

APPENDIX A

RULES

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 revising the title, the introductory paragraph, paragraphs 1.924(a)(2), 1.924(b)(1), 1.924(b)(3), 1.924(d)(2)(ii), 1.924(e)(1), 1.924(e)(2), 1.924(f)(1)(i), 1.924(f)(4)(iii) and 1.924(g) and by adding paragraph 1.924(d)(4) to read as follows:

§ 1.924 Notifications concerning interference to quiet zones, radio astronomy, research and receiving installations.

Areas implicated by this paragraph are those in which it is necessary to restrict radiation so as to minimize possible impact on the operations of radio astronomy or other facilities that are highly sensitive to interference. Consent throughout this paragraph means written consent from the quiet zone, radio astronomy, research, and receiving installation entity. The areas involved and procedures required are as follows:

(a) * * *

(1) * * *

(2) When an application for authority to operate a station is filed with the FCC, the notification required in paragraph (a)(1) of this section may be made prior to, or simultaneously with the application. The application must state the date that notification in accordance with paragraph (a)(1) of this section was made. After receipt of such applications, the FCC will allow a period of 20 days for comments or objections in response to the notifications indicated. If an applicant submits written consent from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the FCC will process the application without awaiting the conclusion of the 20-day period. For services that do not require individual station authorization, entities that have obtained written consent from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory may begin to operate new or modified facilities prior to the end of the 20-day period. In instances in which notification has been made to the National Radio Astronomy Observatory prior to application filing, the applicant must also provide notice to the quiet zone entity upon actual filing of the application with the FCC. Such notice will be made simultaneous with the filing of the application and shall comply with the requirements of paragraph (a)(1) of this section.

* * * * *

(b) * * *

(1) * * *

Field Strength Limits for Table Mountain [superscript 1]

Frequency range	Field strength (mV/m)	Power flux density (dBW/m ^{superscript 2})
Below 540 kHz	10	-65.8
540 to 1600 kHz	20	-59.8
1.6 to 470 MHz	10	-65.8
470 to 890 MHz	30	-56.2
890 MHz and above	1	-85.8

superscript 1 Note: Equivalent values of power flux density are calculated assuming free space characteristic impedance of 376.7Ω ($120\pi \Omega$).

* * * * *

(3) Applicants concerned are urged to communicate with the Radio Frequency Management Coordinator, Department of Commerce, NOAA R/OM62, 325 Broadway, Boulder, CO 80305; telephone 303-497-6548, in advance of filing their applications with the Commission.

* * * * *

(d) * * *

* * * * *

(2) In services in which individual station licenses are issued by the FCC, the notification required in paragraph (d) of this section may be made prior to, or simultaneously with, the filing of the application with the FCC, and at least 20 days in advance of the applicant's planned operation. The application must state the date that notification in accordance with paragraph (d) of this section was made. In services in which individual station licenses are not issued by the FCC, the notification required in paragraph (d) of this section should be sent at least 45 days in advance of the applicant's planned operation. In the latter services, the Interference Office must inform the FCC of a notification by an applicant within 20 days if the Office plans to file comments or objections to the notification. After the FCC receives an application from a service applicant or is informed by the Interference Office of a notification from a service applicant, the FCC will allow the Interference Office a period of 20 days for comments or objections in response to the application or notification. If an applicant submits written consent from the Interference Office, the FCC will process the application without awaiting the conclusion of the 20-day period. For services that do not require individual station authorization, entities that have obtained written consent from the Interference Office may begin to operate new or modified facilities prior to the end of the 20-day period. In instances in which notification has been made to the Interference Office prior to application filing, the applicant must also provide notice to the Interference Office upon actual filing of the application with the FCC. Such notice will be made simultaneous with the filing of the application and shall comply with the requirements of paragraph (d) of this section.

* * * * *

(4) The provisions of paragraph (d) do not apply to operations that transmit on frequencies above 15 GHz.

(e) * * *

(1) * * *

Denver, CO Area

Rectangle 1:

41° 30' 00" N. Lat. on the north
103° 10' 00" W. Long. on the east
38° 30' 00" N. Lat. on the south
106° 30' 00" W. Long. on the west

Rectangle 2:

38° 30' 00" N. Lat. on the north
105° 00' 00" W. Long. on the east
37° 30' 00" N. Lat. on the south
105° 50' 00" W. Long. on the west

Rectangle 3:

40° 08' 00" N. Lat. on the north
107° 00' 00" W. Long. on the east
39° 56' 00" N. Lat. on the south
107° 15' 00" W. Long. on the west

Washington, DC Area

Rectangle

38° 40' 00" N. Lat. on the north
78° 50' 00" W. Long. on the east
38° 10' 00" N. Lat. on the south
79° 20' 00" W. Long. on the west; or

(2) Within a radius of 178 km of 38° 48' 00" N. Lat./76° 52' 00" W. Long.

* * * * *

(f) * * *

(1) * * *

(i) 41° 45' 00.2" N, 70° 30' 58.3" W.,

* * * * *

(4) * * *

(iii) 34° 08' 59.6" N, 119° 11' 03.8" W;

* * * * *

(g) 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; 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 37E56'47" N, 75E27'37" W (Wallops Island) or 64E58'36" N, 147E31'03" W (Fairbanks) or within the area bounded by a circle with a radius of 65 kilometers (40.4 miles) that is centered on 39E00'02" N, 76E50'31" W (Greenbelt) 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) Protection.

(a) Wallops Island and Fairbanks. Licensees are required to protect the Wallops Island and Fairbanks sites at all times.

(b) Greenbelt. Licensees are required to protect the Greenbelt site only when it is active. Licensees should coordinate appropriate procedures directly with NOAA for receiving notification of times when this site is active.

(3) 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.

(4) 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.

3. Section 27.601 is amended by revising paragraph 27.601(c)(iii) as follows:

§ 27.601 Guard Band Manager authority and coordination requirements.

* * * * *

(c) * * *

(iii) Would affect areas described in § 1.924 of this chapter.

* * * * *

4. Section 27.803 is amended by revising paragraph 27.803(b)(3) as follows:

§ 27.803 Coordination requirements.

* * * * *

(b) * * *

(3) That operates in areas listed in part 1, § 1.924 of this chapter; or

* * * * *

5. Section 27.903 is amended by revising paragraph 27.903(b)(3) as follows:

§ 27.903 Coordination requirements.

* * * * *

(b) * * *

(3) That operates in areas listed under part 1, § 1.924 of this chapter.

* * * * *

6. Section 27.1003 is amended by revising paragraph 27.903(b)(3) as follows:

§ 27.1003 Coordination requirements.

* * * * *

(b) * * *

(3) That operates in areas listed in part 1, § 1.924 of this chapter;

* * * * *

7. Section 74.25 is amended by revising paragraph 74.25(a)(5) as follows:

§ 74.25 Temporary conditional operating authority.

* * * * *

(a) * * *

(5) The station site does not lie within an area identified in § 1.924 of this chapter.

* * * * *

8. Section 90.159 is amended by revising paragraph 90.159(b)(5) as follows:

§ 90.159 Temporary and conditional permits.

* * * * *

(b) * * *

* * * * *

(5) The applicant has determined that the proposed station affords the level of protection to radio quiet zones and radio receiving facilities as specified in § 1.924.

* * * * *

9. Section 90.1207 is amended by revising paragraph 90.1207(b)(1)(iii) as follows:

§ 90.1207 Licensing.

* * * * *

(b) * * *

(1) * * *

(iii) The station would affect areas identified in § 1.924 of this chapter.

* * * * *

10. Section 101.31 is amended by revising paragraph 101.31(b)(1)(v) as follows:

§ 101.31 Temporary and conditional authorizations.

* * * * *

(b) * * *

(1) * * *

(v) The station site does not lie within 56.3 kilometers of any international border, within areas identified in §§ 1.924(a) through (d) of this chapter unless the affected entity consents in writing to conditional operation or, if operated on frequencies in the 17.8-19.7 GHz band, within any of the areas identified in § 1.924 of this chapter;

* * * * *

11. Section 101.525 is amended by revising paragraph 101.525(a)(1)(iii) as follows:

§ 101.525 24 GHz system operations.

* * * * *

(a) * * *

(1) * * *

(iii) The station would affect areas identified in § 1.924 of this chapter.

* * * * *

12. Section 101.1009 is amended by revising paragraph 101.1009(a)(1)(iii) as follows:

§ 101.1009 System operations.

* * * * *

(a) * * *

(1) * * *

(iii) The station would affect areas identified in § 1.924 of this chapter.

* * * * *

13. Section 101.1009 is amended by revising paragraph 101.1329(c) as follows:

§ 101.1329 EA Station license, location, modifications.

* * * * *

(c) The station would affect areas identified in § 1.924 of this chapter.

APPENDIX B

FINAL REGULATORY FLEXIBILITY ANALYSIS

As required by the Regulatory Flexibility Act of 1980, as amended (RFA),⁹⁶ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rulemaking* in WT Docket No. 01-319, released November 21, 2001 (*NPRM*).⁹⁷ The Commission sought written public comment on the proposals in the *NPRM*, including comment on the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.⁹⁸

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

In January 2001, pursuant to the statutory mandate under section 11 of the Communications Act, as amended, requiring the periodic review of Commission rules, Commission staff completed an evaluation of regulations affecting telecommunications service providers, and issued a report regarding recommendations made as a result of that review.⁹⁹ In response to comments submitted by Alloy LLC, now Cingular Wireless LLP,¹⁰⁰ the staff recommended that the Commission reexamine the application procedures for Quiet Zones and determine whether these procedures could be made more efficient.¹⁰¹ In the *2000 Biennial Review Report*, the Commission accepted the staff's recommendation to initiate a rulemaking to review the rules governing applications potentially affecting Quiet Zones.¹⁰² Accordingly, in November 2001, the Commission issued a *Notice of Proposed Rulemaking (NPRM)* seeking to identify and address ways of streamlining the processing of such applications, while simultaneously ensuring the continued protection of these sensitive areas.¹⁰³

In the *Report and Order*, we adopt changes to our rules governing Quiet Zone areas. The amendments serve the dual purposes of streamlining requirements for applications affecting Quiet Zones, while protecting these sensitive areas from harmful interference. While we believe that the record in this

⁹⁶ See 5 U.S.C. § 603. The RFA, see 5 U.S.C. § 601 *et. seq.*, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Title II, Pub. L. No. 104-121, 110 Stat. 857 (1996).

⁹⁷ Review of Quiet Zones Application Procedures, WT Docket No. 99-266, *Notice of Proposed Rulemaking*, 16 FCC Rcd 20690 (2001).

⁹⁸ See 5 U.S.C. § 604.

⁹⁹ 2000 Biennial Regulatory Review Updated Staff Report (rel. Jan. 17, 2001) (*2000 Biennial Review Staff Report*).

¹⁰⁰ Biennial Review 2000 Comments of Alloy LLC, FCC 00-346, at 8 (filed Oct. 10, 2000).

¹⁰¹ *Id.* at Appendix IV: Rule Part Analysis at 9.

¹⁰² See *Biennial Regulatory Review*, CC Docket No. 00-175, *Report*, 16 FCC Rcd 1207, 1231-32 (2001) (*2000 Biennial Review Report*).

¹⁰³ Review of Quiet Zones Application Procedures, *Notice of Proposed Rulemaking*, 16 FCC Rcd 20690 (2001) (*NPRM*). Subsequently, the Cellular Telecommunications & Internet Association (CTIA) filed a petition for rulemaking seeking amendment of rules relating to Quiet Zones as part of the Year 2002 Biennial Regulatory Review. See Cellular Telecommunications & Internet Association's Petition for Rulemaking Concerning the Biennial Review of Regulations Affecting CMRS Carriers, filed July 25, 2002 (CTIA 2002 Biennial Review Comments). The Rural Cellular Association (RCA) similarly filed comments in the 2002 Biennial Regulatory Review proceeding suggesting that certain rules regarding Quiet Zones be modified. RCA 2002 Biennial Review Comments at 3. The staff concluded that the rule changes proposed by CTIA and RCA are within the scope of review contemplated in the instant proceeding and recommended that the comments of CTIA and RCA be incorporated into this proceeding as well. See Federal Communications Commission 2002 Biennial Regulatory Review - Staff Report of the Wireless Telecommunications Bureau, 18 FCC Rcd 4243 (2003).

proceeding demonstrates that our rules have been largely successful in protecting Quiet Zones while facilitating the deployment of wireless services, we believe there are certain modifications that will expedite the application process, reduce unnecessary or redundant requirements from Commission regulations, and promote the efficient use of spectrum within these protected areas. Accordingly, in this *Report and Order*, we: 1) amend our rules to provide for immediate processing of applications that may implicate Quiet Zones, in the event that the applicant indicates that it has obtained the prior consent of the Quiet Zone entity; 2) amend our rules to clarify that applicants may provide notification to and begin coordination with Quiet Zone entities (where required) in advance of filing an application with the Commission.; 3) amend section 101.31(b)(1)(v) to permit Part 101 applicants as well as applicants for other services that allow operation prior to authorization, to initiate conditional operation, provided they have obtained the prior consent of the Quiet Zone entity and are otherwise eligible to initiate conditional operations over the proposed facility; 4) clarify that either the applicant or the applicant's frequency coordinator may notify and initiate coordination proceedings with the Quiet Zone entity.

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

Only one commenter submitted comments in response to the IRFA. RCC argues that local governments and non-profit agencies that are located in the NRQZ pay more to install and operate radio communications systems.¹⁰⁴ RCC asserts that more antenna sites are needed to provide satisfactory radio coverage due to the NRQZ restrictions, and in the worst case, public safety agencies are forced to accept diminished radio system performance due to impractical limits on ERP that are required by NRAO.¹⁰⁵ In order to satisfy NRAO and NRRO guidelines, RCC states that licensees are forced to: 1) reduce operating power; 2) use directional antennas; and, 3) place their transmitters in less than optimal locations. RCC argues that these steps generally result in diminished radio system performance in the area where coverage is required. RCC also argues that the Quiet Zone requirements are, in effect, a de facto unfunded federal mandate because local governments and small entities receive no reimbursement or federal funds to compensate them for the additional expense that they incur in the process of meeting the NRAO and NRRO criteria. RCC argues that the federal government should compensate local governments and radio communications systems operators for the costs associated with complying with Quiet Zones requirements.¹⁰⁶

We note that RCC's IRFA comments appear to challenge the Commission's existing notification and coordination procedures regarding Quiet Zone areas rather than any issues or proposals raised in the *NPRM* or in the IRFA. In the Final Regulatory Flexibility Analysis in the *Arecibo Report and Order*, the Commission noted that, while some parties argued that the coordination requirements were an unnecessary burden that would delay the provision of service and increase the costs of operation, the Commission determined that complying with the coordination procedures would be a minimal burden, and that the public benefit in protecting the Arecibo Observatory's operations from harmful interference justifies the minimal burden that may be created.¹⁰⁷ Although the proceeding related to the Arecibo Observatory, the same considerations are true for Quiet Zones in general. Further, we believe that the rule changes adopted in this *Report and Order* will benefit all carriers, including small businesses, by expediting the application process, reducing unnecessary or redundant requirements from Commission regulations, and promoting the efficient use of spectrum within Quiet Zone areas.

¹⁰⁴ RCC Comments at 2.

¹⁰⁵ *Id.*

¹⁰⁶ RCC Comments at 2.

¹⁰⁷ *Arecibo Report and Order*, 12 FCC Rcd at 16560.

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

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 proposed rules.¹⁰⁸ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”¹⁰⁹ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.¹¹⁰ 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).¹¹¹

In the following paragraphs, we further describe and estimate the number of small entity licensees that may be affected by the rules we adopt in the *Report and Order*. Since this rulemaking proceeding applies to multiple services, we will analyze the number of small entities affected on a service-by-service basis. Because the *Report and Order* does not revise any rules involving the Satellite Services, we do not provide an assessment of satellite-related small businesses.

Cellular Licensees. The SBA has developed a small business size standard for small businesses in the category “Cellular and Other Wireless Telecommunications.”¹¹² Under that SBA category, a business is small if it has 1,500 or fewer employees.¹¹³ According to the Bureau of the Census, only twelve firms out of a total of 1,238 cellular and other wireless telecommunications firms operating during 1997 had 1,000 or more employees.¹¹⁴ Therefore, even if all twelve of these firms were cellular telephone companies, nearly all cellular carriers are small businesses under the SBA’s definition.

220 MHz Radio Service – Phase I Licensees. The 220 MHz service has both Phase I and Phase II licenses. Phase I licensing was conducted by lotteries in 1992 and 1993. There are approximately 1,515 such non-nationwide licensees and four nationwide licensees currently authorized to operate in the 220 MHz band. The Commission has not developed a definition of small entities specifically applicable to such incumbent 220 MHz Phase I licensees. To estimate the number of such licensees that are small businesses, we apply the small business size standard under the SBA rules applicable to “Cellular and Other Wireless Telecommunications” companies. This category provides that a small business is a wireless company employing no more than 1,500 persons.¹¹⁵ According to the Census Bureau data for 1997, only twelve firms out of a total of 1,238 such firms that operated for the entire year, had 1,000 or more employees.¹¹⁶ If this general ratio continues in the context of Phase I 220

¹⁰⁸ 5 U.S.C. § 604(a)(3).

¹⁰⁹ 5 U.S.C. § 601(6).

¹¹⁰ 5 U.S.C. § 601(3) (incorporating by reference the definition of “small business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), 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.”

¹¹¹ 15 U.S.C. § 632.

¹¹² 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 517212.

¹¹³ *Id.*

¹¹⁴ U.S. Census Bureau, 1997 Economic Census, Information – Subject Series, Establishment and Firm Size, Table 5 (*Employment Size of Firms Subject to Federal Income Tax*), NAICS code 517212 (2002).

¹¹⁵ 13 C.F.R. § 121.201, NAICS code 517212.

¹¹⁶ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, Establishment and Firm Size (*Including Legal Form Organization*), Table 5, NAICS code 517212 (2002).

MHz licensees, the Commission estimates that nearly all such licensees are small businesses under the SBA's small business standard.

220 MHz Radio Service – Phase II Licensees. The 220 MHz service has both Phase I and Phase II licenses. The Phase II 220 MHz service is subject to spectrum auctions. In the *220 MHz Third Report and Order*, we adopted a small business size standard for defining “small” and “very small” businesses for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.¹¹⁷ This small business standard indicates that a “small business” is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$15 million for the preceding three years.¹¹⁸ A “very small business” is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that do not exceed \$3 million for the preceding three years.¹¹⁹ The SBA has approved these small size standards.¹²⁰ Auctions of Phase II licenses commenced on September 15, 1998, and closed on October 22, 1998.¹²¹ In the first auction, 908 licenses were auctioned in three different-sized geographic areas: three nationwide licenses, 30 Regional Economic Area Group (EAG) Licenses, and 875 Economic Area (EA) Licenses. Of the 908 licenses auctioned, 693 were sold.¹²² Thirty-nine small businesses won 373 licenses in the first 220 MHz auction. A second auction included 225 licenses: 216 EA licenses and 9 EAG licenses. Fourteen companies claiming small business status won 158 licenses.¹²³ A third auction included four licenses: 2 BEA licenses and 2 EAG licenses in the 220 MHz Service. No small or very small business won any of these licenses.¹²⁴

Lower 700 MHz Band Licenses. We adopted criteria for defining three groups of small businesses for purposes of determining their eligibility for special provisions such as bidding credits.¹²⁵ We have defined a small business as an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$40 million for the preceding three years.¹²⁶ A very small business is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$15 million for the preceding three years.¹²⁷ Additionally, the lower 700 MHz Service has a third category of small business status that may be claimed for Metropolitan/Rural Service Area (MSA/RSA) licenses. The third category is entrepreneur, which is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$3

¹¹⁷ Amendment of Part 90 of the Commission's Rules to Provide For the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, *Third Report and Order*, 12 FCC Rcd 10943, 11068-70, paras. 291-295 (1997).

¹¹⁸ *Id.* at 11068 para. 291.

¹¹⁹ *Id.*

¹²⁰ See Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated January 6, 1998.

¹²¹ See generally “220 MHz Service Auction Closes,” *Public Notice*, 14 FCC Rcd 605 (WTB 1998).

¹²² See “FCC Announces It is Prepared to Grant 654 Phase II 220 MHz Licenses After Final Payment is Made,” *Public Notice*, 14 FCC Rcd 1085 (WTB 1999).

¹²³ See “Phase II 220 MHz Service Spectrum Auction Closes,” *Public Notice*, 14 FCC Rcd 11218 (WTB 1999).

¹²⁴ See “Multi-Radio Service Auction Closes,” *Public Notice*, 17 FCC Rcd 1446 (WTB 2002).

¹²⁵ See Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), *Report and Order*, 17 FCC Rcd 1022 (2002).

¹²⁶ *Id.* at 1087-88, para. 172.

¹²⁷ *Id.*

million for the preceding three years.¹²⁸ The SBA has approved these small size standards.¹²⁹ An auction of 740 licenses (one license in each of the 734 MSAs/RSAs and one license in each of the six Economic Area Groupings (EAGs)) commenced on August 27, 2002, and closed on September 18, 2002. Of the 740 licenses available for auction, 484 licenses were sold to 102 winning bidders. Seventy-two of the winning bidders claimed small business, very small business or entrepreneur status and won a total of 329 licenses.¹³⁰ A second auction commenced on May 28, 2003, and closed on June 13, 2003, and included 256 licenses: 5 EAG licenses and 476 CMA licenses.¹³¹ Seventeen winning bidders claimed small or very small business status and won sixty licenses, and nine winning bidders claimed entrepreneur status and won 154 licenses.¹³²

Upper 700 MHz Band Licenses. The Commission released a *Report and Order*, authorizing service in the upper 700 MHz band.¹³³ In that proceeding, the Commission defined a small business as any entity with average annual gross revenues for the three preceding years not in excess of \$40 million, and a very small business as an entity with average annual gross revenues for the three preceding years not in excess of \$15 million. The auction for Upper 700 MHz licenses, previously scheduled for January 13, 2003, has been postponed.¹³⁴

700 MHz Guard Band Licenses. In the *700 MHz Guard Band Order*, we adopted a small business size standard for “small businesses” and “very small businesses” for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.¹³⁵ A “small business” is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$15 million for the preceding three years. Additionally, a “very small business” is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$3 million for the preceding three years. An auction of 52 Major Economic Area (MEA) licenses commenced on September 6, 2000, and closed on September 21, 2000. Of the 104 licenses auctioned, 96 licenses were sold to nine bidders. Five of these bidders were small businesses that won a total of 26 licenses. A second auction of 700 MHz Guard Band licenses commenced on February 13, 2001 and closed on February 21, 2001. All eight of the licenses auctioned were sold to three bidders. One of these bidders was a small business that won a total of two licenses.¹³⁶

Paging. In the *Paging Second Report and Order*, we adopted a size standard for “small businesses” for purposes of determining their eligibility for special provisions such as bidding credits and

¹²⁸ *Id.* at 1088, para. 173.

¹²⁹ See Letter to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated August 10, 1999.

¹³⁰ See “Lower 700 MHz Band Auction Closes,” *Public Notice*, 17 FCC Rcd 17272 (WTB 2002).

¹³¹ See “Lower 700 MHz Band Auction Closes,” *Public Notice*, 18 FCC Rcd 11873 (WTB 2003).

¹³² *Id.*

¹³³ Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission’s Rules, WT Docket No. 99-168, *Report and Order*, 15 FCC Rcd 476 (2000).

¹³⁴ “Auction of Licenses for 747-762 and 777-792 MHz Bands (Auction No. 31) is Rescheduled,” *Public Notice*, 16 FCC Rcd 13079 (WTB 2003).

¹³⁵ See Service Rules for the 746-764 MHz Bands, and Revisions to part 27 of the Commission’s Rules, WT Docket No. 99-168, *Second Report and Order*, 15 FCC Rcd 5299 (2000), 65 FR 17599 (Apr. 4, 2000).

¹³⁶ Public Notice, “700 MHz Guard Band Auction Closes,” DA 01-478 (rel. Feb. 22, 2001).

installment payments.¹³⁷ A small business is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$15 million for the preceding three years.¹³⁸ The SBA has approved this definition.¹³⁹ An auction of Metropolitan Economic Area (MEA) licenses commenced on February 24, 2000, and closed on March 2, 2000. Of the 2,499 licenses auctioned, 985 were sold.¹⁴⁰ Fifty-seven companies claiming small business status won 440 licenses.¹⁴¹ An auction of Metropolitan Economic Area (MEA) and Economic Area (EA) licenses commenced on October 30, 2001, and closed on December 5, 2001. Of the 15,514 licenses auctioned, 5,323 were sold.¹⁴² 132 companies claiming small business status purchased 3,724 licenses. A third auction, consisting of 8,874 licenses in each of 175 EAs and 1,328 licenses in all but three of the 51 MEAs commenced on May 13, 2003, and closed on May 28, 2003. Seventy-seven bidders claiming small or very small business status won 2,093 licenses.¹⁴³ Currently, there are approximately 24,000 Private Paging site-specific licenses and 74,000 Common Carrier Paging licenses. According to the most recent *Trends in Telephone Service*, 608 private and common carriers reported that they were engaged in the provision of either paging or “other mobile” services.¹⁴⁴ Of these, we estimate that 589 are small, under the SBA-approved small business size standard.¹⁴⁵ We estimate that the majority of private and common carrier paging providers would qualify as small entities under the SBA definition.

Broadband Personal Communications Service (PCS). The broadband PCS spectrum is divided into six frequency blocks designated A through F, and the Commission has held auctions for each block. The Commission has created a small business size standard for Blocks C and F as an entity that has average gross revenues of less than \$40 million in the three previous calendar years.¹⁴⁶ For Block F, an additional small business size standard for “very small business” was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than \$15 million for the preceding three calendar years.¹⁴⁷ These small business size standards, in the context of broadband PCS auctions,

¹³⁷ Revision of Part 22 and Part 90 of the Commission’s Rules to Facilitate Future Development of Paging Systems, *Second Report and Order*, 12 FCC Rcd 2732, 2811-2812, paras. 178-181 (*Paging Second Report and Order*); see also Revision of Part 22 and Part 90 of the Commission’s Rules to Facilitate Future Development of Paging Systems, *Memorandum Opinion and Order on Reconsideration*, 14 FCC Rcd 10030, 10085-10088, paras. 98-107 (1999).

¹³⁸ *Paging Second Report and Order*, 12 FCC Rcd at 281, para. 179.

¹³⁹ See Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, from Aida Alvarez, Administrator, Small Business Administration, dated December 2, 1998.

¹⁴⁰ See “929 and 931 MHz Paging Auction Closes,” *Public Notice*, 15 FCC Rcd 4858 (WTB 2000).

¹⁴¹ See *id.*

¹⁴² See “Lower and Upper Paging Band Auction Closes,” *Public Notice*, 16 FCC Rcd 21821 (WTB 2002).

¹⁴³ See “Lower and Upper Paging Bands Auction Closes,” *Public Notice*, 18 FCC Rcd 11154 (WTB 2003).

¹⁴⁴ See *Trends in Telephone Service*, Industry Analysis Division, Wireline Competition Bureau, Table 5.3 (Number of Telecommunications Service Providers that are Small Businesses) (May 2002).

¹⁴⁵ 13 C.F.R. § 121.201, NAICS code 517211.

¹⁴⁶ See Amendment of Parts 20 and 24 of the Commission’s Rules – Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap. *Report and Order*, 11 FCC Rcd 7824, 7850-7852, paras. 57-60 (1996); see also 47 C.F.R. § 24.720(b).

¹⁴⁷ See Amendment of Parts 20 and 24 of the Commission’s Rules – Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap. *Report and Order*, 11 FCC Rcd 7824, 7852, para. 60.

have been approved by the SBA.¹⁴⁸ No small businesses within the SBA-approved small business size standards bid successfully for licenses in Blocks A and B. There were 90 winning bidders that qualified as small entities in the Block C auctions. A total of 93 “small” and “very small” business bidders won approximately 40 percent of the 1,479 licenses for Blocks D, E, and F.¹⁴⁹ On March 23, 1999, the Commission reaucted 155 C, D, E, and F Block licenses; there were 113 small business winning bidders.¹⁵⁰

Narrowband PCS. The Commission held an auction for Narrowband PCS licenses that commenced on July 25, 1994, and closed on July 29, 1994. A second commenced on October 26, 1994 and closed on November 8, 1994. For purposes of the first two Narrowband PCS auctions, “small businesses” were entities with average gross revenues for the prior three calendar years of \$40 million or less.¹⁵¹ Through these auctions, the Commission awarded a total of forty-one licenses, 11 of which were obtained by four small businesses.¹⁵² To ensure meaningful participation by small business entities in future auctions, the Commission adopted a two-tiered small business size standard in the *Narrowband PCS Second Report and Order*.¹⁵³ A “small business” is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than \$40 million.¹⁵⁴ A “very small business” is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than \$15 million.¹⁵⁵ The SBA has approved these small business size standards.¹⁵⁶ A third auction commenced on October 3, 2001 and closed on October 16, 2001. Here, five bidders won 317 (MTA and nationwide) licenses.¹⁵⁷ Three of these claimed status as a small or very small entity and won 311 licenses.

Rural Radiotelephone Service. We use the SBA definition applicable to cellular and other wireless telecommunication companies, *i.e.*, an entity employing no more than 1,500 persons.¹⁵⁸ There are approximately 1,000 licensees in the Rural Radiotelephone Service, and the Commission estimates

¹⁴⁸ See Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated December 2, 1998.

¹⁴⁹ FCC News, “Broadband PCS, D, E and F Block Auction Closes,” No. 71744 (rel. January 14, 1997).

¹⁵⁰ See “C, D, E, and F Block Broadband PCS Auction Closes,” *Public Notice*, 14 FCC Rcd 6688 (WTB 1999).

¹⁵¹ Implementation of Section 309(j) of the Communications Act – Competitive Bidding Narrowband PCS, *Third Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 10 FCC Rcd 175, 196, para. 46 (1994).

¹⁵² See “Announcing the High Bidders in the Auction of ten Nationwide Narrowband PCS Licenses, Winning Bids Total \$617,006,674,” *Public Notice*, PNWL 94-004 (rel. Aug. 2, 1994); “Announcing the High Bidders in the Auction of 30 Regional Narrowband PCS Licenses; Winning Bids Total \$490,901,787,” *Public Notice*, PNWL 94-27 (rel. Nov. 9, 1994).

¹⁵³ Amendment of the Commission’s Rules to Establish New Personal Communications Services, *Narrowband PCS, Second Report and Order and Second Further Notice of Proposed Rule Making*, 15 FCC Rcd 10456, 10476, para. 40 (2000).

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ See Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission from Aida Alvarez, Administrator, Small Business Administration, dated December 2, 1998.

¹⁵⁷ See “Narrowband PCS Auction Closes,” *Public Notice*, 16 FCC Rcd 18663 (WTB 2001).

¹⁵⁸ 13 C.F.R. § 121.201, NAICS code 517212.

that there are 1,000 or fewer small entity licensees in the Rural Radiotelephone Service that may be affected by the rules and policies adopted herein.

Air-Ground Radiotelephone Service. We use the SBA definition applicable to cellular and other wireless telecommunication companies, *i.e.*, an entity employing no more than 1,500 persons.¹⁵⁹ There are approximately 100 licensees in the Air-Ground Radiotelephone Service, and the Commission estimates that almost all of them qualify as small entities under the SBA definition.

Specialized Mobile Radio (SMR). The Commission awards “small entity” bidding credits in auctions for Specialized Mobile Radio (SMR) geographic area licenses in the 800 MHz and 900 MHz bands to firms that had revenues of no more than \$15 million in each of the three previous calendar years.¹⁶⁰ The Commission awards “very small entity” bidding credits to firms that had revenues of no more than \$3 million in each of the three previous calendar years.¹⁶¹ The SBA has approved these small business size standards for the 900 MHz Service.¹⁶² The Commission has held auctions for geographic area licenses in the 800 MHz and 900 MHz bands. The 900 MHz SMR auction began on December 5, 1995, and closed on April 15, 1996. Sixty bidders claiming that they qualified as small businesses under the \$15 million size standard won 263 geographic area licenses in the 900 MHz SMR band. The 800 MHz SMR auction for the upper 200 channels began on October 28, 1997, and was completed on December 8, 1997. Ten bidders claiming that they qualified as small businesses under the \$15 million size standard won 38 geographic area licenses for the upper 200 channels in the 800 MHz SMR band.¹⁶³ A second auction for the 800 MHz band was held on January 10, 2002 and closed on January 17, 2002 and included 23 BEA licenses. One bidder claiming small business status won five licenses.¹⁶⁴

The auction of the 1,050 800 MHz SMR geographic area licenses for the General Category channels began on August 16, 2000, and was completed on September 1, 2000. Eleven bidders won 108 geographic area licenses for the General Category channels in the 800 MHz SMR band qualified as small businesses under the \$15 million size standard. In an auction completed on December 5, 2000, a total of 2,800 Economic Area licenses in the lower 80 channels of the 800 MHz SMR service were sold. Of the 22 winning bidders, 19 claimed “small business” status and won 129 licenses. Thus, combining all three auctions, 40 winning bidders for geographic licenses in the 800 MHz SMR band claimed status as small business.

In addition, there are numerous incumbent site-by-site SMR licensees and licensees with extended implementation authorizations in the 800 and 900 MHz bands. We do not know how many firms provide 800 MHz or 900 MHz geographic area SMR pursuant to extended implementation authorizations, nor how many of these providers have annual revenues of no more than \$15 million. One firm has over \$15 million in revenues. We assume, for purposes of this analysis, that all of the remaining

¹⁵⁹ *Id.*

¹⁶⁰ 47 C.F.R. § 90.814(b)(1).

¹⁶¹ *Id.*

¹⁶² See Letter to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated August 10, 1999. We note that, although a request was also sent to the SBA requesting approval for the small business size standard for 800 MHz, approval is still pending.

¹⁶³ See “Correction to Public Notice DA 96-586 ‘FCC Announces Winning Bidders in the Auction of 1020 Licenses to Provide 900 MHz SMR in Major Trading Areas,’” *Public Notice*, 18 FCC Rcd 18367 (WTB 1996).

¹⁶⁴ See “Multi-Radio Service Auction Closes.” *Public Notice*, 17 FCC Rcd 1446 (WTB 2002).

existing extended implementation authorizations are held by small entities, as that small business size standard is established by the SBA.

Multipoint Distribution Service, Multichannel Multipoint Distribution Service, and Instructional Television Fixed Service. Multichannel Multipoint Distribution Service (MMDS) systems, often referred to as “wireless cable,” transmit video programming to subscribers using the microwave frequencies of the Multipoint Distribution Service (MDS) and Instructional Television Fixed Service (ITFS).¹⁶⁵ In connection with the 1996 MDS auction, the Commission defined “small business” as an entity that, together with its affiliates, has average gross annual revenues that are not more than \$40 million for the preceding three calendar years.¹⁶⁶ The SBA has approved of this standard.¹⁶⁷ The MDS auction resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs).¹⁶⁸ Of the 67 auction winners, 61 claimed status as a small business. At this time, we estimate that of the 61 small business MDS auction winners, 48 remain small business licensees. In addition to the 48 small businesses that hold BTA authorizations, there are approximately 392 incumbent MDS licensees that have gross revenues that are not more than \$40 million and are thus considered small entities.¹⁶⁹ After adding the number of small business auction licensees to the number of incumbent licensees not already counted, we find that there are currently approximately 440 MDS licensees that are defined as small businesses under either the SBA’s or the Commission’s rules. Some of those 440 small business licensees may be affected by the proposals in the Further Notice.

In addition, the SBA has developed a small business size standard for Cable and Other Program Distribution,¹⁷⁰ which includes all such companies generating \$12.5 million or less in annual receipts.¹⁷¹ According to Census Bureau data for 1997, there were a total of 1,311 firms in this category, total, that had operated for the entire year.¹⁷² Of this total, 1,180 firms had annual receipts of under \$10 million, and an additional 52 firms had receipts of \$10 million or more but less than \$25 million.¹⁷³ Consequently, we estimate that the majority of providers in this service category are small businesses that may be affected by the rules and policies proposed in the Further Notice.

¹⁶⁵ Amendment of Parts 21 and 74 of the Commission’s Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act – Competitive Bidding, *Report and Order*, 10 FCC Rcd 9589, 9593, para. 7 (1995) (*MDS Auction R&O*).

¹⁶⁶ 47 C.F.R. § 21.961(b)(1).

¹⁶⁷ See Letter to Margaret W. Wiener, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Bureau, from Gary M. Jackson, Assistant Administrator for Size Standards, Small Business Administration, dated March 20, 2003 (noting approval of \$40 million size standard for MDS auction).

¹⁶⁸ Basic Trading Areas (BTAs) were designed by Rand McNally and are the geographic areas by which MDS was auctioned and authorized. See *MDS Auction R&O*, 10 FCC Rcd at 9608, para. 34.

¹⁶⁹ 47 U.S.C. § 309(j). Hundreds of stations were licensed to incumbent MDS licensees prior to implementation of Section 309(j) of the Communications Act of 1934, 47 U.S.C. § 309(j). For these pre-auction licenses, the applicable standard is SBA’s small business size standard for “other telecommunications” (annual receipts of \$12.5 million or less). See 13 C.F.R. § 121.201, NAICS code 517910.

¹⁷⁰ 13 C.F.R. § 121.201, NAICS code 517510.

¹⁷¹ *Id.*

¹⁷² U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4 (issued October 2000).

¹⁷³ *Id.*

Finally, while SBA approval for a Commission-defined small business size standard applicable to ITFS is pending, educational institutions are included in this analysis as small entities.¹⁷⁴ There are currently 2,032 ITFS licensees, and all but 100 of these licenses are held by educational institutions. Thus, we tentatively conclude that at least 1,932 ITFS licensees are small businesses.

Private Land Mobile Radio (PLMR). PLMR systems serve an essential role in a range of industrial, business, land transportation, and public safety activities. These radios are used by companies of all sizes operating in all U.S. business categories, and are often used in support of the licensee's primary (non-telecommunications) business operations. For the purpose of determining whether a licensee of a PLMR system is a small business as defined by the SBA, we could use the definition for "Cellular and Other Wireless Telecommunications." This definition provides that a small entity is any such entity employing no more than 1,500 persons.¹⁷⁵ The Commission does not require PLMR licensees to disclose information about number of employees, so the Commission does not have information that could be used to determine how many PLMR licensees constitute small entities under this definition. Moreover, because PLMR licensees generally are not in the business of providing cellular or other wireless telecommunications services but instead use the licensed facilities in support of other business activities, we are not certain that the Cellular and Other Wireless Telecommunications category is appropriate for determining how many PLMR licensees are small entities for this analysis. Rather, it may be more appropriate to assess PLMR licensees under the standards applied to the particular industry subsector to which the licensee belongs.¹⁷⁶

The Commission's 1994 Annual Report on PLMRs¹⁷⁷ indicates that at the end of fiscal year 1994, there were 1,087,267 licensees operating 12,481,989 transmitters in the PLMR bands below 512 MHz. Because any entity engaged in a commercial activity is eligible to hold a PLMR license, the revised rules in this context could potentially impact every small business in the United States.

Amateur Radio Service. All Amateur Radio Service licenses are presumed to be individuals. Accordingly, no small business definition applies for this service.

Aviation and Marine Radio Service. Small businesses in the aviation and marine radio services use a marine very high frequency (VHF) radio, any type of emergency position indicating radio beacon and/or radar, a VHF aircraft radio, and/or any type of emergency locator transmitter. The Commission has not developed a definition of small entities specifically applicable to these small businesses. Therefore, the applicable definition of small entity is the definition under the SBA rules for radiotelephone wireless communications.¹⁷⁸

Most applicants for recreational licenses are individuals. Approximately 581,000 ship station licensees and 131,000 aircraft station licensees operate domestically and are not subject to the radio carriage requirements of any statute or treaty. Therefore, for purposes of our evaluations and conclusions in this IRFA, we estimate that there may be at least 712,000 potential licensees that are individuals or small entities, as that term is defined by the SBA.

¹⁷⁴ In addition, the term "small entity" under SBREFA applies to small organizations (nonprofits) and to small governmental jurisdictions (cities, counties, towns, townships, villages, school districts, and special districts with populations of less than 50,000). 5 U.S.C. §§ 601(4)-(6). We do not collect annual revenue data on ITFS licensees.

¹⁷⁵ See 13 C.F.R. § 121.201, NAICS code 517212.

¹⁷⁶ See generally 13 C.F.R. § 121.201.

¹⁷⁷ Federal Communications Commission, 60th Annual Report, Fiscal Year 1994, at para. 116.

¹⁷⁸ 13 C.F.R. § 121.201, NAICS code 513321, 513322, and 51333.

Fixed Microwave Services. Fixed microwave services include common carrier,¹⁷⁹ private-operational fixed,¹⁸⁰ and broadcast auxiliary radio services.¹⁸¹ Currently, there are approximately 22,015 common carrier fixed licensees and 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not yet defined a small business with respect to microwave services. For purposes of this FRFA, we will use the SBA's definition applicable to "Cellular and Other Wireless Telecommunications" companies – that is, an entity with no more than 1,500 persons.¹⁸² The Commission does not have data specifying the number of these licensees that have more than 1,500 employees, and thus is unable at this time to estimate with greater precision the number of fixed microwave service licensees that would qualify as small business concerns under the SBA's small business size standard. Consequently, the Commission estimates that there are 22,015 or fewer small common carrier fixed licensees and 61,670 or fewer small private operational-fixed licensees and small broadcast auxiliary radio licensees in the microwave services that may be affected by the rules and policies adopted herein. The Commission notes, however, that the common carrier microwave fixed licensee category includes some large entities.

Public Safety Radio Services. Public Safety radio services include police, fire, local government, forestry conservation, highway maintenance, and emergency medical services.¹⁸³ There are a total of approximately 127,540 licensees within these services. Governmental entities¹⁸⁴ as well as private businesses comprise the licensees for these services. As indicated *supra* in paragraph four of this

¹⁷⁹ 47 C.F.R. §§ 101 *et seq.* (formerly, part 21 of the Commission's Rules).

¹⁸⁰ Persons eligible under parts 80 and 90 of the Commission's rules can use Private Operational-Fixed Microwave services. *See generally* 47 C.F.R. parts 80 and 90. Stations in this service are called operational-fixed to distinguish them from common carrier and public fixed stations. Only the licensee may use the operational-fixed station, and only for communications related to the licensee's commercial, industrial, or safety operations.

¹⁸¹ Auxiliary Microwave Service is governed by part 74 of Title 47 of the Commission's Rules. *See* 47 C.F.R. Part 74. Available to licensees of broadcast stations and to broadcast and cable network entities, broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile TV pickups, which relay signals from a remote location back to the studio.

¹⁸² 13 C.F.R. § 121.201. NAICS code 517212.

¹⁸³ With the exception of the special emergency service, these services are governed by Subpart B of part 90 of the Commission's Rules, 47 C.F.R. §§ 90.15-90.27. The police service includes 26,608 licensees that serve state, county, and municipal enforcement through telephony (voice), telegraphy (code) and teletype and facsimile (printed material). The fire radio service includes 22,677 licensees comprised of private volunteer or professional fire companies as well as units under governmental control. The local government service is currently comprised of 40,512 licensees that are state, county, or municipal entities that use the radio for official purposes not covered by other public safety services. There are 7,325 licensees within the forestry service, which is comprised of licensees from state departments of conservation and private forest organizations that set up communications networks among fire lookout towers and ground crews. The 9,480 state and local governments are licensed to highway maintenance service provide emergency and routine communications to aid other public safety services to keep main roads safe for vehicular traffic. The 1,460 licensees in the Emergency Medical Radio Service (EMRS) use the 39 channels allocated to this service for emergency medical service communications related to the delivery of emergency medical treatment. 47 C.F.R. §§ 90.15-90.27. The 19,478 licensees in the special emergency service include medical services, rescue organizations, veterinarians, handicapped persons, disaster relief organizations, school buses, beach patrols, establishments in isolated areas, communications standby facilities, and emergency repair of public communications facilities. 47 C.F.R. §§ 90.33-90.55.

¹⁸⁴ 47 C.F.R. § 1.1162.

IRFA, all governmental entities with populations of less than 50,000 fall within the definition of a small entity.¹⁸⁵

Personal Radio Services. Personal radio services provide short-range, low-power radio for personal communications, radio signaling, and business communications not provided for in other services. The services include the citizen's band (CB) radio service, general mobile radio service (GMRS), radio control radio service, and family radio service (FRS).¹⁸⁶ Inasmuch as the CB, GMRS, and FRS licensees are individuals, no small business definition applies for these services. We are unable at this time to estimate the number of other licensees that would qualify as small under the SBA's definition.

Offshore Radiotelephone Service. This service operates on several ultra high frequency (UHF) TV broadcast channels that are not used for TV broadcasting in the coastal area of the states bordering the Gulf of Mexico. At present, there are approximately 55 licensees in this service. We use the SBA definition applicable to cellular and other wireless telecommunication companies, *i.e.*, an entity employing no more than 1,500 persons.¹⁸⁷ The Commission is unable at this time to estimate the number of licensees that would qualify as small entities under the SBA definition. The Commission assumes, for purposes of this FRFA, that all of the 55 licensees are small entities, as that term is defined by the SBA.

Wireless Communications Services. This service can be used for fixed, mobile, radiolocation, and digital audio broadcasting satellite uses. The Commission defined "small business" for the wireless communications services (WCS) auction as an entity with average gross revenues of \$40 million for each of the three preceding years, and a "very small business" as an entity with average gross revenues of \$15 million for each of the three preceding years.¹⁸⁸ The SBA has approved these definitions.¹⁸⁹ The FCC auctioned geographic area licenses in the WCS service. In the auction, which commenced on April 15, 1997 and closed on April 25, 1997, there were seven bidders that won 31 licenses that qualified as very small business entities, and one bidder that won one license that qualified as a small business entity. An auction for one license in the 1670-1674 MHz band commenced on April 30, 2003 and closed the same day. One license was awarded. The winning bidder was not a small entity.

Local Multipoint Distribution Service. An auction of the 986 Local Multipoint Distribution Service (LMDS) licenses began on February 18, 1998, and closed on March 25, 1998. The Commission defined "small entity" for LMDS licenses as an entity that has average gross revenues of less than \$40 million in the three previous calendar years.¹⁹⁰ An additional classification for "very small business" was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more

¹⁸⁵ 5 U.S.C. § 601(5).

¹⁸⁶ Licensees in the Citizens Band (CB) Radio Service, General Mobile Radio Service (GMRS), Radio Control (R/C) Radio Service and Family Radio Service (FRS) are governed by Subpart D, Subpart A, Subpart C, and Subpart B, respectively, of part 95 of the Commission's rules. 47 C.F.R. §§ 95.401-95.428; §§ 95.1-95.181; §§ 95.201-95.225; §§ 95.191-95.194.

¹⁸⁷ *Id.*

¹⁸⁸ Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service (WCS), *Report and Order*, 12 FCC Rcd 10785, 10879, para. 194 (1997).

¹⁸⁹ See Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated December 2, 1998.

¹⁹⁰ See Rulemaking to Amend Parts 1, 2, 21, 25, of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, Reallocate the 29.5-30.5 Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, *Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rule Making*, 12 FCC Rcd 12545, 12689-90, para. 348 (1997).

than \$15 million for the preceding three calendar years.¹⁹¹ These regulations defining “small entity” in the context of LMDS auctions have been approved by the SBA.¹⁹² There were 93 winning bidders that qualified as small entities in the LMDS auctions. A total of 93 small and very small business bidders won approximately 277 A Block licenses and 387 B Block licenses. On March 27, 1999, the Commission re-auctioned 161 licenses; there were 32 small and very small business winning bidders that won 119 licenses.

Incumbent 24 GHz Licensees. The rules that we adopt could affect incumbent licensees who were relocated to the 24 GHz band from the 18 GHz band, and applicants who wish to provide services in the 24 GHz band. The Commission did not develop a definition of small entities applicable to existing licensees in the 24 GHz band. Therefore, the applicable definition of small entity is the definition under the SBA rules for “Cellular and Other Wireless Telecommunications.” This definition provides that a small entity is any entity employing no more than 1,500 persons.¹⁹³ The 1992 Census of Transportation, Communications and Utilities, conducted by the Bureau of the Census, which is the most recent information available, shows that only 12 radiotelephone (now Wireless) firms out of a total of 1,178 such firms that operated during 1992 had 1,000 or more employees.¹⁹⁴ This information notwithstanding, we believe that there are only two licensees in the 24 GHz band that were relocated from the 18 GHz band, Teligent¹⁹⁵ and TRW, Inc. It is our understanding that Teligent and its related companies have less than 1,500 employees, though this may change in the future. TRW is not a small entity. Thus, only one incumbent licensee in the 24 GHz band is a small business entity.

Future 24 GHz Licensees. With respect to new applicants in the 24 GHz band, we have defined “small business” as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the three preceding years not exceeding \$15 million.¹⁹⁶ “Very small business” in the 24 GHz band is defined as an entity that, together with controlling interests and affiliates, has average gross revenues not exceeding \$3 million for the preceding three years.¹⁹⁷ The SBA has approved these definitions.¹⁹⁸ The Commission will not know how many licensees will be small or very small businesses until the auction, if required, is held.

39 GHz Service. The Commission defines “small entity” for 39 GHz licenses as an entity that has average gross revenues of less than \$40 million in the three previous calendar years.¹⁹⁹ “Very small

¹⁹¹ *Id.*

¹⁹² See Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated January 6, 1998.

¹⁹³ See *id.*

¹⁹⁴ 1992 Census, Series UC-92-S-1 at Firm Size I-123.

¹⁹⁵ Teligent acquired the Digital Electronic Message Service (DEMS) licenses of FirstMark, the only licensee other than TRW in the 24 GHz band whose license has been modified to require relocation to the 24 GHz band.

¹⁹⁶ Amendments to Parts 1, 2, 87 and 101 of the Commission’s Rules To License Fixed Services at 24 GHz, *Report and Order*, 15 FCC Rcd 16934, 16967, para. 77 (2000) (24 GHz Report and Order); see also 47 C.F.R. § 101.538(a)(2).

¹⁹⁷ 24 GHz Report and Order, 15 FCC Rcd at 16967, para. 77; see also 47 C.F.R. § 101.538(a)(1).

¹⁹⁸ See Letter to Margaret Wiener, Deputy Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Gary Jackson, Assistant Administrator, Small Business Administration, dated July 28, 2000.

¹⁹⁹ See Amendment of the Commission’s Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Band, *Report and Order*, 12 FCC Rcd 18600 (1997).

business” is defined as an entity that, together with its affiliates, has average gross revenues of not more than \$15 million for the preceding three calendar years.²⁰⁰ The SBA has approved these definitions.²⁰¹ The auction of the 2,173 39 GHz licenses began on April 12, 2000, and closed on May 8, 2000. The 18 bidders who claimed small business status won 849 licenses.

218-219 MHz Service. The first auction of 218-219 MHz (previously referred to as the Interactive and Video Data Service or IVDS) spectrum resulted in 178 entities winning licenses for 594 Metropolitan Statistical Areas (MSAs).²⁰² Of the 594 licenses, 567 were won by 167 entities qualifying as a small business. For that auction, we defined a small business as an entity that, together with its affiliates, has no more than a \$6 million net worth and, after federal income taxes (excluding any carry over losses), has no more than \$2 million in annual profits each year for the previous two years.²⁰³ In the *218-219 MHz Report and Order and Memorandum Opinion and Order*, we defined a small business as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and their affiliates, has average annual gross revenues not exceeding \$15 million for the preceding three years.²⁰⁴ A very small business is defined as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and its affiliates, has average annual gross revenues not exceeding \$3 million for the preceding three years.²⁰⁵ The SBA has approved of these definitions.²⁰⁶ At this time, we cannot estimate the number of licenses that will be won by entities qualifying as small or very small businesses under our rules in future auctions of 218-219 MHz spectrum. Given the success of small businesses in the previous auction, and the prevalence of small businesses in the subscription television services and message communications industries, we assume for purposes of this FRFA that in future auctions, many, and perhaps all, of the licenses may be awarded to small businesses.

Location and Monitoring Service (LMS). Multilateration LMS systems use non-voice radio techniques to determine the location and status of mobile radio units. For purposes of auctioning LMS licenses, the Commission has defined “small business” as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not exceeding \$15 million.²⁰⁷ A “very small business” is defined as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not exceeding \$3 million.²⁰⁸

²⁰⁰ *Id.*

²⁰¹ See Letter to Margaret Wiener, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Hector Barreto, Administrator, Small Business Administration, dated January 18, 2002.

²⁰² See “Interactive Video and Data Service (IVDS) Applications Accepted for Filing,” *Public Notice*, 9 FCC Rcd 6227 (1994).

²⁰³ Implementation of Section 309(j) of the Communications Act – Competitive Bidding, *Fourth Report and Order*, 9 FCC Rcd 2330 (1994).

²⁰⁴ Amendment of Part 95 of the Commission’s Rules to Provide Regulatory Flexibility in the 218-219 MHz Service, *Report and Order and Memorandum Opinion and Order*, 15 FCC Rcd 1497 (1999).

²⁰⁵ *Id.*

²⁰⁶ See Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated January 6, 1998.

²⁰⁷ Amendment of Part 90 of the Commission’s Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, *Second Report and Order*, 13 FCC Rcd 15182, 15192 ¶ 20 (1998); see also 47 C.F.R. § 90.1103.

²⁰⁸ Amendment of Part 90 of the Commission’s Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, *Second Report and Order*, 13 FCC Rcd at 15192 ¶ 20; see also 47 C.F.R. § 90.1103.

These definitions have been approved by the SBA.²⁰⁹ An auction for LMS licenses commenced on February 23, 1999, and closed on March 5, 1999. Of the 528 licenses auctioned, 289 licenses were sold to four small businesses. We cannot accurately predict the number of remaining licenses that could be awarded to small entities in future LMS auctions.

Multiple Address Systems (MAS). Entities using MAS spectrum, in general, fall into two categories: (1) those using the spectrum for profit-based uses, and (2) those using the spectrum for private internal uses. With respect to the first category, the Commission defines “small entity” for MAS licenses as an entity that has average gross revenues of less than \$15 million in the three previous calendar years.²¹⁰ “Very small business” is defined as an entity that, together with its affiliates, has average gross revenues of not more than \$3 million for the preceding three calendar years.²¹¹ The SBA has approved of these definitions.²¹² The majority of these entities will most likely be licensed in bands where the Commission has implemented a geographic area licensing approach that would require the use of competitive bidding procedures to resolve mutually exclusive applications. The Commission’s licensing database indicates that, as of January 20, 1999, there were a total of 8,670 MAS station authorizations. Of these, 260 authorizations were associated with common carrier service. In addition, an auction for 5,104 MAS licenses in 176 EAs began November 14, 2001, and closed on November 27, 2001.²¹³ Seven winning bidders claimed status as small or very small businesses and won 611 licenses.

With respect to the second category, which consists of entities that use, or seek to use, MAS spectrum to accommodate their own internal communications needs, we note that MAS serves an essential role in a range of industrial, safety, business, and land transportation activities. MAS radios are used by companies of all sizes, operating in virtually all U.S. business categories, and by all types of public safety entities. For the majority of private internal users, the definitions developed by the SBA would be more appropriate. The applicable definition of small entity in this instance appears to be the “Cellular and Other Wireless Telecommunications” definition under the SBA rules. This definition provides that a small entity is any entity employing no more than 1,500 persons.²¹⁴ The Commission’s licensing database indicates that, as of January 20, 1999, of the 8,670 total MAS station authorizations, 8,410 authorizations were for private radio service, and of these, 1,433 were for private land mobile radio service.

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

In the *Report and Order*, the Commission concluded that advance coordination between applicants and Quiet Zone entities would streamline the processing of applications by allowing the Commission to begin processing prior to the end of the 20-day waiting period set out in section 1.924 of the Commission’s rules.

²⁰⁹ See Letter to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated February 22, 1999.

²¹⁰ See Amendment of the Commission’s Rules Regarding Multiple Address Systems, *Report and Order*, 15 FCC Rcd 11956, 12008 ¶ 123 (2000).

²¹¹ *Id.*

²¹² See Letter to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated June 4, 1999.

²¹³ See “Multiple Address Systems Spectrum Auction Closes,” *Public Notice*, 16 FCC Rcd 21011 (2001).

²¹⁴ See 13 C.F.R. § 121.201, NAICS code 517212.

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

The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in developing 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.²¹⁵

In the *Report and Order*, the Commission adopts changes to its rules governing Quiet Zone areas that will streamline requirements for applications affecting Quiet Zones, while protecting these sensitive areas from harmful interference. In the *Report and Order*, the Commission: 1) provides for immediate processing of applications that may implicate Quiet Zones, in the event that the applicant indicates that it has obtained the prior consent of the Quiet Zone entity; 2) clarifies that applicants may provide notification to and begin coordination with Quiet Zone entities (where required) in advance of filing an application with the Commission; 3) amends section 101.31(b)(1)(v) to permit applicants of Part 101 and other services that permit operation prior to authorization to initiate conditional operation, provided they have obtained the prior consent of the Quiet Zone entity and are otherwise eligible to initiate conditional operations over the proposed facility; and 4) clarifies that either the applicant or the applicant's frequency coordinator may notify and initiate coordination proceedings with the Quiet Zone entity.

While the Commission does not implement alternatives specific to small entities, the purpose behind the rule modifications in the *Report and Order* is to expedite the application process, reduce unnecessary or redundant requirements from Commission regulations, and promote the efficient use of spectrum within Quiet Zones by all carriers, including small businesses.

Report to Congress: The Commission will send a copy of the *Report and Order*, including this FRFA, in a report to be sent to Congress pursuant to the *Congressional Review Act*.²¹⁶ In addition, the Commission will send a copy of the *Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the Small Business Administration. A copy of the *Report and Order* and FRFA (or summaries thereof) will also be published in the Federal Register.²¹⁷

²¹⁵ 5 U.S.C. § 603 (c).

²¹⁶ See 5 U.S.C. § 801(a)(1)(A).

²¹⁷ See 5 U.S.C. § 604(b).

APPENDIX C
COMMENTERS

Comments

Cingular Wireless LLC (Cingular)
Cornell University (Cornell)
National Academy of Sciences/Committee on Radio Frequencies of the National Research Council (NAS)
National Radio Astronomy Observatory (NRAO)
National Science Foundation (NSF)
RCC Consultants, Inc. (RCC)
Spanish Broadcasting System, Inc. (SBS)

Reply Comments

Cornell University (Cornell)
National Radio Astronomy Observatory (NRAO)
Verizon Wireless (Verizon)

Comments to the 2000 Biennial Review²¹⁸

Alloy LLC (Alloy/Cingular)

Comments to the 2002 Biennial Review²¹⁹

Cellular Telecommunications & Internet Association (CTIA)
Rural Cellular Association (RCA)

²¹⁸ See Federal Communications Commission 2000 Biennial Regulatory Review - Updated Staff Report (rel. Jan. 17, 2001).

²¹⁹ See Federal Communications Commission 2002 Biennial Regulatory Review - Staff Report of the Wireless Telecommunications Bureau, 18 FCC Rcd 4243 (2003).