

**ATTACHMENT 2
to FCC Public Notice DA 10-372**

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

Document WAC/055(02.03.10)

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

Dear Mr. Porter:

The National Telecommunications and Information Administration (NTIA) on behalf of the Executive Branch agencies, approves the release of draft Executive Branch proposals for WRC-12 agenda item 1.10. NTIA proposes an exclusive allocation to the maritime mobile service in 495-505 kHz, and a primary allocation to the maritime mobile service for Region 2 in 510-525 kHz. NTIA also proposes exclusive allocations to the maritime mobile, aeronautical mobile (OR) and mobile-satellite (Earth-to-space) services in the 161.9625-161.9875 MHz and 162.0125-162.0375 MHz bands restricted to automatic identification system emissions operating in accordance with Appendix **18**.

NTIA considered the Federal agencies' input toward the development of U.S. proposals for WRC-12. NTIA forwards this package for your consideration and review by your WRC-12 Advisory Committee. Dr. Darlene Drazenovich is the primary contact from my staff.

Sincerely,

(Original Signed September 29, 2009)

Karl B. Nebbia
Associate Administrator
Office of Spectrum Management

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

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

Background Information: The broadcast of safety and security information, to and from ships is vital for maritime safety. Article **33** of the Radio Regulations describes the operational procedures for maritime urgency and safety communications, including the transmission of maritime safety information (MSI).

Radio Regulation No. **5.82A** limits the use of maritime mobile service (MMS) systems in the band 495 - 505 kHz to radio telegraphy. No. **5.82B** requires administrations making frequency assignments to services other than the maritime mobile service in the 495-505 kHz band shall not cause harmful interference to the MMS in this band and to other services in adjacent bands. These provisions already give priority to the MMS over other mobile service applications in the band 495 – 505 kHz. Due to further requirements for spectrum to accommodate existing and new maritime systems, it is appropriate to make an exclusive primary allocation to the maritime mobile service in 495 – 505 kHz.

Maritime communication systems in the bands 415 – 526.5 kHz include transmissions in accordance with Recommendations ITU-R M.540 (Operational and technical characteristics for an automated direct-printing telegraph system for promulgation of navigational and meteorological warnings and urgent information to ships), ITU-R M.1677 (International Morse code), and ITU-R M.1798 (Characteristics of HF radio equipment for the exchange of digital data and electronic mail in the maritime mobile service). These systems currently operate in support of maritime applications other than those used for radiotelegraphy. Based on current worldwide operational experience, other maritime applications are compatible with radiotelegraphy.

It is also vital for the maritime community to have a globally harmonized primary allocation to the maritime mobile service in 415 – 526.5 kHz for MMSI, security related broadcasts, and data communication systems.

Proposal:

ARTICLE 5

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

MOD USA/AI 1.10/1

495-1 800 kHz

Allocation to services		
Region 1	Region 2	Region 3
495-505 <u>MARITIME MOBILE</u> SUP 5.82A <u>SUP 5.82B</u>		
505-526.5 MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION	505-510 MARITIME MOBILE 5.79	505-526.5 MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Land mobile
	510-525 <u>MARITIME MOBILE</u> 5.79A 5.84 AERONAUTICAL RADIONAVIGATION	

Reason: Maritime mobile service allocations and global harmonization of transmissions for MSI, security related broadcasts, and data communication systems.

SUP USA/AI 1.10/2

5.82A

Reason: This is a consequential change to allocating the entire 495-505 MHz band to the maritime mobile service on a primary basis.

SUP USA/AI 1.10/3

5.82B

Reason: This is a consequential change to allocating the entire 495-505 MHz band to the maritime mobile service on a primary basis.

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

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

Background Information: International Maritime Organization (IMO) Resolution MSC 74(69) required that Automatic Identification System (AIS), "...improve the safety of navigation by assisting in the efficient navigation of ships, protection of the environment, and operation of Vessel Traffic Services (VTS), by satisfying the following functional requirements: 1) in a ship-to-ship mode for collision avoidance; 2) as a means for littoral States to obtain information about a ship and its cargo; and 3) as a VTS tool, i.e. ship-to-shore (traffic management)". IMO NAV 55 meeting in July 2009 decided to add a distress indicator in the navigation status field of AIS Class A position report messages. Although these IMO functional requirements clearly specify safety and surveillance functions, the Radio Regulations only recognize the Automatic Identification System-Search and Rescue Team (AIS-SART) operation as having a safety function on the two AIS frequencies (161.975 MHz and 162.025 MHz). Operation of AIS on search and rescue aircraft is consistent with ITU-R Recommendation M.1371-3 and Appendix **18** of the Radio Regulations.

Modifying the Radio Regulations to reflect the AIS frequencies is critical to search and rescue, safety of navigation, and the safe movement and tracking of vessels, which are vital to the future of maritime safety. This proposal specifically addresses the need to recognize the safety aspect of AIS use by search and rescue aircraft authorized by Appendix **18** of the Radio Regulations and ITU-R Recommendation M.1371-3, and recognizes the decision by the International Maritime Organization to include a distress indicator in the navigation status field of AIS Class A position report messages. The ITU-R may need to conduct a review of No. **5.229**, as it applies to the sub-band 162 - 162.05 MHz.

Proposal:

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

MOD USA/AI 1.10/1

148-223 MHz

Allocation to services		
Region 1	Region 2	Region 3
156.8375-161.9625 174 FIXED MOBILE except aeronautical mobile MOD 5.226 5.227A-5.229	156.8375-161.9625 174 FIXED MOBILE MOD 5.226 5.227A 5.230 5.231 5.232	

Reason: Proposed changes reflect the allocation and use of AIS frequencies to the required services in Article 5 to support maritime safety requirements. Footnotes that do not apply to the revised frequency band are also removed, but are not proposed for suppression (No. **5.227A**).

ADD USA/AI 1.10/2

Region 1	Region 2	Region 3
161.9625-161.9875 MARITIME MOBILE AERONAUTICAL MOBILE (OR) ADD 5.A01 MOBILE-SATELLITE (Earth-to-space) ADD 5.A02	161.9625-161.9875 MARITIME MOBILE AERONAUTICAL MOBILE (OR) ADD 5.A01 MOBILE-SATELLITE (Earth-to-space) ADD 5.A02	

Reason: Proposed changes reflect the allocation and use of AIS frequencies to the required services in Article 5 to support maritime safety requirements. The proposal that AM(OR)S has primary status and the upgrade to primary status of MSS (Earth-to-space) is necessary due to a pending IMO decision to include a distress alert notification within the AIS position message report. Footnotes that do not apply to the revised frequency band are also removed, but are not proposed for suppression (No. **5.227A**).

ADD USA/AI 1.10/3

Region 1	Region 2	Region 3
161.9875-162.0125 FIXED MOBILE except aeronautical mobile ADD 5.226	161.9875-162.0125 FIXED MOBILE except aeronautical mobile— ADD 5.226	

Reason: Proposed changes reflect the allocation and use of AIS frequencies to the required services in Article 5 to support maritime safety requirements. Footnotes that do not apply to the revised frequency band are also removed, but are not proposed for suppression (No. **5.227A**).

ADD USA/AI 1.10/4

Region 1	Region 2	Region 3
<u>162.0125-162.0375</u> <u>MARITIME MOBILE</u> <u>AERONAUTICAL MOBILE (OR)</u> <u>ADD 5.A01</u> <u>MOBILE-SATELLITE (Earth-to-space)</u> <u>ADD 5.A02</u>	<u>162.0125-162.0375</u> <u>MARITIME MOBILE</u> <u>AERONAUTICAL MOBILE (OR) ADD 5.A01</u> <u>MOBILE-SATELLITE (Earth-to-space)</u> <u>ADD 5.A02</u>	

Reason: Proposed changes reflect the allocation and use of AIS frequencies to the required services in Article 5 to support maritime safety requirements. The proposal that AM(OR)S be primary status and the upgrade to primary status of MSS (Earth-to-space) is necessary due to a pending IMO decision to include a distress alert notification within the AIS position message report.

MOD USA/AI 1.10/5

<u>162.0375-174</u> FIXED MOBILE except aeronautical mobile <u>MOD 5.226 5.227A–5.229</u>	<u>162.0375-174</u> FIXED MOBILE <u>MOD 5.226 5.227A–5.230 5.231 5.232</u>
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Reason: Proposed changes reflect the allocation and use of AIS frequencies to the required services in Article 5 to support maritime safety requirements.

ADD USA/AI 1.10/6

5.A01 The use of the band 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the aeronautical mobile (OR) service is restricted to automatic identification system (AIS) emissions from Search and Rescue aircraft operating in accordance with Appendix 18.

Reason: The proposed footnote is necessary to restrict the use of the aeronautical mobile (OR) service to AIS emissions in support of search and rescue missions by aircraft in accordance with Appendix 18.

ADD USA/AI1.10/7

5.A02 The use of the bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the maritime mobile service and mobile-satellite (Earth-to-space) service is restricted to automatic identification system (AIS) emissions operating in accordance with Appendix 18.

Reason: The proposed footnote is necessary to restrict the use of the mobile-satellite (Earth-to-space) service to AIS emissions operating in accordance with Appendix 18.

SUP USA/AI 1.10/8

5.227A

Reason: This footnote is no longer necessary after allocation of the AIS channels to the necessary services in Article 5.

MOD USA/AI 1.10/9

5.226 The frequency 156.525 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service using digital selective calling (DSC). The conditions for the use of this frequency and the band 156.4875-156.5625 MHz are contained in Articles **31** and **52**, and in Appendix **18**.

The frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service. The conditions for the use of this frequency and the band 156.7625-156.8375 MHz are contained in Article **31** and Appendix **18**.

In the bands 156-156.4875 MHz, 156.5625-156.7625 MHz, 156.8375-157.45 MHz, 160.6-160.975 MHz, ~~and 161.475-162.05~~ 161.9625 MHz, 161.9875-162.0125 MHz, and 162.0375-162.05 MHz, each administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by the administration (see Articles **31** and **52**, and Appendix **18**).

Document WAC/058(02.03.10)

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 a draft Executive Branch proposal for WRC-12 agenda item 7. NTIA proposes a new Resolution to make permanent an existing, temporary ITU website providing satellite network notification information.

NTIA considered the Federal agencies' input toward the development of U.S. proposals for WRC-12. NTIA forwards this package for consideration and review by your WRC-12 Advisory Committee. Dr. Darlene Drazenovich is the primary contact from my staff.

Sincerely,

(Original Signed December 10, 2009)

Karl B. Nebbia
Associate Administrator
Office of Spectrum Management

UNITED STATES OF AMERICA
DRAFT 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)**

Background Information: Access to orbital locations and frequencies for satellite networks has become increasingly difficult over the years, in large part due to difficulties in applying the relevant provisions of the Radio Regulations, particularly with regard to coordination. As highlighted at the recent ITU Radiocommunication Bureau *Workshop on the Efficient Use of the Spectrum/Orbit Resource*, and in ITU-R Circular Letter CR/301, some unused frequency and orbital resources remain recorded in the Master International Frequency Register, aggravating the problem. Improving the transparency of the processes for notification and bringing into use could help to improve this situation.

For non-planned satellite bands, No. **11.44** of the Radio Regulations (RR) requires that “the notified date of bringing into use of any assignment to a space station of a satellite network shall not be later than seven years following the date of receipt...of the relevant complete information under RR No. **9.1** or **9.2**, as appropriate.” Additionally, this provision states that “any frequency assignment not brought into use within the required period shall be cancelled by the Bureau...” When the notified date of bringing into use of frequency assignments is earlier than the date of submission of the notification request, the Bureau considers the request itself to be confirmation that the frequency assignments have been brought into use. Otherwise, the notifying administration must inform the Bureau when it actually brings the system into use, in accordance with RR No. **11.47**.

The potential difficulty with the current process is that it can result in uncertainty for administrations as to the status of frequency assignments. While administrations can examine the space radiocommunications stations database for details pertaining to notified frequency assignments submitted to the Bureau, or examined by the Bureau and found to be in conformity with the Radio Regulations, they cannot readily determine whether, or when, an administration has informed the Bureau that a frequency assignment has been brought into use. Other administrations may not know if frequency assignments in the Master International Frequency Register have provisional status, or if the Bureau may cancel them because the administration has missed the bringing into use deadline established by RR No. **11.44**.

The Bureau has established, on a trial basis, a web page providing information on such notifications for satellite networks: <http://www.itu.int/ITU-R/space/snl/listinuse/>. This web page allows an administration to readily determine whether, and when, another administration has informed the Bureau that its satellite network frequency assignment has been brought into use.

The Conference should instruct the Bureau to permanently maintain these pages, and to include thereon a hyperlink to the associated Resolution 49 information.

Proposal:

DRAFT RESOLUTION [USA-7-BIU] (WRC-12)

Publication of bringing into use data for satellite networks

The World Radiocommunication Conference (Geneva, 2012),

considering

- a) that the Master International Frequency Register contains unused frequency assignments to satellite networks, which complicate coordination and consultation for administrations seeking access to orbital resources and applying the relevant provisions of the Radio Regulations;
- b) that it is currently cumbersome, and in some cases not possible, for administrations to determine whether the Bureau has been informed that frequency assignments associated with a given satellite network have been brought into use;
- c) that improving the transparency of the notification process for satellites networks would help to address some of the aforementioned difficulties;
- d) that a readily accessible website, maintained by the Bureau, displaying information related to the date of bringing into use of satellite networks, would improve administrations' access to this information,

resolves to instruct the Director of the Radiocommunication Bureau

- 1 to take necessary steps to maintain a website, as part of the Bureau's collection of web pages, displaying data pertaining to the bringing into use of frequency assignments associated with specific satellite networks;
- 2 to post, upon receipt from a notifying administration, information indicating the date of bringing into use of frequency assignments associated with a particular satellite network, and to include on this website a hyperlink to the associated Resolution 49 data for the particular frequency assignments and satellite network, along with an indication as to whether the frequency assignments are confirmed as being brought into use; and,
- 3 to provide the website for the use of administrations and operators in their coordinations and consultations, and not as a substitute for, or adjunct to, the provisions of the Radio Regulations.

Reasons: Proposed changes would improve administrations' access to orbital resources by providing transparency to the notification process for satellite networks, and by making information on frequencies actually being used more readily available.

Document WAC/059(02.03.10)

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 two draft Executive Branch proposals for WRC-12 agenda items 1.11 and 1.12.

For agenda item 1.11, NTIA proposes a primary allocation to the space research service (Earth-to-space) in the band 22.55-23.15 GHz to support manned and unmanned missions. NTIA also proposes a power flux-density limit for aircraft stations in the 37-38 GHz band to protect services under agenda item 1.12.

NTIA considered the Federal agencies' input toward the development of U.S. proposals for WRC-12. NTIA forwards this package for your consideration and review by your WRC-12 Advisory Committee. Dr. Darlene Drazenovich is the primary contact from my staff.

Sincerely,

(Original Signed January 20, 2010)

Karl B. Nebbia
Associate Administrator
Office of Spectrum Management

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

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

Background Information: Downlink (space-to-Earth) transmissions will operate in the 25.5-27.0 GHz space research service (SRS) allocation to support the SRS missions in near Earth orbit, including missions in transit to the moon and at or near the moon. Countries will use this 1.5 GHz wide downlink band for both scientific data retrieval and voice/video communication with the Earth. However, there is a need for a companion uplink (Earth-to-space) band to provide the mission data, voice/video communications, and command and control links to support manned and unmanned missions. The proposed SRS allocation at 23 GHz will fulfill this need for the global space science community.

Space agencies throughout the world require 600 MHz of uplink spectrum due to the potential for many concurrent exploration-related systems, the large bandwidth requirements for these systems, synergistic operations with existing data relay systems, selection of frequencies due to ranging constraints, and the evolution, growth, and complexity of those systems over a period of 20-30 years.

- 1) Space agencies require their own segments of spectrum for lunar and many Lagrangian missions since antenna discrimination is not possible. Any spacecraft around the moon and some of those with small orbit apogees around the L1 or L2 points can be situated within the main-beam lobe of other space agency antennas.
- 2) The specific RF carrier frequencies selected will often be coupled with internationally agreed channels for data relay systems in order to provide global support either via an earth station or via a data relay satellite. These data relay channels have a spacing of 60 MHz, irrespective of the actual bandwidth.
- 3) There is a fixed turn-around ratio required between the Earth-to-space link around 23 GHz and the corresponding space-to-Earth link in the 25.5-27 GHz band. This is required for ranging purposes and further limits the choice of available frequencies as it requires a suitable available companion frequency around 26 GHz.

Proposals from a number of administrations to WRC-07 covered the entire band 22.55 – 23.55 GHz. However, compatibility concerns expressed at WRC-07 with respect to the existing HIBLEO-2 system that operates above 23.18 GHz led to a compromise that limited the bandwidth under consideration to 600 MHz.

Considering the inherently limited number of these large SRS earth stations and their remote locations, ITU-R sharing studies between SRS (Earth-to-space) and the fixed, inter-satellite and mobile services in the 22.55-23.55 GHz band determined that sharing between a new SRS (Earth-to-space) allocation in the 22.55-23.15 GHz band and the existing services in the 22.55-23.55 GHz band is feasible and will not cause harmful interference to their existing operations.

Proposal:

ARTICLE 5
Frequency allocations

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

MOD USA/AI1.11/1

22-24.75 GHz

Allocation to services		
Region 1	Region 2	Region 3
<u>22.55-23.55</u> 15	FIXED INTER-SATELLITE 5.338A MOBILE <u>SPACE RESEARCH SERVICE (Earth-to-space)</u> 5.149	
22.55 <u>23.15-23.55</u>	FIXED INTER-SATELLITE 5.338A MOBILE 5.149	

Reason: To provide a needed companion uplink (Earth-to-space) band for the transmission of mission data and command and control links for future space missions.

ARTICLE 21
Terrestrial and space services sharing frequency bands above 1 GHz

Section III – Power limits for earth stations

MOD USA/AI1.11/2

TABLE 21-3 (*end*) (WRC-03~~12~~)

Frequency band	Services
17.7-18.1 GHz	Fixed-satellite
<u>22.55-23.15 GHz</u>	Earth exploration-satellite
27.0-27.5 GHz ⁶ (for Regions 2 and 3)	Mobile-satellite
27.5-29.5 GHz	Space research
31.0-31.3 GHz (for the countries listed in No. 5.545)	
34.2-35.2 GHz (for the countries listed in No. 5.550 with respect to the countries listed in No. 5.549)	

Reason: The band 22.55-23.15 GHz is added to Table 21-3 to ensure protection of terrestrial services consequential to the addition of the SRS uplink allocation.

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

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

Background Information: Countries are implementing space research service (SRS) earth station receivers in the 37-38 GHz band to support manned missions for both near Earth and deep space distances. Use of the wider bandwidth available in the 37-38 GHz band is necessary to support the increasing data requirements of planned manned missions.

The ITU studied sharing between systems in the space research service (SRS), fixed service (FS), and fixed-satellite service (FSS) and potential systems in the aeronautical mobile services (AMS) in the 37-38 GHz band. The sharing studies indicate that high power emissions from typical aeronautical mobile transmitters would pose a high probability for causing harmful interference to receiving earth stations of the space research service and fixed-satellite service, but that lower powered aircraft stations could be compatible, if they meet a specified pfd mask. These studies also found that transmissions from the high-density fixed service (HDFS) systems could interfere with the airborne receivers of the AMS.

The aviation industry anticipates increasing demand for applications to be installed onboard aircraft for intra-aircraft communications, called Wireless Avionics Intra Communications (WAIC). WAIC systems will be low power applications intended to support data, voice, and video communications between systems on an aircraft, including communications systems used by the crew. Wireless sensors located at various points throughout the aircraft will be used to wirelessly monitor the health of the aircraft structure and all of its critical systems, and communicate this information within the aircraft. WAIC transmissions will not provide air-to-ground, air-to-satellite, or air-to-air communication. They will not include communications with consumer devices, such as Radio Local Area Network (RLAN) devices that are brought on board the aircraft by passengers. Therefore, since these systems are for aviation personnel use and not the general flying public, such systems may be able to meet the pfd limits needed to protect other allocated services.

Proposal:

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations

(See No. 2.1)

MOD USA/A11.12/1

37-38 GHz

Allocation to services		
Region 1	Region 2	Region 3
37-37.5	FIXED MOBILE SPACE RESEARCH (space-to-Earth) 5.547 <u>ADD 5.AMS</u>	
37.5-38	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547 <u>ADD 5.AMS</u>	

ADD USA/A11.12/2

5.AMS In the band 37-38 GHz, the power flux-density radiated by any device or transmitter on an aircraft station shall not exceed, at the surface of the Earth using free space loss, -227 dB (W/m²) in any 1 Hz bandwidth.

Reason: In accordance with the agenda item, earth stations of the space research service, the fixed satellite service, and stations of the fixed service will be protected in the band 37-38 GHz by the application of a power flux-density (PFD) limit at the surface of the Earth on the emissions radiated by any device on an aircraft in flight or on the ground.