and protection of space weather sensors in the Radio Regulations.

ADD USA/10/3

RESOLUTION AAA (WRC-15)

Spectrum Requirements and Protection of Space Weather Sensors

The World Radiocommunication Conference (Geneva, 2015),

considering

- a) that space weather observations are becoming increasingly important in detecting solar activity events that could impact services critical to the economy, safety and security of administrations;
- b) that these observations are made from platforms that may be ground based, airborne, or space-based;
- c) that some of the sensors operate by receiving low level natural emissions of the Sun or the Earth's atmosphere, and therefore may suffer harmful interference at levels which could be tolerated by other radio systems,

recognizing

- a) that no frequency bands have been allocated or documented in any manner in the Radio Regulations for space weather sensor applications;
- b) that the ITU-R has a Study Question in force (7/102) to study the technical and operational characteristics, frequency requirements, and appropriate radio service designation for space weather sensors;
- c) that any regulatory action should take into account incumbent services that are already operating in the frequency bands of interest,

resolves

that, taking into account the results of ITU-R studies and without placing additional constraints on incumbent services, WRC-21 consider regulatory provisions necessary to provide protection to space weather sensors operating in the appropriately designated radio service that is to be determined during ITU-R studies,

invites the ITU-R

- 1 to document the technical and operational characteristics of space weather sensors;
- 2 to determine the appropriate radio service designations for space weather sensors;
- 3 to conduct any necessary sharing studies for incumbent systems operating in frequency bands used by space weather sensors, with the objective of determining regulatory protection that can be provided while not placing additional constraints on incumbents services,

invites administrations

to participate actively in the studies and provide the technical and operational characteristics of the systems involved by submitting contributions to the ITU-R,

instructs the Secretary General

to bring this resolution to the attention of the World Meteorological Organization (WMO), Space Frequency Coordination Group (SFCG) and other international and regional organizations concerned.

Reasons: A resolution will support the ITU-R studies needed under the relevant WRC-21 agenda item.

ATTACHMENT

PROPOSAL FOR ADDITIONAL PRELIMINARY AGENDA ITEM STUDYING TECHNICAL AND OPERATIONAL CHARACTERISTICS, SPECTRUM REQUIREMENTS AND PROTECTION OF SPACE WEATHER SENSORS

Subject: Proposed Future WRC Agenda Item for WRC-2021 studying appropriate service designations and protection requirements for space weather measurements

Origin: United States of America

Proposal: in accordance with Resolution AAA, to review the review the results of studies relating to the technical and operational characteristics, spectrum requirements and appropriate radio service designations for space weathers sensors with a view to providing appropriate recognition and protection in the Radio Regulations without placing additional constraints on incumbent services.

Background/reason: Prediction and detection of disruptive geomagnetic storms and other space perturbations (hereinafter “space weather”) are critical to many economic and infrastructure areas, globally. Some of the larger vulnerable economic areas are satellite operations, air transport and electric power distribution. Failure to detect and predict disruptive conditions could result in loss of life and property as well severe impact to the economy. This is not intended to imply in any way that these operations are part of a safety service; rather that these space weather observations are critical to many aspects of national economies and the world population. Space weather sensor technology has been developed and operational systems have been deployed without much regard for domestic or international spectrum regulations, or for the potential need for protection from interference. Systems of importance to national economies and the safety of the world population should have some level of recognition and protection in the International Radio Regulations.

Radiocommunication services concerned: To be determined

Indication of possible difficulties: None foreseen

Previous/ongoing studies on the issue: ITU-R Study Question 7/102 in force with studies underway to document technical and operational characteristics and spectrum requirements.

Studies to be carried out by: SG7	with the participation of:
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ITU-R Study Groups concerned: SG4, SG 5, SG 6

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

Common regional proposal: Yes/No	Multicountry proposal: Yes/No
<i>Number of countries:</i>	

Remarks

WAC/106(20.05.15)

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

Dear Ms. De La Torre:

The National Telecommunications and Information Administration (NTIA), on behalf of the Executive Branch agencies, approves the release of the draft Executive Branch proposal for WRC-15 which addresses agenda item 10 (Future Conference Agenda Item). This future conference agenda item proposes to study the compatibility of spaceborne radar sounder operations in the 40-50 MHz frequency range with the existing allocated services and would investigate a potential modification to the Table of Frequency Allocations to reflect an allocation to the Earth exploration-satellite service (active).

NTIA considered the federal agencies' input toward the development of U.S. proposals for WRC-15. NTIA forwards this package for your consideration and review by your WRC-15 Advisory Committee. Mr. Charles Glass is the primary contact from my staff.

Sincerely,

(Original Signed January 29, 2015)

Paige R. Atkins
Associate Administrator
Office of Spectrum Management

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 10: *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, in accordance with Article 7 of the Convention*

Background Information: There is an interest among space agencies in using active spaceborne sensors in the 40-50 MHz frequency range for measurements of the Earth's subsurface to provide radar maps of subsurface scattering layers with the intent to locate water/ice/deposits. Measurements at the 40-50 MHz frequency range allow the discernment of details at more than 30 meters below the surface of the Earth for favorable ground conditions. Use of frequencies below 40-50 MHz would require larger antenna, which would present difficulties to spaceborne missions implementing this application. Use of frequencies above 40-50 MHz would reduce the depth at which the spaceborne radar sounder could provide measurements. Use of a frequency range other than 40-50 MHz would require new aeronautical campaigns at the different frequency in order to assess and calibrate the measurements at that frequency for use in a spaceborne radar sounder mission.

The information obtained from a spaceborne radar sounder operating in the 40-50 MHz frequency range would be of great value to ongoing global climate change studies and administrations in their assessment of below surface water resources within their territories. Repetitive measurements of worldwide subsurface water deposits can only be practically implemented using spaceborne active sensors.

The 40-50 MHz frequency range is allocated to the fixed, mobile and broadcasting services on a primary basis. The uses of the 40.98 to 41.015 MHz frequency range by space research services are on secondary basis. Country footnotes in the Table of Frequency Allocations for the 40-50 MHz frequency range provide primary allocations for aeronautical navigation and radiolocation services in certain parts of the world. Recommendation ITU-R RS.2042-0 provides typical technical and operating characteristics for spaceborne radar sounder systems using the 40-50 MHz for use in interference and compatibility studies.

This future conference agenda item proposes to study the compatibility of spaceborne radar sounder operations in the 40-50 MHz frequency range with the existing allocated services. In addition, it would investigate a potential modification to the Table of Frequency Allocations to reflect an allocation to the Earth exploration-satellite service (active). This allocation would allow for the operation of spaceborne radar sounder systems in the 40-50 MHz frequency range.

Proposals:

MOD USA/10/1

RESOLUTION 808 (Rev. WRC-15)

Agenda for the 2021 World Radiocommunication Conference

The World Radiocommunication Conference (Geneva, 2015),

Reasons: This modification adds a new item to the agenda for WRC-21.

ADD USA/10/2

2.XX to review the Table of Frequency Allocations with a view towards modifications to support the allocation of Earth exploration-satellite (active) service in the 40-50 MHz frequency range, in accordance with **Resolution [USA-YYY] (WRC-15)**.

Reasons: To conduct studies to examine the compatibility of spaceborne radar sounder operations in the 40-50 MHz frequency range with existing allocated services and to potentially modify the Table of Frequency Allocations to reflect an allocation to the Earth exploration-satellite service (active) allowing for the operation of spaceborne radar sounder systems in the 40-50 MHz frequency range.

ADD USA/10/3

RESOLUTION USA-YYY (WRC-15)

Possible allocation to the EESS (active) for spaceborne radar sounders in the 40-50 MHz frequency range

The World Radiocommunication Conference (Geneva, 2015),

considering

- a) that the 40-50 MHz range is allocated to the fixed, mobile and broadcasting services on a primary basis;
- b) that the uses of the 40.98 to 41.015 MHz frequency range by space research service are on secondary basis;
- c) that country footnotes in the Table of Frequency Allocations for the 40-50 MHz frequency range provide primary allocations for aeronautical radionavigation and radiolocation services in certain parts of the world;
- d) that the spaceborne radar is intended to be only in either uninhabited or sparsely populated areas of the globe with particular focus on deserts and polar ice fields and at night-time only from 3 a.m. to 6 a.m. locally;

e) that Recommendation ITU-R RS.2042-0 provides typical technical and operating characteristics for spaceborne radar sounder systems using the 40-50 MHz frequency range that should be used for interference and compatibility studies

recognizing

- a) that spaceborne active radio frequency sensors can provide unique information on physical properties of the Earth and other planets;
- b) that spaceborne active remote sensing requires specific frequency ranges depending on the physical phenomena to be observed;
- c) that there is an interest in using active spaceborne sensors in the vicinity of 40-50 MHz frequency range for measurements of the Earth's subsurface to provide radar maps of subsurface scattering layers with the intent to locate water/ice/deposits;
- d) that worldwide, periodic measurements of subsurface water deposits require the use of spaceborne active sensors;
- e) that the 40-50 MHz frequency range is preferable to satisfy all requirements for spaceborne radar sounders;

resolves to invite ITU-R

- 1 to conduct sharing studies between Earth exploration-satellite (active) service and the radiolocation, fixed, mobile, broadcasting, and space research services in the 40-50 MHz frequency range;
- 2 to complete the studies, taking into account the present use of the allocated band, with a view of presenting, at the appropriate time, the technical basis for the work of WRC-21;

resolves to invite WRC-21

- 1 To conduct and complete in time for WRC-21, studies for a possible new allocation to the Earth exploration satellite (active) service for radar sounders in the 40-50 MHz frequency range, taking into account the protection of incumbent services.
- 2 To consider the results of the above studies and take appropriate action;

invites administrations

to participate actively in the studies by submitting contributions to ITU-R;

instructs the Secretary-General

to bring this resolution to the attention of the Space Frequency Coordination Group (SFCG) and other international and regional organizations concerned.

Reasons: A resolution will support the ITU-R studies needed under the relevant WRC-21 agenda item.

ATTACHMENT

PROPOSAL FOR AGENDA ITEM STUDYING POSSIBLE ALLOCATION TO EESS (ACTIVE) FOR SPACEBORNE RADAR SOUNDERS IN THE 40-50 MHZ FREQUENCY RANGE

Subject: Proposed future WRC agenda item for WRC-2021 studying the possible allocation for spaceborne radar sounders in the 40-50 MHz frequency range.

Origin: United States of America

Proposal: to review the Table of Frequency Allocations with a view towards modifications to support the allocation of Earth exploration-satellite (active) service in the 40-50 MHz frequency range, in accordance with **Resolution [USA-YYY] (WRC-15)**.

Background/reason:

There is an interest among space agencies in using active spaceborne sensors in the 40-50 MHz frequency range for measurements of the Earth's subsurface to provide radar maps of subsurface scattering layers with the intent to locate water/ice/deposits. This information would be of great value to ongoing global climate change studies and administrations in their assessment of below surface water resources within their territories. Repetitive measurements of worldwide subsurface water deposits can only be practically implemented using spaceborne active sensors.

The 40-50 MHz frequency range is allocated to the fixed, mobile and broadcasting services on a primary basis. The uses of the 40.98 to 41.015 MHz frequency range by space research service are on secondary basis. Recommendation ITU-R RS.2042-0 provides typical technical and operating characteristics for spaceborne radar sounder systems using the 40-50 MHz frequency range for use in compatibility studies.

This future conference agenda item proposes to study the compatibility of spaceborne radar sounder operations in the 40-50 MHz frequency range with the existing allocated services and potentially modify the Table of Frequency Allocations to reflect an allocation to the Earth exploration-satellite service (active) allowing for the operation of spaceborne radar sounder systems in that frequency range.

Radiocommunication services concerned: fixed, mobile, broadcasting, radiolocation, aeronautical navigation and space research services.

Indication of possible difficulties: none foreseen

Previous/ongoing studies on the issue: TBD

Studies to be carried out by: WP 7C	with the participation of: WPs 5A, 5B, 5C, 6B, 7B
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ITU-R Study Groups concerned: SG 5, 6, 7

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

Common regional proposal: TBD

Multi-country proposal: No
Number of countries:

Remarks

WAC/108(20.05.15)

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

Dear Ms. De La Torre:

The National Telecommunications and Information Administration (NTIA), on behalf of the Executive Branch agencies, approves the release of the Executive Branch proposal for WRC-15 which addresses agenda item 7 (Issue H). This agenda item proposes no change to Article 11 of the Radio Regulation.

NTIA considered the federal agencies' input toward the development of U.S. proposals for WRC-15. NTIA forwards this package for your consideration and review by your WRC-15 Advisory Committee. Mr. Charles Glass is the primary contact from my staff.

Sincerely,

(Original Signed February 12, 2015)

Paige R. Atkins
Associate Administrator
Office of Spectrum Management

UNITED STATES OF AMERICA

PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 7: *to consider possible changes, and other options, in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference, an advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks, in accordance with Resolution 86 (Rev. WRC-07) to facilitate rational efficient, and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit*

Issue H: Using one space station to bring frequency assignments at different orbital locations into use within a short period of time

Background Information: No. 11.44B and No. 11.49 of the Radio Regulations were revised at WRC-12 in order to clarify issues regarding the bringing into use, or resumption of use after a suspension, of frequency assignments associated with satellite networks.

While adopting these revised provisions WRC-12 recognized that the issue of using one space station to bring frequency assignments at different orbital locations into use within a short period of time was not the intent of these revised provisions. WRC-12 also noted, “There are legitimate reasons why an administration or operator may need to move a spacecraft from one orbital position to a new orbital position, and care should be taken not to constrain the legitimate use of fleet manoeuvres and management.” In its plenary meeting, WRC-12 also requested the BR, until ITU-R studies are completed, to query to administrations as to the last previous orbital location/frequency assignments brought into use with that satellite and make such information available, where an administration brings into use frequency assignments at a given orbital location using an already in-orbit satellite.

The current draft CPM text for the subject issue includes examples of some cases where a single satellite is used to bring into use (BIU) frequency assignments at multiple orbital locations within a short period of time. However, several of these examples mix this issue with that of a satellite failure during the BIU process, whereas others include some examples that could be argued are actually legitimate cases of fleet management by a satellite operator. These examples are used to conclude that the only “justifiable” reason for using one space station to bring into use frequency assignments at multiple locations is a satellite failure. Methods in the draft CPM text then attempt to address this issue with a proposal for a regulatory provision to prevent “abuse”.

In practice, multiple examples exist of cases where a single satellite may be required to bring into use frequency assignments at different locations in a short period of time. While a satellite failure is one example, there are other examples that do not involve satellite failure. These cases include where the timing of events may change the evaluation of whether a case is considered “justifiable” or not. What does seem to emerge from consideration of all of the cases in the draft CPM text is that the possibility for misuse of the BIU and suspension provisions only seems to arise for cases of an in-orbit satellite bringing into use frequency assignments at multiple orbital locations within a short period of time, while at the same time leaving one or more of the previously occupied orbital locations vacant for some period of time. However, even under these circumstances, there do appear to be cases where such actions could be justified as reflected in the draft CPM text. As such, it is not possible to construct specific regulatory provisions to address the case of a single satellite bringing into use frequency assignments at multiple orbital locations within a short period of time. At best, it may be possible to require Administrations, in

certain cases, to provide additional information when declaring that frequency assignments have been brought into use using an in-orbit satellite.

Therefore, the United States supports Method H2, no change to Article **11** of the Radio Regulations, as the Radiocommunication Bureau can already query an administration in those cases where an in-orbit satellite is used to BIU an orbital location.

Proposals:

NOC USA/AI 7/1

ARTICLE 11

**Notification and recording of frequency
assignments^{1, 2, 3, 4, 5, 6, 7} (WRC-07)**

Reasons: It is not possible to address unjustifiable cases of satellite hopping without potentially constraining the legitimate use of satellite fleet manoeuvres and management.

WAC/109(20.05.15)

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

Dear Ms. De La Torre:

The National Telecommunications and Information Administration (NTIA), on behalf of the Executive Branch agencies, approves the release of the draft Executive Branch proposal for WRC-15 which addresses agenda item 1.1 IMT stations operating in the adjacent band to Earth exploration-satellite service (1400-1427 MHz).

NTIA considered the federal agencies' input toward the development of U.S. proposals for WRC-15. NTIA forwards this package for your consideration and review by your WRC-15 Advisory Committee. Mr. Charles Glass is the primary contact from my staff.

Sincerely,

(Original Signed April 1, 2015)

Paige R. Atkins
Associate Administrator
Office of Spectrum Management

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.1: to consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution 233 (WRC-12);

Background Information: NASA operates Earth exploration-satellite service (passive) sensors in the 1 400-1 427 MHz band. The Aquarius passive sensor is currently flying on an Argentinian satellite, SAC-D. NASA recently launched the Soil Moisture Active Passive (SMAP) satellite, which will begin operations in the near future. SMAP carries a passive sensor that operates across the 1 400-1 427 MHz band. Joint Task Group 4-5-6-7 completed compatibility studies regarding IMT and EESS (passive) in 1 400-1 427 MHz band that are contained in Report ITU-R RS.2336 jointly approved by ITU-R Study Group 7 and Study Group 5. The draft CPM Report provides the following text regarding the summary of studies on unwanted emissions in the 1 400-1 427 MHz band:

“Draft new Report ITU-R RS.[EESS-IMT 1.4 GHz] (now Report ITU-R RS.2336) shows that, in order to protect EESS (passive) systems, the unwanted emission level of -60 dBW/27 MHz as currently recommended in Resolution 750 (Rev. WRC-12) is not sufficient and that the following levels of unwanted emissions in the 1 400-1 427 MHz frequency band are required:

For base stations:

- -80 dBW/27 MHz in the case both 1 375-1 400 MHz and 1 427-1 452 MHz frequency bands are considered to be used simultaneously by IMT systems;
- -75 dBW/27 MHz in the case only one of the 1 375-1 400 MHz or 1 427-1 452 MHz frequency bands is to be considered for IMT systems.

For user equipment:

- -65 dBW/27 MHz (This value is derived under the assumption that one UE is transmitting at an average output power of 15 dBm (over all resource blocks (RB)) per sector. It would therefore have to be verified consistently according to these conditions.)

To protect U.S. spaceborne assets operating in the 1 400-1 427 MHz band from potential harmful interference by IMT operations in the adjacent 1 427-1 518 MHz band, these OOB limits are required for IMT and need to be made mandatory in the Radio Regulations.

Proposal:

RESOLUTION 750 (REV.WRC-15)

Compatibility between the Earth exploration-satellite service (passive) and relevant active services

...

TABLE 1-1

EESS (passive) band	Active service band	Active service	Limits of unwanted emission power from active service stations in a specified bandwidth within the EESS (passive) band ¹
<u>1 400 – 1427 MHz</u>	<u>1 427 – 1452 MHz</u>	Mobile	<p><u>For IMT base stations:</u> <u>-75 dBW/27 MHz</u> <u>{Editor’s note: This may have to be revised if both bands around 1400 – 1427 MHz are used for IMT.}</u></p> <p><u>For IMT user equipment:</u> <u>-65dBW/27 MHz</u></p>
23.6-24.0 GHz	22.55-23.55 GHz	Inter-satellite	-36 dBW in any 200 MHz of the EESS (passive) band for non-geostationary (non-GSO) inter-satellite service (ISS) systems for which complete advance publication information is received by the Bureau before 1 January 2020, and -46 dBW in any 200 MHz of the EESS (passive) band for non-GSO ISS systems for which complete advance publication information is received by the Bureau on or after 1 January 2020
31.3-31.5 GHz	31-31.3 GHz	Fixed (excluding HAPS)	For stations brought into use after 1 January 2012: -38 dBW in any 100 MHz of the EESS (passive) band. This limit does not apply to stations that have been authorized prior to 1 January 2012
50.2-50.4 GHz	49.7-50.2 GHz	Fixed-satellite (E-to-s) ²	For stations brought into use after the date of entry into force of the Final Acts of WRC-07: -10 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain greater than or equal to 57 dBi -20 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain less than 57 dBi
50.2-50.4 GHz	50.4-50.9 GHz	Fixed-satellite (E-to-s) ²	For stations brought into use after the date of entry into force of the Final Acts of WRC-07: -10 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain greater than or equal to 57 dBi -20 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain less than 57 dBi
52.6-54.25 GHz	51.4-52.6 GHz	Fixed	For stations brought into use after the date of entry into force of the Final Acts of WRC-07:

			-33 dBW in any 100 MHz of the EESS (passive) band
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¹ The unwanted emission power level is the level measured at the antenna port.

² The limits apply under clear-sky conditions. During fading conditions, the limits may be exceeded by earth stations when using uplink power control.

TABLE 1-2

EESS (passive) band	Active service band	Active service	Recommended maximum level of unwanted emission power from active service stations in a specified bandwidth within the EESS (passive) band ¹	
1 400-1 427 MHz	1 350-1 400 MHz	Radiolocation ²	-29 dBW in the 27 MHz of the EESS (passive) band	
		Fixed	-45 dBW in the 27 MHz of the EESS (passive) band for point-to-point	
		Mobile	-60 dBW in the 27 MHz of the EESS (passive) band for mobile service stations except transportable radio-relay stations -45 dBW in the 27 MHz of the EESS (passive) band for transportable radio-relay stations	
	1 427-1 429 MHz	Space operation (E-to-s)	-36 dBW in the 27 MHz of the EESS (passive) band	
	1 427-1 429 MHz	Mobile except aeronautical mobile	-60 dBW in the 27 MHz of the EESS (passive) band for mobile service stations except <u>IMT stations and transportable radio-relay stations</u> ³ -45 dBW in the 27 MHz of the EESS (passive) band for transportable radio-relay stations	
		Fixed	-45 dBW in the 27 MHz of the EESS (passive) band for point-to-point	
	1 429-1 452 MHz	Mobile	-60 dBW in the 27 MHz of the EESS (passive) band for mobile service stations except <u>IMT stations and transportable radio-relay stations</u> ³ -45 dBW in the 27 MHz of the EESS (passive) band for transportable radio-relay stations -28 dBW in the 27 MHz of the EESS (passive) band for aeronautical telemetry stations ⁴	
		Fixed	-45 dBW in the 27 MHz of the EESS (passive) band for point-to-point	
	31.3-31.5 GHz	30.0-31.0 GHz	Fixed-satellite (E-to-s) ⁵	-9 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain greater than or equal to 56 dBi -20 dBW into the 200 MHz of the EESS (passive) band

			for earth stations having an antenna gain less than 56 dBi
86-92 GHz ⁶	81-86 GHz	Fixed	$-41 - 14(f - 86)$ dBW/100 MHz for $86.05 \leq f \leq 87$ GHz -55 dBW/100 MHz for $87 \leq f \leq 91.95$ GHz where f is the centre frequency of the 100 MHz reference bandwidth expressed in GHz
	92-94 GHz	Fixed	$-41 - 14(92 - f)$ dBW/100 MHz for $91 \leq f \leq 91.95$ GHz -55 dBW/100 MHz for $86.05 \leq f \leq 91$ GHz where f is the centre frequency of the 100 MHz reference bandwidth expressed in GHz

¹ The unwanted emission power level is the level measured at the antenna port.

² The mean power is to be understood here as the total power measured at the antenna port (or an equivalent thereof) in the band 1 400-1 427 MHz, averaged over a period of the order of 5 s.

³ Stations of the mobile service for cellular systems, including those complying with Recommendation ITU-R M.1457 or IMT standards, are likely to meet this unwanted emission power level.

⁴ The band 1 429-1 435 MHz is also allocated to the aeronautical mobile service in eight Region 1 administrations on a primary basis exclusively for the purposes of aeronautical telemetry within their national territory (No. 5.342).

⁵ The recommended maximum levels apply under clear-sky conditions. During fading conditions, these levels may be exceeded by earth stations when using uplink power control.

⁶ Other maximum unwanted emission levels may be developed based on different scenarios provided in Report ITU-R F.2239 for the band 86-92 GHz.

Reasons: Appropriate unwanted emission limits are required to protect EESS passive systems operating in the band 1 400-1 427 MHz from IMT stations operating in the adjacent band. Canada is currently assessing the impact of the new limits. As such, in the proposal above, the unwanted emission limits contained in Report ITU-R RS-2336 are shown in square brackets.

MOD USA/1.1/2

5.338A In the bands 1 350-1 400 MHz, 1 427-1 452 MHz, 22.55-23.55 GHz, 30-31.3 GHz, 49.7-50.2 GHz, 50.4-50.9 GHz, 51.4-52.6 GHz, 81-86 GHz and 92-94 GHz, Resolution **750 (Rev.WRC-15)** applies. (WRC-~~12~~15)

[NOTE: consequential changes to the Table of Allocations will also be required.]

Reasons: The changes to the references in No. 5.338A are consequential to the revision of Resolution **750**.