

50. We are making an additional two megahertz of unpaired spectrum available for a flexible fixed, mobile (except aeronautical mobile), and MSS (uplink) allocation in the 1390-1392 MHz band. Because airborne operations would be incompatible with co-channel satellite uplinks and sensitive radio astronomy operations that occur in-band and in the adjacent bands, we are prohibiting aeronautical mobile use.

51. This allocation makes a total of eight megahertz of spectrum potentially available to the mobile (except aeronautical mobile) service. Although this is less than the ten megahertz LMCC sought in its petition for rule making and its comments, we believe that this provides sufficient spectrum to relieve much of the crowding in existing land mobile bands. Further, by making some unpaired spectrum available, we hope to encourage innovative technologies, such as time division duplex (TDD), to locate in this band. Also, this unpaired spectrum is well suited to services that traditionally operate one-way communications services, such as paging and telemetry systems.¹⁷³

52. The flexible allocation in the 1390-1392 MHz band also allows this spectrum to be used for satellite feeder uplinks by Little LEOs. This allocation is consistent with the views expressed by (CORF) proposing to limit uplink transmissions to spectrum below 1392 MHz.¹⁷⁴ However, the allocation will be contingent on completion of ongoing studies and an international allocation for such feeder links through the international process.¹⁷⁵ To codify this allocation, we will add a new footnote, US368, to the Table of Frequency Allocations in Section 2.106 of the Commission's rules.

53. An issue of concern from the land mobile industry has been the ability of satellite systems to successfully share spectrum with land mobile stations. Because spectrum in the 1390-1392 MHz band would be used for feeder uplinks, we believe that such sharing can be accomplished while still minimizing the potential for harmful interference between satellite earth stations and land mobile stations. As pointed out by the Joint Satellite Commenters, licensees using this band for feeder uplinks only need a few earth stations that can be located in areas where land mobile use is least likely to occur. Thus, through geographic separation, land mobile and satellite earth stations will be able to co-exist in this band.¹⁷⁶ Satellite and land mobile licensees will have to coordinate their operations to ensure sufficient separation distance and/or shielding between stations.

54. In the remaining five megahertz (1427-1432 MHz), we are allocating the 1427-1429 MHz band to the land mobile service on primary basis and maintaining the current land mobile primary allocation in the 1429-1432 MHz band. Under this allocation, the 1427-1429.5 MHz segment will be limited to WMTS and the 1429.5-1432 MHz segment will be limited to telemetry. In addition, the 1429.5-1432 MHz segment is being allocated for fixed service on a co-primary basis also limited to telemetry operations. Further, we are conditionally permitting Little LEO feeder downlinks to share the 1430-1432 MHz band with telemetry on a co-primary basis. This allocation decision shifts WMTS down in frequency from its current allocation at 1429-1432 MHz and elevates telemetry

¹⁷³ We also note that entities may be able to use this spectrum for RTK GPS. *See* para. 30, *supra*.

¹⁷⁴ *See* CORF Comments at 7. In their comments, CORF argues that suitable limits for uplink power levels and out-of-band filtering requirements must be imposed. These issues will be explored in a separate service rule proceeding.

¹⁷⁵ *See* para. 55, *infra*.

¹⁷⁶ Such a finding is consistent with our treatment of sharing between new non-Government stations and Radio Astronomy receivers in the 1670-1675 MHz band. *See* para. 65, *infra*.

operations to primary status in the 1429.5-1432 MHz segment. Non-medical telemetry will continue to operate with secondary status in the 1427-1429.5 MHz segment. Finally, we are removing the space operation (Earth-to-space) allocation from the 1427-1429 MHz band, as that allocation is incompatible with the allocation decisions we make above. WMTS will continue to be licensed by rule in the modified allocation.¹⁷⁷ Under this licensing scheme, WMTS licensees share spectrum with each other and applications are not mutually exclusive. Thus assignments are not subject to competitive bidding pursuant to Section 309(j) of the Communications Act.¹⁷⁸

55. Our allocation of the 1430-1432 MHz segment for Little LEO feeder downlinks, similar to the allocation for uplinks in the 1390-1392 MHz band, is contingent on completion of ongoing studies and adoption of an international allocation for this spectrum. All sharing studies must be completed and show that satellite downlink sharing is feasible with operations in the 1400-1427 MHz band before such an international allocation is adopted and our domestic allocation is finalized. We note that the sharing studies currently underway contemplate a satellite allocation in the 1429-1432 MHz band, but we have limited this allocation to the 1430-1432 MHz band which will provide an additional megahertz of guard band between the downlinks and the EESS and RAS Services. Once such an allocation is finalized, Little LEO operators may seek adoption of service rules, and issuance of necessary authorizations under Part 25 of our rules for feeder links subject to coordination with telemetry operations in the same spectrum.

56. We do not believe that the addition of Little LEO feeder downlinks in this band will preclude the use of the band by telemetry systems due to the low PFD levels of the satellite signals relative to the power levels of telemetry systems.¹⁷⁹ We are confident that such limits will not preclude satellite earth stations in this band. However, these earth stations may have to locate in rural areas and use large, high gain antennas to ensure reception of the satellite signals. Because we anticipate that telemetry operations will be concentrated largely in urban areas, sharing can be readily accomplished.

57. Our decision to shift the WMTS allocation down to 1427-1429.5 MHz is consistent with the position of AHA, which in a recent *ex parte* filing indicated that it needed at least 2.5 megahertz under a primary allocation in the 1.4 MHz spectrum, preferably at 1427-1429.5 MHz.¹⁸⁰ AHA indicates that at 1427-1429.5 MHz, WMTS would be adjacent to radio astronomy instead of potentially high powered land mobile operators and thus would not require a guard band making spectrum use more efficient. AHA also requests that adjacent band telemetry services operating in 1429.5-1432 MHz be limited to fixed utility telemetry operations in order to minimize the impact on WMTS operations. We note that there are currently telemetry operations that are not fixed or limited to utility telemetry, which would have to be relocated to implement AHA's request.¹⁸¹ We did not seek comment on relocating incumbents in this band and such action would need to be addressed in the companion service rule proceeding. We do, however, note that medical telemetry system operators can also use the 608-614 MHz and 1395-1400 MHz bands to obtain additional capacity for their systems.

¹⁷⁷ See 47 C.F.R. § 95.1101

¹⁷⁸ See 47 C.F.R. § 95.401 et seq.

¹⁷⁹ See note 150, *supra*, for information on utility telemetry power levels.

¹⁸⁰ See AHA *ex parte* filed August 29, 2001.

¹⁸¹ Existing licensees and entities licensed prior to the adoption of final service rules in our companion service rule proceeding will retain secondary status under the terms of their current license for the 1427-1432 MHz band.

58. We are deferring consideration of the proposed AHA/Itron band swap. AHA and Itron's proposal contemplated carving out 7 geographic areas in the Medical Telemetry band for utility telemetry and then compensating Medical telemetry with corresponding spectrum in the telemetry band to our companion service rule proceeding. These 7 sites represent areas where Itron has built out existing facilities under the current secondary telemetry allocation. We believe that spectrum allocations in general should be kept as flexible as possible and that issues such as eligibility or unique requirements/restrictions should be addressed in service rules.

59. In making these allocation decisions in the 1.4 GHz spectrum, we deny the Petitions for Reconsideration filed by Little LEO entities in ET Docket No. 99-255. However, we note that substantively, this proceeding is providing a substantial portion of what the petitioners have indicated they needed to operate. The Petitions asked that we allocate the 1429-1432 MHz band for Little LEO feeder links and eliminate the WMTS allocation in this band. As described above, we believe that there is substantial public interest in maintaining an allocation for WMTS and are shifting the allocation to 1427-1429.5 MHz. We are elevating telemetry to primary in the 1429.5-1432 MHz portion of the band and believe that such systems can share this spectrum with Little LEO systems. Accordingly, we have provided a mechanism by which Little LEOs can obtain an allocation in the 1430-1432 MHz band. While the Petitions for Reconsideration seeking an exclusive allocation of three megahertz of spectrum at 1427-1432 MHz for Little LEOs are denied, we are providing 2 MHz of spectrum in the requested frequency range for Little LEOs conditioned on adoption of an international allocation for this spectrum.

60. We believe that the allocation plan for use of the 1.4 GHz spectrum set forth above provides a reasonable compromise solution that will best accommodate the needs of all parties interested in this band. Through careful planning and coordination, these parties will be able to share spectrum and satisfy their communications needs, while maximizing the efficient use of scarce spectrum resources.

3. 1670-1675 MHz Band

61. In ITU Region 2, the 1670-1675 MHz band is allocated to the fixed, mobile, meteorological-satellite (space-to-Earth) (METSAT downlinks), and meteorological aids¹⁸² services on a co-primary basis.¹⁸³ Also, in some countries this band is used to search for intentional emissions of extraterrestrial origin.¹⁸⁴ Domestically, the band is allocated on a primary basis to Federal and non-Federal Government meteorological aids service and for METSAT downlinks.¹⁸⁵ This band is also used to passively search for signals of extraterrestrial origin.¹⁸⁶ Because the lower adjacent band is used for radio astronomy, applicants for airborne or space station assignments are urged to take all practical steps to protect those operations.¹⁸⁷ Currently the band is also used for weather satellites and

¹⁸² The meteorological aids service is a radiocommunication service used for meteorological, including hydrological, observations and exploration. See 47 C.F.R. § 2.1.

¹⁸³ The meteorological-satellite service is an Earth exploration-satellite service for meteorological purposes. See 47 C.F.R. § 2.1.

¹⁸⁴ See 47 C.F.R. § 2.106, footnote S5.341.

¹⁸⁵ See 47 C.F.R. § 2.106.

¹⁸⁶ *Id.* at footnote S5.341.

¹⁸⁷ See 47 C.F.R. § 2.160, footnote US211.

radiosondes.¹⁸⁸ The band contains downlinks for three earth stations that operate as part of the Geostationary Operational Environmental Satellite System (GOES) by the National Environmental Satellite, Data and Information Service (NESDIS). These satellites, which provide much of the satellite imagery used in newscasts, are controlled from earth stations at Wallop's Island, Virginia, Greenbelt, Maryland, and Fairbanks, Alaska. NTIA stated that the stations at Wallop's Island and Fairbanks will need protection indefinitely.¹⁸⁹ NTIA has since informed the Commission that protection of the site at Greenbelt is also required.¹⁹⁰ The 1670-1675 MHz band was transferred to non-Federal Government use pursuant to OBRA-93, and therefore new entrants in the band will not be required to reimburse Federal Government incumbents for relocation.

62. Several entities expressed interest in the 1670-1675 MHz band. AeroAstro would like to use the band for mobile terminals as part of a Satellite Enabled Notification System (SENS) it is developing.¹⁹¹ SENS would enable users to transmit short data messages anywhere worldwide for receipt via the Internet. The system would consist of mobile ground terminals, small low-cost space stations, and fixed earth stations. MicroTrax requests that we establish a Personal Location and Monitoring Service (PLMS) in this band.¹⁹² This system would enable the tracking of people and objects.¹⁹³ ArrayComm comments that it would like to implement its i-BURST technology in this band.¹⁹⁴ ArrayComm states that i-BURST would combine time division duplex (TDD) technology and smart antennas to deliver high-speed packet data at reasonable prices.¹⁹⁵

63. In the *Notice*, we proposed to allocate the 1670-1675 MHz band to the fixed and mobile (except aeronautical mobile) services and to adopt rules that would make the band usable for a number of potential services.¹⁹⁶ We specifically noted that five megahertz of unpaired spectrum could be useful for service providers interested in deploying TDD equipment.¹⁹⁷

64. We believe that a number of technologies, including the three described above, are well suited to this band. Therefore, in keeping with our policy of providing flexibility where possible and appropriate so that potential licensees can determine and offer the services that are valued most highly,

¹⁸⁸ A radiosonde is an automatic radio transmitter in the meteorological aids service usually carried on an aircraft, free balloon, kite, or parachute that transmits meteorological data. See 47 C.F.R. § 2.1.

¹⁸⁹ See *First Spectrum Reallocation Report* at Section 5.

¹⁹⁰ See *NTIA Letter*. Since enactment of OBRA-93 and the issuance of the *First Spectrum Reallocation Report*, Congress directed the National Oceanic and Atmospheric Administration (NOAA) to build a facility to back-up the station at Wallops Island in case that station lost service due to a hurricane or other disaster. NOAA selected the site at Greenbelt Maryland for this function.

¹⁹¹ See *AeroAstro Comments* at 2.

¹⁹² See *MicroTrax Comments* at 2.

¹⁹³ *Id.* at 4.

¹⁹⁴ See *Arraycomm Comments* at 3.

¹⁹⁵ *Id.* at i.

¹⁹⁶ See *Notice* at para. 42.

¹⁹⁷ *Id.* at para. 41.

we are adopting our proposal to provide a flexible allocation in this band for fixed and mobile (except aeronautical mobile) services. Aeronautical mobile use will be prohibited in order that operations in the 1670-1675 MHz band protect the sensitive radio astronomy receivers in the lower adjacent band. Further, the GOES receive earth stations located at Wallop's Island, Fairbanks and Greenbelt will have co-primary status with non-Federal Government operations in the band. In the *Notice*, we asked for comment regarding appropriate technical rules for this band, especially as it relates to power limits and out-of-band emissions necessary to protect radio astronomy operations in the lower adjacent band.¹⁹⁸ Specific service and licensing rules will be discussed in the companion Service Rule Notice.

65. To protect the Federal Government earth stations located at Wallops Island and Fairbanks that will be co-primary in the band, we will require that licensees planning to operate within 100 kilometers (62.1 miles) of the earth stations at these facilities coordinate such use with the affected earth station prior to construction. This requirement will be added to footnote US362.¹⁹⁹ In addition, we will require licensees planning to operate in the vicinity of the earth station located at Greenbelt to coordinate such use prior to construction. This requirement is consistent with the *First Spectrum Reallocation Report* in which NTIA recommended that, in the absence of coordination guidelines for METSATS, coordination of all ground stations is necessary.²⁰⁰ Because the Greenbelt facility is used as a back-up for Wallops Island it operates only during tests (about once per month) and in any instance where Wallops Island goes out of service. Due to this sporadic use, different coordination procedures may be needed for this site than for the other two sites. Therefore, we are not adopting specific coordination requirements for the Greenbelt facility here.²⁰¹ Instead, coordination requirements will be discussed in the companion Service Rule Notice.

66. As mentioned above, we are mindful of the need to protect radio astronomy and radiosonde operations in the 1660-1670 MHz band. We note, however, that because radio astronomy receivers are much more sensitive than those of radiosondes, any protection schemes designed for radio astronomy receivers should also protect radiosondes. Typically, to accomplish such protection, the Commission has set out-of-band emission limits to restrict the amount of power present in a frequency band due to a transmitter in an adjacent band. We believe that such a requirement is necessary here. However, we are not adopting specific limits in this Report and Order. Instead, issues of maximum power levels and emission masks will be explored in the companion Service Rules Notice. In its comments, ArrayComm states that power spectral flux density limits²⁰² (PSFD) should be established as coordination criteria for locating stations in the 1670-1675 MHz band near radio astronomy sites. We decline to adopt PSFD limits. We generally have not adopted such limits in the past and believe that they could artificially restrict commercial operations in the band. However, we will encourage future licensees in this band to coordinate mutually agreeable limits with radio astronomers.²⁰³ Finally, we note

¹⁹⁸ See *Notice* at para. 43.

¹⁹⁹ See Appendix C, footnote US362.

²⁰⁰ See *First Spectrum Reallocation Report* at Appendix C.

²⁰¹ We note, however, that NTIA has indicated that the coordination zone around the Greenbelt facility will be smaller (65 kilometers) than the zone around the other two stations (100 kilometers). See *NTIA Letter*.

²⁰² Power spectral flux density is a measure of the strength of a wave over a specified bandwidth. Literally it is the radiated power flux per unit bandwidth per unit area. It is often expressed in Watts/Hz/m².

²⁰³ Our action here does not preclude future licensees and radio astronomers from agreeing on PSFD limits as a method of protecting radio astronomy operations.

that the provisions of footnote US74 of the Table of Frequency Allocations will apply to this band.²⁰⁴ This footnote specifies that radio astronomy operations will be protected from extraband radiation only to the extent that such radiation exceeds the limits for a station operating in compliance with all applicable Commission rules.

4. 2385-2390 MHz Band

67. In ITU Region 2, the 2385-2390 MHz band is allocated to the fixed, mobile, and radiolocation services on a primary basis and to the amateur service on a secondary basis.²⁰⁵ Domestically, the band is allocated to the mobile service on a primary basis for Federal and non-Federal Government use, limited to aeronautical telemetry and associated telecommand operations for flight testing of aircraft and missiles. All other mobile telemetering uses are secondary to these uses.²⁰⁶ Currently, DoD, the National Aeronautics and Space Administration (NASA), DOE, and the commercial aviation industry use the entire 2360-2390 MHz band to support aeronautical flight test operations. These operations will continue in the 2360-2385 MHz band. In addition, the 2385-2390 MHz band is allocated to the radiolocation service on a primary basis and to the fixed service on a secondary basis for Federal Government use.²⁰⁷

68. The 2385-2390 band will become available for exclusive non-Federal Government use in January 2005. However, NTIA stated that to minimize the operational impact to flight test programs that are ongoing or planned to begin in the near future, Federal Government operations at seventeen sites will continue on a protected basis until 2007.²⁰⁸ These protection areas, circles with radii ranging from 100 kilometers to 160 kilometers, are scattered around the continental United States, Hawaii, and Puerto Rico, and range from sparsely populated desert areas to major metropolitan areas such as Seattle, Washington and St. Louis, Missouri.²⁰⁹ In addition, the National Astronomy and Ionosphere Center operates a 1-megawatt planetary research radar at Arecibo, Puerto Rico with a 20 megahertz bandwidth, centered at 2380 MHz. As indicated in the *Second Spectrum Reallocation Report*, airborne and space-to-Earth transmissions will be prohibited in Puerto Rico to protect this facility.²¹⁰ Finally, we note that this band was transferred to non-Federal Government use pursuant to BBA-97, and therefore licenses will be assigned in accordance with Section 309(j) of the Communications Act. New licensees must compensate Federal Government entities in advance for marginal costs incurred in relocating their facilities from the band.²¹¹ In a recent Report to Congress, NTIA estimated the reimbursement costs for

²⁰⁴ See 47 C.F.R. § 2.106, footnote US74.

²⁰⁵ See 47 C.F.R. § 2.106

²⁰⁶ *Id.* at footnote US276.

²⁰⁷ Federal use of this radiolocation allocation is limited to the military. *Id.* at footnote G2.

²⁰⁸ See *Second Spectrum Reallocation Report* at 3-46 through 3-49, Table 3-6, and 4-3 through 4-4.

²⁰⁹ See *First Spectrum Reallocation Report* at 4-3 and Table 3-4.

²¹⁰ See *Second Spectrum Reallocation Report* at 4-4.

²¹¹ *Id.* at 4-1.

this band as \$124-\$219 million dollars with the majority of these costs going towards retuning existing equipment to a band of replacement spectrum.²¹²

69. In the *Notice*, we proposed to allocate the 2385-2390 MHz band to the fixed and mobile services on a co-primary basis and to allow flexible use.²¹³ In addition, we asked for comment on whether we should allocate this band more narrowly. We received few comments regarding our proposals for this band. MicroTrax states that although the 2385-2390 MHz band presents characteristics that allow the band to be a good technical fit for its proposed PLMS,²¹⁴ other aspects of the band make it less desirable than the 1670-1675 MHz band.²¹⁵ Primarily, Microtrax argues that the requirement to reimburse Federal Government users of this spectrum for relocation costs, are unknown and may be prohibitively expensive as to prevent Microtrax from offering a low-cost consumer service.²¹⁶ We believe other entities, such as those interested in the 1670-1675 MHz band, could also make use of the 2385-2390 MHz band. We note that Motorola recently filed an *ex parte* requesting that this band not be included in this proceeding and instead be used to relocate Federal Government users from spectrum under consideration for advanced wireless communications.²¹⁷ Under the provisions of the Communications Act, the Commission must reallocate and assign this spectrum for competitive bidding.²¹⁸ If NTIA determines that it is in the public interest to retain this spectrum for Federal Government use, it may substitute this spectrum for other spectrum under its authorizing statute.²¹⁹

70. In addition to our proposal to allocate this band for fixed and mobile services, we sought comment on NTIA's determination that receiver and transmitter standards are needed for users of this band in order to reduce the potential for mutual interference with airborne systems that will continue to operate in the adjacent 2360-2385 MHz band.²²⁰ No comments were received regarding this issue. Thus, consistent with rules for most radio services regulated by the Commission, we will not adopt receiver standards for this band. However, in order to attract and retain customers, we believe that equipment manufacturers have sufficient incentive to design robust equipment capable of operating in this band absent specific Commission rules to that effect. We also asked for comment on whether sites in addition to the seventeen sites identified by NTIA for protection until 2007 are currently being used.²²¹ The Aerospace and Flight Test Radio Coordinating Council (AFTRCC) requests that ten additional sites

²¹² See Assessment Of Electromagnetic Spectrum Reallocation, Response to Title X of the National Defense Authorization Act for Fiscal Year 2000, NTIA Special Publication 01-44, Department of Commerce, and January 2001 at 3-39 through 3-43 and 3-47.

²¹³ See *Notice* at para. 47.

²¹⁴ See para. 62, *supra*, for a brief description of PLMS.

²¹⁵ See MicroTrax Comments at 4.

²¹⁶ *Id.* at 5-6.

²¹⁷ See Letter to Magalie Roman Salas, Secretary, FCC from Steve B. Sharkey, Director, Spectrum Standards and Strategy, Motorola, Inc. (Jul. 18, 2001).

²¹⁸ See 47 USC § 925(c)(2)

²¹⁹ See 47 U.S.C. § 924(b)(1).

²²⁰ See *Notice* at para. 45. See also, *Second Spectrum Reallocation Report* at 4-3.

²²¹ *Id.*

beyond those identified by NTIA receive protection until 2007.²²² They state that this would minimize the impact of reallocation on current and planned flight test operations while they prepare to operate in reduced spectrum.²²³

71. Inasmuch as there was no opposition to our proposal to provide a flexible allocation in this band to the fixed and mobile services, we are adopting this proposal for the 2385-2390 MHz band. As stated in the *Notice*, we would like to minimize the impact on aeronautical telemetry operators from transitioning out of this band. We, therefore, will protect nine of the additional ten sites requested by AFTRCC, but will not extend this protection to the Fairfield County, Connecticut site. In this regard, we are concerned that protecting the Fairfield County site would delay deployment of service to the New York City metropolitan area for at least two years. Because this area is such a large population center, it is important that a licensee have access to this market as soon as possible. We believe that these actions strike a balance between the needs of the aeronautical telemetry community and those of new licensees in the 2385-2390 MHz band. Accordingly, we are modifying proposed footnote USzzz (codified herein as footnote US363) in the Table of Frequency Allocations to include protection for the requested nine sites.

B. Effect of Reallocated Spectrum on Native Americans

72. In the *Notice*, we sought comment from Indian Tribal Governments regarding the effect our proposals for the 27 MHz being addressed in this proceeding might have on Native American Tribes.²²⁴ Last year, the Commission adopted a *Tribal Government Policy Statement*, which stated that the Commission is committed to working with Native American tribes to ensure adequate access to communications services, and consulting with Tribal Governments prior to implementing any regulatory action or policy that would significantly affect tribal Governments, their land, and resources.²²⁵ We did not receive any comments from Tribal Governments or other parties on this issue. However, we will encourage future licensees, when deploying systems in spectrum reallocated in this *Report and Order*, to work with Tribal Governments to serve the communications needs of Tribal communities.

C. Protection of Federal Government Services

73. As discussed above, Federal Government operations will continue on a protected basis in several of the reallocated frequency bands, either indefinitely or for a period of time beyond the date of spectrum transfer from Federal to non-Federal Government use.²²⁶ In the *Notice*, we stated that within the established protection zones, non-Federal Government stations would need to be coordinated with NTIA.²²⁷ This mandatory coordination will be accomplished by the Commission after an application is

²²² AFTRCC is an association of aerospace companies engaged in the design, development, manufacture, and testing of commercial and military aircraft, space vehicles, missiles, and weapon systems. See AFTRCC Comments at 4-6 and Exhibit 1. AFTRCC requests protection of 160 kilometer circles around the following sites: Alamosa, Colorado, Albuquerque, New Mexico, Amarillo, Texas, Arlington, Texas, Leadville, Colorado, Thermal, California, Phoenix, Arizona, Marietta, Georgia, Greenville, Texas, and Fairfield County, Connecticut.

²²³ *Id.* at 6.

²²⁴ See *Notice* at para. 50.

²²⁵ See Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes, FCC 00-207, *Policy Statement*, 16 FCC Rcd 4078 (2001) (*Tribal Government Policy Statement*).

²²⁶ See paras. 18, 37, 38, 39, 40, 61, and 68, *supra*.

²²⁷ See *Notice* at para. 51.

submitted by a licensee through the Frequency Assignment Subcommittee (FAS) of the Interdepartment Radio Advisory Committee (IRAC). We proposed a procedure whereby licensees proposing to construct a facility²²⁸ within a protected zone, would submit an application through the Universal Licensing System which contains the technical information for the site. This information would then be forwarded to the FAS. Licensees would be prohibited from constructing the facility until receiving a response from the Commission that the coordination with NTIA was successful.²²⁹ We sought comment on this proposal and asked for suggestions on alternative procedures that might be less cumbersome. The only comment received on this issue was from The National Academy of Sciences, which suggests coordination procedures for the GOES earth stations that will continue to operate with co-primary status in the 1670-1675 MHz band.²³⁰ As described above, we are adopting rules to implement this suggestion.²³¹ For all other frequency bands, we adopt the procedures as proposed. Under these procedures, Commission licensees may construct facilities under the terms of their license and in accordance with the relevant service rules so long as the facility is not within one of the protected zones as defined by NTIA, unless the facility has been coordinated with NTIA. This does not exempt licensees from any other required filings or coordination requirements, such as those that may be required under the National Environmental Policy Act of 1969²³² or for international coordination.

V. CONCLUSION

74. By the decisions above, we reallocate twenty-seven megahertz of spectrum from Federal to non-Federal Government use. These actions fulfil our obligations to implement various provisions of OBRA-93 and BBA-97 and they also continue implementation of the 1999 *Spectrum Policy Statement*. We believe that through these actions, manufacturers, service providers and consumers will reap the benefits of new technologies and services.

VI. PROCEDURAL MATTERS

A. Final Regulatory Flexibility Act

75. A Final Regulatory Flexibility analysis, pursuant to the Regulatory Flexibility Act, 5 U.S.C. § 604, is contained in Appendix B.

B. Paperwork Reduction Act

76. This Report and Order contains either new or modified information collection(s) subject to the PRA of 1995, Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment. Public and agency comments are due **[60 days after date of publication in the Federal Register.]** Comments should address: (a) whether the new or modified

²²⁸ This would include either fixed or mobile operations.

²²⁹ *Id.* at 53. We note that similar procedures were adopted in for the 3650-3700 MHz band. See Amendment of the Commission's Rules with Regard to the 3650-3700 MHz Government Transfer Band, ET Docket No. 98-237, *Notice of Proposed Rulemaking and Order*, 14 FCC Rcd 1295 (1999).

²³⁰ See CORF Comments at 6-7.

²³¹ See para. 64, *supra*.

²³² See 47 C.F.R. Part 1, Subpart I.

collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

VII. ORDERING CLAUSES

77. Accordingly, IT IS ORDERED that pursuant to the authority contained in Sections 4(i), 257, 303(b), 303(f), 303(g), 303(r), and 309(j) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 257, 303(b), 303(f), 303(g), 303(r), and 309(j) this *Report and Order and Memorandum Opinion and Order* is ADOPTED.

78. IT IS FURTHER ORDERED that Parts 1, 2, 90, and 95 of the Commission's Rules ARE AMENDED as specified in Appendix C, effective 60 days after publication in the Federal Register. Information collections contained in these rules will be effective upon OMB approval.

79. IT IS FURTHER ORDERED that the proceeding in WT Docket No. 97-153 IS TERMINATED.

80. IT IS FURTHER ORDERED that the Petitions for Reconsideration filed in ET Docket No. 92-255 ARE DENIED.

81. IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this *Report and Order and Memorandum Opinion and Order*, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION


Magalie Roman Salas *WTC*
Secretary

APPENDIX A: List of Commenters

ET Docket No. 00-221Comments

| | |
|---|--|
| Acoustical Society of America | Brian and Michaela Henderson |
| Adrienne Haugen | California State Automobile Association. |
| AeroAstro, Inc. | Candace Lindow-Davies |
| Aerospace and Flight Test Radio Coordinating Council | Carl and Jacquelyn Gustafson |
| Alan Woods | Carol A. Fawcett |
| Alec Stone | Carol Barber |
| Alexander Graham Bell Association for the Deaf and Hard of Hearing | Carol Burns |
| Alison Stroud | Carol M. Granaldi |
| Amanda Jaffe | Charles B. Bortreger |
| American Academy of Audiology | Carolyn M. Trautmann |
| American Council of the Blind | Carolyn Rossick |
| American Hospital Association Task Force on Medical Technology | Carolyn Wilson |
| American Public Power Association | Carrie Cleary |
| American Society for Deaf Children | Charmity Welter |
| Amy Beckett | Cary Walsh |
| Anastasia Heckendorf | Cathy Freeman Wice |
| Ann Gazinski | Celtronix Telemetry, Inc. |
| Ann Louise Bednar | Center for Independent Living of Mid-Michigan |
| Ann Rooney | Charlotte N. Roth |
| Anna Dresner | Cheryl A. Heppner |
| Anne Harrison | Children's Hospital of Wisconsin |
| Arlene Romoff | Chris Witt |
| Arlie J. Adam, MS, CCC-A | Christine Buzard |
| Arraycomm, Inc. | Christine Eubanks |
| ARRL, The National Association for Amateur Radio | Christopher Hunter |
| Association of Public-Safety Communications Officials International | Christopher Koston |
| AT&T Wireless Services, Inc. | Chrystal Frailing |
| Auditory-Verbal International, Inc. | Cindy Ann Simon |
| Audrey Kraus | Comtek-Communications Technology Inc. |
| Audrey Weekes | Council of Organizational Representatives on National Issues |
| Automobile Club of Hartford, Inc. | Crawfordsville Electric Light & Power |
| Avista Corporation | Cristina Campos |
| Barbara A. Johnson | Cuquita Wilson De Briano |
| Barbara Mellert | Cynthia Coupe |
| Bay State Gas Company | D. Fariss |
| Becky Waegell | Dale Hermsen |
| Ben W. Gilbert | Dan Heeb |
| Betty A. Proctor | Dan Julie & Sophia Schlager |
| Betty Coombs | Dana Mulvany |
| Betty Lim | Dana Zuller |
| Betty Stueber | Daniel & Claudia Plato |
| Beverly Nichols | Daniel Joe Broek |
| Blade Chamery | Daniel Schlager |
| Bradley B. Ingrao, MSED CCC-A | Danny Finnen |
| | Daphne Potter |
| | DataCom Information Systems, LLC |

Datex Spectrum, L.L.C.
Dave & Kathy Pearson
David Berrian
David Glenn Hoffman
Dawn E. Wilcox
Deaf-Hearing Communication Centre, Inc.
Debbie Mohney
Debby McDowall
Deborah K. Hardegree
Debra Rowland
Denise Jones
Desiree W. Whipple
Diane M. Badua
Diane Phelps
Diane R. Finnerty
Dianna Attaway
Donald Dunow
Dorothy Holland-Kanpp
Dorothy Kerr
Dorothy Minert
Dorothy Wormser
Doug Kloss
Dr. Judy C. Smith
Dr. Waltraut M. Knoll
Dudley J. Sondeno
Educational Audiology Association
Efrat A. Schorr
Eileen Conlow
Electronic Tracking Systems, L.L.C.
Elizabeth J. Wilson
Ellen Semel
Emily Mandelbaum
Emily Whiteside
Enid Gilham
Esther S. Weinberger
Eva D'Agostino
Evelyn Cypert
Evelyn N. Rossick
Fairfield Industries, Inc.
Final Analysis Communication Services, Inc.
Flo Kiewel
Florence M. Cone
Frances G. Parks
Francis Buchinger
Francis P. Lepine
Francis T. Bromley
Frank Digiovanni
Frank Iglehart, Ph.D.
Fredericka Bell-Berti
Gainesville Regional Utilities
Gene W. Pankey
George DeVbiss
Glenda Smith-Fowler
Glenn & Stacey Pinke
Glenna S. Descy
Grace Tiessen
Grove City Area Self Help for Hard of Hearing
Gwen E.P. Smith
Harold McPherson
Harriet Adams
Head and Neck Medicine and Surgery of Southwest Virginia
Hearing Industries Association
Helen Conuelse
Henry J. Kehe
Hermine Willey
Hometown Connections, International, LLC
Ina Colleen Rozmaryn
Industrial Telecommunications Association, Inc.
Ingham Intermediate School District
Instantel, Inc.
In-Sync Interactive Corporation
Ira and Pam Dooley
Irina Booth
Itron, Inc.
Jack O'Keeffe
James C. Dillon
James E. Cook
James Greco
James M. Berry
James R. Edwards
Jamie Taylor
Jane Smith
Janet Haines
Janie Samuel
Jay Wyant
Jean Cambérg
Jeanne Glass
Jennifer M. Bold
Jennifer M. Hulme
Jennifer Spencer
Joan Andrews
Joan Celebi
Joan Forney
Joan Kornbluh
Joan Marcoux
Joan P. Ireland
Joann BeBettencourt
JoAnn Ploetz
Joanne Colombo
John A. Hayden

John B. (Bern) Klein
John Flanders
John J Schlager
John Lambrecht
John M. Flanders
John R. Rossick
Jon Monsarrat
Jon Taylor
Jonathan Sondergeld
Joseph Carbone
Joseph Gordon
Joyce Borgerding
Joyce McDaniel
Judith A. Schmidt
Judith L Rogers
Judith S. Dick
Judy Ginsberg
Judy Schwarzmeier
Julia Elizabeth Fitzer
Julia M. Olson
Julie Sapp, Ph.D.
June A. Romano
June McBride
Karen A. Biernat
Karen A. Keil
Karen Finnen
Karen L. Utter
Karen Lindberg
Karen London
Karen M. Gross
Karen Manning
Kathleen Boate
Kathleen M. Splitek
Kathryn Mazzocam
Kathryn Wexler
Kathy Scanlan
Kay Ringelstetter
Keith Ploetz
KeySpan Energy Delivery
Kiersten A. Tomchik
Kim Schafer
Kimberly J. Niday, MA, CCC/A
Kromeklia Bryant
Lana B. Alsobrook
Land Mobile Communications Council
Late Liautaud Liska
Laura Knoke
Leo One Worldwide, Inc.
Lila McKee, MA, CCC-A
Lina Reiss
Linda Boylan, M.A., CCC-A
Linda C. Zarro
Linda Erb
Linda J. Ray
Linda M. Peshek
Linda Peshek
Linda S. Taylor, Ed.D.
Lindsey Rentmeester
Linnda Thibodeau, Ph.D.
Lisa Kennedy
Lisa Sutehrland
Liz Kobylak
Lois O'Neill
Lori Buseck
Lori Wheat
Lou Ann Jones
Louise Colodzin
Lucinda F. Swearingen
Lynda G. Cox
Malisa W. Janes, Rh.D.
Margaret C. Thompson
Margaret D. Waegell
Maridee F. Garvey
Marie C. Nordling
Marie Ruys
Marilyn M. Mahaffey
Marilyn Voorhies
Mark Johnson
Mark Reeve
Martha Rais
Martina Avalina
Mary Crock
Mary Jo Harvey
Mary Jo Melbourne
Mary L. B. Pendergraft
Mary Lee Nelson
Mary M Honomichl
Mary M. Whitaker
Mary McGinnis
Mary Pribich
Mary Slattery
Mary T. Lucchesi
Massachusetts Commission for the Deaf and Hard of Hearing
Max K. Kennedy
Melanie C. Magruder
Melissa K. Chaikof
Melissa Vinik
Melody James
Michael J. Arleth
Michael J. Barrett

| | |
|---|--------------------------------------|
| Michael P. Shuman | Peggy Lupton |
| Michele Hatfield | Persons with Disabilities Caucus |
| Michelle Sarnese | The Greens/Green Party US |
| MicroTrax | Philip H. Kaplan |
| Mike and Pat Feltman | Phonic Ear, Inc. |
| Millennium Networks, Inc. | Priscilla Bade, MD |
| Mobex Communications, Inc. | Puay Ng |
| Moneca Price | R.C. March |
| Motorola, Inc. | Rachel Esserman |
| Mr. and Mrs. Harrison Bubb | Rae Carter |
| MRFAC, Inc. | Rebecca DeGrave |
| Mrs. Kargol | Reliant Energy, Incorporated |
| Mrs. Kathy Dragel | Revelation L.L.C. |
| Mrs. Raye Fairchild | Rich Diedrichsen |
| Myron W. Yoder | Richard and Paula Laughlin |
| Nan Asher | Richard S. Neely |
| Nancy A. Dietrich | Richard T. McGeorge |
| Nancy A. Dolberg | Robert LuVisi |
| Nancy Blazek | Robert S. Ghent |
| Nancy Fink | Roberta Schneider |
| Nancy J. Rennert | Ronald H. Vickery |
| Nancy Kingsley | Rosemarie Kasper |
| Nancy Landrum | Ruth Anne Parsons |
| Naomi K. Smith | Ryan W. Gale |
| Nate Flanders | Sandi Streeter |
| National Academy of Sciences | Sandra Kowalczyk |
| National Association For Law Enforcement Technology | Sara B Wilson |
| National Association of Broadcasters | Sara M Maher |
| National Association of the Deaf | Sarah Chatterton |
| Newport Utilities Board | Sarah G. Smith |
| Nghi Lu | Sarah Gretchen Smith |
| Norman W. Larson | Sarah Nelson |
| Northern Virginia United for Deaf and Hard of Hearing | Scott Redder |
| Noryn Letcavage | Securicor Wireless Holdings, Inc. |
| Orbital Communications Corporation | Self Help for Hard of Hearing People |
| Pacific Crest Corporation | Shanita Zinn |
| Pamela Casey | Sheila Rose |
| Pamela J. Foody | Shera M. Katz |
| Patricia F. Schmieg | Shirley Jaskier |
| Patricia Gonzales | Sonda LaDeaux |
| Patricia Krueger | Southern Company Services, Inc. |
| Patricia Stelmachowicz | Southern Connecticut Gas Company |
| Patrick Thomas Ryan | Stacy Ridgway |
| Paul Lagace | Stephanie E. Angelini |
| Paul M. Lurie | Stephen W. Lemon |
| Paul Matecki | Steve Barber |
| Paula Brown Glick | Steven Tramosch |
| Paula Humphreys | Sue Spangenberger |
| Paula Rosenthal | Sue Toth, M.A., Audiologist |
| Peg Singleton | Susan A. Cook |

Susan B. Matt
Susan Boswell
Susan Buchinger
Susan Buseck
Susan Chorost
Susan Evans Peterson
Susan Hargett
Susan Niemiec
Susan Nittrouer Ph.D
Suzanne J. Bressler, MS, CCC-A
Sylvia Van Asten
Tanya Giovacchini
Terri Charles
The American Petroleum Institute
The Satellite Industry Association
Theresa Conradson
Thomas E. McCormick
Thomas G Russel
Tim Gale
Tommie G. Wells
Toni Barrient
Trimble Navigation Limited
Trina Girard
Trish Freeman
United Telecom Council
University of Connecticut
Van D. Westervelt
Verna S. Neidigh
Vernon Thayer
Veryl E. White
Vicki Castro
Viki Nygaard
Virginia Carr
Wallace Mooney
Warren C. Havens
Wayne Benson
Wendy Samuelson
William D'Agostino
William M. Hartmann
William R. Hickman
Winnie M. Hargis
Woodley O. Butler, Jr.

Datex Spectrum, L.L.C.
Fairfield Industries, Inc.
Final Analysis Inc. and Orbital Communications Corporation
Genevieve J. Schulz Electronic Tracking Systems, L.L.C.
In-Sync Interactive Corporation
Karen E. Jorgensen
Mert Schulz
MicroTrax
Mobex Communications, Inc.
MRFAC, Inc.
National Association of Broadcasters
Rocky Mountain Motorists, Inc.
U.S. Telemetry Corporation
Warren C. Havens

Reply Comments

AeroAstro, Inc.
Alarm Industry Communications Committee
American Hospital Association Task Force on Medical Telemetry
Clyda H. Anderson

ET Docket No. 99-255, PR Docket No. 92-235**Petitions for Reconsideration**

Joint Petition of Final Analysis Services, Inc.,
Leo One Worldwide Inc., and Orbital
Communications Corporation
Satellite Industry Association

WT Docket No. 97-153**Comments**

Cumberland Gap Tunnel Authority
Cybortech, Inc.
Dale T. Smith
Department Of Transportation
Gene Snyder
Giffen B. Nickol
Industrial Telecommunications Association
International Association of Chiefs of Police
International Municipal Signal Association
John Tomerlin
MPH Industries Inc
National Association of Governors' Highway
Safety Representatives
Personal Communications Industry Association
Phonic Ear, Inc.
Radio Association Defending Airwave Rights
Representative Koller
Representative Schiavone
Safety Warning Systems
Sanyo Tecnica USA, Inc.
Senator Kristensen
Sunkyong America Inc
Teligent
Vermont Agency Of Transportation
Vermont Railway, Inc.

Reply Comments

Anthony Otis

APPENDIX B: FINAL REGULATORY FLEXIBILITY ANALYSIS

1. As required by the Regulatory Flexibility Act (RFA)²³³ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rule Making (Notice)*.²³⁴ The Commission sought written public comments on the proposals in the Notice, including comment on the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.²³⁵

Need for, and Objectives of, the Report and Order.

2. This *Report and Order (R&O)* allocates 27 megahertz of spectrum from the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz bands for non-Government use, thereby effectuating the transfer of this spectrum from the Federal Government, pursuant to the provisions of the Omnibus Budget Reconciliation Act of 1993 (OBRA-93) and the Balanced Budget Act of 1997 (BBA-97). The bands 1390-1395 MHz, 1427-1429 MHz, and 2385-2390 MHz are being allocated for exclusive non-Federal Government use, while the bands 216-220 MHz, 1432-1435 MHz, and 1670-1675 MHz, are being allocated for mixed use. Mixed use is a type of shared use whereby Federal Government use is limited by geographic area, by time, or by other means so as to guarantee that the potential use to be made by Federal Government stations is substantially less than the potential use to be made by non-Federal Government stations. All primary Government allocations are being deleted from the transfer bands except in the mixed-use bands, where a limited number of stations will be grandfathered indefinitely. Federal agencies will not add new primary stations in any of the transfer bands. In the bands 1432-1435 MHz and 2385-2390 MHz, non-grandfathered Federal Government stations will retain their primary status until relocated in accordance with the Strom Thurmond National Defense Authorization Act of Fiscal Year 1999 (NDAA-99).

3. These seven bands have a variety of continuing Government protection requirements and incumbent Government and non-Government uses. Despite these constraints and the relatively narrow bandwidth contained in each of the bands, we believe that the *R&O* will foster a variety of potential applications in both new and existing services. The transfer of these bands to non-Government use should enable the development of new technologies and services, provide additional spectrum relief for congested private land mobile frequencies, and fulfill our obligations as mandated by Congress to assign this spectrum for non-Government use.

Summary of Significant Issues Raised by Public Comments in Response to the IRFA.

4. There were no comments received in response to the IRFA.

Description and Estimate of the Number of Small Entities to Which the Rules Will Apply.

5. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.²³⁶ The RFA defines the

²³³ See 5 U.S.C. § 603, The RFA, *see* 5 U.S.C. 601 *et seq.*, has been amended by the Contract With America Advancement Act of 1996, Public Law 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

²³⁴ See 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, 15 FCC Rcd 22,657, 22,697 (2000).

²³⁵ See 5 U.S.C. § 604.

²³⁶ 5 U.S.C. § 603(b)(3).

term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."²³⁷ In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.²³⁸ A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).²³⁹ A small organization is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."²⁴⁰ Nationwide, as of 1992, there were approximately 275,801 small organizations.²⁴¹ "Small governmental jurisdiction"²⁴² generally means "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than 50,000."²⁴³ As of 1992, there were approximately 85,006 governmental entities in the United States.²⁴⁴ This number includes 38,978 counties, cities, and towns; of these, 37,566, or 96%, have populations of fewer than 50,000.²⁴⁵ The Census Bureau estimates that this ratio is approximately accurate for all governmental entities. Thus, of the 85,006 governmental entities, we estimate that 81,600 (96%) are small entities.

6. Licenses in some of the spectrum being allocated in the *R&O* will be assigned by auction, and licenses in some of the spectrum may be assigned by auction. The Commission has not yet determined how many licenses will be awarded, nor will it know how many licensees will be small businesses, until auctions are planned and held. We therefore assume that, for purposes of our evaluations and conclusions in the FRFA, all of the prospective licensees in the bands addressed in the *Notice* are small entities, as that term is defined by the SBA.

7. Incumbent services in the 216-220 MHz band, which the *R&O* allocates on a primary basis to the Fixed and Mobile Services, include the Automated Maritime Telecommunications Service (AMTS), telemetry users and Low Power Radio Service (LPRS) users. The Commission has defined small businesses in the AMTS as those businesses which, together with their affiliates and controlling interests, have not more than fifteen million dollars (\$15 million) in the preceding three years.²⁴⁶ There are only

²³⁷ 5 U.S.C. § 601(6).

²³⁸ 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. 632). Pursuant to the RFA, the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register." 5 U.S.C. § 601(3).

²³⁹ Small Business Act, 15 U.S.C. § 632 (1996).

²⁴⁰ 5 U.S.C. § 601(4).

²⁴¹ 1992 Economic Census, U.S. Bureau of the Census, Table 6 (special tabulation of data under contract to Office of Advocacy of the U.S. Small Business Administration).

²⁴² 47 C.F.R. § 1.1162.

²⁴³ 5 U.S.C. § 601(5).

²⁴⁴ U.S. Dept. of Commerce, Bureau of the Census, "1992 Census of Governments."

²⁴⁵ *Id.*

²⁴⁶ Letter from Aida Alvarez, Administrator, Small Business Administration to Thomas J. Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission (June 4, 1999).

three AMTS licensees, none of whom are small businesses. However, potential licensees in AMTS include all public coast stations, which fall within the Small Business Administration classification as Radiotelephone Service Providers, Standard Industrial Classification Code 33422.²⁴⁷ The small business size standard for this category is an entity that employs no more than 1500 persons.²⁴⁸ According to the 1992 Census of Transportation, Communications, and Utilities, there are a total of 1178 radiotelephone service providers, of whom only 12 had more than 1000 employees. Therefore, we estimate that at least 1166 small entities may be affected by these rules.

8. Users of telemetry are generally large corporate entities, such as utility companies, and it is unlikely that any of the users would be small businesses. LPRS permits licensees to use the 216-217 MHz segment for auditory assistance, medical devices, and law enforcement tracking devices. Users are likely to be theaters, auditoriums, churches, schools, banks, hospitals, and medical care facilities. The primary manufacturer of auditory assistance estimates that it has sold 25,000 pieces of auditory assistance equipment. Many if not most LPRS licensees are likely to be small businesses or individuals. However, because the LPRS is licensed by rule, with no requirement for individual license applications or documents, the Commission is unable to estimate how many small businesses make use of LPRS equipment.

9. The incumbent service in the 1427-1429 MHz band is telemetry. The incumbent services in the 1429-1432 MHz band include general telemetry and medical telemetry. The Commission has issued only a small number of licenses in these bands. The primary user of this band is Itron, Inc., which with an investment of \$100 million in equipment development, is not likely to be a small business. Other licensees include utility companies, such as Pueblo Service Company of Colorado and E Prime, Inc., and large manufacturers such as Deere and Company, Caterpillar, and General Dynamics. None of these licensees are likely to be small businesses. One licensee, Zytex, a manufacturer of high-speed telemetry systems may be a small business. Users of medical telemetry are hospitals and medical care facilities, some of which are likely to be small businesses.

10. The Commission has not developed a definition of small entities specifically applicable to Radio Frequency Equipment Manufacturers (RF Manufacturers). Therefore, the applicable definition of small entity is the definition under the SBA rules applicable to manufacturers of "Radio and Television Broadcasting and Communications Equipment." According to the SBA's regulation, an RF manufacturer must have 750 or fewer employees in order to qualify as a small business.²⁴⁹ Census Bureau data indicates that there are 858 companies in the United States that manufacture radio and television broadcasting and communications equipment, and that 778 of these firms have fewer than 750 employees and would be classified as small entities.²⁵⁰ We believe that many of the companies that manufacture RF equipment may qualify as small entities.

11. According to the SBA's regulations, nursing homes and hospitals must have annual gross receipts of \$5 million or less in order to qualify as a small business concern. There are approximately

²⁴⁷ See 13 CFR § 121.201, North American Industrial Classification System (NAICS) Code 33422.

²⁴⁸ See *Amendment of the Commission's Rules Concerning Maritime Communications*, PR Docket No. 92-257, *Third Report and Order and Memorandum Opinion and Order*, 13 FCC Rcd 19853 (1998).

²⁴⁹ See 13 CFR 121.201, North American Industrial Classification System (NAICS) Code 33422.

²⁵⁰ See U.S. Department of Commerce, 1992 Census of Transportation, Communications and Utilities (issued May 1995), NAICS Code 33422.

11,471 nursing care firms in the nation, of which 7,953 have annual gross receipts of \$5 million or less.²⁵¹ There are approximately 3,856 hospital firms in the nation, of which 294 have gross receipts of \$5 million or less. Thus, the approximate number of small confined setting entities to which the Commission's new rules will apply is 8,247.

Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements.

12. Entities interested in acquiring spectrum in the bands where license assignment will be made through an auction will need to submit a high bid and then submit a license application for the spectrum of interest. In other bands, entities will be required only to submit license applications to obtain the use of spectrum. Additionally, licensees will be required to file applications for license renewals and make certain other filings as required by the Communications Act.

Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered.

13. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its approach, which may include the following four alternatives among others: (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities. As in all of the bands where incumbent licensees exist, we have inquired whether we should elevate the status of the services in which the incumbents are licensed to primary. 5 U.S.C. § 603.

14. Although the scope of this *R&O* is spectrum allocation, and not license assignment and compliance requirements, several steps have been taken to minimize any possible significant economic impact on small entities. For example, the allocation decision not to auction the 216-217 MHz band and also to elevate LPRS to primary status in that band will protect the investment made by small entities in LPRS devices. Similarly, the decision to relocate the Wireless Medical Telemetry Service (WMTS) to the 1427-1429.5 MHz band from the 1429-1432 MHz band will allow licensees to more efficiently use the spectrum because the spectrum sharing environment will be more favorable at the lower end of the band. Because, the original allocation decision for WMTS was only made recently, devices are not yet on the market. Thus, there is no economic impact on licensees to retune equipment. Likewise, the impact on manufacturers will be minimal.

Report to Small Business Administration:

15. The Commission will send a copy of this Report and Order, including a copy of the FRFA to the Chief Counsel for Advocacy of the Small Business Administration. The Report and Order and FRFA will also be published in the Federal Register.

²⁵¹ See Small Business Administration Tabulation File, SBA Size Standards Table 2C, January 23, 1996, SBA, Standard Industrial Code (SIC) categories 8050 (Nursing and Personal Care Facilities) and 8060 (Hospitals). (SBA Tabulation File).

Report to Congress:

16. The Commission will send a copy of this Final Regulatory Flexibility Analysis, along with the Report and Order, in a report to Congress pursuant to the Congressional Review Act, 5 U.S.C. § 801(a)(1)(A).

APPENDIX C: FINAL RULES

For the reasons set forth in the preamble, the Federal Communications Commission amends Parts 1, 2, 90, and 95 of title 47 of the Code of Federal Regulations as follows:

PART 1 – PRACTICE AND PROCEDURE

1. The authority citation for part 1 continues to read as follows:

AUTHORITY: 47 U.S.C. 151, 154(i), 154(j), 155, 225, 303(r), 309, and 325(e).

2. Section 1.924 is amended by adding new paragraph (f) to read as follows:

§ 1.924 Quiet zones.

* * * * *

(f) GOES. The requirements of this paragraph are intended to minimize harmful interference to Geostationary Operational Environmental Satellite earth stations receiving in the band 1670-1675 MHz, which are located at Wallops Island, Virginia and Fairbanks, Alaska and Greenbelt Maryland.

(1) Applicants and licensees planning to construct and operate a new or modified station within the area bounded by a circle with a radius of 100 kilometers (62.1 miles) that is centered on 37° 56' 47" N, 75° 27' 37" W (Wallops Island) or 64° 58' 36" N, 147° 31' 03" W (Fairbanks) must notify the National Oceanic and Atmospheric Administration (NOAA) of the proposed operation. For this purpose, NOAA maintains the GOES coordination web page at <http://www.osd.noaa.gov/radio/frequency.htm>, which provides the technical parameters of the earth stations and the point-of-contact for the notification. The notification shall include the following information: requested frequency, geographical coordinates of the antenna location, antenna height above mean sea level, antenna directivity, emission type, equivalent isotropically radiated power, antenna make and model, and transmitter make and model.

(2) When an application for authority to operate a station is filed with the FCC, the notification required in paragraph (f)(1) of this section should be sent at the same time. The application must state the date that notification in accordance with paragraph (f)(1) of this section was made. After receipt of such an application, the FCC will allow a period of 20 days for comments or objections in response to the notification.

(3) If an objection is received during the 20-day period from NOAA, the FCC will, after consideration of the record, take whatever action is deemed appropriate.

* * * * *

**PART 2 -- FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS;
GENERAL RULES AND REGULATIONS**

3. The authority citation for Part 2 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

4. Amend Section 2.106, the Table of Frequency Allocations, as follows:

- a. Revise pages 23, 31, 41, 42, 43, 47, 50, and 51.

b. Revise footnotes US210, US229, US276, US311, US350, and US352; remove footnote US317; and add footnotes US361, US362, US363, and US368.

c. Add footnotes NG173 and NG174.

d. Revise footnotes G2, G27, G30, G120, and G114 and remove footnote G123.

The additions and revisions read as follows:

§ 2.106 Table of Frequency Allocations.

* * * * *

| International Table | | | United States Table | | FCC Rule Part(s) |
|---|----------|----------|--|--|--|
| Region 1 | Region 2 | Region 3 | Federal Government | Non-Federal Government | |
| See previous page for 30.01-37.5 MHz | | | 33-34 | 33-34 FIXED LAND MOBILE NG124 | Private Land Mobile (90) |
| | | | 34-35 FIXED MOBILE | 34-35 | |
| | | | 35-36 | 35-36 FIXED LAND MOBILE | Public Mobile (22) Private Land Mobile (90) |
| | | | 36-37 FIXED MOBILE US220 | 36-37 US220 | |
| | | | 37-37.5 | 37-37.5 LAND MOBILE NG124 | Private Land Mobile (90) |
| 37.5-38.25 FIXED MOBILE Radio astronomy | | | 37.5-38 Radio astronomy S5.149 | 37.5-38 LAND MOBILE Radio astronomy S5.149 NG59 NG124 | |
| S5.149 | | | 38-38.25 FIXED MOBILE RADIO ASTRONOMY | 38-38.25 RADIO ASTRONOMY | |
| 38.25-39.986 FIXED MOBILE | | | S5.149 US81 | S5.149 US81 | |
| | | | 38.25-39 FIXED MOBILE | 38.25-39 | |
| | | | 39-40 | 39-40 LAND MOBILE NG124 | Private Land Mobile (90) |
| 39.986-40.02 FIXED MOBILE Space research | | | 40-42 FIXED MOBILE | 40-40.98 | ISM Equipment (18) Private Land Mobile (90) |

| International Table | | | United States Table | | FCC Rule Part(s) |
|--|---|--|--|--|--|
| Region 1 | Region 2 | Region 3 | Federal Government | Non-Federal Government | |
| See previous page for 156.8375-174 MHz | | | 162.0125-173.2 FIXED MOBILE | 162.0125-173.2 | Auxiliary Broadcasting (74) Private Land Mobile (90) |
| | | | S5.226 US8 US11 US13 US216 US223 US300 US312 G5 | S5.226 US8 US11 US13 US216 US223 US300 US312 | |
| | | | 173.2-173.4 | 173.2-173.4 FIXED Land mobile | Private Land Mobile (90) |
| | | | 173.4-174 FIXED MOBILE | 173.4-174 | |
| | | | G5 | | |
| 174-223 BROADCASTING | 174-216 BROADCASTING Fixed Mobile | 174-223 FIXED MOBILE BROADCASTING | 174-216 | 174-216 BROADCASTING | Broadcast Radio (TV) (73) Auxiliary Broadcasting (74) |
| | S5.234 | | NG115 NG128 NG149 | | |
| | 216-220 FIXED MARITIME MOBILE Radiolocation S5.241 | | 216-220 Fixed Mobile Radiolocation S5.241 G2 | 216-220 FIXED MOBILE Aeronautical mobile | Maritime (80) Private Land Mobile (90) Personal Radio (95) Amateur (97) |
| | S5.242 | | US210 US229 US274 NG152 NG173 | | |
| | 220-225 AMATEUR FIXED MOBILE Radiolocation S5.241 | | 220-222 FIXED LAND MOBILE Radiolocation S5.241 G2 | 220-222 FIXED LAND MOBILE | Private Land Mobile (90) |
| | | S5.233 S5.238 S5.240 S5.245 | US335 | US335 | |
| S5.235 S5.237 S5.243 | | | 222-225 Radiolocation S5.241 G2 | 222-225 AMATEUR | Amateur (97) |

| International Table | | | United States Table | | FCC Rule Part(s) |
|---|--------------------------------------|--|--|---|---|
| Region 1 | Region 2 | Region 3 | Federal Government | Non-Federal Government | |
| See previous page for 890-942 MHz | See previous page for 928-942 MHz | See previous page for 890-942 MHz | 941-944 FIXED | 941-944 FIXED | Public Mobile (22) Fixed Microwave (101) |
| 942-960 FIXED MOBILE except aeronautical Mobile BROADCASTING S5.322 | 942-960 FIXED MOBILE | 942-960 FIXED MOBILE BROADCASTING | US268 US301 US302 G2 | US268 US301 US302 NG120 | |
| S5.323 | | S5.320 | 944-960 | 944-960 FIXED NG120 | Public Mobile (22) Auxiliary Broadcast (74) Fixed Microwave (101) |
| 960-1215 AERONAUTICAL RADIONAVIGATION S5.328 | | | 960-1215 AERONAUTICAL RADIONAVIGATION S5.328 US224 | | Aviation (87) |
| 1215-1240 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) S5.329 SPACE RESEARCH (active) S5.330 S5.331 S5.332 | | | 1215-1240 RADIOLOCATION S5.333 G56 RADIONAVIGATION- SATELLITE (space-to- Earth) | 1215-1240 S5.333 | |
| 1240-1260 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) S5.329 SPACE RESEARCH (active) Amateur S5.330 S5.331 S5.332 S5.334 S5.335 | | | 1240-1300 RADIOLOCATION S5.333 G56 | 1240-1300 Amateur | Amateur (97) |
| 1260-1300 EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Amateur S5.282 S5.330 S5.331 S5.332 S5.334 S5.335 | | | S5.334 | S5.282 S5.333 S5.334 | |
| 1300-1350 AERONAUTICAL RADIONAVIGATION S5.337 Radiolocation S5.149 | | | 1300-1350 AERONAUTICAL RADIO- NAVIGATION S5.337 Radiolocation G2 S5.149 | 1300-1350 AERONAUTICAL RADIO- NAVIGATION S5.337 S5.149 | Aviation (87) |

| | | | | |
|--|----------------------------|--|---|---|
| 1350-1400 FIXED MOBILE RADIOLOCATION | 1350-1400 RADIOLOCATION | 1350-1390 FIXED MOBILE RADIOLOCATION G2 S5.149 S5.334 S5.339 US311 G27 G114 | 1350-1390 S5.149 S5.334 S5.339 US311 | |
| | | 1390-1395 | 1390-1392 FIXED MOBILE except aeronautical mobile FIXED-SATELLITE (Earth-to-space) US368 S5.149 S5.339 US311 US351 | |
| | | | 1392-1395 FIXED MOBILE except aeronautical mobile S5.149 S5.339 US311 US351 | |
| | | 1395-1400 LAND MOBILE US350 S5.149 S5.339 US311 US351 | | Personal (95) |
| S5.149 S5.338 S5.339 | S5.149 S5.334 S5.339 | S5.149 S5.339 US311 US351 | | |
| 1400-1427 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340 S5.341 | | 1400-1427 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY US74 SPACE RESEARCH (passive) S5.341 US246 | | |
| 1427-1429 SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile S5.341 | | 1427-1429.5 LAND MOBILE US350 | 1427-1429.5 LAND MOBILE US350 Fixed (telemetry) | Private Land Mobile (90) Personal (95) |
| See next page for 1429-1452 MHz | | S5.341 US352 | S5.341 US352 | |
| | | See next page for 1429.5-1432 | 1429.5-1430 FIXED (telemetry) LAND MOBILE (telemetry) S5.341 US352 | Private Land Mobile (90) |

| International Table | | | United States Table | | FCC Rule Part(s) |
|--|---|---|---|--|--|
| Region 1 | Region 2 | Region 3 | Federal Government | Non-Federal Government | |
| 1429-1452 FIXED MOBILE except aeronautical mobile | 1429-1452 FIXED MOBILE S5.343 | | 1429.5-1432 | See previous page 1430-1432 FIXED (telemetry) LAND MOBILE (telemetry) FIXED-SATELLITE (space-to-Earth) US368 | See previous page Private Land Mobile (90) |
| S5.341 S5.342 | S5.341 | | S5.341 US352 1432-1435 | S5.341 US352 1432-1435 FIXED MOBILE except aeronautical mobile | |
| 1452-1492 FIXED MOBILE except aeronautical mobile BROADCASTING S5.345 S5.347 BROADCASTING-SATELLITE S5.345 S5.347 | 1452-1492 FIXED MOBILE S5.343 BROADCASTING S5.345 S5.347 BROADCASTING-SATELLITE S5.345 S5.347 | | S5.341 US361 1435-1525 MOBILE (aeronautical telemetry) | S5.341 US361 | Aviation (87) |
| 1492-1525 FIXED MOBILE except aeronautical mobile | 1492-1525 FIXED MOBILE S5.343 MOBILE-SATELLITE (space-to-Earth) S5.348A | 1492-1525 FIXED MOBILE | S5.341 US78 | | |
| S5.341 S5.342 | S5.341 S5.344 S5.348 | S5.341 S5.348A | | | |
| 1525-1530 SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite Mobile except aeronautical mobile S5.349 | 1525-1530 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite Fixed Mobile S5.343 | 1525-1530 SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite Mobile S5.349 | 1525-1530 MOBILE-SATELLITE (space-to-Earth) Mobile (aeronautical telemetry) | | Satellite Communications (25) Aviation (87) |
| S5.341 S5.342 S5.350 S5.351 S5.352A S5.354 | S5.341 S5.351 S5.354 | S5.341 S5.351 S5.352A S5.354 | S5.341 S5.351 US78 | | |

| International Table | | | United States Table | | FCC Rule Part(s) |
|---|---|---|--|--|--|
| Region 1 | Region 2 | Region 3 | Federal Government | Non-Federal Government | |
| 1670-1675 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE S5.380 S5.341 | | | 1670-1675 S5.341 US211 US362 | 1670-1675 FIXED MOBILE except aeronautical mobile S5.341 US211 US362 | |
| 1675-1690 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile S5.341 | 1675-1690 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) S5.341 S5.377 | 1675-1690 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile S5.341 | 1675-1700 METEOROLOGICAL AIDS (radiosonde) METEOROLOGICAL-SATELLITE (space-to-Earth) | | |
| 1690-1700 METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile S5.289 S5.341 S5.382 | 1690-1700 METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (Earth-to-space) S5.289 S5.341 S5.377 S5.381 | 1690-1700 METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) S5.289 S5.341 S5.381 | S5.289 S5.341 US211 | | |
| 1700-1710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile S5.289 S5.341 | 1700-1710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-To-space) S5.289 S5.341 S5.377 | 1700-1710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile S5.289 S5.341 S5.384 | 1700-1710 FIXED G118 METEOROLOGICAL-SATELLITE (space-to-Earth) S5.289 S5.341 | 1700-1710 METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed S5.289 S5.341 | |
| 1710-1930 FIXED MOBILE S5.380 | | | 1710-1755 FIXED MOBILE S5.341 US256 | 1710-1755 S5.341 US256 | Note: Proceeds from the auction of the 1710-1755 MHz mixed-use band are to be deposited not later than September 30, 2002. |

| | | | | |
|---|--|---|---|---|
| | | MOBILE (line-of-sight only including aeronautical telemetry, but excluding flight testing of manned aircraft) SPACE RESEARCH (space-to-Earth) (space-to-space) | | |
| S5.392 | | S5.392 US303 | US303 | |
| 2290-2300 FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth) | | 2290-2300 FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth) | 2290-2300 SPACE RESEARCH (deep space) (space-to-Earth) | |
| 2300-2450 FIXED MOBILE Amateur Radiolocation | 2300-2450 FIXED MOBILE RADIOLOCATION Amateur | 2300-2305 | 2300-2305 Amateur | Amateur (97) Note: 2300-2305 MHz became non-Federal Government exclusive spectrum in August 1995 |
| | | 2305-2310 | 2305-2310 FIXED MOBILE except aeronautical mobile RADIOLOCATION Amateur | Wireless Communications (27) Amateur (97) |
| | | US338 | US338 | |
| | | 2310-2360 Fixed Mobile US339 Radiolocation G2 G120 | 2310-2320 FIXED MOBILE US339 RADIOLOCATION BROADCASTING-SATELLITE US327 S5.396 US338 | Wireless Communications (27) |
| | | | 2320-2345 BROADCASTING-SATELLITE US327 Mobile US276 US328 S5.396 | Satellite Communications (25) |
| S5.150 S5.282 S5.395 | S5.150 S5.282 S5.393 S5.394 S5.396 | S5.396 US327 US328 See next page | See next page for 2345-2450 MHz | See next page for 2345-2450 MHz |

| International Table | | | United States Table | | FCC Rule Part(s) |
|--|--|----------|--|---|---|
| Region 1 | Region 2 | Region 3 | Federal Government | Non-Federal Government | |
| See previous page for 2300-2450 MHz | | | See previous page for 2310-2360 MHz | 2345-2360 FIXED MOBILE US339 RADIOLOCATION BROADCASTING- SATELLITE US327 S5.396 | Wireless Communications (27) |
| | | | 2360-2385 MOBILE US276 RADIOLOCATION G2 Fixed G120 | 2360-2385 MOBILE US276 | |
| | | | 2385-2390 US363 | 2385-2390 FIXED MOBILE NG174 US363 | |
| | | | 2390-2400 G122 | 2390-2400 AMATEUR | RF Devices (15) Amateur (97) |
| | | | 2400-2402 S5.150 | 2400-2402 Amateur S5.150 S5.282 | ISM Equipment (18) Amateur (97) |
| | | | 2402-2417 S5.150 G122 | 2402-2417 AMATEUR S5.150 S5.282 | RF Devices (15) ISM Equipment (18) Amateur (97) |
| | | | 2417-2450 Radiolocation G2 S5.150 G124 | 2417-2450 Amateur S5.150 S5.282 | ISM Equipment (18) Amateur (97) |
| 2450-2483.5 FIXED MOBILE Radiolocation S5.150 S5.397 | 2450-2483.5 FIXED MOBILE RADIOLOCATION S5.150 S5.394 | | 2450-2483.5 S5.150 US41 | 2450-2483.5 FIXED MOBILE Radiolocation S5.150 US41 | ISM Equipment (18) Private Land Mobile (90) Fixed Microwave (101) |

UNITED STATES (US) FOOTNOTES

US210 In the sub-band 40.66-40.7 MHz, frequencies may be authorized to Government and non-Government stations on a secondary basis for the tracking of, and telemetering of scientific data from, ocean buoys and wildlife. Operation in this sub-band is subject to the technical standards specified in: (a) Section 8.2.42 of the NTIA Manual for Government use, or (b) 47 C.F.R. § 90.248 for non-Government use.

US229 In the band 216-220 MHz, the fixed, aeronautical mobile, land mobile, and radiolocation services are allocated on a secondary basis for Government operations. The use of the fixed, aeronautical mobile, and land mobile services shall be limited to telemetering and associated telecommand operations.

After January 1, 2002, no new assignments shall be authorized in the band 216-217 MHz. Further, Government and non-Government assignments in the sub-band 216.88-217.08 MHz shall protect the Navy's SPASUR system, which operates on a primary basis at the following sites:

| Transmit Frequency of 216.98 MHz | | | Receive Frequencies of 216.965-216.995 MHz | | |
|----------------------------------|-----------------------------------|----------------------|--|-----------------------------------|----------------------|
| Location | North Latitude/ West Longitude | Protection Radius | Location | North Latitude/ West Longitude | Protection Radius |
| Lake Kickapoo, TX | 33° 32' / 098° 45' | 250 km | San Diego, CA | 32° 34' / 116° 58' | 50 km |
| Jordan Lake, AL | 32° 39' / 086° 15' | 150 km | Elephant Butte, NM | 33° 26' / 106° 59' | 50 km |
| Gila River, AZ | 33° 06' / 112° 01' | 150 km | Red River, AR | 33° 19' / 093° 33' | 50 km |
| | | | Silver Lake, MO | 33° 08' / 091° 01' | 50 km |
| | | | Hawkinsville, GA | 32° 17' / 083° 32' | 50 km |
| | | | Fort Stewart, GA | 31° 58' / 081° 30' | 50 km |

US276 Except as otherwise provided for herein, use of the bands 2320-2345 MHz and 2360-2385 MHz by the mobile service is limited to aeronautical telemetering and associated telecommand operations for flight testing of manned or unmanned aircraft, missiles or major components thereof. The following four frequencies are shared on a co-equal basis by Government and non-Government stations for telemetering and associated telecommand operations of expendable and reusable launch vehicles whether or not such operations involve flight testing: 2332.5 MHz, 2364.5 MHz, 2370.5 MHz, and 2382.5 MHz. All other mobile telemetering uses shall be secondary to the above uses.

US311 Radio astronomy observations may be made in the band 1350-1400 MHz on an unprotected basis at the following radio astronomy observatories:

| | | |
|---|--|------------------|
| Allen Telescope Array, Hat Creek, California | 80 kilometers (50 mile) radius centered on latitude 40° 49' W, longitude 121° 28' N. | |
| Hat Creek Observatory, Hat Creek, California | Rectangle between latitudes 40° 00' N and 42° 00' N and between longitudes 120° 15' W and 122° 15' W. | |
| NASA Facilities, Goldstone, California | 80 kilometers (50 mile) radius centered on latitude 35° 18' W, longitude 116° 54' N. | |
| National Astronomy and Ionosphere Center, Arecibo, Puerto Rico | Rectangle between latitudes 17° 30' N and 19° 00' N and between longitudes 65° 10' W and 68° 00' W. | |
| National Radio Astronomy Observatory, Socorro, New Mexico | Rectangle between latitudes 32° 30' N and 35° 30' N and between longitudes 106° 00' W and 109° 00' W. | |
| National Radio Astronomy Observatory, Green Bank, West Virginia | Rectangle between latitudes 37° 30' N and 39° 15' N and between longitudes 78° 30' W and 80° 30' W. | |
| National Radio Astronomy Observatory, Very Long Baseline Array Stations | 80 kilometers (50 mile) radius centered on: | |
| | Latitude (North) | Longitude (West) |
| Brewster, WA | 48° 08' | 119° 41' |
| Fort Davis, TX | 30° 38' | 103° 57' |
| Hancock, NH | 42° 56' | 71° 59' |
| Kitt Peak, AZ | 31° 57' | 111° 37' |
| Los Alamos, NM | 35° 47' | 106° 15' |
| Mauna Kea, HI | 19° 48' | 155° 27' |
| North Liberty, IA | 41° 46' | 91° 34' |
| Owens Valley, CA | 37° 14' | 118° 17' |
| Pie Town, NM | 34° 18' | 108° 07' |
| Saint Croix, VI | 17° 46' | 64° 35' |
| Owens Valley Radio Observatory, Big Pine, California | Two contiguous rectangles, one between latitudes 36° 00' N and 37° 00' N and between longitudes 117° 40' W and 118° 30' W and the second between latitudes 37° 00' N and 38° 00' N and between longitudes 118° 00' W and 118° 50' W. | |

Every practicable effort will be made to avoid the assignment of frequencies in the band 1350-1400 MHz to stations in the fixed and mobile services that could interfere with radio astronomy observations within the geographic areas given above. In addition, every practicable effort will be made to avoid assignment of frequencies in these bands to stations in the aeronautical mobile service which operate outside of those geographic areas, but which may cause harmful interference to the listed observatories. Should such assignments result in harmful interference to these observatories, the situation will be remedied to the extent practicable.

* * * * *

US350 The use of the bands 608-614 MHz, 1395-1400 MHz, and 1427-1429.5 MHz by the Government and non-Government land mobile service is limited to medical telemetry and medical telecommand operations, except that non-Government land mobile use is permitted for non-medical telemetry and telecommand operations on a secondary basis in the band 1427-1429.5 MHz.

* * * * *

US352 In the band 1427-1432 MHz, Government operations, except for medical telemetry and medical telecommand operations, are on a non-interference basis to authorized non-Government operations and shall not hinder the implementation of any non-Government operations. However, Government operations authorized as of March 22, 1995 at the 14 sites identified below may continue on a fully protected basis until January 1, 2004:

| Location | North Latitude/ West Longitude | Operating Radius | Location | North Latitude/ West Longitude | Operating Radius |
|------------------------------|-----------------------------------|---------------------|-------------------------------|-----------------------------------|---------------------|
| Patuxent River, MD | 38° 17' / 076° 25' | 70 km | Mountain Home AFB, ID | 43° 01' / 115° 50' | 160 km |
| NAS Oceana, VA | 36° 49' / 076° 02' | 100 km | NAS Fallon, NV | 39° 24' / 118° 43' | 100 km |
| MCAS Cherry Point, NC | 34° 54' / 076° 52' | 100 km | Nellis AFB, NV | 36° 14' / 115° 02' | 100 km |
| Beaufort MCAS, SC | 32° 26' / 080° 40' | 160 km | NAS Lemoore, CA | 36° 18' / 119° 47' | 120 km |
| NAS Cecil Field, FL | 30° 13' / 081° 52' | 160 km | Yuma MCAS, AZ | 32° 39' / 114° 35' | 160 km |
| NAS Whidbey IS., WA | 48° 19' / 122° 24' | 70 km | China Lake, CA | 35° 29' / 117° 16' | 80 km |
| Yakima Firing Ctr AAF, WA | 46° 40' / 120° 15' | 70 km | MCAS Twenty Nine Palms, CA | 34° 15' / 116° 03' | 80 km |

* * * * *

US361 In the band 1432-1435 MHz, Government stations in the fixed and mobile services may operate indefinitely on a primary basis at the 23 sites listed below. All other Government stations in the fixed and mobile services shall operate in the band 1432-1435 MHz on a primary basis until re-accommodated in accordance with the National Defense Authorization Act of 1999.

| Location | North Latitude/ West Longitude | Operating Radius | Location | North Latitude/ West Longitude | Operating Radius |
|---|-----------------------------------|---------------------|---|-----------------------------------|---------------------|
| China Lake/ Edwards AFB, CA | 35° 29' / 117° 16' | 100 km | AUTEC | 24° 30' / 078° 00' | 80 km |
| White Sands Missile Range/Holloman AFB, NM | 32° 11' / 106° 20' | 160 km | Beaufort MCAS, SC | 32° 26' / 080° 40' | 160 km |
| Utah Test and Training Range/ Dugway Proving Ground, Hill AFB, UT | 40° 57' / 113° 05' | 160 km | MCAS Cherry Point, NC | 34° 54' / 076° 53' | 100 km |
| Patuxent River, MD | 38° 17' / 076° 24' | 70 km | NAS Cecil Field, FL | 30° 13' / 081° 52' | 160 km |
| Nellis AFB, NV | 37° 29' / 114° 14' | 130 km | NAS Fallon, NV | 39° 30' / 118° 46' | 100 km |
| Fort Huachuca, AZ | 31° 33' / 110° 18' | 80 km | NAS Oceana, VA | 36° 49' / 076° 01' | 100 km |
| Eglin AFB/Gulfport ANG Range, MS/Fort Rucker, AL | 30° 28' / 086° 31' | 140 km | NAS Whidbey Island, WA | 48° 21' / 122° 39' | 70 km |
| Yuma Proving Ground, AZ | 32° 29' / 114° 20' | 160 km | NCTAMS, GUM | 13° 35' / 144° 51' (East) | 80 km |
| Fort Greely, AK | 63° 47' / 145° 52' | 80 km | Lemoore, CA | 36° 20' / 119° 57' | 120 km |
| Redstone Arsenal, AL | 34° 35' / 086° 35' | 80 km | Savannah River, SC | 33° 15' / 081° 39' | 3 km |
| Alpena Range, MI | 44° 23' / 083° 20' | 80 km | Naval Space Operations Center, ME | 44° 24' / 068° 01' | 80 km |
| Camp Shelby, MS | 31° 20' / 089° 18' | 80 km | | | |

US362 The band 1670-1675 MHz is allocated to the meteorological-satellite service (space-to-Earth) on a primary basis for Government use. Earth station use of this allocation is limited to Wallops Island, VA (37° 56' 47" N, 75° 27' 37" W), Fairbanks, AK (64° 58' 36" N, 147° 31' 03" W), and Greenbelt, MD (39° 00' 02" N, 76° 50' 31" W). Applicants for non-Government stations within 100 kilometers of the Wallops Island or Fairbanks coordinates shall notify NOAA in accordance with the procedures specified in 47 C.F.R. § 1.924.

US363 Until January 1, 2005, the band 2385-2390 MHz is allocated to the Government mobile and radiolocation services on a primary basis and to the Government fixed service on a secondary basis. Use of the mobile service is limited to aeronautical telemetry and associated telecommand operations for flight testing of manned or unmanned aircraft, missiles or major components thereof. Use of the radiolocation service is limited to the military services.

After January 1, 2005, Government stations in the mobile and radiolocation services shall continue to operate on a primary basis until re-accommodated in accordance with the National Defense Authorization Act of 1999, except at the sites identified below where Government stations may not be re-accommodated until January 1, 2007:

Protection Radius for Each of the Following Sites is 160 km:

| Location | North Latitude/ West Longitude | Location | North Latitude/ West Longitude |
|-----------------------|-----------------------------------|-------------------------------|-----------------------------------|
| Barking Sands, HI | 22° 07' / 159° 40' | Roswell, NM | 33° 18' / 104° 32' |
| Cape Canaveral, FL | 28° 33' / 080° 34' | Seattle, WA | 47° 32' / 122° 18' |
| China Lake, CA | 35° 40' / 117° 41' | St. Louis, MO | 38° 45' / 090° 22' |
| Eglin AFB, FL | 30° 30' / 086° 30' | Utah Test Range, UT | 40° 12' / 112° 54' |
| Glasgow, MT | 48° 25' / 106° 32' | White Sands Missile Range, NM | 32° 58' / 106° 23' |
| Nellis AFB, NV | 37° 48' / 116° 28' | Wichita, KS | 37° 40' / 097° 26' |
| Palm Beach County, FL | 26° 54' / 080° 19' | Yuma Proving Ground, AZ | 32° 54' / 114° 20' |
| Poosevelt Roads, PR | 18° 14' / 065° 38' | | |

Protection Radius for Each of the Following Sites is 100 km:

| | | | |
|-----------------|--------------------|--------------------|--------------------|
| Edwards AFB, CA | 34° 54' / 117° 53' | Patuxent River, MD | 38° 17' / 076° 25' |
|-----------------|--------------------|--------------------|--------------------|

In addition, non-Government flight test operations may continue at the sites identified below on a primary basis until January 1, 2007:

Protection Radius for Each of the Following Sites is 160 km:

| Location | North Latitude/ West Longitude | Location | North Latitude/ West Longitude |
|-----------------|--------------------------------|----------------|--------------------------------|
| Alamosa, CO | 37° 26' 04" / 105° 52' 03" | Thermal, CA | 33° 37' 35" / 116° 09' 36" |
| Albuquerque, NM | 35° 11' 03" / 106° 34' 30" | Phoenix, AZ | 33° 18' 28" / 111° 39' 19" |
| Amarillo, TX | 35° 12' 49" / 101° 42' 31" | Marietta, GA | 33° 54' 24" / 084° 31' 09" |
| Arlington, TX | 32° 40' 00" / 097° 05' 53" | Greenville, TX | 33° 04' 01" / 096° 03' 09" |
| Leadville, CO | 39° 13' 13" / 106° 19' 03" | | |

US368 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.

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NON-GOVERNMENT (NG) FOOTNOTES

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NG173 In the band 216-217 MHz, telemetry operations are permitted subject to the requirements of §90.259 of this chapter. After January 1, 2002, no new assignments shall be authorized in the band 216-217 MHz.

NG174 In Puerto Rico, frequencies within the band 2385-2390 MHz are not available for assignment to stations in the aeronautical mobile service.

GOVERNMENT (G) FOOTNOTES

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G2 In the bands 220-225 MHz, 420-450 MHz (except as provided by US217), 890-902 MHz, 928-942 MHz, 1300-1390 MHz, 2310-2385 MHz, 2417-2450 MHz, 2700-2900 MHz, 5650-5925 MHz, and 9000-9200 MHz, the Government radiolocation service is limited to the military services.

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G27 In the bands 255-328.6 MHz, 335.4-399.9 MHz, and 1350-1390 MHz, the fixed and mobile services are limited to the military services.

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G30 In the bands 138-144 MHz, 148-149.9 MHz, and 150.05-150.8 MHz, the fixed and mobile services are limited primarily to operations by the military services.

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G114 The band 1369.05-1390 MHz is also allocated to the fixed-satellite service (space-to-Earth) and to the mobile-satellite service (space-to-Earth) on a primary basis for the relay of nuclear burst data.

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G120 Development of airborne primary radars in the band 2310-2385 MHz with peak

transmitter power in excess of 250 watts for use in the United States is not permitted.

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PART 90--PRIVATE LAND MOBILE RADIO SERVICES

5. The authority citation for part 90 continues to read as follows:

AUTHORITY: Sections 4(i), 11, 303(g), 303(r), and 302(c)(7) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 161, 303(g), 303(r), 332(c)(7).

6. Section 90.259 is revised to read as follows:

§ 90.259 Assignment and use of frequencies in the bands 216-220 MHz and 1427-1432 MHz.

7. Section 90.259 is revised to read as follows:

§ 90.259 Assignment and use of frequencies in the bands 216-220 MHz and 1427-1432 MHz.

(a) 216-220 MHz band.

(1) Frequencies in the 216-220 MHz band may be assigned to applicants that establish eligibility in the Industrial/Business Pool.

(2) All operation is secondary to the fixed and mobile services, including the Low Power Radio Service.

(3) In the 216-217 MHz band, no new assignments will be made after January 1, 2002.

(b) 1427-1432 MHz band.

(1) Frequencies in the 1427-1432 MHz band may be assigned to applicants that establish eligibility in the Public Safety Pool or the Industrial/Business Pool.

(2) All operations in the 1427-1429.5 MHz band are secondary to the Wireless Medical Telemetry Service.

(3) All operations in the 1429.5-1432 MHz band authorized prior to [Effective date of the Rules] are on a secondary basis.

(c) Authorized uses.

(1) Use of these bands is limited to telemetering purposes.

(2) Base stations authorized in these bands shall be used to perform telecommand functions with associated mobile telemetering stations. Base stations may also command actions by the vehicle itself, but will not be authorized solely to perform this function.

(3) Airborne use is prohibited.

PART 95 – PERSONAL RADIO SERVICES

8. The authority citation for Part 95 continues to read:

AUTHORITY: Secs. 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303.

9. Section 95.630 is revised to read as follows:

§ 95.630 WMTS transmitter frequencies.

WMTS transmitters may operate in the frequency bands specified below:

608-614 MHz
1395-1400 MHz
1427-1429.5 MHz

10. Section 95.639(g) is revised to read as follows:

§ 95.639 Maximum transmitter power.

* * * * *

(g) The maximum field strength authorized for WMTS stations in the 608-614 MHz band is 200 mV/m, measured at 3 meters. For stations in the 1395-1400 MHz and 1427-1429.5 MHz bands, the maximum field strength is 740 mV/m, measured at 3 meters.

11. Section 95.1017 is amended by revising paragraph (a) to read as follows:

§ 95.1017 Labeling requirements.

(a) Each LPRS transmitting device shall bear the following statement in a conspicuous location on the device: "This device may not interfere with TV reception or Federal Government radar."

* * * * *

12. Section 95.1101 is revised to read as follows:

§ 95.1101 Scope.

This part sets out the regulations governing the operation of Wireless Medical Telemetry Devices in the 608-614 MHz, 1395-1400 MHz and 1427-1429.5 MHz frequency bands.

13. Section 95.1103(c) is revised to read as follows:

§ 95.1103 Definitions.

* * * * *

(c) Wireless medical telemetry. The measurement and recording of physiological parameters and other patient-related information via radiated bi- or unidirectional electromagnetic signals in the 608-614 MHz, 1395-1400 MHz, and 1427-1429.5 MHz frequency bands.

14. Sections 95.1115(a)(2) and 95.1115(d)(1) are revised to read as follows:

§ 95.1115 General technical requirements.

(a) * * *

(2) In the 1395-1400 MHz and 1427-1429.5 MHz bands, the maximum allowable field strength is 740 mV/m, as measured at a distance of 3 meters, using measuring equipment with an averaging detector and a 1 MHz measurement bandwidth.

* * * * *

(d) Channel use. (1) In the 1395-1400 MHz and 1427-1429.5 MHz bands, no specific channels are specified. Wireless medical telemetry devices may operate on any channel within the bands authorized for wireless medical telemetry use in this part.

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15. Section 95.1121, including the section heading, is revised to read as follows:

§ 95.1121 Specific requirements for wireless medical telemetry devices operating in the 1395-1400 MHz and 1427-1429.5 MHz bands.

Due to the critical nature of communications transmitted under this part, the frequency coordinator in consultation with the National Telecommunications and Information Administration shall determine whether there are any Federal Government systems whose operations could affect, or could be affected by, proposed wireless medical telemetry operations in the 1395-1400 MHz and 1427-1429.5 MHz bands. The locations of government systems in these bands are specified in footnotes US351 and US352 of § 2.106 of this chapter.