

§ 27.57 International coordination.

(c) Operation in the 1710-1755 MHz, 2110-2155 MHz, 2000-2020 MHz, and 2180-2200 MHz bands is subject to international agreements with Mexico and Canada.

25. Add § 27.65 to read as follows:

§ 27.65 Acceptance of Interference in 2000-2020 MHz.

(a) Receivers operating in the 2000-2020 MHz band must accept interference from lawful operations in the 1995-2000 MHz band, where such interference is due to:

(1) the in-band power of any operations in 1995-2000 MHz (i.e., the portion transmit power contained in the 1995-2000 MHz band); or

(2) the portion of out-of-band emissions contained in 2000-2005 MHz.

(b) Reserved.

26. Amend part 27 by revising the heading of subpart L to read as follows:

Subpart L—1710-1755 MHz, 2110-2155 MHz, 2000-2020 MHz, and 2180-2200 MHz bands

27. Add § 27.1103 to read as follows:

§ 27.1103 2000-2020 MHz and 2180-2200 MHz bands subject to competitive bidding.

Mutually exclusive initial applications for 2000-2020 MHz and 2180-2200 MHz band licenses are subject to competitive bidding. The general competitive bidding procedures set forth in 47 CFR part 1, subpart Q will apply unless otherwise provided in this subpart.

28. Add § 27.1104 to read as follows:

§ 27.1104 Designated Entities in the 2000-2020 MHz and 2180-2200 MHz bands.

Eligibility for small business provisions:

(a)(1) A small business is an entity that, together with its affiliates, its controlling interests, the affiliates of its controlling interests, and the entities with which it has an attributable material relationship, has average gross revenues not exceeding \$40 million for the preceding three years.

(2) A very small business is an entity that, together with its affiliates, its controlling interests, the

affiliates of its controlling interests, and the entities with which it has an attributable material relationship, has average gross revenues not exceeding \$15 million for the preceding three years.

(b) Bidding credits. A winning bidder that qualifies as a small business as defined in this section or a consortium of small businesses may use the bidding credit specified in § 1.2110(f)(2)(iii) of this chapter. A winning bidder that qualifies as a very small business as defined in this section or a consortium of very small businesses may use the bidding credit specified in § 1.2110(f)(2)(ii) of this chapter.

29. Revise § 27.1131 to read as follows:

§ 27.1131 Protection of Part 101 operations.

All AWS licensees, prior to initiating operations from any base or fixed station, must coordinate their frequency usage with co-channel and adjacent channel incumbent, Part 101 fixed-point-to-point microwave licensees operating in the 2110–2155 MHz and 2180-2200 MHz bands. Coordination shall be conducted in accordance with the provisions of § 24.237 of this chapter.

30. Amend § 27.1134 by adding paragraph (e) to read as follows:

§ 27.1134 Protection of Federal Government operations.

(e) Protection of Federal operations in the 2200-2290 MHz band.

(1) **Default Emission Limits.** Except as provided in paragraph (e)(2) of this section, the following default out-of-band emissions limits shall apply for AWS-4 operations in the 2180-2200 MHz band.

(i) For these AWS-4 operations, the power of any emissions on all frequencies between 2200 and 2290 MHz shall not exceed an EIRP of -100.6 dBW/4 kHz.

(ii) No AWS-4 base station operating in the 2180-2200 MHz band shall be located less than 820 meters from a U.S. Earth Station facility operating in the 2200-2290 MHz band.

(2) **Agreements between AWS-4 operators and Federal government entities.** The out-of-band emissions limits in paragraph (e)(1) of this section may be modified by the private contractual agreement of licensees of AWS-4 operating authority and Federal government entities operating in the 2200-2290 MHz band. Such agreement shall be transmitted to the Commission by the National Telecommunications and

Information Administration (NTIA) of the U.S. Department of Commerce. A licensee of AWS-4 operating authority who is a party to such an agreement must maintain a copy of the agreement in its station files and disclose it, upon request, to prospective AWS-4 assignees, transferees, or spectrum lessees, to Federal operators, and to the Commission.

31. Add § 27.1136 to read as follows:

§ 27.1136 Protection of mobile satellite services in the 2000-2020 MHz and 2180-2200 MHz bands.

An AWS licensee of the 2000-2020 MHz and 2180-2200 MHz bands must accept any interference received from duly authorized mobile satellite service operations in these bands. Any such AWS licensees must protect mobile satellite service operations in these bands from harmful interference.

32. Amend § 27.1160 by revising the first sentence to read as follows:

§ 27.1160 Cost-sharing requirements for AWS.

Frequencies in the 2110–2150 MHz and 2160–2200 MHz bands listed in §101.147 of this chapter have been reallocated from Fixed Microwave Services (FMS) to use by AWS (as reflected in §2.106) of this chapter. ***

33. Amend § 27.1166 by revising paragraphs (a)(1), (b) introductory text, (b)(2), and (f) to read as follows:

§ 27.1166 Reimbursement under the cost-sharing plan.

(a) ***

(1) To obtain reimbursement, an AWS relocater must submit documentation of the relocation agreement to the clearinghouse within 30 calendar days of the date a relocation agreement is signed with an incumbent. In the case of involuntary relocation, an AWS relocater must submit documentation of the relocated system within 30 calendar days after the end of the relocation.

(b) Documentation of expenses. Once relocation occurs, the AWS relocater, or the voluntarily relocating microwave incumbent, must submit documentation itemizing the amount spent for items specifically listed in §27.1164(b), as well as any reimbursable items not specifically listed in §27.1164(b) that are

directly attributable to actual relocation costs. Specifically, the AWS relocater, or the voluntarily relocating microwave incumbent must submit, in the first instance, only the uniform cost data requested by the clearinghouse along with a copy, without redaction, of either the relocation agreement, if any, or the third party appraisal described in (b)(1) of this section, if relocation was undertaken by the microwave incumbent. AWS relocators and voluntarily relocating microwave incumbents must maintain documentation of cost-related issues until the applicable sunset date and provide such documentation upon request, to the clearinghouse, the Commission, or entrants that trigger a cost-sharing obligation. If an AWS relocater pays a microwave incumbent a monetary sum to relocate its own facilities, the AWS relocater must estimate the costs associated with relocating the incumbent by itemizing the anticipated cost for items listed in §27.1164(b). If the sum paid to the incumbent cannot be accounted for, the remaining amount is not eligible for reimbursement.

(2) Identification of links. The AWS relocater or the voluntarily relocating microwave incumbent must identify the particular link associated with appropriate expenses (i.e., costs may not be averaged over numerous links). Where the AWS relocater or voluntarily relocating microwave incumbent relocates both paths of a paired channel microwave link (e.g., 2110–2130 MHz with 2160–2180 MHz and 2130–2150 MHz with 2180–2200 MHz), the AWS relocater or voluntarily relocating microwave incumbent must identify the expenses associated with each paired microwave link.

(f) Reimbursement for Self-relocating FMS links in the 2130–2150 MHz and 2180–2200 MHz bands. Where a voluntarily relocating microwave incumbent relocates a paired microwave link with paths in the 2130–2150 MHz and 2180–2200 MHz bands, it may not seek reimbursement from MSS operators, but is entitled to reimbursement from the first AWS beneficiary for its actual costs for relocating the paired link, subject to the reimbursement cap in § 27.1164(b). This amount is subject to depreciation as specified in § 27.1164(b). An AWS licensee who is obligated to reimburse relocation costs under this rule is entitled to obtain reimbursement from other AWS beneficiaries in accordance with §§27.1164 and

27.1168. For purposes of applying the cost-sharing formula relative to other AWS licensees that benefit from the self-relocation, depreciation shall run from the date on which the clearinghouse issues the notice of an obligation to reimburse the voluntarily relocating microwave incumbent.

34. Amend § 27.1168 by revising paragraphs (a) introductory text, (a)(2), (a)(3), (a)(3)(ii), and (b) to read as follows:

§ 27.1168 Triggering a reimbursement obligation.

(a) The clearinghouse will apply the following test to determine when an AWS entity has triggered a cost-sharing obligation and therefore must pay an AWS relocater, MSS relocater, or a voluntarily relocating microwave incumbent in accordance with the formula detailed in §27.1164:

(2) An AWS relocater, MSS relocater or a voluntarily relocating microwave incumbent has paid the relocation costs of the microwave incumbent; and

(3) The AWS or MSS entity is operating or preparing to turn on a fixed base station at commercial power and the fixed base station is located within a rectangle (Proximity Threshold) described as follows:

(ii) If the application of the Proximity Threshold Test indicates that a reimbursement obligation exists, the clearinghouse will calculate the reimbursement amount in accordance with the cost-sharing formula and notify the AWS entity of the total amount of its reimbursement obligation.

(b) Once a reimbursement obligation is triggered, the AWS entity may not avoid paying its cost-sharing obligation by deconstructing or modifying its facilities.

35. Revise § 27.1170 to read as follows:

§ 27.1170 Payment issues.

Prior to initiating operations for a newly constructed site or modified existing site, an AWS entity is required to file a notice containing site-specific data with the clearinghouse. The notice regarding the new or modified site must provide a detailed description of the proposed site's spectral frequency use and

geographic location, including but not limited to the applicant's name and address, the name of the transmitting base station, the geographic coordinates corresponding to that base station, the frequencies and polarizations to be added, changed or deleted, and the emission designator. If a prior coordination notice (PCN) under §101.103(d) of this chapter is prepared, AWS entities can satisfy the site-data filing requirement by submitting a copy of their PCN to the clearinghouse. AWS entities that file either a notice or a PCN have a continuing duty to maintain the accuracy of the site-specific data on file with the clearinghouse. Utilizing the site-specific data, the clearinghouse will determine if any reimbursement obligation exists and notify the AWS entity in writing of its repayment obligation, if any. When the AWS entity receives a written copy of such obligation, it must pay directly to the relocater the amount owed within 30 calendar days.

36. Revise § 27.1174 to read as follows:

§ 27.1174 Termination of cost-sharing obligations.

The cost-sharing plan will sunset for all AWS and MSS entities on the same date on which the relocation obligation for the subject AWS band (*i.e.*, 2110–2150 MHz, 2160–2175 MHz, 2175–2180 MHz, 2180–2200 MHz) in which the relocated FMS link was located terminates. AWS or MSS entrants that trigger a cost-sharing obligation prior to the sunset date must satisfy their payment obligation in full.

PART 101— FIXED MICROWAVE SERVICES

37. The authority citation for part 101 continues to read as follows:

Authority: 47 U.S.C. 154, and 303 unless otherwise noted.

38. Amend § 101.69 by revising paragraph (e) introductory text to read as follows:

§ 101.69 Transition of the 1850–1990 MHz, 2110–2150 MHz, and 2160–2200 MHz bands from the fixed microwave services to personal communications services and emerging technologies.

(e) Relocation of FMS licensees by Mobile-Satellite Service (MSS) licensees will be subject to mandatory negotiations only.

39. Amend § 101.73 by revising paragraphs (a) and (d) introductory text to read as follows:

§ 101.73 Mandatory negotiations.

(a) A mandatory negotiation period may be initiated at the option of the ET licensee. Relocation of FMS licensees by Mobile Satellite Service (MSS) operators and AWS licensees in the 2110–2150 MHz and 2160–2200 MHz bands will be subject to mandatory negotiations only.

(d) Provisions for Relocation of Fixed Microwave Licensees in the 2110–2150 and 2160–2200 MHz bands. A separate mandatory negotiation period will commence for each FMS licensee when an ET licensee informs that FMS licensee in writing of its desire to negotiate. Mandatory negotiations will be conducted with the goal of providing the FMS licensee with comparable facilities defined as facilities possessing the following characteristics:

40. Amend § 101.79 by revising paragraphs (a) introductory text and (a)(2) to read as follows:

§ 101.79 Sunset provisions for licensees in the 1850–1990 MHz, 2110–2150 MHz, and 2160–2200 MHz bands.

(a) FMS licensees will maintain primary status in the 1850–1990 MHz, 2110–2150 MHz, and 2160–2200 MHz bands unless and until an ET licensee requires use of the spectrum. ET licensees are not required to pay relocation costs after the relocation rules sunset. Once the relocation rules sunset, an ET licensee may require the incumbent to cease operations, provided that the ET licensee intends to turn on a system within interference range of the incumbent, as determined by TIA TSB 10–F (for terrestrial-to-terrestrial situations) or TIA TSB 86 (for MSS satellite-to-terrestrial situations) or any standard successor. ET licensee notification to the affected FMS licensee must be in writing and must provide the incumbent with no less than six months to vacate the spectrum. After the six-month notice period has expired, the FMS licensee must turn its license back into the Commission, unless the parties have entered into an agreement

which allows the FMS licensee to continue to operate on a mutually agreed upon basis. The date that the relocation rules sunset is determined as follows:

(2) For the 2180–2200 MHz band, for MSS/ATC December 8, 2013 (*i.e.*, ten years after the mandatory negotiation period begins for MSS/ATC operators in the service), and for ET licensees authorized under part 27 ten years after the first part 27 license is issued in the band. To the extent that an MSS operator is also an ET licensee authorized under part 27, the part 27 sunset applies to its relocation and cost sharing obligations should the two sets of obligations conflict.

41. Amend § 101.82 by revising paragraphs (a) and (d) to read as follows:

§ 101.82 Reimbursement and relocation expenses in the 2110–2150 MHz and 2160–2200 MHz bands.

(a) Reimbursement and relocation expenses for the 2110–2130 MHz and 2160–2200 MHz bands are addressed in §§ 27.1160–27.1174.

(d) Cost-sharing obligations among terrestrial stations. For terrestrial stations (AWS), cost-sharing obligations are governed by §§ 27.1160 through 27.1174 of this chapter; provided, however, that MSS operators are not obligated to reimburse voluntarily relocating FMS incumbents in the 2180–2200 MHz band. (AWS reimbursement and cost-sharing obligations relative to voluntarily relocating FMS incumbents are governed by § 27.1166 of this chapter).

APPENDIX B

Final Regulatory Flexibility Act Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ the Commission incorporated an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in the *Notice of Proposed Rulemaking (NPRM)*. No comments were filed addressing the IRFA. Because we amend the rules in this *Report and Order*, we have included this Final Regulatory Flexibility Analysis (FRFA). This present FRFA conforms to the RFA.²

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

2. Demand for wireless broadband services and the network capacity associated with those services is surging, resulting in a growing demand for spectrum to support these services. Adoption of smartphones increased at a 50 percent annual growth rate in 2011, from 27 percent of U.S. mobile subscribers in December 2010 to nearly 42 percent in December 2011.³ Further, consumers have rapidly adopted the use of tablets, which were first introduced in January of 2010.⁴ By the end of 2012, it is estimated that one in five Americans—almost 70 million people—will use a tablet.⁵ Between 2011 and 2017, mobile data traffic generated by tablets is expected to grow at a compound annual growth rate of 100 percent.⁶ New mobile applications and services, such as high resolution video communications, are also using more bandwidth. For example, a single smartphone can generate as much traffic as thirty-five basic-feature mobile phones,⁷ while tablets connected to 3G and 4G networks use three times more data

¹ See 5 U.S.C. § 603. The RFA, see 5 U.S.C. § 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996, (SBREFA) Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² See 5 U.S.C. § 604.

³ comScore 2012 Mobile Future in Focus (2012) at 16 http://www.comscore.com/Press_Events/Presentations_Whitepapers/2012/2012_Mobile_Future_in_Focus (last visited Dec. 6, 2012).

⁴ Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, WT Docket No. 10-133, *Fifteenth Report*, 26 FCC Rcd 9664, 9754 ¶ 145 (*Fifteenth Mobile Wireless Competition Report*).

⁵ Press Release, eMarketer, *Tablet Shopping Growing, but Retailers Must Keep Up* (June 15, 2012), available at <http://www.emarketer.com/Article.aspx?R=1009120&ecid=a6506033675d47f881651943c21c5ed4> (last visited Dec. 6, 2012).

⁶ Ericsson, *Traffic and Market Report: On the Pulse of the Networked Society* (June 2012), available at http://www.ericsson.com/res/docs/2012/traffic_and_market_report_june_2012.pdf (last visited Dec. 6, 2012).

⁷ Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2011-2016 (February 2012), available at http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html (last visited Dec. 6, 2012).

than smartphones over the cellular network.⁸ All of these trends, in combination, are creating an urgent need for more network capacity and, in turn, for suitable spectrum.

3. The 2010 *National Broadband Plan* recommended the Commission undertake to make 500 megahertz of spectrum available for broadband use within ten years, including 300 megahertz within five years.⁹ The Commission has taken numerous steps to achieve these goals, including recently adopting a notice of proposed rulemaking on conducting the world's first incentive auction to repurpose broadcast spectrum for wireless broadband use,¹⁰ and updating the Commission's rules for the 2.3 GHz Wireless Communications Service (WCS) band to permit the use of the most advanced wireless technologies in that band.¹¹

4. In February 2012, Congress enacted Title VI of the Middle Class Tax Relief and Job Creation Act of 2012 (the "Spectrum Act").¹² The Spectrum Act includes several provisions to make more spectrum available for commercial use, including through auctions, and to improve public safety communications.¹³ Among other things, the Spectrum Act requires the Commission, by February 23, 2015, to allocate the 1915-1920 MHz band and the 1995-2000 MHz band (collectively, the H Block) for commercial use, and to auction and grant new initial licenses for the use of each spectrum band, subject to flexible-use service rules.¹⁴ Congress provided, however, that if the Commission determined that either of the bands could not be used without causing harmful interference to commercial licensees in 1930-1995 MHz (PCS downlink), then the Commission was prohibited from allocating that specific band for commercial use or licensing it.¹⁵ Additionally, Sections 6401(f) and 6413 of the Spectrum Act specify that the proceeds from an auction of licenses in the 1995-2000 MHz band and in the 1915-1920 MHz band shall be deposited in the Public Safety Trust Fund and then used to fund the Nationwide Public Safety Broadband Network ("FirstNet").¹⁶ The H block spectrum could be the first spectrum specified by

⁸ Kevin Fitchard, 3G/4G tablets suck up 3x more data than smartphones, GIGAOM, May 15, 2012, available at <http://gigaom.com/mobile/study-3g4g-tablets-suck-up-3x-more-data-than-smartphones/> (last visited Dec. 6, 2012).

⁹ *National Broadband Plan*, Recommendation 5.8 at 84-85.

¹⁰ See Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, Docket No. 12-268, *Notice of Proposed Rulemaking*, FCC 12-118, at 3 (rel. Oct. 2, 2012); *National Broadband Plan* at 81-82.

¹¹ See Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band, *Order on Reconsideration*, WT Docket No. 07-293, IB Docket No. 95-91, (rel. Oct. 17, 2012) (*2012 WCS Order*); see also, *Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band*, WT Docket No. 07-293, IB Docket No. 95-91, GEN Docket No. 90-357, RM-8610, *Report and Order and Second Report and Order*, 25 FCC Rcd 11710 (2010) (*2010 WCS Order*).

¹² See generally Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, 126 Stat. 156 (2012) (Spectrum Act)

¹³ Spectrum Act §§ 6001-6703.

¹⁴ See Spectrum Act § 6401(b), codified at 47 U.S.C. § 1451(b).

¹⁵ See Spectrum Act § 6401(b)(4), codified at 47 USC § 1451(b)(4).

¹⁶ Spectrum Act §§ 6401(f), 6413, codified at 47 U.S.C. §§ 309(j)(8)(D)(ii), 1457. Amounts remaining in the Public Safety Trust Fund after fiscal year 2022 are required to be deposited into the Treasury's general fund for the purpose of deficit reduction.

the Spectrum Act to be licensed by auction, and thus could represent the first inflow of revenues toward this statutory goal.¹⁷

5. In this Report and Order, we increase the Nation's supply of spectrum for mobile broadband by adopting flexible use rules for 40 megahertz of spectrum in the 2 GHz band (2000-2020 MHz and 2180-2200 MHz), which we term the AWS-4 band. In so doing, we carry out a recommendation in the *National Broadband Plan* that the Commission enable the provision of stand-alone terrestrial services in the 2 GHz Mobile Satellite Service (MSS) spectrum band, thus dramatically increasing the value of this spectrum to the public. Specifically, we remove regulatory barriers to mobile broadband use of this spectrum, and adopt service, technical, and licensing rules that will encourage innovation and investment in mobile broadband and provide certainty and a stable regulatory regime in which broadband deployment can rapidly occur.

B. Legal Basis

6. The actions are authorized pursuant to sections 1, 2, 4(i), 201, 301, 302, 303, 307, 308, 309, 310, 316, 319, 324, 332, and 333 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 154(i), 201, 301, 302, 303, 307, 308, 309, 310, 316, 319, 324, 332, and 333, and Section 706 of the Telecommunications Act of 1996, as amended, 47 U.S.C. § 1302.

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

7. 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 rules adopted, herein.¹⁸ The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."¹⁹ In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.²⁰ 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 SBA.²¹ Below, we describe and estimate the number of small entity licensees that may be affected by the adopted rules.

8. *Small Businesses, Small Organizations, and Small Governmental Jurisdictions.* Our action may, over time, affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three comprehensive, statutory small entity size standards that encompass

¹⁷ Concurrently with the issuance of this Report and Order, the Commission is issuing a Notice of Proposed Rulemaking that proposes service, technical, and licensing rules for the H block. *See generally*, Service Rules for the Advanced Wireless Services H Block—Implementing Section 6401 of the Middle Class Tax Relief and Job Creation Act of 2012 Related to the 1915-1920 MHz and 1995-2000 MHz bands, WT Docket No. 12-357, *Notice of Proposed Rulemaking*, FCC 12-152 (adopted Dec. 11, 2012).

¹⁸ 5 U.S.C. § 603(b)(3).

¹⁹ 5 U.S.C. § 601(6).

²⁰ 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."

²¹ 15 U.S.C. § 632.

entities that could be directly affected by the proposals under consideration.²² As of 2009, small businesses represented 99.9% of the 27.5 million businesses in the United States, according to the SBA.²³ Additionally, a “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”²⁴ Nationwide, as of 2007, there were approximately 1,621,315 small organizations.²⁵ Finally, the term “small governmental jurisdiction” is defined generally as “governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”²⁶ Census Bureau data for 2007 indicate that there were 89,527 governmental jurisdictions in the United States.²⁷ We estimate that, of this total, as many as 88,761 entities may qualify as “small governmental jurisdictions.”²⁸ Thus, we estimate that most governmental jurisdictions are small.

9. *Satellite Telecommunications and All Other Telecommunications.* The rules adopted in this Order would affect some providers of satellite telecommunications services. Satellite telecommunications service providers include satellite and earth station operators. Since 2007, the SBA has recognized two census categories for satellite telecommunications firms: “Satellite Telecommunications” and “Other Telecommunications.” Under the “Satellite Telecommunications” category, a business is considered small if it had \$15 million or less in average annual receipts.²⁹ Under the “Other Telecommunications” category, a business is considered small if it had \$25 million or less in average annual receipts.³⁰

10. The first category of Satellite Telecommunications “comprises establishments primarily engaged in providing point-to-point telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via

²² See 5 U.S.C. § 601(3)–(6).

²³ See SBA, Office of Advocacy, “Frequently Asked Questions,” available at <http://web.sba.gov/faqs/faqindex.cfm?areaID=24> (last visited Dec. 11, 2012).

²⁴ 5 U.S.C. § 601(4).

²⁵ INDEPENDENT SECTOR, THE NEW NONPROFIT ALMANAC & DESK REFERENCE (2010).

²⁶ 5 U.S.C. § 601(5).

²⁷ U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES: 2011, Table 427 (2007).

²⁸ The 2007 U.S. Census data for small governmental organizations are not presented based on the size of the population in each such organization. There were 89,476 local governmental organizations in 2007. If we assume that county, municipal, township, and school district organizations are more likely than larger governmental organizations to have populations of 50,000 or less, the total of these organizations is 52,095. If we make the same population assumption about special districts, specifically that they are likely to have a population of 50,000 or less, and also assume that special districts are different from county, municipal, township, and school districts, in 2007 there were 37,381 such special districts. Therefore, there are a total of 89,476 local government organizations. As a basis of estimating how many of these 89,476 local government organizations were small, in 2011, we note that there were a total of 715 cities and towns (incorporated places and minor civil divisions) with populations over 50,000. CITY AND TOWNS TOTALS: VINTAGE 2011 – U.S. Census Bureau, available at <http://www.census.gov/popest/data/cities/totals/2011/index.html>. If we subtract the 715 cities and towns that meet or exceed the 50,000 population threshold, we conclude that approximately 88,761 are small. U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES 2011, Tables 427, 426 (Data cited therein are from 2007).

²⁹ See 13 C.F.R. § 121.201, NAICS code 517410.

³⁰ See 13 C.F.R. § 121.201, NAICS code 517919.

a system of satellites or reselling satellite telecommunications.”³¹ For this category, Census Bureau data for 2007 show that there were a total of 512 satellite communications firms that operated for the entire year.³² Of this total, 464 firms had annual receipts of under \$10 million, and 18 firms had receipts of \$10 million to \$24,999,999.³³

11. The second category of Other Telecommunications is comprised of entities “primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. Establishments providing Internet services or voice over Internet protocol (VoIP) services via client-supplied telecommunications connections are also included in this industry.”³⁴ For this category, Census Bureau data for 2007 show that there were a total of 2,383 firms that operated for the entire year.³⁵ Of this total, 2,346 firms had annual receipts of under \$25 million.³⁶ Consequently, the Commission estimates that the majority of All Other Telecommunications firms are small entities that might be affected by our actions.

12. *Satellite Telecommunications/Mobile Satellite Service Licensees.* Neither the Commission nor the U.S. Small Business Administration has developed a small business size standard specifically for mobile satellite service licensees. The appropriate size standard is therefore the SBA standard for Satellite Telecommunications, which provides that such entities are small if they have \$15 million or less in annual revenues.³⁷ This industry comprises establishments primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications.³⁸ Currently, the Commission’s records show that there are 31 entities authorized to provide voice and data MSS in the United States. The Commission does not have sufficient information to determine which, if any, of these parties are small entities. The Commission notes that small businesses are not likely to have the financial ability to become MSS system operators because of high implementation costs, including construction of satellite space stations and rocket launch, associated with satellite systems and services.

13. However, the U.S. Census publishes data about Satellite Telecommunications generally, and this data may well be relevant to the estimate of the number of voice and data MSS. Census data for 2007 indicate that 512 satellite telecommunications firms operated during that year. Of that 512, 290 received annual receipts of \$10.0 million or less. 18 firms received annual receipts of between \$10.0

³¹ U.S. Census Bureau, 2007 NAICS Definitions, “517410 Satellite Telecommunications.”

³² See http://factfinder.census.gov/servlet/IBQTable?_bm=v&-geo_id=&-skip=900&-ds_name=EC0751SSSZ4&-lang=en.

³³ *Id.*

³⁴ U.S. Census Bureau, 2007 NAICS Definitions, “517919 Other Telecommunications”, <http://www.census.gov/naics/2007/def/ND517919.HTM>.

³⁵ See 13 C.F.R. § 121.201, NAICS code 517919.

³⁶ U.S. Census Bureau, 2007 Economic Census, Subject Series: Information, Table 5, “Establishment and Firm Size: Employment Size of Firms for the United States: 2007 NAICS Code 517919” (issued Nov. 2010).

³⁷ 13 C.F.R. § 121.201, NAICS code 517410.

³⁸ <http://www.census.gov/cgi-bin/sssd/naics/naicsrch>.

million and \$24,999.999 and 30 received annual receipts of \$25.0 million or more. Since the Census data does not distinguish between MSS and other types of satellite communications companies, it cannot be known precisely, based on Census data, how many of the 31 authorized MSS firms are small.³⁹ However, since the majority of all satellite telecommunications companies were small under the applicable standard, a limited inference is possible that some of the 31 MSS firms are small. Since it is possible that some MSS companies are small entities affected by this Order, we therefore include them in this section of the FRFA.

14. *Wireless Telecommunications Carriers (except satellite)*. The *Report and Order* applies various Commission policies and rules to terrestrial service in the MSS bands. We cannot predict who may in the future become a licensee or lease spectrum for terrestrial use in these bands. In general, any wireless telecommunications provider would be eligible to become an Advanced Wireless Service licensee or lease spectrum from the MSS or AWS licensees. This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular phone services, paging services, wireless Internet access, and wireless video services.⁴⁰

15. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁴¹ Census Bureau data for 2007, which now supersede data from the 2002 Census, show that there were 3,188 firms in this category that operated for the entire year. Of this total, 3,144 had employment of 999 or fewer, and 44 firms had employment of 1,000 employees or more. Thus under this category and the associated small business size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities that may be affected by our actions.⁴²

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

16. The projected reporting, recordkeeping, and other compliance requirements resulting from the *Report and Order* will apply to all entities in the same manner. The Commission believes that applying the same rules equally to all entities in this context promotes fairness. The Commission does not believe that the costs and/or administrative burdens associated with the rules will unduly burden small entities. The revisions the Commission adopts should benefit small entities by giving them more information, more flexibility, and more options for gaining access to valuable wireless spectrum.

17. Any applicants for licenses of AWS-4 operating authority will be required to file license applications using the Commission's automated Universal Licensing System (ULS). ULS is an online electronic filing system that also serves as a powerful information tool that enables potential licensees to research applications, licenses, and antennae structures. It also keeps the public informed with weekly public notices, FCC rulemakings, processing utilities, and a telecommunications glossary. Licensees of

³⁹http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_51SSSZ4&prodType=table

⁴⁰ <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517210&search=2007%20NAICS%20Search>

⁴¹ 13 C.F.R. § 121.201, NAICS code 517110.

⁴² See http://factfinder.census.gov/servlet/IBQTable?_bm=y&-fds_name=EC0700A1&-geo_id=&-skip=600&-ds_name=EC0751SSSZ5&-lang=en

AWS-4 operating authority that must submit long-form license applications must do so through ULS using Form 601,⁴³ FCC Ownership Disclosure Information for the Wireless Telecommunications Services using FCC Form 602, and other appropriate forms.⁴⁴

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

18. 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.⁴⁵

19. As we provide in this *Report and Order*, licensing the AWS-4 bands under Economic Areas (EA) geographic size licenses will provide regulatory parity with other AWS bands that are licensed on an EA basis, such as AWS-1 B and C block licenses. Additionally, assigning AWS-4 in EA geographic areas will allow AWS-4 licensees to make adjustments to suit their individual needs. EA license areas are small enough to provide spectrum access opportunities for smaller carriers. EA license areas also nest within and may be aggregated up to larger license areas that have been used by the Commission for other services, such as Major Economic Areas (MEAs) and Regional Economic Area Groupings (REAGs) for those seeking to create larger service areas. Licensees may also adjust their geographic coverage through secondary markets. These rules should enable licensees of AWS-4 operating authority, or any entities, whether large or small, providing service in other AWS bands to more easily adjust their spectrum to build their networks pursuant to individual business plans.

20. This *Report and Order* adopts rules to protect entities operating in nearby spectrum bands from harmful interference, which may include small entities. The technical rules adopted in the *Report and Order* are designed, among other things, to protect broadband PCS services operating in the 1930-1995 MHz band, future services operating in the 1995-2000 MHz band, and Federal operations in the 2200-2290 MHz band from harmful interference from AWS-4 operations.

21. The *Report and Order* provides licensees of AWS-4 authority with the flexibility to provide any fixed or mobile service that is consistent with the allocations for this spectrum, which is consistent with other spectrum allocated or designated for licensed fixed and mobile services, *e.g.*, AWS-1. The *Report and Order* further provides for licensing of this spectrum under the Commission's market-oriented Part 27 rules. This includes applying the Commission's secondary market policies and rules to all transactions involving the use of AWS-4 bands for terrestrial services, which will provide greater predictability and regulatory parity with bands licensed for terrestrial mobile broadband service. These rules should make it easier for AWS-4 providers to enter secondary market arrangements involving terrestrial use of their spectrum. The secondary market rules apply equally to all entities, whether small or large. As a result, we believe that this will provide an economic benefit to small entities by making it easier for entities, whether large or small, to enter into secondary market arrangements for AWS-4 spectrum.

⁴³ 47 C.F.R. § 1.913(a)(1).

⁴⁴ 47 C.F.R. § 1.2107

⁴⁵ 5 U.S.C. § 604(a)(6).

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Rules

22. None.

G. Report to Congress

23. The Commission will send a copy of the *Report and Order*, including the FRFA, in a report to Congress pursuant to the Congressional Review Act.⁴⁶ In addition, the Commission will send a copy the *Report and Order*, including FRFA, to the Chief Counsel for Advocacy of the Small Business Administration. A copy of this *Report and Order* and FRFA (or summaries thereof) will be published in the Federal Register.⁴⁷

⁴⁶ See 5 U.S.C. § 801(a)(1)(A). The Congressional Review Act is contained in Title II, § 251, of the CWAAA, see Pub. L. No. 104-121, Title II, § 251, 110 Stat. 868.

⁴⁷ See 5 U.S.C. § 604(b).

APPENDIX C

List of Commenters to *AWS-4 NPRM and NOI***Comments**

Alcatel-Lucent (Alcatel)
AT&T Services, Inc. (AT&T)
Computer & Communications Industry Association (CCIA)
Consumer Electronics Association (CEA)
COMPTEL
Council Tree Investors, Inc. (Council Tree)
CTIA—The Wireless Association (CTIA)
DECT Forum (DECT)
Deere & Company (Deere)
DISH Network Corporation (DISH)
Engineers for the Integrity of Broadcast Auxiliary Services Spectrum (EIBASS)
Globalstar, Inc.
Greenwood Telecommunications Consultants, LLC (Greenwood)
Iridium Satellite LLC (Iridium)
Information Technology Industry Council (ITI)
LightSquared Inc.
MetroPCS Communications, Inc. (MetroPCS)
Mobile Satellite Users Association (MSUA)
Motorola Mobility, Inc. (Motorola)
Nokia Siemens Network (Nokia)
National Rural Telecommunications Cooperative (NRTC)
National Telecommunications Cooperative Association (NTCA)
New America, Public Knowledge, and Consumers Union (Public Interest Organizations/PIO)
NTCH, Inc.
RCA- The Competitive Carriers Association (RCA)
Satellite Industry Association (SIA)
Silicon Flatirons Center, University of Colorado (Silicon Flatirons)
Sprint Nextel Corporation (Sprint)
Telecommunications Industry Association (TIA)
T-Mobile USA, Inc. (T-Mobile)
United States Cellular Corporation (US Cellular/USCC)
US GPS Industry Council (USGIC)
UTAM, Inc.
Verizon Wireless

Reply Commenters

AMS Corporation (AMS)
AT&T
CCIA
CTIA
DECT
DISH
Globalstar
Greenwood
Iridium
LightSquared

MetroPCS
NRTC
Nokia
PIO
Rural Telecommunications Group, Inc. (RTG)
Sprint
USCC
US GIC
UTAM
Utilities Telecom Council
Verizon Wireless