Table 3: Major Proposals for the Space Radiocommunication Services (Primary allocations are shown in capitals, secondary allocations are in normal characters, unless otherwise noted)

Band	International Allocations Prior to WRC-03	Existing U S Allocations	International Allocations as Revised at WRC-03	Proposed U S Allocations	Remarks
7125-7235 MHz	FIXED & MOBILE 5 458 (Passive sensor measurements are carried out in this band Administrations should bear in mind the needs of the EESS (passive) and SRS (passive) in their future planning of this band) 5 460 (The band 7145-7235 GHz is also allocated for SRS uplinks on a primary basis The use of the band 7145-7190 MHz is restricted to deep space, no emissions to deep space shall be effected in the band 7190-7235 MHz)	7125-7190 MHz Federal FIXED G116 (7125-7155 MHz is allocated for Federal space operation uplinks at up to 2 sites) 5 458 US252 (7145-7190 MHz is allocated for SRS uplinks for deep space communications at Goldstone) 7190-7235 MHz Federal FIXED & SRS (Earth-to-space) 5 458	7125-7145 MHz FIXED & MOBILE 5 458 7145-7235 MHz FIXED & MOBILE SRS (Earth-to-space) 5 460 (SRS use of 7145-7190 MHz is restricted to deep space communications, no emissions to deep space are permitted in 7190-7235 MHz GSO SRS satellites in the band 7190-7235 MHz are not protected from fixed and mobile services) 5 458	7125-7145 MHz Federal FIXED & G116 5 458 7145-7190 MHz Federal FIXED, SRS (deep space) (Earth-to-space) & G116 5 458 US262 (non-Federal SRS deep space uplink use allocated on secondary basis, all use limited to Goldstone) 7190-7235 MHz Federal FIXED & SRS (Earth-to-space) Gyyy (deep space communications prohibited, GSO SRS satellites not protected from fixed & mobile) 5 458	No substantive change In 45 megahertz, the Federal SRS deep space uplink allocation in footnote US252 is explicitly recognized as being a primary allocation and is highlighted by moving it up as a table entry In 45 megahertz, deep space communications are prohibited & geostationary (GSO) SRS satellites are not protected from fixed & mobile services
14 8-15 35 GHz	FIXED & MOBILE Space research 5 339 (The band 15 2-15 35 GHz is allocated to the EESS (passive) and SRS (passive) on a secondary basis)	14 8-15 1365 GHz Federal MOBILE, fixed, and space research US310 (secondary non-Fed SRS satellites may transmit in the band 14 896-15 121 GHz) 15 1365-15 35 GHz Federal FIXED, mobile, & SRS 5 339 US211 (SRS & airborne operators urged to protect RAS)	No change	14 8-15 1365 GHz Federal MOBILE, fixed & SRS US310 15 1365-15 35 GHz Federal FIXED, mobile, and SRS 5 339 US211	In 550 megahertz, raise secondary Federal SRS allocation to primary status but these SRS earth stations are not protected near the border Change method of calculating non-Federal pfd in US310
25 25-25 5 GHz	FIXED & MOBILE ISS 5 536 (limited to SRS & EESS applications & transmission of data originating from industrial & medical activities in space) Standard frequency & time signal-satellite (Earth-to-space) (SF&TSS uplinks)	Federal FIXED, MOBILE and ISS 5 536 Secondary Federal & non-Federal SF&TSS uplinks Secondary non-Federal EESS (space-to-space)	No change	Federal FIXED, MOBILE and ISS 5 536 Secondary Federal & non-Federal SF&TSS uplinks Secondary non-Federal ISS 5 536	In 250 megahertz, broaden the secondary non-Federal EESS (space-to-space) allocation to a secondary ISS allocation, but limit its use by footnote 5 536
25 5-27 GHz	FIXED & MOBILE ISS 5 536 EESS (space-to-Earth) 5 536A (EESS earth stations not protected from fixed & mobile operations in other countries) 5 536B (EESS may not constrain the use & deployment of fixed & mobile in certain countries) Secondary SF&TSS uplinks	Federal FIXED, MOBILE, ISS 5 536, and EESS downlinks 5 536A Secondary Federal & non-Federal SF&TSS uplinks Secondary non-Federal EESS downlinks 5 536A (space-to-space)	FIXED, MOBILE & ISS 5 536 EESS & SRS downlinks 5 536A (EESS & SRS earth stations not protected from fixed & mobile operations in other countries) 5 536B Secondary SF&TSS uplinks	Federal FIXED, MOBILE, ISS 5 536, EESS & SRS downlinks 5 536A Secondary non-Federal ISS 5 536 US258 (Primary non-Federal EESS downlinks, subject to case-by-case electromagnetic compatibility analysis) 5 536A Secondary Federal & non-Federal SF&TSS uplinks	In 1 5 gigahertz, (1) allocate to Federal SRS downlinks on primary basis, (2) raise secondary non-Federal EESS downlink allocation to primary status, limited by 5 536A, & (3) broaden the secondary non-Federal EESS (space-to-space) allocation to secondary ISS, limited by 5 536
27-27 5 GHz	FIXED, MOBILE & ISS 5 536 5 537 (Region 2 & 3 NGSO satellites have equal status with GSOs) In Regions 2 & 3, FSS uplinks	Federal FIXED, MOBILE, and ISS 5 536 Secondary non-Federal EESS (space-to-space)	No change	Federal FIXED, MOBILE, and ISS 5 536 Secondary non-Federal ISS 5 536	In 500 megahertz, broaden secondary non-Federal EESS (space-to-space) allocation to secondary ISS, limited by 5 536

D RNSS Allocations

72. The Global Positioning System (GPS), which currently consists of 24 satellites operated by the U.S. Government, is authorized under the RNSS allocation These satellites allow any person with a GPS receiver to determine his or her precise longitude, latitude, altitude, and time anywhere on the planet.[102] GPS currently uses the RNSS downlink allocations in the bands 1215-1240 MHz and 1559-1610 MHz (no changes are proposed for the band 1559-1610 MHz in this proceeding). GPS provides two levels of service: a Standard Positioning Service (SPS) using the L1 frequency[103] and a Precise Positioning Service (PPS) using the L1 and L2 frequencies [104] SPS is available to all users on a continuous, worldwide basis, free of any direct user charge.[105] Table 4, which is at the end of this section, gives an overview of our RNSS proposals.

1 RNSS at 960-1300 MHz

73. *Background.* The band 960-1215 MHz is allocated to the aeronautical radionavigation service (ARNS) on a primary basis throughout the world International footnote 5.328 states that ARNS use of the band 960-1215 MHz 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.[106] Prior to WRC-03, the band 1164-1215 MHz was allocated to the RNSS (space-to-Earth) (space-to-space) on primary basis by footnote 5 328A, subject to technical limits and a requirement that RNSS stations not cause interference to, nor claim protection from, stations in the ARNS.[107]

74 The band 1215-1300 MHz is allocated to the radiolocation service, RNSS (space-to-Earth) (space-to-space), EESS (active), and SRS (active) on a co-primary basis throughout the world. The band 1240-1300 MHz is also allocated to the ARNS on a primary basis in the United States and Canada (5 334)[108] and to the amateur service on a secondary basis throughout the world The amateur-satellite

[102] Each GPS satellite takes 12 hours to orbit the Earth These satellites are equipped with accurate clocks so that they can broadcast signals with a precise time message The GPS receiver uses the time signals from multiple satellites to determine precise latitude, longitude, and altitude

[103] The International Civil Aviation Organization (ICAO) has designated the L1 links of GPS and the Russian GLONASS system as the principal elements of the Global Navigation Satellite System (GNSS). The GPS L1 SPS ranging signal is a 2 046 megahertz null-to-null bandwidth signal centered about 1575 42 MHz. The transmitted ranging signal that comprises the GPS-SPS is not limited to a null-to-null signal and extends through the band 1563.42-1587 42 MHz The Wide Area Augmentation System (WAAS), when it becomes operational, will utilize the same band and carrier frequency as GPS L1

[104] The GPS L2 link shares the band 1215-1240 MHz with radiolocation services, such as military radars. The 1240-1260 MHz band is shared by GLONASS L2 and the nationwide joint surveillance system radar network operated by the Federal Aviation Administration and the Department of Defense. The GPS L2 carrier frequency is 1227 60 MHz. Although the L2 frequency is currently not part of SPS, the U.S. Government has decided to add a second non-safety-of-life coded signal at the GPS L2 frequency on satellites scheduled for launch beginning in 2005.

[105] PPS is an encoded signal primarily intended for use by the U.S. Department of Defense.

[106] 47 C.F.R § 2 106, footnote 5.328.

[107] Footnote 5.328A reads as follows *Additional allocation* the band 1164-1215 MHz is also allocated to the radionavigation-satellite service (space-to-Earth) (space-to-space) on a primary basis. The aggregate power flux-density produced by all the space stations of all radionavigation-satellite systems at the Earth's surface shall not exceed the provisional value of –115 dB(W/m²) in any 1 MHz band for all angles of arrival. Stations in the radionavigation-satellite service shall not cause harmful interference to, nor claim protection from, stations of the aeronautical-radionavigation service. The provisions of Resolution 605 (WRC-2000) apply.

[108] 47 C F R. § 2 106, footnote 5 334

service (Earth-to-space) (AMSAT uplinks) may operate in the band 1260-1270 MHz, subject to not causing harmful interference to other services operating in accordance with the Table [109]

75 While the use of the radiolocation service and the ARNS are unconstrained in the band 1215-1300 MHz, stations in the EESS (active) and SRS (active), which are commonly referred to as active spaceborne sensors, and the RNSS are limited. Specifically, RNSS (space-to-space) use of the band 1215-1300 MHz is not intended to provide safety service applications, and its use will not impose any additional constraints on other systems or services operating in accordance with the International Table.[110] Active spaceborne sensors must not cause interference to, claim interference from, or otherwise impose constraints on the operation or development of the radiolocation service in the band 1215-1300 MHz, the RNSS in the segment 1215-1260 MHz, the ARNS in the United States and Canada in the band 1240-1300 MHz, and other primary services.[111]

76. In the United States, the band 960-1215 MHz is Federal/non-Federal Government shared spectrum that is allocated to the ARNS on a primary basis. International footnote 5.328 has been adopted domestically, thereby reserving this ARNS allocation for the operation and development of airborne electronic aids to air navigation and any directly associated ground-based facilities. This band is heavily used for safety-of-life services within national and international airspace systems. Nearly all aspects of aircraft identification, tracking, control, navigation, collision avoidance, and landing guidance are carried out in this band. Major ARNS systems in this band include Distance Measuring Equipment (DME), Air Traffic Control Radar Beacon System (ATCRBS), the military's tactical air navigation system (TACAN), and the Traffic Alert and Collision Avoidance System (TCAS). These aeronautical systems are not only essential to civil and military aircraft, but also to special users such as the U.S. Space Shuttle program. In addition, footnote US224 states that Federal Government systems utilizing spread spectrum techniques may, under limited circumstances, operate in the band 960-1215 MHz on the condition that harmful interference is not caused to ARNS.[112]

77 The band 1215-1300 MHz is allocated to the EESS (active), SRS (active), and radiolocation service on a primary basis for Federal Government use.[113] The use of the radiolocation service allocation in this band is primarily for the military services, except that limited secondary use is permitted by other Federal agencies in support of experimentation and research programs.[114] The sub-band 1215-1240 MHz is also allocated to the RNSS (space-to-Earth) (space-to-space) on a primary basis for Federal Government use.[115] Footnotes 5.332 and 5.335 have been added to the Federal Government Table,

[109] 47 C.F R. § 2.106, footnote 5 282

[110] 47 C F R § 2.106, footnote 5.329A.

[111] 47 C.F.R § 2.106, footnotes 5 332, 5.335, and 5.335A. In certain Region 1 and 3 countries, the band 1215-1300 MHz is also allocated to the fixed and mobile services on a co-primary basis (5.330) and/or to the radionavigation service on a primary basis (5 331). 47 C F R. § 2 106, footnotes 5.330 and 5 331. In addition, the use of the RNSS allocation in the band 1215-1300 MHz is subject to the condition that no harmful interference is caused to, and no protection is claimed from, the radionavigation service in the countries listed in footnote 5.331. 47 C F R. § 2.106, footnote 5.329.

[112] 47 C.F.R § 2 106, footnote US224

[113] Radiolocation use is primarily for the military services. 47 C F.R. § 2 106, footnote G56.

[114] 47 C F R § 2 106, footnote G56 The major radiolocation systems in this band are operated by the Department of Defense. Radars in this band are also mounted on tethered balloons along the southern border of the U.S. for drug interdiction purposes to detect low-flying aircraft entering U S airspace.

[115] GPS makes use of this RNSS downlink allocation with a center frequency at 1227 6 MHz, which is generally known as the L2 link

thereby requiring that active spaceborne sensors not cause interference to, claim interference from, or otherwise impose constraints on the operation or development of the RNSS and radiolocation service in the sub-band 1215-1260 MHz and the ARNS in the sub-band 1240-1300 MHz

78. Footnote 5.334 has been added to the U S Table, thereby allocating the sub-band 1240-1300 MHz to the ARNS on a primary basis for Federal and non-Federal Government use. The band 1215-1300 MHz is allocated to the EESS (active) and SRS (active) on a secondary basis for non-Federal Government use. The sub-band 1240-1300 MHz is allocated to the amateur service on a secondary basis and the sub-band 1260-1270 MHz is available for AMSAT uplinks.

79. At WRC-03, the primary RNSS (space-to-Earth) (space-to-space) allocation in the band 1164-1215 MHz was removed from footnote 5.328A and made a table entry. WRC-03 revised footnote 5 328A to establish conditions for the protection of the ARNS from RNSS systems in the band 1164-1215 MHz [116] WRC-03 also revised footnote 5 329 to establish conditions for the protection of radiodetermination services from RNSS systems in the band 1215-1300 MHz.[117] WRC-03 decided to continue to resolve RNSS intersystem technical compatibility issues on a bilateral basis until January 1, 2005; after which, normal coordination procedures would apply [118]

80. In a recent action, we allocated the band 1164-1215 MHz to the RNSS (space-to-Earth) (space-to-space) on a primary basis on the condition that ARNS is protected (footnote US385).[119] We took this action based on NTIA's recommendation. We stated that in this Omnibus NPRM, we would address how best to reference the WRC-03 protection criteria for ARNS, whether by adopting revised footnote 5.328A or by modifying our Part 25 satellite service rules.

81 *Proposals* We propose to remove the RNSS (space-to-Earth) (space-to-space) allocation in the band 1164-1215 MHz from footnote US385 and make it a table entry.[120] We also propose to adopt

[116] Footnote 5 328A was revised to read as follows "Stations in the radionavigation-satellite service in the band 1164-1215 MHz shall operate in accordance with the provisions of Resolution 609 (WRC-03) and shall not claim protection from stations in the aeronautical radionavigation service in the band 960-1215 MHz No 5 43A does not apply. The provisions of No 21.18 shall apply" *See WRC-03 Final Acts*, Resolution 609 (Coordination and bilateral resolution of technical compatibility issues for RNSS networks and systems in the bands 1164-1300 MHz, 1559-1610 MHz and 5010-5030 MHz)

[117] Footnote 5.329 was revised to read as follows "Use of the radionavigation-satellite service in the band 1215-1300 MHz shall be subject to the condition that no harmful interference is caused to, and no protection is claimed from, the radionavigation service authorized under No. 5 331 Furthermore, the use of the radionavigation-satellite service in the band 1215-1300 MHz shall be subject to the condition that no harmful interference is caused to the radiolocation service. No 5 43 shall not apply in respect of the radiolocation service Resolution 608 (WRC-03) shall apply." *See WRC-03 Final Acts*, Resolution 608 (Use of the frequency band 1215-1300 MHz by systems of the RNSS (space-to-Earth)).

[118] Specifically, WRC-03 adopted footnote 5.328B, which reads as follows "The use of the bands 1164-1300 MHz, 1559-1610 MHz and 5010-5030 MHz by systems and networks in the radionavigation-satellite service for which complete coordination or notification information, as appropriate, is received by the Radiocommunication Bureau after 1 January 2005 is subject to the application of the provisions of Nos 9 12, 9.12A and 9.13. Resolution 610 (WRC–03) shall also apply"

[119] *Above 28 MHz R&O* at paras 31 and 33 Footnote US385 reads as follows The band 1164-1215 MHz is also allocated to the radionavigation-satellite service (space-to-Earth, space-to-space) on a primary basis In this band, stations in the radionavigation-satellite service shall not cause harmful interference to, nor claim protection from, stations of the aeronautical radionavigation service

[120] Consequently, footnote US385 would be deleted

international footnote 5.328A, which requires that RNSS stations in the band 1164-1215 MHz operate in accordance with Resolution 609 (WRC-03) and that they not claim protection from ARNS in the band 960-1215 MHz.

82 NTIA has informed us that it intends to limit Federal Government use of the RNSS (space-to-Earth) (space-to-space) allocation in the band 1215-1240 MHz through new footnote Gxxx, which would read as follows:[121]

> Gxxx Use of the radionavigation-satellite service in the band 1215-1240 MHz shall be subject to the condition that no harmful interference is caused to, and no protection is claimed from, the radionavigation service authorized under ITU Radio Regulation No. 5.331. Furthermore, the use of the radionavigation-satellite service in the band 1215-1240 MHz shall be subject to the condition that no harmful interference is caused to the radiolocation service. ITU Radio Regulation No. 5.43 shall not apply in respect of the radiolocation service. ITU Resolution 608 (WRC-03) shall apply

83. As indicated above, the band 1240-1300 MHz is allocated to the ARNS in the United States and Canada on a primary basis in footnote 5.334 and this international footnote has previously been added to the U.S. Table. At WRC-03, this ARNS allocation was moved to footnote 5.331, but its primary status was not explicitly restated. Therefore, we propose to remove this primary ARNS allocation in the band 1240-1300 MHz from deleted international footnote 5.334 and make it a table entry. We request comment on these proposals and on whether the RNSS allocation at 1215-1240 MHz, which is currently limited to Federal Government use, should be expanded to the band 1215-1300 MHz and made available for both Federal and non-Federal Government use. In this regard, we note that Lockheed Martin Corporation in 2001 filed a waiver with the Commission in order to use the band 1215-1240 MHz for its Regional Positioning System.[122] If non-Federal Government entities demonstrate that they have RNSS requirements in the band 1215-1300 MHz, we will work closely with NTIA to determine if spectrum can be allocated for that purpose.

2. RNSS at 5000-5030 MHz

84. *Background* The band 5000-5150 MHz is allocated to the ARNS and the aeronautical mobile-satellite (R) service (AMS(R)S) on a co-primary basis throughout the world.[123] Footnote 5.444 states that the band 5030-5150 MHz is to be used for the operation of the Microwave Landing System (MLS) for precision approach and landing of aircraft and that MLS requirements take precedence over other uses of this band.[124] However, the MLS currently operates only in the segment 5030-5091 MHz and the AMS(R)S allocation is unused.

85. Various segments of the band 5000-5150 MHz are allocated to other radiocommunication services on a worldwide basis. Specifically, the band 5000-5010 MHz is allocated to the RNSS

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[121] *See* NTIA WRC-03 Recommendations, Enclosure 1 at Agenda Item 1.15 and Enclosure 2 at p. 59. We note that since the band 1240-1300 MHz is not allocated to the RNSS in the United States, NTIA has created footnote Gxxx, which is based on footnote 5.329, except that footnote Gxxx applies only to the band 1215-1240 MHz, whereas footnote 5 329 applies to the band 1215-1300 MHz

[122] *See* Lockheed Martin Petition for Rule Making, received September 28, 2001; placed on public notice on November 15, 2001, in Rep. No 2512, therein designated as RM-10331 Lockheed Martin stated that it currently provides the geostationary component of the Wide Area Augmentation System (WAAS) for demonstration purposes, and that it will be necessary for a commercial operator to obtain a license to build and deploy GPS augmentation broadcast satellites.

[123] The band 5000-5150 MHz is allocated to the AMS(R)S by footnote 5.367. 47 C.F.R § 2 106, footnote 5.367

[124] 47 C.F.R. § 2 106, footnote 5 444

(Earth-to-space) on a primary basis (footnote 5 443A) [125] The band 5010-5030 MHz is allocated to the RNSS (space-to-Earth) (space-to-space) on a primary basis and this RNSS allocation is subject to technical limits to ensure that harmful interference is not caused to the MLS or the RAS in the adjacent 4990-5000 MHz band (footnote 5.443B).[126] The band 5091-5150 MHz is allocated to the FSS (Earth-to-space) on a primary basis and its use is limited to feeder links for NGSO MSS systems, subject to coordination and other regulatory requirements to protect RNSS and ARNS (footnote 5.444A).[127]

86 In the United States, the band 5000-5150 MHz is allocated to the ARNS and the AMS(R)S on a co-primary basis for Federal and non-Federal Government use.[128] Aeronautical mobile communications which are an integral part of ARNS systems may also be performed in this band.[129] The band 5091-5150 MHz is allocated for NGSO MSS feeder links in accordance with footnote 5.444A. The MLS continues to take precedence over other uses of the band 5000-5150 MHz (footnote US370), instead of the segment 5030-5150 MHz (footnote 5.444), because the segment 5000-5030 MHz has not been allocated for RNSS use in the United States. In addition, the Commission provides guidance to NGSO MSS earth station operators to assist them in better protecting the MLS[130] and urges applicants for airborne or space station assignments to take all practicable steps to protect RAS observations in the band 4990-5000 MHz.[131]

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[125] 47 C.F R § 2 106, footnote 5.443A

[126] 47 C F R § 2.106, footnote 5.443B, which states. *Additional allocation* The band 5010-5030 MHz is also allocated to the radionavigation-satellite service (space-to-Earth) (space-to-space) on a primary basis. In order not to cause harmful interference to the microwave landing system operating above 5030 MHz, the aggregate power flux-density produced at the Earth's surface in the band 5030-5150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the band 5010-5030 MHz shall not exceed -124 5 dB(W/m^2) in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4990-5000 MHz, the aggregate power flux-density produced in the 4990-5000 MHz band by all the space stations within any radionavigation-satellite service (space-to-Earth) system operating in the 5010-5030 MHz band shall not exceed the provisional value of -171 dB(W/m^2) in a 10 MHz band at any radio astronomy observatory site for more than 2% of the time For the use of this band, Resolution 604 (WRC-2000) applies.

[127] 47 C.F.R § 2 106, footnote 5.444A, which states: *Additional allocation* the band 5091-5150 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a primary basis. This allocation is limited to feeder links of non-geostationary mobile-satellite systems and is subject to coordination under No 9.11A. In the band 5091-5150 MHz, the following conditions also apply 1) prior to 1 January 2010, the use of the band 5091-5150 MHz by feeder links of non-geostationary-satellite systems in the mobile-satellite service shall be made in accordance with Resolution 114 (WRC-95), 2) prior to 1 January 2010, the requirements of existing and planned international standard systems for the aeronautical radionavigation service which cannot be met in the 5000-5091 MHz band, shall take precedence over other uses of this band, 3) after 1 January 2008, no new assignments shall be made to stations providing feeder links of non-geostationary mobile-satellite systems; and 4) after 1 January 2010, the fixed-satellite service will become secondary to the aeronautical radionavigation service.

[128] The allocation to the AMS(R)S is found in international footnote 5.367, which has been added to the U.S Table.

[129] 47 C F R § 2 106, footnote US260

[130] 47 C.F.R § 2.106, footnote US344, which reads· In the band 5091-5250 MHz, non-Government earth stations in the fixed-satellite service (Earth-to-space) shall be coordinated through the Frequency Assignment Subcommittee (see Recommendation ITU-R S 1342) In order to better protect the operation of the international standard system (microwave landing system) in the band 5000-5091 MHz, non-Government tracking and telecommand operations should be conducted in the band 5150-5250 MHz.

[131] 47 C F.R. § 2.106, footnotes US211, US74 Footnote US211 goes on to state that footnote US74 applies. Thus, in the band 4990-5000 MHz, the RAS is protected from extraband radiation only to the extent that such radiation

(continued ..)

87. At WRC-03, the primary RNSS (Earth-to-space) allocation in the band 5000-5010 MHz was removed from international footnote 5.443A and made a table entry and footnote 5.443A was suppressed The primary RNSS (space-to-Earth) (space-to-space) allocation in the band 5010-5030 MHz was removed from international footnote 5.443B and made a table entry. Footnote 5.443B was modified to remove the RNSS allocation and to specify that RNSS systems must comply with the pfd limits in the band 4990-5000 MHz defined in Resolution 741. Those pfd limits are more stringent than the current provisional limit of -171 dB(W/m²) in a 10 megahertz band at any RAS site for no more than 2% of the time [132] Under Resolution 741, the pfd produced in the band 4990-5000 MHz by any GSO RNSS network operating in the band 5010-5030 MHz must not exceed the current limit at all times, that is, no 2% exception.[133] For NGSO RNSS networks, the limit is significantly tightened to -245 dB(W/m²) in a 10 megahertz band at any RAS site for no more than 2% of the time.

88 At WRC-03, footnote 5 444A was modified to extend the period during which NGSO MSS feeder links have primary status in the band 5091-5150 MHz by ten years, that is, to January 1, 2018.[134] After that date, NGSO MSS feeder links will become secondary to the ARNS. In addition, the period during which new assignments to NGSO MSS earth stations may be made was extended by four years to January 1, 2012. Finally, footnote 5.444 was modified to refer to Resolution 114, which was modified at WRC-03 Specifically, WRC-03 resolved that the ARNS and FSS allocations in the band 5091-5150 MHz should be reviewed at a future competent conference prior to 2018 and that studies should be undertaken on compatibility between new ARNS systems and NGSO MSS feeder links

89 *Proposal* Consistent with the *WRC-03 Final Acts*, we propose to allocate the band 5000-5030 MHz to the RNSS on a primary basis for Federal and non-Federal Government use. We further propose to limit the use of the segment 5000-5010 MHz to Earth-to-space transmissions and the segment 5010-5020 MHz to space-to-Earth and space-to-space transmissions. Consequently and also

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(. continued from previous page)
exceeds the level which would be present if the offending station were operating in compliance with its technical rules

[132] Modified footnote 5 443B reads as follows. "In order not to cause harmful interference to the microwave landing system operating above 5030 MHz, the aggregate power flux-density produced at the Earth's surface in the band 5030-5150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the band 5010-5030 MHz shall not exceed –124.5 dB(W/m²) in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4990-5000 MHz, radionavigation-satellite service systems operating in the band 5010-5030 MHz shall comply with the limits in the band 4990-5000 MHz defined in Resolution 741 (WRC-03) "

[133] *See WRC-03 Final Acts*, Resolution 741, *resolves* 1.

[134] Modified footnote 5.444A reads as follows "*Additional allocation* the band 5091-5150 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a primary basis This allocation is limited to feeder links of non-geostationary mobile-satellite systems in the mobile-satellite service and is subject to coordination under No 9 11A

In the band 5091-5150 MHz, the following conditions also apply·

– prior to 1 January 2018, the use of the band 5091-5150 MHz by feeder links of non-geostationary-satellite systems in the mobile-satellite service shall be made in accordance with Resolution 114 (Rev.WRC-03);

– prior to 1 January 2018, the requirements of existing and planned international standard systems for the aeronautical radionavigation service which cannot be met in the 5000-5091 MHz band, shall take precedence over other uses of this band,

– after 1 January 2012, no new assignments shall be made to earth stations providing feeder links of non-geostationary mobile-satellite systems;

– after 1 January 2018, the fixed-satellite service will become secondary to the aeronautical radionavigation service "

because MLS does not operate in the band 5000-5030 MHz, we propose to replace footnote US370 with footnote 5.444, thereby removing the band 5000-5030 MHz from the spectrum in which MLS has precedence over other uses. In order to protect MLS operations above 5030 MHz and RAS observations in the band 4990-5000 MHz, we propose to limit the adjacent band pfd at the Earth's surface from RNSS operations in the band 5010-5030 MHz through the adoption of footnote 5 443B.[135] This action would align the band 5000-5030 MHz with international usage by providing 10 megahertz of spectrum for RNSS uplinks and 20 megahertz for RNSS downlinks and crosslinks. We seek comment on this proposal and information on future ARNS use of the band 5030-5150 MHz. Table 4, below, provides an overview of all of the RNSS proposals discussed in this section.

[135] See note 132, *supra*, for the text of revised footnote 5 443B

Table 4: RNSS Proposals (Primary allocations are shown in capitals, secondary allocations are in normal characters, unless otherwise specified)

Band	International Allocations Prior to WRC-03	Existing U S Allocations	WRC-03 Final Acts	Proposed U S Allocations	Remarks
960-1215 MHz	ARNS 5 328 (ARNS use 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) 5 328A (1164-1215 MHz is allocated to the RNSS (space-to-Earth) (space-to-space) on a primary basis, the aggregate pfd shall not exceed the provisional value of -115 dB (W/m²) in any 1 MHz RNSS shall not cause harmful interference (IX) to, nor claim protection from, ARNS)	ARNS 5 328 US385 (1164-1215 MHz is allocated to the RNSS (space-to-Earth, space-to-space) on a primary basis, but may not cause harmful IX to, nor claim protection from, ARNS) US224 (Federal systems utilizing spread spectrum techniques for terrestrial communication, navigation & identification may operate if IX not caused to ARNS)	960-1164 MHz ARNS 5 328 1164-1215 MHz ARNS 5 328 RNSS (space-to-Earth)(space-to-space) 5 328A (RNSS cannot claim protection from ARNS in the band 960-1215 MHz) 5 328B (resolve intersystem technical compatibility issues on a bilateral basis until 2005)	960-1164 MHz ARNS 5 328 US224 1164-1215 MHz ARNS 5 328 RNSS (space-to-Earth) (space-to-space) 5 328A US224	No substantive change Highlight the RNSS allocation by moving it from footnote US385 up as a table entry Adopt 5 328A domestically
1215-1240 MHz	RNSS (space-to-Earth) (space-to-space) 5 329 (RNSS downlinks must not cause IX to the radionavigation service (RNS)) 5 329A (RNSS (space-to-space) use in the band 1215-1300 MHz is not intended to provide safety service applications) EESS (active) & SRS (active) 5 332 (active spaceborne sensors in 1215-1260 MHz must not cause IX to, claim protection from, or otherwise impose constrains on operation or development of the radiolocation service, RNSS, & other primary services) RADIOLOCATION In certain Region 1 & 3 countries, 1215-1300 MHz is allocated on a primary basis to the fixed & mobile services (5 330) & RNS (5 331)	Federal RNSS (space-to-Earth) (space-to-space) Federal EESS (active) & SRS (active) 5 332 Federal RADIOLOCATION G56 (in the band 1215-1300 MHz, use is primarily for the military services) Secondary non-Federal EESS (active) & SRS (active)	RNSS (space-to-Earth) (space-to-space) 5 328B 5 329 5 329A EESS (active) & SRS (active) RADIOLOCATION 5 330 5 331 5 332	Federal RNSS (space-to-Earth) (space-to-space) Gxxx (RNSS must not cause harmful IX to, nor claim protection from, the ARNS and RNSS must not cause harmful interference to the radiolocation service) Federal EESS (active) & SRS (active) 5 332 Federal RADIOLOCATION G56 Secondary non-Federal EESS (active) & SRS (active)	Federal Government use of this RNSS allocation would be limited by requiring that incumbent services be protected
1240-1300 MHz	RNSS (space-to-Earth) (space-to-space) 5 329 5 329A EESS (active) & SRS (active), active spaceborne sensors must not cause IX to, claim protection from, or otherwise impose constraints on operation or development of the (1) radiolocation service or primary services (5 335A), or (2) ARNS in the U S & Canada (5 335) RADIOLOCATION Amateur 5 282 (5650-5670 MHz is allocated for amateur-satellite uplinks) 5 330 5 331 5 332 5 334 (In U S & Canada, 1240-1300 MHz is allocated to ARNS on primary basis)	Federal EESS (active) & SRS (active) 5 332 5 335 Federal RADIOLOCATION G56 5 334 Secondary non-Federal EESS (active) & SRS (active) Amateur 5 282	RNSS (space-to-Earth) (space-to-space) 5 328B 5 329 5 329A EESS (active) & SRS (active) 5 335 5 335A RADIOLOCATION Amateur 5 282 (5650-5670 MHz is allocated for amateur-satellite uplinks) 5 330 5 332 5 331 (in certain nations, primary RNS in 1215-1300 MHz, in U S & Canada, 1240-1300 MHz allocated to ARNS)	Primary Federal EESS (active) & SRS (active) Federal RADIOLOCATION G56 Federal & non-Federal ARNS 5 332 5 335 Secondary non-Federal EESS (active) & SRS (active) Amateur	Move ARNS allocation to a new United States footnote so that its primary status can be maintained
5000-5150 MHz	ARNS 5 444 (5030-5150 MHz is to be used for microwave landing system (MLS)) 5 367 (5000-5150 MHz allocated for primary AMS(R)S) 5 443A (5000-5010 MHz is allocated to the RNSS (Earth-to-space) on a primary basis) 5 443B (5010-5030 MHz is allocated to the RNSS (space-to-Earth)(space-to-space) on a primary basis, provisional aggregate pfd limits established) 5 444A (5091-5150 MHz allocated for primary NGSO MSS feeder uplinks until 2010)	ARNS US260 (aeronautical mobile, integral to ARNS, permitted) US370 (5000-5150 MHz is to be used for MLS) 5 367 US211 (applicants urged to protect RAS) 5 444A US344 (non-Federal tracking & telecommand should be conducted in 5150-5250 MHz)	5000-5010 MHz ARNS 5 367 RNSS (Earth-to-space) 5010-5030 MHz ARNS 5 367 RNSS (space-to-Earth) (space-to-space) 5 328B 5 443B 5030-5150 MHz ARNS 5 367 5 444 5 444A	5000-5010 MHz ARNS 5 367 US260 US344 RNSS (Earth-to-space) US211 5010-5030 MHz ARNS US260 US344 RNSS (space-to-Earth) (space-to-space) 5 443B 5 367 US211 5030-5150 MHz ARNS US260 5 367 5 444 5 444A US211 US344	Allocate 10 megahertz for RNSS uplinks Allocate 20 megahertz for RNSS downlinks and crosslinks Replace US370 with 5 444

E Little LEO Feeder Link Spectrum

90 *Background* The band 1390-1392 MHz is allocated to the radiolocation service on a primary basis throughout the world, and it is also allocated to the fixed and mobile services on a co-primary basis in Region 1. The band is also allocated to the SRS (passive) and EESS (passive) on a secondary basis by footnote 5.339.[136] Further, footnote 5.149 urges administrations to take all practicable steps when assigning uses in the band 1330-1400 MHz, to protect the RAS from harmful interference.[137] Footnote 5.149 also stresses that emissions from spaceborne or airborne stations can be particularly serious sources of interference to the RAS.

91 The band 1430-1432 MHz is allocated to the fixed and mobile services on a co-primary basis throughout the world, except that the aeronautical mobile service is prohibited in Region 1. This band is also being used by some countries, including the United States, for passive research conducted in a program for the search for intentional emissions of extraterrestrial origin.[138] Finally, the band 1400-1427 MHz, which lies between the two bands at issue, is allocated worldwide for passive operations and footnote 5.340 prohibits the transmission of all emissions in the band 1400-1427 MHz on a worldwide basis [139] Specifically, the band is allocated to the RAS, EESS (passive), and SRS (passive) on a co-primary basis throughout the world. The band 1400-1427 MHz is allocated to the RAS because the rest frequency of neutral hydrogen (HI) is at 1420.406 MHz and its observation is one of the radio-frequency lines of the greatest importance to radio astronomy [140]

92 In the United States, the bands 1390-1392 MHz and 1430-1432 MHz were reallocated in 2001 from Federal Government use to exclusive non-Federal Government use in the *27 Megahertz R&O* [141] In that action, the Commission provisionally allocated these bands to the FSS on a primary basis, with the use of the FSS allocation in the band 1390-1392 MHz limited to Earth-to-space transmissions and with the use of the FSS allocation in the band 1430-1432 MHz limited to space-to-Earth transmissions.[142] The use of these FSS allocations are further limited to feeder links[143] for the Non-Voice NGSO MSS, which are generally know as Little LEOs, and is contingent on the adoption of similar

[136] 47 C F R § 2 106, footnote 5 339

[137] 47 C.F.R § 2 106, footnote 5.149.

[138] 47 C.F.R § 2 106, footnote 5.341.

[139] 47 C F.R § 2 106, footnote 5.340. In the United States, we interpret this international requirement as no station may transmit in the band 1400-1427 MHz. 47 C F R § 2 106, footnote US246

[140] *See* ITU *Handbook on Radio Astronomy*, Radiocommunication Bureau, Geneva, 1995 at page 13.

[141] *Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands*, ET Docket No 00-221, *Report and Order and Memorandum Opinion and Order*, 17 FCC Rcd 368 (2002) (*27 Megahertz R&O*)

[142] Specifically, we added primary FSS allocations as table entries in the bands 1390-1392 MHz (Earth-to-space) and 1430-1432 (space-to-Earth) and adopted footnote US368. Because satellites are power limited, the downlink allocation is normally in the lower band. However, at the request of CORF, we switched the directional indicators in order to protect RAS observations in the band 1350-1400 MHz *See 27 Megahertz R&O* at para. 52.

[143] A feeder link is defined as a radio link from an earth station at a given location to a space station, or vice versa, conveying information for a radiocommunication service other than for the FSS The given location may be at a specified fixed point, or at any fixed point within specified areas. 47 C F R. § 2 1. Thus, in the case of Little LEOs, a dedicated feeder link allocation would free up spectrum for service link use A service link is a radio link from a subscriber unit to a space station, or vice versa.

international allocations [144] In addition, the domestic Little LEO feeder link allocation was contingent on the completion of spectrum sharing studies, as well as other coordination and technical limitations as spelled out in footnote US368 [145]

93. In the *27 Megahertz R&O*, the Commission also allocated the band 1390-1392 MHz to the fixed and mobile except aeronautical mobile services on a co-primary basis with the provisional FSS uplink allocation. The band 1390-1392 MHz was made available for use on an unpaired basis. The Commission revised footnote US311 to take note of the fact that RAS observations are made in the band 1350-1400 MHz on an unprotected basis at 16 sites.[146] The Commission maintained the primary land mobile service allocation in the band 1430-1432 MHz, shifted the Wireless Medical Telemetry Service (WMTS) out of this spectrum, except that WMTS operations in seven cities will continue to operate in the segment 1430-1431.5 MHz,[147] and otherwise made this band available for commercial telemetry use, such as meter reading The secondary fixed service allocation, which is limited to telemetry uses, in the band 1430-1432 MHz was raised to primary status.

94 The international primary passive allocations for the RAS, EESS, and SRS in the band 1400-1427 MHz have been adopted domestically. However, rather than adopting footnote 5.149 regarding protection of passive operations, the Commission adopted footnote US74, which states that the RAS in the band 1400-1427 MHz shall be protected from extraband radiation only to the extent that such radiation exceeds the level permitted for a properly operated station.[148]

95. At WRC-03, the United States was able to garner conditional support for a worldwide secondary allocation for Little LEO feeder links. Specifically, WRC-03 adopted footnote 5.339A, which provides for secondary FSS allocations at 1390-1392 MHz for Earth-to-space transmissions and at

[144] Little LEOs (Low Earth Orbit satellites), which operate under MSS allocations, are prohibited from providing voice services and from operating in the geostationary orbit. In the Commission's Rules, 1.85 megahertz of spectrum has been designated for use by Little LEO downlinks (137-138 MHz and 400.15-401 MHz) and 2 2 megahertz of spectrum has been designated as being available for use by Little LEO uplinks (148-150.05 MHz and 399 9-400 05 MHz) 47 C F R § 25.202(a)(3). Currently, Little LEO spectrum must be used for both service links and feeder links. At this time, ORBCOMM LLC and Volunteers in Technical Assistance, Inc. (VITA) are providing service using Little LEO spectrum.

[145] Footnote US368 reads as follows: "The band 1390-1392 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a primary basis and the band 1430-1432 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis, limited to feeder links for the Non-Voice Non-Geostationary Mobile-Satellite Service, and contingent on (1) the completion of sharing studies including the measurement of emissions from equipment that would be employed in operational systems and demonstrations to validate the studies as called for in Resolution 127 (WRC-2000), (2) the adoption of worldwide feeder link allocations at the 2003 World Radiocommunication Conference (WRC-03), and (3) compliance with any technical and operational requirements that may be imposed at WRC-03 to protect passive services in the 1400-1427 MHz band from unwanted emissions associated with such allocations These allocations become effective upon adoption of worldwide allocations at WRC-03 If no such allocations are adopted by WRC-03, these allocations shall be considered null and void, with no grandfathering of rights. Individual assignments shall be coordinated with the Interdepartmental Radio Advisory Committee's (IRAC) Frequency Assignment Subcommittee (FAS) (see, for example, Recommendations ITU-R RA 769-1 and ITU R SA 1029-1) to ensure the protection of passive services in the 1400-1427 MHz band Coordination shall not be completed until the feeder downlink system is tested and certified to be in conformance with the technical and operational requirements for the protection of passive services in the 1400-1427 MHz band Certification and all supporting documentation shall be submitted to the Commission and FAS prior to launch "

[146] 47 C.F R § 2 106, footnote US311.

[147] 47 C F.R § 2.106, footnote US350.

[148] 47 C F.R § 2.106, footnote US74.

1430-1432 MHz for space-to-Earth transmissions for Little LEO operations, subject to Resolution 745 [149] In Resolution 745, WRC-03 resolves that the Little LEO feeder link allocations "shall not be used until the completion of ITU-R studies on all identified compatibility issues as shown in Annex 1 of this Resolution and the results of these studies shall be reported to WRC-07 [World Radiocommunication Conference, 2007] and the decisions should be taken by WRC-07 accordingly."[150]

96. *Proposal* While WRC-03 allocated spectrum for Little LEO feeder links on a secondary basis throughout the world, WRC-03 resolved that use of these allocations is contingent on the subsequent completion of ITU-R spectrum sharing studies to determine the impact of these NGSO FSS operations on incumbent services, including passive service operations in the adjacent band 1400-1427 MHz. Furthermore, Resolution 745 indicates that any Little LEO use of these bands is subject to additional decisions on compatibility issues that may be adopted at WRC-07.[151]

97 Given the differences between US368 and the decision made at WRC-03, we are reconsidering this conditional allocation herein to conform to the WRC-03 allocation. We tentatively conclude that the best way forward is to implement WRC-03's decision regarding Little LEO feeder links. We continue to recognize that it is important for sharing studies for these bands to be successfully completed.[152] We tentatively find that replacing footnote US368 with 5.339A is insufficient for our needs. Instead, we propose to maintain footnote US368 in a modified form that recognizes the actions taken at WRC-03 Specifically, we propose the following actions· First, we would downgrade the provisional Little LEO feeder link allocations from primary to secondary status. Second, we would require the completion of ITU-R studies on all identified compatibility issues as shown in Annex 1 of Resolution 745 (WRC-2003). Third, we would make any use of the worldwide feeder links subject to any further compatibility decisions by WRC-07. Accordingly, we propose to amend the Table entries for the FSS uplink allocation in the band 1390-1392 MHz and the FSS downlink allocation in the band 1430-1432 MHz to show secondary status in lieu of primary status, and to revise footnote US368 to read as follows:

> US368 The use of the bands 1390-1392 MHz and 1430-1432 MHz by the fixed-satellite service is limited to feeder links for the Non-Voice Non-Geostationary Mobile-Satellite Service and is contingent on (1) the completion of ITU-R studies on all identified compatibility issues as shown in Annex 1 of Resolution 745 (WRC-2003); (2) measurement of emissions from equipment that would be employed in operational systems and demonstrations to validate the studies as called for in Resolution 745 (WRC-2003); and (3) compliance with any technical and operational requirements that may be imposed at WRC-07 to protect other services in these bands and passive services in the band 1400-1427 MHz from unwanted emissions. Individual assignments shall be coordinated with the Interdepartment Radio Advisory Committee's (IRAC) Frequency Assignment Subcommittee (FAS) (see, for example, Recommendations ITU-R RA.769-1 and ITU-R SA.1029-1) to ensure the protection of passive services in the band 1400-1427 MHz Coordination shall not be completed until the feeder uplink and downlink systems are tested and certified to be in conformance with the technical and operational requirements for the protection of passive services in the band 1400-1427

[149] Footnote 5.339A reads as follows: "*Additional allocation* the band 1390-1392 MHz is also allocated to the fixed-satellite service (Earth-to-space) on a secondary basis and the band 1430-1432 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis. These allocations are limited to use for feeder links for non-geostationary-satellite networks in the mobile-satellite service with service links below 1 GHz, and Resolution 745 (WRC-03) applies."

[150] *See WRC-03 Final Acts* at Resolution 745 (Protection of existing services in all Regions from non-geostationary-satellite networks in the fixed-satellite service using the frequency bands around 1 4 GHz on a secondary basis), *resolves* 1

[151] *Ibid*, *resolves* 2.

[152] *See* para. 95, *supra*

MHz Certification and all supporting documentation shall be submitted to the Commission and the FAS prior to launch

98 Further, any Little LEO application for use of these bands will be subject to the outcome of this rule making. The Commission would review the results of any studies and measurements of emissions from equipment that would be employed in operational systems and demonstrations to validate the studies. The Commission would decide what technical and operational requirements to impose to protect other services, and individual assignments would be coordinated with the FAS to ensure the protection of passive services in the band 1400-1427 MHz. Any further decisions taken by WRC-07 would be considered by the Commission once they are final. We request comment on these proposals.

F Radiolocation Upgrade in the Band 2900-3100 MHz

99. *Background.* The band 2900-3100 MHz is allocated to the radionavigation service on a primary basis throughout the world, with ARNS use limited to ground-based radars.[153] In addition, prior to WRC-03, the band 2900-3100 MHz was allocated to the radiolocation service on a secondary basis throughout the world. In the band 2900-3100 MHz, the use of the shipborne interrogator-transponder system is limited to the sub-band 2930-2950 MHz,[154] and international footnote 5.427 requires that the response from radar transponders must not be capable of being confused with the response from radar beacons (racons) and must not cause interference to ship or aeronautical radars in the radionavigation service.[155]

100. In the United States, the band 2900-3100 MHz is allocated to the maritime radionavigation service on a primary basis and to the radiolocation service on a secondary basis for Federal and non-Federal Government use. This band is primarily used for maritime radars and radar beacons (racons). Radars of this type are required on cargo and passenger ships by international treaty (SOLAS) for safety purposes. Racons operate in conjunction with maritime radars to provide electronic markers to identify maritime obstructions and navigation points.[156]

101. Federal Government use of the secondary radiolocation service allocation is primarily for the military services, except that limited use is permitted for survey operations and in support of experimentation and research programs.[157] International footnote 5 427, described above, has been adopted domestically. The radiolocation service may be authorized for non-Federal Government use on the condition that no harmful interference is caused to Federal Government operations.[158] The band 2900-3000 MHz is also allocated on a primary basis to the meteorological aids service for Federal Government use and operations in this service are limited to Next Generation Weather Radar (NEXRAD) systems where accommodation in the band 2700-2900 MHz is not technically practical.[159]

[153] 47 C.F.R. § 2 106, footnote 5 426

[154] 47 C F.R § 2.106, footnote 5.425

[155] 47 C.F R § 2 106, footnote 5 427. This international footnote provides an exception by referencing ITU Radio Regulation 4 9 (no provision of these Regulations prevents the use by a station in distress, or by a station providing assistance to it, of any means of radiocommunication at its disposal).

[156] *See* http·//www.tscm com/nebbia4 html

[157] 47 C F R § 2.106, footnote G56

[158] 47 C F R. § 2 106, footnote US44

[159] 47 C.F.R. § 2.106, footnote US316

102. At WRC-03, the secondary allocation to the radiolocation service in the band 2900-3100 MHz was upgraded to primary status WRC-03 also adopted footnote 5.424A, which requires that radiolocation operations protect and not hinder radionavigation services [160]

103 NTIA requests that the Federal Government's secondary allocation for the radiolocation service in the band 2900-3100 MHz be upgraded to primary status and that the incumbent radionavigation service be protected from the new co-primary radiolocation service through the adoption of footnote 5 424A in the Federal Government Table [161]

104. *Proposal.* We propose to upgrade the Federal Government's radiolocation service allocation in the band 2900-3100 MHz to primary status and to add international footnote 5.424A to the Federal Government Table to protect important ship navigation systems. As described in more detail in the *U.S Proposal for WRC-03*, radionavigation radars operating in the band 2900-3100 MHz have demonstrated compatible operations with radiolocation systems, mainly as a result of newer radar design features that mitigate received radar-to-radar interference [162] We believe that this action would increase the usefulness of this band without causing any burden on existing operations. We request comment on this proposal and on whether the secondary non-Federal Government radiolocation service allocation should also be upgraded to primary status.

G. Terms, Definitions, and Editorial Amendments

105. In order to reflect additions and revisions to the terms and definitions listed in the ITU *Radio Regulations* and in the *WRC-03 Final Acts*, we propose to amend Section 2.1 of the Commission's Rules[163] to: (1) add definitions for adaptive system and high altitude platform station (HAPS); (2) revise the definitions for coordinated universal time (UTC), coordination area, coordination distance, facsimile, geostationary satellite, harmful interference, inclination of an orbit of an earth satellite, telegraphy, and telephony; and (3) make minor editorial modifications to the definitions for administration, broadcasting service, mobile service, permissible interference, power, public correspondence, radio, radiocommunication, safety service, semi-duplex operation, telecommunication, and telegram. We would also correct a typographical error in the definition for telemetry. The UTC definition would also be revised in Part 73. The definitions of these terms are shown in Appendix A.

106. We also propose to take the following non-substantive actions in this proceeding, which would correct and update Section 2.106 of the Commission's Rules, the Table of Frequency Allocations (Table).[164] The effect of these actions would be to reflect the *WRC-03 Final Acts* with regard to the International Table within our Rules (columns 1-3 of the Table), to remove confusing and unnecessary material from the U.S. Table (columns 4 and 5 of the Table), and to add rule part cross references in column 6 of the Table for the frequency bands where they are missing. Specifically, we would revise the

[160] Footnote 5 424A reads as follows: "In the band 2900-3100 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the radionavigation service."

[161] *See* NTIA WRC-03 Recommendations, Enclosure 1 at Agenda Item 1 17 and Enclosure 2 at p. 20

[162] *See U S Proposal for WRC-03*, Agenda Item 1 17, at pages 60-61.

[163] 47 C.F R. § 2 1. Terms and definitions listed in Section 2.1 are the definitive terms and definitions that prevail throughout the Commission's Rules.

[164] 47 C F R § 2 106

table entries in the International Table and the list of International Footnotes to reflect the *WRC-03 Final Acts* in those frequency bands not otherwise discussed herein [165]

107 In the U.S Table, we propose to take six actions. First, we would delete footnote US238 from our Rules because the transition period has expired This action means that Federal Government stations would no longer be permitted to operate in the band 1605-1705 kHz (AM Expanded Band). Second, we would delete footnote NG129 because there are no fixed stations in Alaska listed in our licensing database for the band 76-100 MHz. Consequently, we would also delete Sections 73.220(b) and 73.603(b) from our Rules. Third, we would delete footnote NG151 because licensees in the Cellular Radiotelephone Service have previously be authorized to provide fixed service on a primary basis and thus, there is no longer need for separate authority to provide auxiliary services on a secondary basis. Fourth, we would revise footnote US352 to delete the 14 sites in the band 1427-1432 MHz at which Federal operations have operated on a fully protected basis because the transition period has expired. Fifth, we would delete footnote NG176 because the fixed and mobile service allocations in the band 1710-1755 MHz, which will auctioned for use by Advanced Wireless Services (AWS), are now effective. Sixth, we would delete footnote US264 from the band 47.2-48.2 GHz in the non-Federal Government Table because the footnote does not apply to this band.

108. In the FCC Rule Part(s) column, we would add cross references to Part 90 in the bands 4750-4995 kHz, 5730-5900 kHz, 6765-7000 kHz, 9040-9400 kHz, 9900-9995 kHz, 10150-11175 kHz, 11400-11600 kHz, 12100-12230 kHz, 13410-13570 kHz, 13870-14000 kHz, 14350-14990 kHz, 15800-16350 KHz, 17410-17480 kHz, 18030-18068 kHz, 18168-18780 kHz, 19020-19680 kHz, 19800-19990 kHz, 20010-21000 kHz, 21850-21924 kHz, 22855-23200 kHz, and 23350-24890 kHz;[166]

[165] The International Table is included in our Rules for informational purposes only 47 C.F R § 2.104(a). Using the *Provisional WRC-03 Final Acts*, we have previously taken the following actions with regard to international footnotes· (1) added footnotes 5.197A and 5.328B in the *Aviation R&O*; (2) added footnotes 5.457A, 5.457B, 5 504A, 5.504B, 5.504C, 5 506A, 5.506B, 5.508A, and 5.509A in the *Above 28 MHz R&O*; (3) revised footnotes 5.447, 5 448, 5.448A, 5 448B, 5 450, 5 453, 5 454, and 5.455; and added footnotes 5 446A, 5 446B, 5.447E, 5 447F, 5.448C, 5.448D, 5 450A, and 5.450B in the *5 GHz R&O*, and (4) revised footnotes 5.340, 5.547, and 5.555A; added footnotes 5 516B, 5.551H, 5.551I, and 5.554A; and removed footnotes 5.551AA and 5.551G in the *V-band Second R&O*. Subsequently, the ITU has completed its review and editing of the *Provisional WRC-03 Final Acts* and has published the *WRC-03 Final Acts* Our staff has reviewed the *WRC-03 Final Acts* and has herein provided the needed updates to the International Table, including minor changes to the text of some of the above international footnotes. Consequently, we would herein revise the text of footnotes 5.447E, 5 453, 5 454, 5.455, 5.504C, 5.506A, 5.506B, 5.508A, 5.509A, 5.516B, and 5.551I in our Rules to comport with the *WRC-03 Final Acts*. In addition, the text of footnote 5.555B has been inadvertently associated with footnote number 5 555A We would herein delete footnote 5.555A from our Rules and add footnote 5.555B

[166] The above frequency bands are listed in a corrected *Public Notice* titled "2-25 MHz HF Frequency Bands Available for Part 90 Long Distance Communications," dated August 12, 1988. These bands are available for qualified Part 90 users for operations under Section 90 266 While the WARC-92 HFBC bands are also listed in this *Public Notice*, we decline to add Part 90 cross references to these bands because after April 1, 2007, incumbent fixed and land mobile use will be authorized on the condition that harmful interference is not caused to the HFBC service and because new fixed and/or land mobile use will not be authorized. In addition, a *Public Notice* titled "Local Government Radio Service 2 to 10 MHz Frequency List" states that certain of the frequencies within the bands 2194-2495 kHz, 2505-2850 kHz, 5005-5450 kHz, and 7400-8100 kHz are available for use in accordance with Section 90 264. 47 C.F R §§ 90.264, 90.266.

Part 25 in the band 399 9-400.05 MHz,[167] and Part 27 in the bands 1710-1755 MHz and 2110-2155 MHz [168] These proposals are shown in Appendix A

IV. PROCEDURAL MATTERS

A Initial Regulatory Flexibility Analysis

109. As required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. § 603, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the proposals suggested in this document. The IRFA is set forth in Appendix B. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments filed in this *Notice of Proposed Rule Making (Omnibus NPRM)* provided below in Section IV.C Comments must have a separate and distinct heading designating them as responses to the IRFA.

B *Ex Parte* Rules – Permit-But-Disclose Proceeding

110 This is a permit-but-disclose notice and comment rule making proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in the Commission's rules. *See generally* 47 C.F.R. §§ 1.1202, 1 1203, and 1.2306(a)

C. Comments

111. Pursuant to Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments on or before **30 days from date of publication in the Federal Register**, and reply comments on or before **45 days from date of publication in the Federal Register**. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies. *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 Fed Reg. 24121 (1998).

112 Comments filed through the ECFS can be sent as an electronic file via the Internet to http.//www.fcc.gov/e-file/ecfs.html. Generally, only one copy of an electronic submission must be filed. If multiple docket or rulemaking numbers appear in the caption of this proceeding, however, commenters must transmit one electronic copy of the comments to each docket or rulemaking number referenced in the caption. In completing the transmittal screen, commenters should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message, "get form <your e-mail address." A sample form and directions will be sent in reply. Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, commenters must submit two additional copies for each additional docket or rulemaking number

113. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). The Commission's contractor, Natek, Inc., will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E.,

[167] 47 C.F.R. § 25.202(a)(3)

[168] These bands have recently been added to Part 27 of the Commission's Rules *Service Rules for Advanced Wireless Services in the 1 7 GHz and 2 1 GHz Bands*, WT Docket No 02-353, *Report and Order*, 18 FCC Rcd 25162 (2003)

Suite 110, Washington, D C 20002 The filing hours at this location are 8:00 a m to 7 00 p m All hand deliveries must be held together with rubber bands or fasteners Any envelopes must be disposed of before entering the building Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743 U S Postal Service first-class mail, Express Mail, and Priority Mail should be addressed to 445 12th Street, SW, Washington, D C 20554. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission

D. Contact Person

114 For further information concerning this rule making proceeding contact Tom Mooring of the Office of Engineering and Technology at (202) 418-2450, Tom.Mooring@fcc.gov

V. ORDERING CLAUSES

115 Accordingly, IT IS ORDERED that pursuant to Sections 1, 4(i), 7(a), 301, 302(a), 303(f), 303(g), 303(r), 307, 308, 309(j), 316, 332, 334, and 336 of the Communications Act of 1934, as amended, 47 U S.C. Sections 151, 154(i), 157(a), 301, 302(a), 303(f), 303(g), 303(r), 307, 308, 309(j), 316, 332, 334, and 336, the NOTICE OF PROPOSED RULEMAKING is hereby ADOPTED.

116. IT IS FURTHER ORDERED that the Commission's Consumer Information and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this NOTICE OF PROPOSED RULEMAKING, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary