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Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands	)	WT Docket No. 04-356
	)	
Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands	)	WT Docket No. 02-353

NOTICE OF PROPOSED RULE MAKING

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By the Commission: Chairman Powell, Commissioners Abernathy, Copps, and Adelstein issuing separate statements.

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I. INTRODUCTION

1. In this Notice of Proposed Rule Making, we seek comment on service rules for licensed fixed and mobile services, including advanced wireless services (AWS), in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, and 2175-2180 MHz bands.[1] These service rules include application, licensing, operating and technical rules. As with the service rules for advanced wireless services in the 1710-1755 MHz and 2110-2155 MHz bands, we propose to permit any use of this spectrum that is consistent with the bands' fixed and mobile allocations.[2] We also propose to license the bands using a

[1] Advanced Wireless Services is the collective term we use for new and innovative fixed and mobile terrestrial wireless applications using bandwidth that is sufficient for the provision of a variety of applications, including those using voice and data (such as internet browsing, message services, and full-motion video) content. Although AWS is commonly associated with so-called third generation (3G) applications and has been predicted to build on the successes of such current-generation commercial wireless services as cellular and Broadband Personal Communication Services (PCS), the services ultimately provided by AWS licensees are limited only by the Fixed and Mobile designation of the spectrum we allocate for AWS and the service rules we ultimately adopt for the bands.

[2] In an ongoing service rules proceeding for 90 megahertz of spectrum for AWS, we have adopted rules that provide licensees of this spectrum with the flexibility to quickly adapt to changes in technological capabilities and marketplace conditions into the future, and have stated that our goal for the AWS-designated spectrum is "to put this spectrum to its highest value use with minimal transaction cost." Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, *Report and Order*, 18 FCC Rcd 25162 (2003) (*AWS 1.7 and 2.1 GHz Service Rules Order*). There are currently six pending petitions for reconsideration of the *AWS 1.7 and 2.1 GHz Service Rules Order*.

geographic area licensing scheme, under our flexible, market-oriented Part 27 rules. Because the adoption of geographic area licensing would make possible the filing of mutually exclusive applications, which in turn would require us to assign licenses by auction, we also propose competitive bidding rules. In addition, we seek comment on outstanding issues regarding the relocation of incumbents in each band, primarily whether to adopt rules governing the assignment of band clearance costs among multiple AWS licensees in the same band. We also seek comment on interference issues specific to each band, and seek comment on the power limits, out-of-band emission restrictions, and other technical or operational requirements that might be needed to protect incumbents in adjacent bands from harmful interference.

2. Concurrently with the adoption of this Notice, we are also adopting a *Sixth Report and Order*, in ET Docket No. 00-258, designating these bands for licensed fixed and mobile services that include advanced wireless services, and pairing the 1915-1920 MHz band with the 1995-2000 MHz band and the 2020-2025 MHz band with the 2175-2180 MHz band.[3] Our goal is to enable service providers to maximize the use of this spectrum. Ideally, the marketplace, not the government, should determine how this spectrum is used, within the wide limits of the fixed and mobile allocation. Thus, the licensing and operational rules we propose below provide flexibility for licensees to offer 3G and other advanced wireless services in the near term, while preserving their ability to quickly adapt to changes in technological capabilities and marketplace conditions in the future. This will, in turn, benefit consumers by fostering the development of new services and capabilities.

II. BACKGROUND

3. In the United States, additional spectrum for advanced wireless services in particular, and for commercial mobile radio services (CMRS) generally, is needed primarily because of the explosive growth in demand for these services. Usage rates for advanced wireless services have grown considerably over the past few years, and are expected to grow significantly over the next several years. While mobile data constituted only 2 to 5 percent of total revenue among the major U.S. mobile telephone carriers during the fourth quarter of 2003, the consumer adoption of various mobile data products is growing.[4] One analyst estimates that nearly 25 percent of all mobile telephone subscribers can be considered casual mobile data users, most of whom use text messaging, photo messaging, ring tones, or web surfing applications on their mobile handsets.[5] In addition, the estimated number of data-only mobile users grew from 1.1 million at the end of 2001 to 2.3 million at the end of 2002.[6]

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[3] Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, ET Docket No. 00-258, *Sixth Report and Order, Third Memorandum Opinion and Order and Fifth Memorandum Opinion and Order*, FCC 04-219, released Sept. 22, 2004 (*AWS Sixth Report and Order*).

[4] Michel Morin and Linda Mutschler, *Global Wireless Matrix 4Q03*, Merrill Lynch, Global Securities Research, Mar. 19, 2004, at 87 ("*Global Wireless Matrix 4Q03*").

[5] Frank J. Governali, Robert D. Barry, and Marje Soova, *Wireless Data Prospects Brightening*, Goldman Sachs, Global Investment Research, Apr. 16, 2004, at 10.

[6] Luiz Carvalho *et al.*, *A Look at Wireless Data: Don't Short SMS*, Morgan Stanley, Equity Research – Wireless Telecom Services, Mar. 2, 2003, at 3. Cingular Wireless reported it had 5 million customers "actively using" its mobile data services as of the end of 2002, up from 2 million data customers at the end of 2001. Approximately 4.2 million of the 5 million were accessing data services over Cingular's cellular/PCS networks, and the rest were served by its Mobitex network. Cingular Wireless, LLC, SEC Form 10-K, Mar. 11, 2003, at 3, 5.

4. Responding to the increased consumer demand for mobile data products, carriers have been upgrading their networks over the past few years with next generation technologies that allow for faster mobile Internet access speeds, richer content, and more advanced applications. As of March 2003, GPRS and/or CDMA 1xRTT networks, which allow for mobile Internet access at speeds ranging from 25-70 kbps, were available in counties containing 265 million people, or 93 percent of the U.S. population. In addition, during 2003 and 2004, Verizon Wireless launched service on its CDMA 1xEV-DO network, which allows for typical download speeds ranging from 300-500 kbps, in San Diego, CA, Washington, DC, and Las Vegas.[7] In summer 2004, AT&T Wireless announced the availability of service over its UMTS, or WCDMA, network, which delivers typical download speeds of 220-320 kbps, in Seattle, San Francisco, Phoenix, Detroit, Dallas and San Diego.[8] In 2003, AT&T completed the overlay of EDGE technology, which enables data speeds ranging from 100 to 130 kbps, across its entire GSM/GPRS footprint, which covers 220 million people, or 76 percent of the U.S. population.[9] Also during 2003, Cingular Wireless deployed EDGE networks in Indianapolis and southern Florida. Finally, in April 2004, Nextel Communications began offering wireless broadband service in Raleigh-Durham using Flash-OFDM technology developed by Flarion.[10] Customers can access the Internet using either a wireless modem for a personal computer or a wireless modem card for a laptop computer. Download speeds range from 1 to 3 Mbps, and the typical uplink speed is 375 kbps with burst rates up to 750 kbps.[11]

5. Most of the major mobile telephone carriers plan to make additional upgrades to their networks to enable customers to access more advanced data services. For instance, Verizon Wireless plans to deploy EV-DO technology to several markets across the United States during the summer of 2004, and Sprint PCS plans to launch EV-DO service in selected markets during the second half of 2004. In addition, AT&T Wireless has filed an application to merge with Cingular Wireless, and the combined company plans to deploy EDGE and UMTS to additional markets in the future.[12] T-Mobile plans to begin launching EDGE service by the end of 2004 to ultimately deploy UMTS. For some carriers, these network upgrades may require additional spectrum.

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[7] Verizon Wireless Announces Roll Out of 3G Network in Las Vegas, Press Release, Verizon Wireless, July 27, 2004.

[8] *AWS Launches UMTS in Four Markets*, RCR Wireless News, July 20, 2004; AT&T Wireless Extends 3G UMTS Service to Dallas and San Diego, Press Release, AT&T Wireless, Sept. 1, 2004.

[9] AT&T Wireless, SEC Form 10-K, filed Mar. 5, 2004, at 2.

[10] Nextel Expands Successful Broadband Trial to Include Paying Customers and Larger Coverage Area, Press Release, Nextel Communications, April 14, 2004.

[11] Dan Meyer, *Nextel Plans Next-Generation Wireless Data Trial*, RCR Wireless News, Feb. 5, 2004; Wireless, Communications Daily, Feb. 9, 2004; Susan Rush, *Nextel Tests Wireless Broadband in N.C.*, Wireless Week, Feb. 9, 2004; Dan Meyer, *Nextel to Offer Commercial OFDM Service*, RCR Wireless News, Apr. 14, 2004; Dan Meyer, *Nextel's Broadband Network is Faster than Other Wireless Technologies*, RCR Wireless News, Apr. 16, 2004.

[12] Description of Transaction, Public Interest Statement and Waiver Request of Cingular Wireless Corporation, FCC Form 603, Ex. 1, WT Docket No. 04-70, at 18 (filed Mar. 18, 2004); Emily Motsay, *Sprint Confirms EV-DO Plans with $1B Investment Cingular Reaffirms UMTS Commitment with RFP*, RCR Wireless News, June 22, 2004.

6. Internationally, mobile telephone carriers outside of the U.S. have continued to deploy next generation mobile data services. In October 2001, NTT DoCoMo launched WCDMA technology in Japan. DoCoMo's 3G service allows users to access the Internet at speeds of up to 384 kbps, transmit and download video clips, and send large data files quickly.[13] European carriers had also launched WCDMA service in a handful of markets as of the end of 2003, including Hutchison 3G in Austria, Denmark, Italy, Sweden and the UK; Mobilkom in Austria; and Tele2 and P&T Luxembourg in Luxembourg.[14] Furthermore, data services offered over next-generation CDMA networks continue to be popular with consumers in Korea. Through March 2004 South Korea had accumulated a total of over 27.6 million next generation CDMA subscribers – more than 80 percent of South Korea's mobile telephone subscriber base – including 6.4 million subscribers who are using services offered over EV-DO networks.[15]

7. The Commission identified a large number of potential bands to support innovative mobile services in the January 2001 *Notice of Proposed Rulemaking and Order*,[16] and in the August 2001 *Memorandum Opinion and Order and Further Notice of Proposed Rule Making* in the Advanced Wireless Services allocation proceeding (ET Docket No. 00-258).[17] Collectively, in the *AWS Notice* and the *AWS Further Notice*, the Commission sought comment on the suitability for use by AWS of frequency bands that included the 1910-1930 MHz band (designated for Unlicensed Personal Communications Services (UPCS)), the 1990-2025 MHz band (allocated for Mobile-Satellite Service (MSS)) and other bands. Subsequent decisions have narrowed the spectrum bands under consideration. In the September 2001 *First Report and Order and Memorandum Opinion and Order*, the Commission modified the existing allocation in the 2500-2690 MHz band to provide additional flexibility, but did not reallocate the band to AWS.[18] In the November 2002 *Second Report and Order*, the Commission allocated 90 megahertz of spectrum for AWS, consisting of 45 megahertz of Federal

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[13] NTT DoCoMo, *Revolutionary 3G Service* (visited Nov. 6, 2002) <http://www.nttdocomo.com/top.html>; Ken Wieland, *Lessons from Japan: NTT DoCoMo Has Wisely Adopted a Step-by-Step Approach to Service Provisioning*, TELECOMMUNICATIONS (INTERNATIONAL EDITION), Feb. 1, 2002, at 16.

[14] Atsushi Umino, *Developments of Third-Generation Mobile Services in the OECD*, OECD, Mar. 9, 2004, at 27-28.

[15] *3G Subscribers*, 3G TODAY, (visited May 19, 2004) <http://www.3gtoday.com/subscribers/index.html>.

[16] Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, ET Docket No. 00-258, *Notice of Proposed Rulemaking and Order*, 16 FCC Rcd 596 (2001) (*AWS Notice*).

[17] Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, ET Docket No. 00-258, ET Docket No. 95-18, and IB Docket No. 99-81, *Memorandum Opinion and Order and Further Notice of Proposed Rule Making*, 16 FCC Rcd 16043 (2001) (*AWS Further Notice*).

[18] Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, ET Docket No. 00-258, *First Report and Order and Memorandum Opinion and Order*, 16 FCC Rcd 17222 (2001) (*AWS First R&O and MO&O*).

Government-use spectrum in the 1710-1755 MHz band and 45 megahertz in the 2110-2155 MHz band.[19] In October 2003, in the *AWS 1.7 and 2.1 GHz Service Rules Order*, we adopted service rules for the 90 megahertz of spectrum that we designated for AWS use at 1710-1755 MHz and 2110-2155 MHz.[20] Specifically, we split the two 45 megahertz bands into five paired spectrum blocks and determined to license the blocks using a variety of geographic licensing areas. In addition, we determined to license the spectrum by competitive bidding. We also adopted operating and technical provisions governing the use of this spectrum. Six petitions for reconsideration have been filed in response to the *AWS 1.7 and 2.1 GHz Service Rules Report and Order*.[21]

8. In its February 2003 *Third Report and Order, Third Notice of Proposed Rulemaking and Second Memorandum Opinion and Order*, the Commission considered use of spectrum in the 1910-1930 MHz band, as well as spectrum allocated to the 2 GHz MSS service in the 1990-2025 MHz and 2165-2200 MHz bands.[22] In the *Third Report and Order*, the Commission reallocated the 1990-2000 MHz, 2020-2025 MHz, and 2165-2180 MHz bands for fixed and mobile services.[23] In the *AWS Third NPRM*, the Commission identified a portion of the UPCS band at 1910-1920 MHz band as spectrum that could be made available for AWS or other purposes and sought comment with regard to using it for paired or unpaired operations—including entirely new AWS applications, expansion of existing Broadband PCS operations to support new and innovative mobile services, and as relocation spectrum for existing services. In a separate proceeding, ET Docket No. 95-18, the Commission had established the procedures by which 2 GHz MSS licensees would relocate BAS[24] and Fixed Service (FS) licensees from the 1990-2025 MHz and 2165-2200 MHz bands, respectively. In light of the reallocation of a portion of this spectrum to support new fixed and mobile Services, we issued a *Third Report and Order*

[19] Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, ET Docket No. 00-258, *Second Report and Order*, 17 FCC Rcd 23193 (2002) (*AWS Second R&O*).

[20] *AWS 1.7 and 2.1 GHz Service Rules Order*.

[21] Specifically, petitions for reconsideration were filed by the American Petroleum Institute, Rural Cellular Association, T-Mobile USA, Inc., the Wireless Communications Association International, Inc., Council Tree Communications, Inc, and Powerwave Technologies, Inc.

[22] Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, IB Docket No. 99-81, *Third Report and Order, Third Notice of Proposed Rulemaking and Second Memorandum Opinion and Order*, 18 FCC Rcd 2223 (2003) (*AWS Third R&O, Third NPRM, and Second MO&O*).

[23] *Id.* at 2238 ¶ 28.

[24] We are using the term BAS herein to refer not only to the Broadcast Auxiliary Service, but also to the Cable Television Relay Service (CARS) and the Local Television Transmission Service (LTTS). For a fuller description of the kinds of service stations in these services provide, see Improving Public Safety Communications in the 800 MHz Band, WT Docket No. 02-55, *Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order*, FCC 04-168, n. 144 (rel. Aug 6, 2004) (*800 MHz Report and Order).)*

in ET Docket No. 95-18 revising these relocation procedures to account for the new entrants into the band.[25]

9. In our recent *800 MHz Report and Order*, in WT Docket No. 02-55, we created a new nationwide license for PCS in the 1910-1915 MHz and 1990-1995 MHz bands, and awarded it to Nextel Communications, Inc. (Nextel) as part of a solution to a complicated public safety interference problem.[26] Specifically, we redesignated the 1910-1915 MHz band for licensed PCS and removed use of the band by Unlicensed Personal Communications Services (UPCS). We further adopted a reimbursement plan to compensate UTAM, Inc. (UTAM) for relocation expenses it has incurred in relocating incumbents from the 1910-1915 MHz band, and addressed several pending petitions for rulemakings and petitions for waivers relating to new use of the 1910-1915 MHz band. We also designated the 1990-1995 MHz band for PCS and addressed how the new entrant will participate in the existing relocation and reimbursement plan for incumbent BAS licensees in the 1990-2025 MHz band.

III. DISCUSSION

A. In General

10. As we have generally done recently with other spectrum being reallocated or redesignated for licensed fixed and mobile services, we propose to give licensees in these bands the flexibility to provide any fixed or mobile service that is consistent with the allocations for this spectrum. We also propose to license this spectrum under our market-oriented Part 27 rules, employing a geographic area licensing scheme.

1. Flexible Use

11. We propose service rules for these bands that would permit a licensee to employ this spectrum for any use permitted by the United States Table of Frequency Allocations contained in Part 2 of our rules (*i.e.*, fixed or mobile services). Congress recognized the potential benefits of flexibility in allocations of the electromagnetic spectrum and amended the Communications Act in 1999 to give the Commission authority to provide for flexibility of use if: "(1) such use is consistent with international agreements to which the United States is a party; and (2) the Commission finds, after notice and an opportunity for public comment, that (A) such an allocation would be in the public interest; (B) such use would not deter investment in communications services and systems, or technology development; and (C) such use would not result in harmful interference among users."[27]

12. We believe that our proposal for flexibility fully meets these section 303(y) criteria. Such use would be subject to bilateral discussions commonly undertaken whenever spectrum is put to use in border areas, but is consistent with applicable international agreements. The public interest benefits of flexibility are manifold. The Commission has identified the establishment of maximum feasible flexibility in both allocations and service rules as a critical means of ensuring that spectrum is put to its

[25] *See* Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile Satellite Service, ET Docket No. 95-18, *Third Report and Order and Third Memorandum Opinion and Order*, 18 FCC Rcd 23638 (2003) (*MSS Third R&O and Third MO&O*).

[26] *See 800 MHz Report and Order.*

[27] Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (1997) (BBA-97); 47 U.S.C. § 303(y).

most beneficial use. Thus, in a 1999 *Policy Statement* on spectrum management, the Commission observed that "[i]n the majority of cases, efficient spectrum markets will lead to use of spectrum for the highest value end use," and that "[f]lexible allocations may result in more efficient spectrum markets."[28] We would expect these economic efficiencies to foster—not deter—technology development and investment in communications services and systems. And the technical rules we are proposing herein would prevent harmful interference among users.

13. We therefore seek comment on our tentative conclusion to provide for flexible use for these frequency bands, especially in light of the section 303(y) criteria noted above. If any restrictions are warranted, what should they be and why are they needed? Are there trade-offs between flexibility and investment in technology and new services that we should consider? To the extent commenters believe flexibility will deter investment in these bands, they should also suggest specific restrictions on how spectrum should be used by a licensee, and provide detailed analysis of the economic tradeoffs between flexibility and investment that justify any particular recommended restriction on use. We also specifically seek comment on the types of uses that pose the greatest risk of interference to uses planned by parties interested in using this spectrum.[29]

2. Regulatory Framework

14. Given that we propose to permit flexible use of these bands, we tentatively conclude that we should do so by licensing them under the flexible regulatory framework of Part 27 of our rules.[30] Unlike other rule parts applicable to specific services, Part 27 does not prescribe a comprehensive set of licensing and operating rules for the spectrum to which it applies. Rather, for each frequency band under its umbrella, Part 27 defines permissible uses and any limitations thereon, and specifies basic licensing requirements. The licensing requirements for a number of spectrum bands, including the Upper and Lower 700 MHz bands[31] and the AWS spectrum at 1710-1755 MHz and 2110-2155,[32] are contained in Part 27. We seek comment on our proposal to license the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands under Part 27. As set out in more detail below, we also seek comment on what additional rule provisions should be included in Part 27 or incorporated by reference, in light of the services that may be offered under a flexible use approach.

15. We note that our recent decision in the *800 MHz Report and Order* provided that the licenses to be created in the 1910-1915 MHz and 1990-1995 MHz bands would be subject to the Part 24 rules, which are applicable to Broadband PCS service.[33] This decision effectuated our determination to award Nextel with rights in these blocks of spectrum in exchange for rights in

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[28] *See* Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, *Spectrum Policy Statement*, 14 FCC Rcd 19868, 19870 ¶ 9 (1999).

[29] In Section III.E below, we seek comment on appropriate technical rules for use of this spectrum.

[30] Of course, Part 27 licensees must also comply with other Commission rules of general applicability. *See* 47 C.F.R. § 27.3.

[31] *See* Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service (WCS), GN Docket No. 96-228, *Report and Order*, 12 FCC Rcd 10785 (1997).

[32] *See AWS 1.7 and 2.1 GHz Service Rules Order*, 18 FCC Rcd 25162 (2003).

[33] *See 800 MHz Report and Order*, Appendix C.

spectrum in the 800 and 900 MHz bands in which it is currently providing service. For the spectrum under consideration in this Notice, we believe it more appropriate to apply the more flexible Part 27 approach to licensing the bands, in keeping with our determination to license the AWS spectrum at 1710-1755 MHz and 2110-2155 MHz in this manner, in order to promote flexibility and permit market forces to determine what services are ultimately offered in the bands. We seek comment, however, on whether these bands should be governed by an alternative regulatory framework. Specifically, given its adjacency to the Broadband PCS spectrum at 1850-1915 MHz and 1930-1995 MHz, we seek comment on whether the 1915-1920 MHz and 1995-2000 MHz band should be licensed under the Part 24 rules. We note that in the discussion that follows, we have in a number of instances tentatively concluded to apply certain specific provisions of the Part 27 rules.[34] To the extent that commenters believe that a Part 24 provision should apply instead, they should explain the basis for this belief.

16. With respect to the 1915-1920 MHz and 1995-2000 MHz band, nothing about application of the Part 27 rules, or the specific technical rules we propose, should stand as an impediment to the provision of Broadband PCS-type services in the band. We recognize that some licensees in the band may wish to use handsets or base stations that range across the entire 1850-1920 MHz band. We note, however, that such use may entail additional regulatory requirements. For example, such a handset or base station would need to be certified under our equipment authorization procedures under both Parts 24 and 27. This may require, for example, separate RF safety tests for the frequency bands under each rule part. We seek comment on what modifications to our rules and processes could be made to eliminate duplication of effort and still ensure that devices are tested as appropriate for each rule part or service.

3. Assignment of Licenses

17. Section 309(j) of the Communications Act requires that the Commission assign initial licenses through the use of competitive bidding when mutually exclusive applications for such licenses are accepted for filing, except in the case of certain specific statutory exemptions not applicable here.[35] In this *Notice,* we tentatively conclude that we should adopt a geographic area licensing scheme for the bands under consideration. If we find that it would serve the public interest to implement a geographic area licensing scheme under which mutually exclusive applications are possible, then, consistent with section 309(j), we must resolve such applications for initial licenses in these bands through competitive bidding.[36] We propose competitive bidding procedures in paragraphs 117-125 below.

B. Band Plan

1. Geographic Area Licensing

18. We tentatively conclude that we should license the 1915-1920 and 1995-2000 MHz bands and the 2020-2025 and 2175-2180 MHz bands using a geographic area licensing scheme, and we seek comment on this tentative conclusion. As opposed to a station-defined site-by-site licensing approach,

[34] *See, e.g., infra* Section III.D.1 (47 C.F.R. § 27.10 – regulatory status); Section III.D.2.a (47 C.F.R. § 27.12 – foreign ownership); Section III.D.3 (47 C.F.R. § 27.14 – renewal expectancy); Section III.D.5 (47 C.F.R. § 27.15 – partitioning and disaggregation)

[35] 47 U.S.C. § 309(j)(1), (2).

[36] *See* Implementation of Sections 309(j) and 3376 of the Communications Act of 1934 As Amended, WT Docket No. 99-87, *Report and Order and Further Notice of Proposed Rule Making*, 15 FCC Rcd 22709 (2000) (*BBA Report and Order*).

we believe that a geographic area licensing scheme is better suited for the types of fixed and mobile services that will likely develop in these bands. This licensing scheme is also consistent with the licensing approach we adopted for the 1710-1755 MHz and 2110-2155 MHz bands.[37] As with those spectrum bands, the spectrum at issue in this proceeding is also suitable for advanced wireless services.

19. For the types of services that are likely to develop in these bands, it has been our experience that geographic area licensing offers many advantages over site-by-site licensing. Geographic area licensing will maximize flexibility and permit new and innovative technologies to rapidly develop in these bands. Geographic area or wide-area licensing also allows a licensee substantial flexibility to respond to market demand, which results in significant improvements in spectrum utilization. In particular, geographic area licensing permits economies of scale because it allows a licensee to coordinate usage across an entire geographic area to maximize the use of spectrum. It also reduces regulatory burdens and transaction costs, because wide-area licensing does not require site-by-site approval and a licensee can aggregate its service territories without incurring the administrative costs and delays associated with site-by-site licensing. This approach is especially advantageous where spectrum is likely to be used for services that require ubiquity and mobility over wide areas. As a result, licensees can more rapidly roll out their services, which was our experience with PCS.

20. If a commenter does not support geographic area licensing for this spectrum, the commenter should explain its opposition and the costs and benefits associated with its licensing proposal. The commenter should also explain what type of station-defined site-by-site licensing scheme it supports. For instance, one approach would be an exclusive use approach where the first licensee to acquire a license is guaranteed to have its operations protected from interference from other later-in-time licensees. Another approach would be a shared use approach where a frequency coordinator similar to those for the shared private land mobile radio (PLMR) frequencies determines where licensees can locate their facilities.

2. Size of Geographic Areas

21. Assuming that we utilize a geographic area approach for licensing these bands, we must determine the appropriate size(s) of service areas on which licenses should be based. Traditionally, in establishing a service the Commission attempts to adopt optimal spectrum block size(s) and optimal geographic area size(s), taking into consideration that parties may aggregate licenses through the auction process and may also adjust their service areas through secondary market mechanisms such as partitioning and disaggregation, if such fine-tuning is necessary.

22. Ideally, the size(s) of the initial geographic license areas would match the business plans of the initial licensees. Large license areas may be preferred by incumbent providers to facilitate build-out of existing large-area systems or by new entrants with plans for nationwide services, such as Air-to-Ground. Large license areas also provide carriers with greater flexibility in the build-out of their services, since they are less constrained by geographical license limits and entail coordination with fewer adjacent service providers. In this regard, we seek comment on whether any problems associated with the operations of other service providers may be better addressed by licensing this spectrum in larger areas where there may be less of a need for complicated protection agreements. On the other hand, small license areas may favor smaller entities with regional business plans and no interest in

[37] *AWS 1.7 and 2.1 GHz Service Rules Order*, 18 FCC Rcd at 25174 ¶ 30.

providing large-area service. Rural and smaller carriers may prefer licensing based on small geographic areas.[38]

23. In discussing geographic license areas, commenters are requested to take into consideration whether a particular band plan serves the Commission's spectrum management goals, including flexible and efficient spectrum use.[39] We are also aware that some licensees may need smaller service areas, since the most desirable or efficient scale of service area may vary according to the business plan of the potential licensee, in light of the variety of potential services that we envision will use these bands, including emerging technologies or next-generation applications. Thus, in discussing these issues, commenters should also take into consideration the possibility of aggregating licenses through the auction process as well as post-auction partitioning of licenses.[40]

24. In the past the Commission has licensed spectrum utilizing a wide variety of geographic licensing areas, including nationwide licensing, regional licensing, local licensing, or some combination of these approaches, as is illustrated in the following table:

Number of Licenses	Description of areas	Examples
1	Nationwide	Narrowband PCS[41] 1.6 GHz band[42]
5	Narrowband PCS Regional	Narrowband PCS[43]
6	Economic Area Groupings (EAG)	220 MHz[44] Blocks A/B/D/E, Lower 700 MHz[45]

[38] *See, e.g.,* 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, *First Report and Order*, 15 FCC Rcd 476, 499 ¶ 55 (2000) (*Upper 700 MHz First Report and Order).*

[39] *See* 47 U.S.C. § 309(j)(3)(D).

[40] *See infra* ¶¶ 77-79.

[41] *See* 47 C.F.R. § 24.102(a).

[42] *See* 47 C.F.R. § 27.6(f).

[43] *See* 47 C.F.R. § 24.102(b).

[44] *See* 47 C.F.R. §§ 90.7, 90.761(b).

[45] *See* 47 C.F.R. § 27.6(c)(1).

12	Regional Economic Area Groupings (REAG)	Wireless Communication Service (WCS)[46]
51	(see note below)	A & B-Block PCS[47]
51 or 52	Major Economic Areas (MEA)	WCS[48] 929/931 MHz Paging[49]
175	Economic Areas (EA)	220 MHz[50] 800 MHz SMR[51] Paging[52]
493	(see note below)	C/D/E/F-Block PCS[53]
734	306 Metropolitan Statistical Areas (MSA) plus 428 Rural Service Areas (RSA)	Cellular[54] Block C, Lower 700 MHz[55]

25. With these options in mind, we seek comment on what geographic area basis we should license the 1915-1920 and 1995-2000 MHz bands and the 2020-2025 and 2175-2180 MHz bands. We do not make any tentative conclusions regarding the most appropriate license area for these bands and invite comment broadly on this issue. In discussing what approach we should adopt, commenters may wish to discuss the relevance of the band plan we adopted for AWS spectrum in the 1710-1755 MHz and 2110-2155 MHz bands in the *AWS 1.7 and 2.1 GHz Service Rules Order*.[56] In that Order, the Commission, in the course of establishing service rules for the 1710-1755 MHz and 2110-2155 MHz bands, adopted a band plan that provided for five symmetrically paired blocks of spectrum, designated Blocks A through E, with the following block sizes and geographic areas:

[46] *See* 47 C.F.R. § 27.6(a).

[47] *See* 47 C.F.R. § 24.202(a). These 51 areas were used under licenses issued by Rand McNally & Company for certain specific radio services, not including advanced wireless services, and are therefore not available for consideration in this proceeding. *See* Copyright Liabilities, *Public Notice*, 11 FCC Rcd 22429 (Mass Media Bur., 1996).

[48] *See* 47 C.F.R. § 27.6(a). WCS MEA number 52 consists of the Gulf of Mexico.

[49] *See* 47 C.F.R. § 22.503(b)(2), (3). The 51 paging MEAs do not include the Gulf of Mexico.

[50] *See* 47 C.F.R. §§ 90.7, 90.761(a).

[51] *See* 47 C.F.R. §§ 90.7, 90.681.

[52] See 47 C.F.R. § 22.503(b)(2), (3).

[53] *See* 47 C.F.R. § 24.202(b). These 493 areas were used under licenses issued by Rand McNally & Company for certain specific radio services, not including advanced wireless services, and are therefore not available for consideration in this proceeding. *See* Copyright Liabilities, *Public Notice*, 11 FCC Rcd 22429 (Mass Media Bur., 1996).

[54] *See* 47 C.F.R. § 22.909.

[55] *See* 47 C.F.R. § 27.6(c)(2).

[56] *AWS 1.7 and 2.1 GHz Service Rules Order*, 18 FCC Rcd at 25173 ¶ 28.

Block A	2 x 10 MHz (1710-1720/2110-2120 MHz)	EA
Block B	2 x 10 MHz (1720-1730/2120-2130 MHz)	REAG
Block C	2 x 5 MHz (1730-1735/2130-2135 MHz)	REAG
Block D	2 x 5 MHz (1735-1740/2135-2140 MHz)	RSA/MSA
Block E	2 x 15 MHz (1740-1755/2140-2155 MHz)	REAG[57]

26. We note that two parties, T-Mobile USA, Inc. (T-Mobile) and the Rural Cellular Association (RCA), have filed petitions for reconsideration seeking changes to this band plan.[58] Therefore, in the course of reviewing the various options below, we invite commenters to discuss whether and to what extent adopting a particular licensing area would address the concerns of these two petitioners. With this background in mind, we examine the options outlined in the paragraphs that follow.

27. *Licensing these bands using large, regional licenses*. We seek comment on whether to license these bands using the six large, regional Economic Area Groupings (EAGs), the twelve slightly smaller Regional Economic Area Groupings (REAG), or the 52 Major Economic Areas (MEAs), or some other large regional licensing area. While we are aware of interest in nationwide and small-area licenses, we seek comment on the demand for regional licenses. A petition filed by T-Mobile seeking reconsideration of the *AWS 1.7 and 2.1 GHz Service Rules Order* suggests that there is a demand from existing regional carriers for more REAG spectrum in 10 or 20 MHz amounts.[59] In its petition, T-Mobile argued that the spectrum designated Block E in the *AWS 1.7 and 2.1 GHz Service Rules Order*, currently a pair of 15 MHz blocks licensed on a REAG basis, should be split into two smaller paired blocks.[60] T-Mobile argued that the AWS spectrum would be primarily used by existing wireless carriers, and that these carriers' needs were better served by REAG licenses with a total spectrum amount of 10 MHz or 20 MHz than by a license totaling 30 MHz.[61] Without addressing whether Block E should be reconfigured as requested by T-Mobile, we note that licensing the two blocks at issue on a regional basis would provide carriers such as T-Mobile with more regional spectrum in a 10 MHz block size. Licensing on a regional basis might also better permit the marketplace to choose whether the spectrum's highest valued use is on a nationwide or regional basis at auction. We seek comment on whether parties that desire to build a nationwide footprint would have an adequate opportunity at auction to obtain such a footprint through aggregation of regional licenses.

28. *Licensing this spectrum, or a subset of this spectrum, using local area licenses*. Under this approach, the Commission could license this spectrum, or some part of this spectrum, using the MSAs, RSAs, or EAs and EA-like areas. We seek comment on whether local area licenses are preferable to

[57] *Id.*

[58] Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, Petition for Reconsideration by T-Mobile USA, Inc. (filed March 8, 2004) (T-Mobile Petition for Reconsideration); Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, Petition for Reconsideration by Rural Cellular Association, at 4 (filed March 8, 2004) (RCA Petition for Reconsideration).

[59] *See* T-Mobile Petition for Reconsideration.

[60] T-Mobile Petition for Reconsideration at 2.

[61] *Id.* at 3-4.

nationwide or regional licenses, and if so which local area licensing scheme is preferable. We note that RCA has argued that the band plan adopted in the *AWS 1.7 and 2.1 GHz Service Rules Order* did not license enough spectrum on an RSA/MSA basis.[62] As discussed above, the *AWS 1.7 and 2.1 GHz Service Rules Order* only designated Block D, a 2 x 5 MHz block, for licensing on an RSA/MSA basis.[63] RCA filed a petition for reconsideration, requesting that all of the blocks in the 1710-1755 MHz and 2110-2155 MHz bands be licensed on an RSA/MSA basis.[64] RCA asserted that small and rural carriers could not bid on the blocks with larger licensing areas, and, with only a 2 x 5 MHz paired block, they would be severely restricted in the sorts of advanced services they would be able to provide.[65] In subsequent *ex partes*, RCA amended its proposal to license all five blocks on an RSA/MSA basis, now requesting only that, in addition to Block D, the Commission also license Block A, a 2 x 10 MHz block, on an RSA/MSA basis.[66] RCA suggested that licensing the additional 20 MHz on an MSA/RSA basis would provide enough spectrum for small and rural carriers to provide the more advanced forms of 3G wireless service.[67] More recently, CTIA agreed in an *ex parte* that licensing 20 MHz of the AWS spectrum addressed in the *AWS 1.7 and 2.1 GHz Service Rules Order* on an RSA/MSA basis would be appropriate.[68] We seek comment on the extent to which licensing some or all of the spectrum at issue here might address RCA's concerns regarding rural carriers' access to AWS spectrum.

29. *Licensing these bands on a nationwide basis.* We seek comment on the relative advantages of nationwide licensing. For example, by licensing the spectrum at issue in this proceeding on a nationwide basis, we might provide the opportunity for a variety of advanced wireless services to be implemented in this spectrum through the entry of a new nationwide competitor. Nationwide licensing might also provide efficiency benefits, such as eliminating the need to negotiate protection agreements with co-channel licensees in adjacent geographic licensing areas. It would likely simplify relocation of incumbents in the bands because there would be no need for cost-sharing arrangements between the bands' licensees.[69] Further, these bands are subject to unique technical characteristics and adjacency issues that conceivably may be most cost-effectively addressed through a nationwide business plan.[70]

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[62] *See* RCA Petition for Reconsideration.

[63] *See supra* ¶ 25.

[64] RCA Petition for Reconsideration at 4.

[65] RCA Petition for Reconsideration at 7, 10-11.

[66] *See, e.g.*, Letter, dated June 1, 2004, from David L. Nace, Counsel for Rural Cellular Association to Marlene H. Dortch, Secretary, Federal Communications Commission, ET Docket No. 00-258 at 2.

[67] *Id.*

[68] Letter, dated August 1, 2004, from Diane Cornell, Cellular Telecommunications and Internet Association to Marlene H. Dortch, Secretary, Federal Communications Commission, ET Docket No. 00-258.

[69] *See 800 MHz Report and Order* at ¶ 247 (noting that, because the bands would be licensed on a nationwide basis, "there will be no complex sharing issues among multiple new entrants or among entities operating in less-than-nationwide service areas.").

[70] For example, the 2020-2025 MHz and 2175-2180 MHz bands are both adjacent to spectrum designated for 2 GHz Mobile-Satellite Service (MSS), which has a nationwide footprint. *See* Global Mobile Personal (continued....)

Also, to the extent that the bands are used for Air-to-Ground mobile operations, it would be most effective to license such operations on a nationwide basis.

30. We seek comment on whether these or other considerations argue in favor of adopting a nationwide licensing area. We also seek comment on the extent to which nationwide licenses maximize or limit the opportunity to provide the widest array of services and business plans and whether nationwide licensing provides the necessary incentives for fostering the growth of existing technologies while encouraging the development of new applications. In addition, we seek comment on whether the adoption of nationwide licensing provides potential savings to the time and cost of developing applications and manufacturing equipment to operate in the spectrum at issue in this proceeding.

31. *Licensing a portion of this spectrum using a nationwide or regional approach, and the remaining portion using smaller geographic areas.* Commenters supporting this approach should indicate which spectrum in these bands should be licensed on a nationwide or regional basis and which part should be licensed using small geographic areas. In addition, if commenters support licensing based on service areas other than those discussed above, they should discuss why other designations are more appropriate.

32. We also seek comment on including the Gulf of Mexico in our licensing scheme for these bands. We question whether to include it as part of larger service areas, as we did for the Upper 700 MHz Band, or whether we should separately license a service area or service areas to cover the Gulf of Mexico. Commenters who advocate a separate service area or areas to cover the Gulf of Mexico should discuss what boundaries should be used, and whether special interference protection criteria or performance requirements are necessary due to the unique radio propagation characteristics and antenna siting challenges that exist for Gulf licensees.

3. Geographic Licensing in Tribal Lands

33. Finally, while we seek comment from the public in general concerning the matters set forth in this Notice, we specifically seek comment from Indian Tribal governments on the effect various geographic licensing options may have on the deployment of services to tribal lands, as well as the other issues raised herein. As detailed in the Tribal Government Policy Statement, the Commission is committed to (1) working with Indian tribes on a government-to-government basis to ensure that Indian tribes have adequate access to communications services, and (2) consulting with Tribal governments prior to implementing any regulatory action or policy that will significantly affect Tribal governments, their land, and resources.[71] We believe the matters set forth in this Notice have the potential to foster the development and, ultimately, the deployment of new technologies and services to many

(Continued from previous page)
Communications by Satellite (GMPCS), *Report and Order and Second Further NPRM*, IB Docket No. 99-67, 18 FCC Rcd 25340, 25355 (2003).

[71] *See* Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes, *Policy Statement*, 16 FCC Rcd 4078 (2000) (*Tribal Government Policy Statement*). In furtherance of this commitment, we recently released an order providing incentives for wireless telecommunications carriers to serve individuals living on tribal lands. *See* Extending Wireless Telecommunications Services to Tribal Lands, *Third Report and Order*, FCC 04-202 (rel. Sept. 2, 2004). Specifically, the item raises the wireline telephone penetration rate at which tribal lands are eligible for a bidding credit from 70 percent or less, to 85 percent or less, and increases the amount of the bidding credit available to carriers that pledge to deploy on and serve qualifying tribal lands.

communities, including tribal communities. In keeping with the principles of the Tribal Government Policy Statement, we welcome the opportunity to consult with Tribal governments on the issues raised by this Notice, and we seek comment from both Tribal governments and other interested parties on the potential for the spectrum considerations set forth herein to serve the communications needs of tribal communities.

C. Band Clearance and Reimbursement

34. The current status of incumbents in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands is discussed extensively in the *AWS Further Notice*,[72] the *AWS Third R&O, Third NPRM, and Second MO&O*,[73] the *MSS Third Report and Order*,[74] the *800 MHz Report and Order*,[75] and the *AWS Sixth Report and Order*.[76] All of these frequency bands are occupied by licensees that were to have been relocated pursuant to previous allocation decisions, but the new uses that were to replace them were not implemented before the spectrum allocations or designations were changed again to their current status. To some extent, we have, in the accompanying *AWS Sixth Report and Order*, already established appropriate procedures for new AWS licensees to follow in relocating the incumbents in each of these bands.[77] Below, we seek comment regarding additional relocation and reimbursement issues relevant to each band, primarily whether to adopt rules governing the sharing of band clearance costs among AWS licensees. In addition, because the cost sharing issues in the 2175-2180 MHz band are substantially similar to the cost sharing issues that were raised in connection with the 2110-2150 MHz band, we seek comment here on whether the same cost sharing rules should be applied to both bands.

1. 1915-1920 MHz Band

35. Before the 1910-1930 MHz band was made available for UPCS applications, this band was used by fixed point-to-point microwave links. To facilitate the introduction of UPCS systems, the Commission established policies in the *Emerging Technologies* proceeding for the relocation of incumbent microwave systems from this band and designated a single entity, UTAM, to coordinate and manage the transition.[78]

36. In the *AWS Third NPRM*, we sought comment on the possibility of redesignating all or a portion of the 1910-1920 MHz band for fixed and mobile services with the intent of promoting AWS

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[72] *See AWS Further Notice*, 16 FCC Rcd at 16057-58 ¶¶ 32-33.

[73] *See AWS Third R&O, Third NPRM, and Second M&O*, 18 FCC Rcd at 2228-33 ¶¶ 9-18, 2238-42 ¶¶ 28-37, 2243-52 ¶¶ 39-61.

[74] *See generally MSS Third Report and Order*, 18 FCC Rcd 23638 (2003).

[75] *See supra* note 24.

[76] *See supra* note 3.

[77] *See AWS Sixth Report and Order* at ¶¶ 48-76.

[78] *See* Amendment of the Commission's Rules to Establish New Personal Communications Services, GEN Docket No. 90-314, *Fourth Memorandum Opinion and Order*, 10 FCC Rcd 7955 (1995). UTAM is the Commission's frequency coordinator for UPCS devices in the 1910-1930 MHz band. The UPCS band relocation policies are codified at 47 C.F.R. §§ 101.69-101.81.

use.[79] In conjunction with a specific proposal to redesignate as much as ten megahertz in the 1910-1920 MHz band, the Commission recognized in the *AWS Third NPRM* that new licensees in the band would reap the benefits of UTAM's band clearing efforts and concluded that UTAM should be adequately reimbursed for its efforts.[80] Therefore, we proposed that if we were to reallocate all or a portion of the 1910-1920 MHz band, we would implement a reimbursement plan that would repay UTAM a percentage of the expenses it incurred in clearing the UPCS band of microwave links.[81] We sought comment on this proposal and the method by which UTAM should be repaid. Those parties that commented on this issue generally agreed with our proposal, and support the adoption of a reimbursement plan that would compensate UTAM for its expenses.[82]

37. In the *800 MHz Report and Order*, consistent with our proposal and in light of the support in the comments, we imposed on the licensee of the 1910-1915 and 1990-1995 MHz bands an obligation to reimburse UTAM for 25 percent of its total costs in clearing the 1910-1930 MHz band as of the date it gains access to the 1910-1915 MHz band (*i.e.*, reimbursement in direct proportion to the 5:20 relationship in the sizes of the 1910-1915 and 1910-1930 MHz spectrum blocks). In addition, we obligated the licensee to pay the subsequent costs UTAM incurs that are attributable to clearing the 1910-1915 MHz band.[83]

38. We have now adopted similar reimbursement obligations for the licensee or licensees of the 1915-1920 MHz band in the *AWS Sixth Report and Order*.[84] Specifically, we again concluded that the licensees of the band, which is 25% of the 1910-1930 MHz band, should reimburse 25% of UTAM's total relocation costs, including its future payment obligations for links already relocated, on a *pro-rata* shared basis.[85] We further concluded that new entrants would be responsible for the actual costs associated with future relocation activities in their licensed spectrum, but were entitled to seek reimbursement from UTAM for the proportion of those band clearing costs that benefit users of other spectrum.[86] Finally, we determined that AWS licensees would be required to pay their portion of the 25% of costs prior to commencement of operations.[87]

39. We did not, however, resolve all issues regarding the applicable reimbursement scheme for the 1915-1920 MHz band in the *AWS Sixth Report and Order*. Most importantly, we did not address how to apportion responsibility for relocation costs if there are multiple AWS licensees. We have

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[79] *AWS Third R&O, Third NPRM, and Second MO&O*, 18 FCC Rcd at 2247-48 ¶¶ 46-49.

[80] *Id.* at 2251 ¶ 58.

[81] *Id.* at 2251-52 ¶¶ 58-61.

[82] UTAM Comments to *AWS Third NPRM* at 6-7; Nextel Comments to *AWS Third NPRM* at 15-16; PCIA Comments to *AWS Third NPRM* at 4-5.

[83] *See 800 MHz Report and Order* at ¶ 245-249.

[84] *See AWS Sixth Report and Order* at ¶¶ 53-56.

[85] *See id.* at ¶ 53.

[86] *See id.* at ¶ 55.

[87] *See id.* at ¶ 53.

sought comment above on the appropriate geographic basis proposed to license the bands.[88] As we observed in the *800 MHz Report and Order*, if we license on a nationwide basis, "there will be no complex sharing issues among multiple new entrants or among entities operating in less-than-nationwide service areas."[89] In the event, however, that we adopt smaller geographic licensing areas, there will be at least the possibility of multiple licensees, and we will need to resolve how current and future reimbursement costs will be shared among them. We now seek comment on this issue.

40. First, we seek comment on how to apportion the initial 25% of UTAM's reimbursement costs among these licensees. In the *AWS Third NPRM*, we suggested that licensees pay a pro-rated amount of the overall 25% percent based on the number or value of the licenses.[90] We renew our request for comment on the strengths and weaknesses of these options or of alternative methods of apportionment, such as to allocate among multiple licensees by POPs.[91] Second, we seek comment on what rules should govern the allocation of future relocation costs among multiple AWS licensees in the 1915-1920 MHz band. In the *AWS Sixth Report and Order*, we addressed the allocation of future costs among licensees in *different* bands, concluding that we would allow Nextel, UTAM, or a new AWS entrant to seek reimbursement for the proportion of its relocation costs that benefits spectrum for which another party is responsible. Should we take a similar approach to cost sharing among multiple licensees in the same band? If so, we seek comment on how beneficiaries should be determined. Given that few microwave links remain to be relocated, we suggest that a simple approach is preferable over the complex precision reflected in the cost sharing rules at sections 24.239-24.253.[92] For example, in the event we license the 1915-1920 MHz band on a smaller than national basis, we might assign to each AWS licensee all of the costs of relocating facilities that are within its service area. We seek comment on this proposal and on any alternative means of allocating costs among multiple AWS licensees.

41. We also seek comment on how the Commission should apportion relocation costs in the event that there are multiple licenses and not all licenses are actually awarded. In that event, should we impose all of the relocation costs on the actual licensees, or pro-rate that amount based on the proportion of licenses awarded to total number of available licenses in the band. In the former case, UTAM would receive full reimbursement for its costs in this band in a timely manner even if not all licenses are awarded. However, this approach would also create significant uncertainty as to the actual costs that would be imposed on a party bidding solely on a regional license. This regional or local licensee could, depending on the outcome of the auction, be responsible for the costs of relocating microwave links throughout the nation. We seek comment on this concern, and on whether there are other disadvantages to holding license holders responsible for costs of relocating links outside their territories. We also seek comment on whether the problems of the first approach, including the uncertainty of costs at auction, can be fully or partly ameliorated through some means. For example, to

[88] *See supra*, ¶¶ 27-32.

[89] *See 800 MHz Report and Order* at ¶ 247.

[90] *AWS Third NPRM*, 18 FCC Rcd at 2252 ¶ 59.

[91] UTAM Comments to *AWS Third NPRM* at 7. POP is an abbreviated term for population used by the Commission. One pop equals one person. The Commission currently uses the 1990 census as a measure of population. *See* http://wireless.fcc.gov/auctions/glossary.html.

[92] 47 C.F.R. §§ 24.239-24.253.

what extent would we alleviate these difficulties by granting initial licensees a right to obtain reimbursement from future entrants in the event that the unawarded spectrum is subsequently reoffered to the public? For those parties that advocate pro-rating relocation costs based on proportion of licenses awarded to the total number of available licenses, we seek comment on whether there are methods of ensuring that UTAM is fully compensated that are compatible with this approach. As a related matter, we invite commenters who discuss what geographic licensing area we should adopt for the 1915-1920 MHz and 1995-2000 MHz bands to consider the impact of this issue in that discussion.

42. We also seek comment on whether we need to expand upon our determination to require that the initial 25% reimbursement amount be paid prior to the commencement of operations. That is, would it be beneficial to specify when AWS entrants will be considered to have begun operations for this purpose? For example, commencement of operations could mean the date on which commercial offering of service begins, the first act of installing or activating a wireless station, or even some earlier event. We note that UTAM has requested that reimbursement payments be due as a precondition to the granting of a license.[93] While we have not adopted that position, we seek comment on whether it would be advantageous to have reimbursement obligations imposed earlier than the commencement of actual service.

43. Further, in the interests of providing as much clarity to AWS bidders as possible, we seek comment on whether UTAM should be required to provide, at a time prior to auction, the total amount of relocation costs it has incurred to date.[94] If so, we seek comment on what schedule and process we should adopt to ensure that bidders have that information available to them. Finally, we seek comment on whether other steps are necessary to ensure that UTAM will be fairly reimbursed for its costs in relocating incumbents in this band.

2. 2175-2180 MHz and 2110-2150 MHz Bands

44. The 2175-2180 MHz band is part of the larger 2160-2200 MHz band that the Commission reserved for reallocation to new advanced fixed and mobile services in the *Emerging Technologies* proceeding.[95] In the course of that proceeding, the Commission also established procedures, codified at 101.69 through 101.82 of our rules, by which new entrants in the 2160-2200 MHz band, among other bands designated for emerging technologies (ET), would be able to clear the spectrum by relocating incumbent point to point Fixed Microwave Services (FMS) licensees to bands above 4 GHz.[96] Subsequently, the Commission modified the general Part 101 relocation procedures somewhat

[93] UTAM Comments to *AWS Third NPRM* at 7

[94] In its comments to the *AWS Third NPRM*, UTAM noted the importance of new licensees being able to factor the microwave relocation payment into a licensee's bidding strategy, in the event the spectrum is auctioned. *Id.*

[95] *See* Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies (Emerging Technologies), ET Docket No. 92- 9, *First Report and Order and Third Notice of Proposed Rule Making*, 7 FCC Rcd 6886 (1992); *Second Report and Order*, 8 FCC Rcd 6495 (1993); *Third Report and Order and Memorandum Opinion and Order*, 8 FCC Rcd 6589 (1993); *Memorandum Opinion and Order*, 9 FCC Rcd 1943 (1994); *Second Memorandum Opinion and Order*, 9 FCC Rcd 7797 (1994), *aff'd*, *Association of Public Safety Communications Officials-International, Inc. v. FCC*, 76 F.3d 395 (D.C. Cir. 1996) (collectively, *Emerging Technologies* proceeding).

[96] *See* 47 C.F.R. §§ 101.69-101.82.

as they applied to MSS licensees in order to better accommodate MSS's particular characteristics and the circumstances of its deployment.[97] Among other modifications, the Commission determined that MSS entrants would engage only in a period of mandatory negotiation before they could relocate FMS licensees involuntarily, whereas the normal ET procedures required a period of voluntary negotiation before the mandatory negotiation period.[98] The Commission also removed a right of return from the remedies available to relocated FMS licensees that were not provided with comparable facilities.[99] The Commission later determined that these MSS-modified Part 101 rules would also govern the relocation of FMS by new AWS entrants in the 2110-2150 MHz band.[100]

45. In the *AWS Sixth Report and Order* accompanying this Notice, we addressed which relocation procedures would apply to the relocation of incumbent FMS by new AWS entrants in the 2175-2180 MHz band, which we have reallocated from MSS to provide additional AWS spectrum.[101] We concluded that the modified ET relocation procedures established for MSS entrants would apply to these AWS licensees.[102] We observed that in the *AWS Second Report and Order*, we had applied these relocation procedures to AWS entrants in the 2110-2150 MHz band.[103] We concluded that applying the same procedures for AWS relocation of FMS licensees in the 2110-2150 MHz band and the 2175-2180 MHz band would foster a more efficient roll-out of AWS and minimize confusion.[104]

46. We now seek comment on whether further modifications to the Part 101 relocation rules as applied in this band are necessary, and in particular whether we should address issues of cost-sharing between new AWS entrants. Currently, the applicable Part 101 rules address only one particular cost-sharing circumstance. Section 101.82 provides that where an ET entrant in either the 2110-2150 MHz or 2160-2200 MHz bands relocates a paired spectrum link with one path in the 2110-2150 MHz band and the paired path in the 2160-2200 MHz band, the relocating new entrant is entitled to 50% reimbursement from a subsequent entrant that would have been required to relocate the same link.[105] Aside from this rule regarding paired links using the two specified bands, the Part 101 rules do not provide any formal procedures for cost-sharing among new ET entrants. If we license the 2175-2180

[97] *See* Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile-Satellite Service, ET Docket No. 95-18, *Second Report and Order and Second Memorandum Opinion and* Order, 15 FCC Rcd 12315, 12339-12352, ¶¶ 75-112 (2000) (*MSS Second Report and Order*). These procedures were further modified in the *MSS Third Report and Order*. *See MSS Third R&O*, 18 FCC Rcd at 23671-23675, ¶¶ 68-78.

[98] 47 C.F.R. § 101.73(d).

[99] 47 C.F.R. § 101.75(d).

[100] *See AWS Second Report and Order*, 17 FCC Rcd at 23213-16 ¶¶ 42-47.

[101] *AWS Sixth Report and Order* at ¶¶ 74-76.

[102] *Id.* at ¶ 76.

[103] *Id.*

[104] *Id.*

[105] This rule, formerly at section 101.99, was redesignated to 101.82 in the *MSS Third R&O and Third MO&O*. *See MSS Third R&O and Third MO&O*, 18 FCC Rcd 23638, Appendix B.

MHz band on a non-nationwide basis, there may be multiple AWS licensees within the 2175-2180 MHz band, and thus instances where more than one licensee in that band causes interference with the same fixed link.[106] We seek comment on whether, in that event, we should adopt further rules to govern cost-sharing responsibilities in these or other situations.

47. We note that these cost sharing issues were also raised in connection with the procedures for relocating FMS licensees by new AWS entrants in the 2110-2150 MHz band. Specifically, PCIA filed a petition for reconsideration of the *AWS Second Report and Order* and filed comments in response to the *AWS 1.7 and 2.1 GHz Service Rules NPRM* arguing that the existing Part 101 relocation rules did not adequately address the manner in which new AWS licensees would share the costs of relocating FMS incumbents in the 2110-2150 MHz band.[107] PCIA asserted that a single fixed microwave path could cross multiple geographic license areas and that FMS links in one license area could receive interference from an AWS licensee in a neighboring area.[108] PCIA therefore argued that cost sharing rules were necessary to ensure that all of the AWS licensees benefiting from a relocation paid an equitable portion of the relocation costs.[109] PCIA suggested that the Commission adopt an amendment to the Part 101 relocation rules to establish that 2110-2150 MHz AWS licensees share their relocation costs in a manner similar to the Part 24 cost sharing procedures applicable to PCS relocation of FMS links.[110] PCIA also recommended that the Commission establish a cost-sharing clearinghouse that would, through the application of these rules, facilitate the relocation of FMS incumbents, ensure systematic and equitable cost-sharing, and minimize the Commission's burden of resolving cost-sharing disputes among new AWS licensees.[111] PCIA noted that it has successfully operated such a clearinghouse, the PCIA Microwave Clearinghouse, to implement the relocation of FMS links in bands allocated for PCS, and argued that the PCIA Microwave Clearinghouse, or a clearinghouse modeled

[106] *See* Petition for Partial Reconsideration by PCIA, ET Docket No. 00-258, filed February 24, 2003 (PCIA Petition for Reconsideration) at 4 (asserting that, because several AWS licensees will be licensed in the same frequency block in a different geographic area, there can be multiple AWS licensees that could cause interference to or receive interference from a single microwave path.); Comments of PCIA, The Wireless Infrastructure, WT Docket No. 02-353, filed April 14, 2003 (PCIA Comments to *AWS 1.7 and 2.1 GHz Service Rules NPRM*); *see also* Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, *Notice of Proposed Rulemaking*, 17 FCC Rcd 24135 (2002) (*AWS 1.7 and 2.1 GHz Service Rules NPRM*).

[107] *See generally* PCIA Petition for Reconsideration; PCIA Comments to *AWS 1.7 and 2.1 GHz Service Rules NPRM*. *See also* Letter, from Jay Keithley, Director, Government Affairs, PCIA The Wireless Infrastructure Association, to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 02-353, filed October 9, 2003.

[108] PCIA Comments to *AWS 1.7 and 2.1 GHz Service Rules NPRM* at 2-3.

[109] *Id.*

[110] *Id.* at 4. The Part 24 cost sharing rules are found at 47 C.F.R. §§ 24.239-24.253.

[111] PCIA Comments to *AWS 1.7 and 2.1 GHz Service Rules NPRM* at 1, 4, 5.

after it, would be similarly successful relocating FMS links in the AWS bands.[112] We have not yet addressed whether PCIA's clearinghouse proposal for the 2110-2150 MHz should be adopted.[113]

48. Although PCIA's proposal is directed only to the 2110-2150 MHz band, we note that, if we license the 2175-2180 MHz band on a smaller than national basis, AWS licensees in the 2175-2180 MHz band will face the same cost sharing issues that AWS licensees in the 2110-2150 MHz band confront. We therefore seek comment on whether we should, in the event of multiple licensees in the 2175-2180 MHz band, adopt the PCIA proposal or another cost sharing regime for that band. Assuming that cost-sharing rules are appropriate, we seek comment on what specific rules we should adopt. We seek comment on whether, as PCIA suggests, we should apply the Part 24 cost sharing procedures and formulae that address sharing between PCS licensees of the costs for the relocation of FMS from the 1910-1930 MHz band, and if so, what if any specific modifications are necessary or appropriate to apply these rules to AWS licensees. For example, we seek comment on whether cost-sharing obligations should be imposed on new licensees that receive interference but do not cause it, as is done with the PCS rules, or only on those licensees that cause interference, as is the case for both the current ET and MSS rules in Part 101.[114] With regard to the proposal to assign a clearinghouse to administer the rules, we seek comment on whether this proposal should be adopted, what rules should govern such a clearinghouse, and what entity we should assign the responsibility.

49. In general, we seek comment on whether the same cost sharing rules should be applied to AWS licensees in both the 2110-2150 MHz and 2175-2180 MHz bands. Finally, we also invite commenters to discuss the merits of adopting the PCIA proposal or another cost sharing regime for the 2110-2150 MHz band, even if such a proposal is not needed in the 2175-2180 MHz band.

3. 1995-2000 MHz and 2020-2025 MHz Bands

50. AWS use of the 1995-2000 and 2020-2025 MHz bands requires the relocation of incumbent BAS licensees now operating in the 1990-2110 MHz band. The Commission has modeled the mechanisms by which BAS incumbents are to be relocated, as well as the distribution of the relocation expenses among new entrants who benefit thereby, on the policies adopted in the *Emerging Technologies* proceeding.[115] In the *800 MHz Report and Order* and the *AWS Sixth Report and Order* we have reaffirmed that approach with respect to new entrants in the 1990-1995, 1995-2000 and 2020-2025 MHz bands.[116] It remains for us to determine how new AWS entrants in the 1995-2000 and 2020-2025 MHz bands should share these rights and responsibilities with new MSS entrants in 2000-2020 MHz and with Nextel, the new PCS entrant in 1990-1995 MHz.

51. *Relocation.* As discussed above, clearing both the 1915-1920 MHz and the 2175-2180 MHz bands is relatively straightforward, in that it entails the relocation of independent fixed point-to-point microwave links, and can proceed link-by-link on an as-needed basis. In contrast, the integrated nature of BAS operations makes link-by-link relocation infeasible. Clearing the 1995-2000 MHz and

[112] *Id.* at 2, 4, 5.

[113] *See AWS 1.7 and 2.1 GHz Service Rules Order*, 18 FCC Rcd at 25181 ¶ 50.

[114] *See* 47 C.F.R § 101.75(a).

[115] *See supra* note 95.

[116] *See 800 MHz Report and Order* at ¶¶ 250-76; *AWS Sixth Report and Order* at ¶¶ 57-73.

2020-2025 MHz bands requires wholesale reconfiguration of the 1990-2110 MHz BAS band. It is further complicated by the widespread use by incumbents of frequency-agile, non-fixed stations.[117] Moreover, it is important to ensure the continuity of BAS—a critical part of the broadcasting system by which emergency information and entertainment content is provided to the American public—during the transition. For these reasons, the Commission determined that the reallocated portion of the BAS band must be cleared on a market-by-market basis before any new entrant could begin operations,[118] with clearance to be completed nationwide in a relatively short timeframe.[119]

52. In the *AWS Sixth Report and Order* we stated that new entrants to 1995-2000 and 2020-2025 MHz will not be required to relocate BAS facilities if they begin service after the band has been cleared by other licensees, but may initiate relocation in particular markets if they wish to begin providing service before the band has been cleared.[120] We also noted that in the latter case, it may as a practical matter be necessary for an AWS licensee to relocate more BAS facilities than an interference analysis might indicate is technically necessary in order to meet the comparable facility requirement for relocating BAS operations.[121] We also recognize that an AWS licensee is likely to deploy its service in some locations in a manner that does not correspond to the geography of the BAS market areas. We therefore provided that an AWS licensee undertaking clearing would be obligated to relocate all incumbent BAS operations in all affected BAS markets, including those markets where the AWS licensee provides partial, minimal, or even no service.[122]

53. In order to minimize interference from systems in the 1910-1915 MHz and 1990-1995 MHz blocks, we required Nextel to conform to the same technical standards applicable to licensed PCS systems.[123] The Commission previously adopted TIA Bulletin TSB 10-F as the criteria for determining PCS to FS interference.[124] Due to the technical similarity of Nextel's service to PCS, which operates in nearby bands and for which TSB 10-F is well-suited, we concluded that the criteria specified in TSB

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[117] Further, while BAS mobile operations are licensed for specific geographic markets, in some cases they operate nationwide.

[118] *See* 47 C.F.R. §§ 74.690(e)(1), 78.40(f)(1).

[119] *See MSS Third Report and Order*, 18 FCC Rcd at 23653-60, ¶¶ 29-42; *AWS Sixth Report and Order* at ¶¶ 57-73.

[120] *See AWS Sixth Report and Order* at ¶¶ 68-70.

[121] *See* 47 C.F.R. §§ 74.690(d) and 78.40(d-e). For example, a BAS licensee's operations in an adjacent market may need to be relocated even though the AWS licensee does not initiate operations in that adjacent market.

[122] *See AWS Sixth Report and Order* at ¶ 71.

[123] *800 MHz Report and Order* at ¶ 263. *See generally* 47 C.F.R. § 24.237. To ensure that Nextel's base/mobile operations conform to lower-adjacent broadband PCS operations, we required Nextel to operate its mobile/portable stations in the 1910-1915 MHz block and to operate its base stations in the 1990-1995 MHz block.

[124] *See* 47 C.F.R. § 24.237. *See also* Amendment of the Commission's Rules to Establish New Personal Communications Services, *Second Report and Order*, 8 FCC Rcd 7700, 7762 ¶ 150 (1993); *Memorandum Opinion and Order*, 9 FCC Rcd 4957, 5029 ¶ 186 (1994). Bulletin TSB 10-F describes interference criteria for microwave systems in public fixed radio service and private operational fixed microwave service bands.

10-F should be equally suitable to determine where sharing would be possible between BAS and Nextel operations in the 1990-2025 MHz band. However, procedures other than TSB 10-F that follow generally acceptable good engineering practices may also be acceptable.[125] Our conclusion was consistent with the *MSS Third Report and Order*, wherein the Commission determined that, in the case of MSS ancillary terrestrial component (ATC) service/FS interference in the 2165-2200 MHz band, TIA Bulletin 10-F, or its successor standard, is an appropriate standard for purposes of triggering relocation obligations by new terrestrial (ATC or AWS) entrants in the 2 GHz band to relocate FS incumbents.[126] For computing interference between satellite and fixed services, the Commission relies on the methodology and criteria in TIA Bulletin TSB-86.[127]

54. We propose that AWS licensees similarly conform to the technical criteria specified in TIA Bulletin TSB 10-F, or procedures other than TSB 10-F that follow generally acceptable good engineering practices pursuant to Section 101.105(c) of the Commission's Rules, to determine where AWS operations in the 1995-2000 and 2020-2025 MHz bands would cause interference to BAS operations, such that their relocation would be necessary before AWS operations could commence. We further propose that AWS licensees likewise conform to the methodology and criteria in TIA Bulletin TSB-86 to compute interference between satellite and fixed services. We seek comment on these proposals.

55. The existing relocation plan for Nextel and BAS incumbents specifies mandatory negotiation periods only, ending on May 31, 2005 for stage-one relocations and March 31, 2006 for stage-two relocations.[128] In order to avoid unnecessary complication, we propose that AWS licensees also be subject to mandatory negotiation periods only, using the same existing negotiation periods as for Nextel and MSS licensees. We seek comment on this proposal.

56. In the *800 MHz Report and Order,* we required Nextel and MSS licensees to notify the Commission and each other of their specific relocation schedules in order to ensure a smooth transition for BAS incumbents.[129] As noted above, we are not requiring AWS entrants to participate in the relocation process.[130] But if they do, we expect them to work cooperatively with all interested parties to avoid duplicative efforts and excessive disruption to incumbent BAS operations during the transition. Specifically, if an AWS licensee wishes to begin operations in a BAS market that has not been cleared, we propose that it should first coordinate its anticipated clearance schedule with affected

[125] 47 C.F.R. § 101.105 (c).

[126] *See MSS Third Report and Order*, 18 FCC Rcd at 23672 ¶ 70.

[127] TSB-86 was developed by a Joint Working Group comprised of the Telecommunications Industry Association (TIA) Engineering Subcommittees on Spectrum and Orbit Utilization, the TIA Engineering Subcommittee on Interference Criteria for Microwave Systems, and the National Spectrum Managers Association. *MSS Second Report and Order*, 15 FCC Rcd at 12340-41 ¶ 78, n.131.

[128] MSS licensees may voluntarily join in these negotiations in order to relocate BAS operations in markets 31 and above. *See 800 MHz Report and Order* at ¶¶ 251-258. We also noted that we would entertain requests filed by MSS licensees requesting that their voluntary participation in the negotiations between Nextel and BAS incumbents initiate their mandatory negotiation period. *Id.* at ¶ 258

[129] *See 800 MHz Report and Order* at ¶ 257.

[130] *See supra* para. 52.

incumbents[131] and other new entrants (Nextel, MSS licensees and any others). We seek comment on these proposals.

57. For the reasons discussed above,[132] our current rules require Nextel and the MSS licensees to complete relocating BAS stations out of the 1990-2025 MHz band nationwide within the earlier of 30 months after the effective date of the *800 MHz Report and Order* (in the case of the former), or within five years of the first MSS licensee's commencement of operations (in the case of the latter).[133] Given these existing provisions, we seek comment on whether it is necessary to impose a similar timetable to complete BAS relocation on the 1995-2000 and 2020-2025 MHz licensees. If so, what should the specific requirements be?

58. *Cost sharing.* In the *AWS Sixth Report and Order* we have determined that all new entrants to the 1990-2025 MHz band may be required to bear a proportional share of the costs incurred in the BAS clearance, on a *pro rata* basis according to the amount of spectrum each licensee is assigned.[134] This general principle raises a number of questions about its efficient and equitable implementation.

59. One question is the amount of the relocation costs subject to sharing. MSTV and NAB estimate the total cost of BAS relocation will be $512 million,[135] but the actual amount may be more or less. New entrants may influence the actual total by participating in coordination sessions,[136] but we propose that AWS entrants who do not so participate—whether by choice or by virtue of being licensed after decisions have been made—be bound by the decisions of those who do. We seek comment on these issues. We also note that if Nextel has received credit for BAS relocation costs in the 800 MHz true-up, late-entering AWS licensees will not have any reimbursement obligation to Nextel for such costs.[137]

60. While we are not at this time proposing a particular geographic area licensing plan for the 1995-2000 and 2020-2025 MHz bands,[138] it is possible that we may decide to license this spectrum in such a way that different licensees may hold licenses for the same frequency block but in different geographic areas, and that such different areas could include portions of the same BAS market. We seek comment on how, in these cases, the reimbursement rights and obligations of each AWS licensee could be most efficiently and equitably allocated, whether on the basis of the geographic area or

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[131] The incumbents include the Association for Maximum Service Television (MSTV), the National Association of Broadcasters (NAB), the Society of Broadcast Engineers (SBE) and other interested broadcast parties.

[132] *See supra* para. 51.

[133] *See 800 MHz Report and Order* at ¶¶ 252, 265.

[134] *See AWS Sixth Report and Order* at ¶¶ 72-73.

[135] *See 800 MHz Report and Order* at ¶ 260.

[136] *See supra* para. 56.

[137] *See 800 MHz Report and Order* at ¶¶ 261-62.

[138] *See supra* paras. 21-32.

population covered by each license, or the value of each license as indicated by the winning auction bid, or by some other means. We expect commenters advocating geographic license areas other than nationwide to address this issue, and to propose specific mechanisms for resolving it.

61. Another question relates to the *pro rata* allocation of reimbursable costs. While the amount of the relocation costs subject to sharing will be known at the end of the BAS transition, it is possible that not all spectrum in the 1990-2025 MHz band will have been licensed by then. Should this situation occur, we would propose to require those entrants who are licensed at that time to bear a *pro rata* share of the relocation costs based on the amount of spectrum they have been assigned relative to the amount of 1990-2025 MHz spectrum that has been licensed. This would result in a somewhat higher reimbursement obligation than if all the spectrum were licensed. We seek comment on this proposal. Further, in such event, should later arriving new entrants have a reimbursement obligation? If so, what mechanism should apply, and how long should such an obligation run?

62. We also seek comment on how the accounting to settle relocation expenditures between AWS licensees and MSS licensees should occur, to the extent not covered by the issues discussed above, and on any other issues presented by the complex entry of numerous new licensees in the 1990-2025 MHz spectrum band.

D. Licensing and Operating Rules

1. Regulatory Status

63. We propose to apply the regulatory status provisions of section 27.10 to licensees in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands. The Commission's current mobile service license application requires an applicant for mobile services to identify the regulatory status of the service(s) they intend to provide,[139] since service offerings may bear on eligibility and other statutory and regulatory requirements.[140] The Commission has adopted a similar licensing framework for Part 27 of our Rules.[141] Under Part 27, the Commission permits applicants to request common carrier status as well as non-common carrier status for authorization in a single license, rather than to require the applicant to choose between common carrier and non-common services.[142] Regardless of which rule part is used to license advanced wireless services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands, we propose to adopt this same approach. Licensees in these bands will be able to provide all allowable services anywhere

[139] In the *LMDS Second Report and Order*, the Commission required applicants for fixed services to indicate if they planned to offer services as a common carrier, a non-common carrier, or both, and to notify the Commission of any changes in status without prior authorization. Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, CC Docket No. 92-297, *Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rulemaking*, 12 FCC Rcd 12545, 12636-38 ¶¶ 205-208, 12644-45 ¶¶ 225-226, 12652-53 ¶¶ 245-251 (1997) (*LMDS Second Report and Order*); *aff'd*, *Melcher v. FCC*, 134 F.3d 1143 (D.C. Cir. 1998).

[140] *See, e.g.*, foreign ownership requirements, discussed at ¶ 66, below.

[141] *See* 47 C.F.R. § 27.10.

[142] Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service, GN Docket No. 96-228, *Report and Order*, 12 FCC Rcd 10785, 10846 ¶ 119, 10848 ¶ 122 (1997) (*Part 27 Report and Order*).

within their licensed area at any time, consistent with their regulatory status. We believe that this approach is likely to achieve efficiencies in the licensing and administrative process, and provide flexibility to the marketplace.

64. We further propose that applicants and licensees in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands be required to indicate a regulatory status based on any services they choose to provide. Apart from this designation of regulatory status, we would not require applicants to describe the services they seek to provide.[143] We wish to point out to potential applicants that an election to provide service on a common carrier basis requires that the elements of common carriage be present;[144] otherwise the applicant must choose non-common carrier status.[145] If potential applicants are unsure of the nature of their services and their classification as common carrier services, they may submit a petition with their applications, or at any time, requesting clarification and including service descriptions for that purpose.[146]

65. We also propose that if a licensee were to change the service or services it offers, such that its regulatory status would change, the licensee must notify the Commission.[147] A change in a licensee's regulatory status would not require prior Commission authorization, provided the licensee was in compliance with the foreign ownership requirements of section 310(b) of the Communications Act that apply as a result of the change.[148] We propose to require the notification within 30 days of a change made without the need for prior Commission approval. We note, however, that a different time period may apply, as determined by the Commission, where the change results in the discontinuance, reduction, or impairment of the existing service.[149] In summary, no matter what rule part is used to license services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands, we propose that these licensees would be authorized to provide a variety or combination of fixed and mobile, common carrier and non-common carrier services. We seek comment on these proposals.

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[143] *See id.* at 10848 ¶ 121; *see also LMDS Second Report and Order*, 12 FCC Rcd at 12644 ¶ 223; 47 C.F.R. § 101.1013.

[144] *See* 47 U.S.C. § 153(44) ("A telecommunications carrier shall be treated as a common carrier under this Act . . ."); *see also* 47 U.S.C. § 332(C)(1)(A) ("A person engaged in the provision of a service that is a commercial mobile service shall, insofar as such person is so engaged, be treated as a common carrier for purposes of this Act . . .").

[145] *See Part 27 Report and Order,* 12 FCC Rcd at 10848 ¶¶ 121-22. The Commission examined services in the *LMDS Second Report and Order* and explained that any video programming service would be treated as a non-common carrier service. *LMDS Second Report and Order,* 12 FCC Rcd at 12639-41 ¶¶ 213-15.

[146] *Part 27 Report and Order,* 12 FCC Rcd at 10848 ¶ 121.

[147] *See* 47 C.F.R. § 27.10(d). *See also* 47 C.F.R. § 27.66.

[148] 47 U.S.C. § 310(b); *see infra* ¶ 66.

[149] *See* 47 C.F.R. § 27.66.

2. Ownership Restrictions

a. Foreign Ownership Reporting

66. We propose that the provisions of section 27.12 should apply to applicants applying for licenses in the 1915-1920, 1995-2000, 2020-2025 and 2175-2180 MHz bands.[150] Section 27.12 implements section 310 of the Communications Act, as modified by the Telecommunications Act of 1996. Sections 310(a) and 310(b) of the Communications Act, as modified by the Telecommunications Act of 1996, impose foreign ownership and citizenship requirements that restrict the issuance of licenses to certain applicants.[151] An applicant requesting authorization for services other than broadcast, common carrier, aeronautical en route, or aeronautical fixed services would be subject to section 310(a), but not to the additional prohibitions of section 310(b). An applicant requesting authorization for these particular services would be subject to both sections 310(a) and 310(b). As applicable to these bands, we do not believe that common carriers and non-common carriers filing an application should be subject to varied reporting obligations. By establishing parity in reporting obligations, however, we do not propose a single, substantive standard for compliance. For example, we do not and would not deny a license to an applicant requesting authorization exclusively to provide services not enumerated in section 310(b), solely because its foreign ownership would disqualify it from receiving a license if the applicant had applied for a license to provide the services enumerated in section 310(b). We request comment on this proposal.

b. Spectrum Aggregation Limits; Eligibility Restrictions

67. We tentatively conclude that we do not need to impose a spectrum aggregation limit or eligibility restrictions for the 1915-1920 MHz, 1995-2000 MHz , 2020-2025 MHz and 2175-2180 MHz bands. The Commission decided in 2001 to "sunset" the CMRS spectrum aggregation limit, or "spectrum cap,"[152] effective January 1, 2003.[153] The Commission found that the cap, by setting an *a priori* limit on spectrum aggregation without looking at the particular circumstances of specific proposed transactions, was unnecessarily inflexible and could be preventing beneficial arrangements that promote efficiency without undermining competition. The Commission also stated that it would continue to pursue the objectives of "discourag[ing] anticompetitive behavior while at the same time maintaining incentives for innovation and efficiency,"[154] but would do so by performing case-by-case reviews of proposed CMRS spectrum transactions rather than by applying a prophylactic rule.[155] And,

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[150] 47 C.F.R. § 27.12. (Except as provided in § 27.604, any entity other than those precluded by § 310 of the Communications Act is eligible to hold a license under Part 27.)

[151] 47 U.S.C. § 310(a), (b).

[152] *See* 47 C.F.R. § 20.6.

[153] *See* 2000 Biennial Regulatory Review: Spectrum Aggregation Limits for Commercial Mobile Radio Services, WT Docket No. 01-14, *Report and Order*, 16 FCC Rcd 22668 (2001) (*Spectrum Cap Order*), *recon. pending*.

[154] *Spectrum Cap Order*, 16 FCC Rcd at 22679 ¶ 26 n.71 (citing Implementation of Sections 3(n) and 332 of the Communications Act—Regulatory Treatment of Mobile Services, GN Docket No. 93-252, *Third Report and Order*, 9 FCC Rcd 7988, 8105 ¶ 251 (1993)).

[155] "[I]n light of the growth of both competition and consumer demand in CMRS markets, we conclude that case-by-case review, accompanied by enforcement of sanctions in cases of misconduct, is now preferable to (continued....)

most relevant here, the Commission found that "to the extent that the initial distribution of spectrum through auction is an issue in the future, that is also amenable to case-by-case review, in the sense that [the Commission] can shape the initial distribution through the service rules adopted with respect to specific auctions."[156]

68. Due to the sunset of the CMRS spectrum cap, applicants in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands will not be subject to any generalized limits on spectrum aggregation. We tentatively conclude that we need not adopt any band-specific service rules addressing spectrum aggregation limits applicable to the initial licensing of these bands, but consistent with the approach we have described in the *Spectrum Cap Order*, we seek comment on whether any such limits are necessary or appropriate. In particular, we seek comment on whether we should limit the amount of spectrum in these bands that any one entity (or related entities) may acquire at auction in the same geographic area. Commenters should provide economic data and analysis supporting their positions. Commenters who support adoption of such limits should also address with particularity what the limitations should be (including whether they should depend on factors such as the amount of CMRS spectrum an applicant holds in other bands), what competitive problems the proposed limits are designed to solve, and how their proposals will address these problems without imposing undue costs or inefficiencies.

69. In recent years the Commission has determined in a number of services that eligibility restrictions on licenses may be imposed only when open eligibility would pose a significant likelihood of substantial harm to competition in specific markets and when an eligibility restriction would be effective in eliminating that harm. Under this approach we rely on market forces to guide license assignment absent a compelling showing that regulatory intervention to exclude potential participants is necessary.[157] Given the current state of competition in the CMRS industry,[158] we tentatively conclude that open eligibility in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands will not pose a significant likelihood of substantial harm to competition in any specific markets and that therefore an eligibility restriction in these bands is not warranted. To the

(Continued from previous page)
the spectrum cap rule because it gives the Commission flexibility to reach the appropriate decision in each case, on the basis of the particular circumstances of that case." *Spectrum Cap Order*, 16 FCC Rcd at 22693-94 ¶ 50.

[156] *Id.* at 22696 ¶ 54.

[157] *See, e.g.*, Allocations and Service Rules for the 71-76 GHz, 81-86 GHz and 92-95 GHz Bands, *Report and Order*, 18 FCC Rcd 23318, 23346-47, ¶ 70 (2003); Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range, Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates, and Applications of Broadwave USA, PDC Broadband Corporation, and Satellite Receivers, Ltd. to Provide A Fixed Service in the 12.2-12.7 GHz Band, *Memorandum Opinion and Order and Second Report and Order*, 17 FCC Rcd 9614, 9677-82, ¶¶ 159-70 (2002); Amendment of 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, 16948-49, ¶¶ 30-32 (2000); Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, Implementation of Section 309(j) of the Communications Act – Competitive Bidding, 37.0-38.6 GHz and 38.6-40.0 GHz, *Report and Order and Second Notice of Proposed Rule Making*, 12 FCC Rcd 18600, 18619-20, ¶¶ 32-35 (1997).

[158] *See* Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, WT Docket No. 02-379, *Eighth Report*, 18 FCC Rcd 14783 (2003).

contrary, we believe that opening these bands to as wide a range of applicants as possible would encourage efforts to develop new technologies and services, while helping to ensure efficient use of this spectrum. We believe that open eligibility in these bands is consistent with our statutory mandate to promote the development and rapid deployment of new technologies, products, and services; economic opportunity and competition; and the efficient and intensive use of the electromagnetic spectrum.[159] We seek comment on this tentative conclusion and these views.

3. License Term; Renewal Expectancy

70. We propose a 10-year license term and to apply the renewal expectancy provisions of section 27.14 to licensees in these bands. The Communications Act imposes no specific term limit on licenses that will be issued by the Commission for this spectrum.[160] Generally, however, the Commission's rules provide for a 10-year license term for wireless licenses.[161] We propose that in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands, the license term be 10 years, with a renewal expectancy similar to that afforded PCS, cellular, and Part 27 licensees. In the case of these licensees, a renewal applicant receives a preference or renewal expectancy if the applicant has provided substantial service during its past license term and has complied with the Communications Act and applicable Commission rules and policies.[162] We have defined substantial service as "service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal."[163] We believe that a 10-year license term, combined with a renewal expectancy, will help to provide a stable regulatory environment that will be attractive to investors, and thereby encourage development of these frequency bands. We seek comment on this proposal.

71. We also seek comment on whether a license term longer than 10 years is appropriate to achieve these goals and better serve the public interest. Commenters who favor a license term in excess of ten years should specify a reasonable license term and include a basis for the period proposed. Commenters should also address whether it would be possible to have different license terms, depending on the type of service offered by the licensee. We also seek comment on how we would administer such an approach, particularly if licensees provide more than one service in their service area, or decide to change the type of service they plan to offer.

72. Under our proposal, in the event that a license in the subject bands is partitioned or disaggregated, any partitionee or disaggregatee would be authorized to hold its license for the remainder of the partitioner's or disaggregator's original license term, and would be eligible for a

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[159] 47 U.S.C. § 309(j)(3)(A), (B) & (D).

[160] The only statutory limit on license terms is eight years for licenses in the broadcast services. *See* 47 U.S.C. § 307(c)(1); *see also* 47 C.F.R. § 73.1020(a). The Table of Allocations does not permit broadcast use of the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz or 2175-2180 MHz bands.

[161] *E.g.*, 47 C.F.R. §§ 24.15, 27.13(a).

[162] *See* 47 U.S.C. § 151 *et seq.*; 47 C.F.R. § 22.940(a)(1)(i) (cellular), § 24.16(a) (PCS), § 27.14 (WCS and 700 MHz).

[163] *See, e.g.*, 47 C.F.R. §§ 22.940(a)(1)(i), 24.16(a), 27.14(a).

renewal expectancy on the same basis as other licensees.[164] This approach is similar to the partitioning provisions the Commission adopted for Multipoint Distribution Service (MDS),[165] for the Upper 700 MHz licensees,[166] for broadband PCS licensees,[167] and for AWS licenses at 1710-1755 MHz and 2110-2155 MHz.[168] Specifically, we do not believe that a licensee, by partitioning or disaggregation, should be able to confer greater rights than it was awarded under the terms of its license grant. We seek comment on these proposals.

4. Performance Requirements

73. Section 309(j)(4)(B) of the Communications Act requires the Commission to include safeguards to protect the public interest in the use of the spectrum, and "performance requirements . . . to ensure prompt delivery of service to rural areas, to prevent stockpiling or warehousing of spectrum by licensees or permittees, and to promote investment in and rapid deployment of new technologies and services."[169] In addition, we seek to promote the efficient and effective use of the spectrum.[170] Moreover, we have encouraged licensees to build out not only in urban areas and areas of high density population but in rural areas as well, or to partition their licenses to allow others to do so.[171]

74. We seek comment on whether licensees in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands should be subject to any performance requirements in addition to a substantial service requirement at license renewal. In some services, we have imposed minimum coverage requirements on licensees to ensure that spectrum is used effectively and service is implemented promptly; *e.g.*, broadband PCS licensees were required to reach a minimum of one-third of the population in their licensed areas no later than the mid-point of the license term, and two-thirds of the population by the end of the license term.[172] In other services we have identified specific

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[164] "Partitioning" is the assignment of geographic portions of a license along geopolitical or other boundaries. "Disaggregation" is the assignment of discrete portions of "blocks" of spectrum licensed to a geographic licensee or qualifying entity. Disaggregation allows for multiple transmitters in the same geographic area operated by different companies on adjacent frequencies (thus increasing the possibility of harmful interference). Paragraphs 77-79, *infra*, discuss partitioning and disaggregation in further detail.

[165] *See* 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, MM Docket No. 94-131, *Report and Order*, 10 FCC Rcd 9589, 9614 ¶ 46 (1995).

[166] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 506-08 ¶¶ 73-78.

[167] *See* Geographic Partitioning and Spectrum Disaggregation by Commercial Mobile Radio Services Licensees and Implementation of Section 257 of the Communications Act—Elimination of Market Barriers, WT Docket No. 96-1148, *Report and Order and Further Notice of Proposed Rulemaking*, 11 FCC Rcd 21831, 21870 ¶¶ 76-77 (1996).

[168] *AWS 1.7 and 2.1 GHz Service Rules Order*, 18 FCC Rcd at 25193-95 ¶¶ 80-83.

[169] 47 U.S.C. § 309(j)(4)(B).

[170] *See* 47 U.S.C. § 309(j)(3)(D).

[171] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 505 ¶ 70.

[172] 47 C.F.R. § 24.203.

coverage criteria as meeting a substantial service requirement, but have allowed licensees to make alternative showings of substantial service if they do not meet these criteria.[173] We seek comment on whether we should establish any specific coverage requirements in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands, or whether coverage criteria should be adopted as one means, but not the exclusive means, of meeting a substantial service requirement. Under either approach, we seek comment on what level of coverage should be specified, and how a coverage requirement would apply given the range of permitted uses possible under our proposed flexible use policy. We also seek comment on whether licensees should be subject to interim performance requirements prior to the end of the license term.

75. We also seek comment on whether, in the event that a license is partitioned or disaggregated, a partitionee or disaggregatee should be bound by the standard (either substantial service or a construction requirement) that we may adopt in this proceeding.

76. If a licensee does not comply with the performance requirement we adopt, the Commission must consider what action to take. We propose to apply the procedures set forth in section 1.946(c) of the Commission's rules to licensees who fail to meet their performance requirements. This section states that "[i]f a licensee fails to commence service or operations by the expiration of its construction period or to meet its coverage or substantial service obligations by the expiration of its coverage period, its authorization terminates automatically, without specific Commission action, on the date the construction or coverage period expires."[174] We seek comment on our proposal to apply this rule to licensees in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands. In addition, if a geographic area licensee loses its license for failure to comply with coverage requirements, we seek comment on whether the licensee should be ineligible to regain it.

5. Disaggregation and Partitioning of Spectrum; Secondary Markets

77. We propose to apply the provisions of section 27.15 regarding the partitioning and disaggregation to licensees in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands. Geographic partitioning and spectrum disaggregation is a tool utilized by the Commission that is intended to promote efficient spectrum use and economic opportunity for a wide variety of applicants, including small business, rural telephone, minority-owned, and women-owned applicants.[175] We seek comment on allowing licensees in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands to partition their service areas and to disaggregate their spectrum. We believe that section 27.15 of the Commission's rules[176] should apply if we allow partitioning and disaggregation. Section 27.15 provides that licensees may apply to partition their licensed geographic service areas or disaggregate their licensed spectrum at any time following the grant of their licenses.[177]

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[173] *See, e.g.*, 47 C.F.R. § 24.103 (narrowband PCS).

[174] 47 C.F.R. § 1.946(c).

[175] *See* 47 U.S.C. § 309(j)(4)(C).

[176] 47 C.F.R. § 27.15. These rules apply to licensees in the 700 MHz bands and the 2.3 GHz band. *See also* Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands, WT Docket No. 02-08, *Notice of Proposed Rule Making*, 17 FCC Rcd 2500, 2535 ¶¶ 89-90 (2002).

[177] *See Part 27 Report and Order*, 12 FCC Rcd at 10836-39 ¶¶ 96-103.

We seek comment on the benefits and costs of this approach, and whether it promotes the public interest.

78. In addition, pursuant to section 27.15, the partitioning licensee must include with its request a description of the partitioned service area and a calculation of the population of the partitioned service area and the licensed geographic service area.[178] Section 27.15 also contains provisions against unjust enrichment.[179] We propose to adopt these provisions, as well as the remaining provisions governing partitioning and disaggregation set forth in section 27.15, if we allow partitioning and disaggregation. We seek comment on our proposal.

79. In our *Secondary Markets Report and Order*, we took action to remove unnecessary regulatory barriers to the development of secondary markets.[180] We adopted new policies and procedures that enable most wireless licensees, including Part 27 licensees, to lease some or all of their spectrum usage rights to third-party spectrum lessees.[181] We propose that the spectrum leasing policies established in that proceeding be applied to the services established in this proceeding in the same manner that those policies apply to other Part 27 services (with the exception of Guard Band Manager licensing which has its own set of spectrum leasing policies and rules), and all other exclusive use Wireless Radio Services.[182] We seek comment on this proposal.

6. Other Operating Requirements

80. As noted in paragraph 14 above, even though licenses in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands may be issued pursuant to one rule part, licensees in these bands may be required to comply with rules contained in other parts of the Commission's rules by virtue of the particular services they provide. For example:

- Applicants and licensees will be subject to the application filing procedures for the Universal Licensing System, set forth in Part 1 of our rules.[183]
- Licensees will be required to comply with the practices and procedures listed in Part 1 of our rules for license applications, adjudicatory proceedings, etc.
- Licensees will be required to comply with the Commission's environmental provisions, including section 1.1307.[184]

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[178] 47 C.F.R. § 27.15(b)(1).

[179] 47 C.F.R. § 27.15(c)(1)(2); *see also* 47 C.F.R. § 1.2111.

[180] Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 20604 (2003) (*Secondary Markets Report and Order*), *Erratum*, 18 FCC Rcd 24817 (2003).

[181] *Id.* at 20643-44 ¶ 84.

[182] *Id.* (Note 181 contains a complete listing of services that were included in the *Secondary Markets Report and Order*.)

[183] *See* 47 C.F.R. Part 1, Subpart F.

[184] 47 C.F.R. § 1.1307.

- Licensees will be required to comply with the antenna structure provisions of Part 17 of our rules.

- To the extent a licensee provides a Commercial Mobile Radio Service, such service would be subject to the provisions of Part 20 of the Commission's rules, along with the provisions in the rule part under which the license was issued.[185] Part 20 applies to all CMRS providers, even though the stations may be licensed under other parts of our rules.

- The application of general provisions of Parts 22, 24, 27, or 101 would include rules related to equal employment opportunity, 911 service, etc.

81. We seek comment generally on any provisions in existing service-specific rules that may require specific recognition or adjustment to comport with the supervening application of another rule part, as well as any provisions that may be necessary in this other rule part to fully describe the scope of covered services and technologies. We seek comment on applying these rules to the spectrum that is the subject of this Notice, and specifically on any rules that would be affected by our proposal to apply elements of the framework of these parts, whether separately or in conjunction with other requirements.

E. Technical Rules

82. As provided under the United States Table of Frequency Allocations, both fixed and mobile services are permitted in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, and 2175-2180 MHz bands. Our goal in this proceeding shall therefore be to develop technical rules that will enable such services to be implemented in this spectrum, while at the same time ensuring that transmissions in these bands do not create harmful interference into adjacent band operations. In furtherance of these goals, we seek comment below on applying various technical limitations to operations in these bands. In responding to our inquiries, we ask commenting parties to provide test data and specific technical analysis to support their positions.

83. We note that Broadband PCS, which occupies the spectrum adjacent to the 1915-1920 and 1995-2000 MHz bands, has enjoyed its great success through the ongoing, cooperative efforts of PCS licensees and equipment manufacturers. Thus, while we shall attempt to provide minimal rules for licensees operating in the 1915-1920 and 1995-2000 MHz bands, we will expect such licensees, in the course of developing their systems, to similarly cooperate both with one another, to the extent that there are multiple licensees operating in these bands, as well as with any PCS licensees that operate in their area. With these objectives in mind, we seek comment on the following technical rules to govern the use of the 1915-1920, 1995-2000, 2020-2025, and 2175-2180 MHz bands.

1. Co-Channel Interference Between Licensees Operating in Adjacent Regions

84. To the extent that we ultimately decide to license these bands on the basis of geographic service areas that are less than nationwide, we will have to ensure that such licensees do not cause interference to co-channel systems operating along their common geographic borders.[186] We therefore

[185] 47 C.F.R. Part 20; *see also* 47 C.F.R. § 27.3(g).

[186] If we authorize a single licensee in these bands, it will not be necessary to adopt co-channel interference protection criteria. Our co-channel protection rules would, however, apply to any partitioned portions of a nationwide license. *See* 47 C.F.R. § 27.55.

seek comment on whether a "boundary limit"[187] or a "coordination"[188] approach should be used to provide interference protection between co-channel licensees operating in these bands. Both approaches have certain advantages and disadvantages. For example, coordination would likely minimize the potential for interference to coordinated stations, but could also impose unnecessary costs in coordinating facilities that have a low potential for interference. A boundary limit approach would establish an accepted standard, which would enable licensees to deploy facilities in boundary areas without the need for coordination; but could require some additional planning between licensees to ensure that potential interference does not occur.

85. In other bands where spectrum has been allocated for fixed and mobile services, we have uniformly adopted the boundary limit method to minimize co-channel interference. We tentatively conclude, therefore, that the boundary limit approach should be adopted as the means for protecting licensees in these bands from co-channel interference at their borders. We seek comment on this tentative conclusion. If a boundary limit methodology is employed, we seek comment on the appropriate signal level to be permitted at licensees' borders.[189] We also ask whether, if the boundary limit method is adopted, we should permit licensees operating in adjoining areas to employ alternative, agreed-upon signal limits at their common borders.

2. Protecting Adjacent Band Services from Interference

86. Transmissions originating in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, and 2175-2180 MHz bands could cause harmful interference to services operating in adjacent spectrum bands. In the following paragraphs, therefore, we shall examine the services operating above and below these bands, and propose technical criteria to protect those services from such interference. In particular we are concerned about potential interference from handsets transmitting in the 1915-1920 MHz band to PCS handsets receiving in the 1930-1990 MHz band. To address this concern, we seek comment on the adoption of strict out-of-band emission limits (paragraph 91) and reduced power limits (paragraph 107) for handsets operating in the 1915-1920 MHz band.

87. *The 1915-1920 MHz Band*: Below the 1915-1920 MHz band is the PCS spectrum, at 1850-1910 MHz, which is currently used for mobile transmissions,[190] and the 1910-1915 MHz band, which will be used for mobile transmissions as well.[191] If we adopt rules effectuating our tentative conclusion to permit only mobile transmissions in the 1915-1920 MHz band,[192] then operations in the band will be compatible with the use of the spectrum below 1915 MHz.[193] Thus, in seeking to prevent

[187] With this method, a licensee would be required to limit the field strength of its transmissions to some prescribed level at its geographic border.

[188] Under this approach, licensees operating on the same spectrum in adjacent areas would be required to coordinate the location of their stations.

[189] We note that a 40 dBμV/m field strength limit is used in the 700 MHz services, and a 47 dBμV/m field strength limit is used in the Broadband PCS, AWS, and WCS services. *See* 47 C.F.R. §§ 24.236 and 27.55.

[190] *See infra* note 218.

[191] *See 800 MHz Report and Order* at ¶ 263, n.631.

[192] *See infra* para. 106.

harmful interference to operations below 1915 MHz, it should not be necessary to require transmitters operating in the 1915-1920 MHz band to comply with an out-of-band emission (OOBE) limit that is more restrictive than our standard limit of 43 + 10logP dB. The 43 + 10log P dB OOBE limit applies to most of the services authorized under Parts 24 and 27, and has been used effectively to prevent harmful interference in those services.

88. Situated immediately above the 1915-1920 MHz band is the 1920-1930 MHz band, which is currently used for unlicensed isochronous (*i.e.*, voice) communications under Part 15 of our Rules. Part 15 operators may not cause interference, and must accept interference from licensed systems. Thus, there will be no need to impose any special requirements on AWS licensees to protect operations in the 1920-1930 MHz Part 15 band.

89. However, the spectrum in the 1930-1990 MHz band, only 10 megahertz above the 1915-1920 MHz band, is used as the "receive" band for PCS mobile transmissions, and thus handsets transmitting in the 1915-1920 MHz band could potentially cause "mobile-to-mobile" interference to PCS mobile receivers. We currently require licensees operating in the 1850-1910 MHz PCS band to comply with the 43 + 10log P dB OOBE limit at the edge of their authorized spectrum block.[194] However, the PCS industry, concerned that this emission limitation does not provide sufficient protection to PCS mobile receivers, requires equipment manufacturers to incorporate a stronger OOBE suppression capability in PCS handsets.[195] CTIA, in its comments in the *AWS Third NPRM* proceeding argues, however, that because of the spectral proximity of the 1915-1920 MHz mobile transmit band and the 1930-1990 MHz PCS mobile receive band, it will be impossible to produce handsets operating in the 1915-1920 MHz band that will meet the industry's standard for out-of-band emissions into the PCS mobile receive band and that "PCS service [will] be substantially degraded as a result."[196] More recent filings supplementing the record, however, have indicated improvement in the area of duplexer technology over the past two years.[197] In these filings, Agilent Technologies, a leader in the

(Continued from previous page)

[193] That is, if base stations are prohibited from the 1915-1920 MHz band, there would be no possibility of "base-to-base" interference occurring to base stations receiving in spectrum below 1915 MHz.

[194] Section 24.238(a) of our rules requires emissions in the PCS spectrum blocks to be attenuated by a factor of 43 + 10log P at the band edge. 47 C.F.R. § 24.238(a). Thus, for example, transmissions from the uppermost PCS spectrum block would have to meet this requirement at 1910 MHz.

[195] In a July 30, 2004, *ex parte* filing, CTIA indicated the industry has "adopted stringent equipment design parameters to limit the emissions of PCS mobiles into the mobile receive band." According to CTIA, these parameters, which limit emissions into the PCS mobile receive band to -76 dBm/MHz for CDMA systems and -61 dBm/MHz for GSM systems, are "necessary to enable duplex operations and non-interfering operations of mobiles with 1 meter separations." The Commission's OOBE standard, described in Section 24.238 of our Rules, limits emissions at the edges of PCS spectrum blocks to -13 dBm/MHz.. Letter, dated July 30, 2004 from Paul Garnett, CTIA to Marlene H. Dortch, Secretary, Federal Communications Commission, Docket No. ET 00-258.

[196] CTIA Comments to *AWS Third NPRM* at 3-4. *See also* Comments to *AWS Third NPRM* of Motorola at 5-6; Verizon at 4; Cingular at 8; WCA at 19; and Reply Comments to *AWS Third NPRM* of AT&T Wireless at 5-6.

[197] *See, e.g.*, Letter, dated August 5, 2004 from Lawrence R. Krevor, Vice President, Nextel Communications and Trey Hanbury, Senior Counsel, Nextel Communications to Marlene H. Dortch, Secretary, Federal Communications Commission; Letter, dated August 13, 2004, from Paul W. Garnett, CTIA to Marlene H. Dortch, Secretary, Federal Communications Commission, Docket No. ET 00-258).

development and manufacture of radio frequency filters, states that while it "does not presently believe it can produce a single duplexer that would cover A through H blocks and meet -76 dB OOBE," it "believes that it can produce a narrow-band duplexer covering G & H blocks that would allow a handset to meet -76 dB OOBE per TIA-98-F."[198] Agilent Technologies concludes that "[s]upport of H block is possible with a narrow band duplexer, but under certain circumstances interference with existing mobile receivers can occur in this situation."[199]

90. With these considerations in mind, we seek comment on measures for limiting out-of-band interference from handsets operating in the 1915-1920 MHz band. First, we seek comment on whether requiring such handsets to satisfy the 43 + 10log P dB limit at the upper and lower edges of the 1915-1920 MHz band will adequately protect base station receivers operating in the adjacent 1910-1915 MHz band from harmful interference. This is the traditional OOBE limit that has been used successfully to prevent mobile-to-base interference in other mobile services.

91. In contrast, in order to provide sufficient protection to mobile receivers operating in the 1930-1990 MHz band, we will likely have to impose stricter out-of-band emission limitations on 1915-1920 MHz transmissions. We seek comment on what the appropriate level for such limitations should be. In the *AWS Sixth Report and Order*[200] we presented an analysis demonstrating that restricting out-of-band emissions at the lower edge of the PCS mobile receive band (at 1930 MHz) to -60 dBm/MHz would allow handsets transmitting in the 1915-1920 MHz band to operate as close as two meters to PCS handsets receiving in the 1930-1990 MHz band without causing harmful interference. We seek comment on whether an OOBE limit of -60 dBm/MHz at 1930 MHz would in fact provide two-meter protection to existing PCS handsets, and whether such a limitation would provide adequate protection from harmful interference to existing PCS operations. Alternatively, we seek comment on whether we should adopt a more stringent OOBE limit, for example -66 dBm/MHz, in order to prevent harmful interference between handsets operating at a lesser separation distance of one meter. We invite commenters to provide test data and specific technical analyses in support of the OOBE limits they recommend. Further, to the extent that commenters believe that different OOBE limits are appropriate for CDMA and GSM/TDMA handsets operating in the 1915-1920 MHz band, they should provide a detailed justification for the limits they recommend.

92. In the context of this discussion, we seek comment on the capabilities of filtering and duplexer technology that are necessary for situations where handsets are transmitting and receiving in nearby frequency bands and are also in close physical proximity. In particular, we seek comment on the limits of current technology to allow these handsets to operate without interference under usual operational circumstances and on possible future improvements in technology.

93. *The 1995-2000 MHz Band*: The 1995-2000 MHz band is located directly above the 1990-1995 MHz band, which, as provided in the *800 MHz Report and Order*, will be used as a mobile receive band. The 1930-1990 MHz band, as discussed above, is the mobile receive band for PCS operations. If we adopt rules prohibiting mobile transmissions in the 1995-2000 MHz band, then operations in that band would be compatible with use of the spectrum below 1995 MHz (*e.g.*, there

[198] *See Ex* Parte filing, dated August 19, 2004, from William Mueller, Agilent Technologies at 2, Docket No. 00-258.

[199] *Id.* at 17.

[200] *See AWS Sixth Report and Order* at ¶ 25.

would be no "mobile-to-mobile" interference to receivers operating in the 1930-1990 MHz or 1990-1995 MHz bands) and special out-of-band emission limits would therefore not be necessary. We thus tentatively conclude that base station transmissions in the 1995-2000 MHz band should be required to meet our standard emissions limit of 43 + 10log P dB at the lower edge of the band, and we seek comment on this tentative conclusion.

94. Located just above the 1995-2000 MHz band is the 2000-2020 MHz band, which is designated for MSS/ATC uplink/mobile transmissions. Because the 1995-2000 MHz and 2000-2020 MHz bands are immediately adjacent to one another, we are concerned about the possibility of interference from base stations operating in the 1995-2000 MHz band to ATC base stations receiving in the 2000-2020 MHz band, and of interference from ATC/MSS mobiles to mobiles receiving in the 1995-2000 MHz band. In addition, we are concerned about the possibility that base stations operating in the 1995-2000 MHz band could cause harmful interference to MSS satellite receivers.[201]

95. "Base-to-base" interference can often be mitigated through different technical and operational means.[202] These measures may be sufficient to prevent this type of interference, but additional requirements may be necessary, including: increased OOBE limits for 1995-2000 MHz base station transmissions, and/or an obligation on the part of licensees in the band to coordinate with nearby ATC licensees before commencing station operations. Similarly, adjacent band interference to MSS satellite receivers could be mitigated by placing increased out-of-band limits on 1995-2000 MHz base station transmissions, and potential overload interference to satellite receivers could be relieved by limiting the transmitter power of such stations. We seek comment, therefore, on whether base stations transmitting in the 1995-2000 MHz band are likely to cause harmful interference to ATC base stations and MSS satellite receivers, and if so, what special measures might be needed to prevent such interference.

96. Due to potential interference from ATC/MSS handsets to PCS handsets, we require ATC/MSS mobiles to satisfy an OOBE limits that exceed our 43 + 10logP dB standard. Specifically, we require, on spectrum between 1995 MHz and 2000 MHz, an OOBE attenuation defined by the linear interpolation of 70 + 10log P dB and 43 + 10logP dB.[203] However, CTIA, in its comments to the

[201] We note that in the *ATC Report and Order*, we had analyzed the potential for interference from ATC base stations to adjacent band satellite receivers *See* Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands, IB Docket No. 01-185, *Report and Order and Notice of Proposed Rulemaking*, 18 FCC Rcd 1962, 2119-21, App. C1, Section 2.1.2 (2003) (*ATC Report and Order*). In that analysis we concluded that there was little likelihood for out-of-band emission interference to satellite receivers from ATC base stations. Our analysis, however, only explored the potential for interference to satellite operations from ATC base stations, which were intended to operate only in non-rural areas of the country. That analysis, therefore, would not necessarily apply to an interference scenario involving AWS base stations, which will likely operate ubiquitously, and thus present a greater interference threat to satellites. TerreStar, in its letter dated August 17, 2004, expresses concern about both out-of-band and overload interference to satellite receivers (*see* Letter, dated August 17, 2004, from Jonathan D. Blake and Kurt Wimmer, Counsel for TerreStar Networks, Inc, to Marlene H. Dortch, Secretary, Federal Communications Commission at 2, Docket Nos. ET 00-258, IB 99-81.) In the MSS/ATC proceeding, we did not analyze the potential for overload interference from ATC base stations to adjacent band satellite receivers.

[202] For example, licensees can "down-tilt" their station antennas or locate their base stations far enough from one another, spectrally and geographically, to avoid interference.

[203] *See* 47 C.F.R. § 25.252(c)(2).

AWS Third NPRM, states that "reducing the gap between the edge of the PCS base transmit band and the MSS/ATC uplink band to 0 MHz is not viable under any realistic deployment scenario" and that "under such an allocation, the MSS/ATC mobiles would significantly degrade PCS mobiles, even at large distances."[204]

97. We do not propose to modify the OOBE limits required of MSS/ATC mobiles to protect operations below 2000 MHz. We are, however, concerned that interference could occur to AWS handsets receiving transmissions in the 1995-2000 MHz band from MSS/ATC mobiles due to the spectral proximity of the AWS and MSS/ATC bands. Such interference could occur as a result of both "receiver overload" and "out-of-band emission" interference. We therefore ask commenters to estimate how physically close MSS/ATC mobiles would likely have to be to AWS handsets to cause these types of harmful interference. Commenters should also indicate how interference resulting from handsets operating within that separation distance might affect the overall performance of AWS systems employing handsets operating on the 1995-2000 MHz band. Finally, commenters should discuss how equipment manufacturers might be able to help alleviate interference to AWS handsets operating in the 1995-2000 MHz band by incorporating better filtering mechanisms in the handsets.

98. *The 2020-2025 MHz Band*: Below the 2020-2025 MHz band is the 2000-2020 MHz band, which is allocated for MSS and ATC operations. If in this proceeding we adopt rules permitting only mobile transmissions in the 2020-2025 MHz band,[205] then operations in the band will be compatible with the use of the MSS/ATC spectrum below 2020 MHz, which is similarly restricted to mobile transmissions.[206] Thus, we tentatively conclude that, in seeking to prevent interference to operations below 2020 MHz, it should not be necessary to require transmitters operating in the 2020-2025 MHz band to comply with an out-of-band emission (OOBE) limit that is more restrictive than our standard limit of 43 + 10logP dB. We seek comment on this tentative conclusion.

99. Situated immediately above the 2020-2025 MHz band is the 2025-2110 MHz band, which is currently used for Government and non-Government satellite operations[207] and for BAS and the CARS.[208]

100. If in this proceeding we adopt rules permitting mobile and/or fixed transmissions in the 2020-2025 MHz band, then neither should cause harmful interference to the various satellite operations in the 2025-2110 MHz band. This conclusion is based on the technical analysis contained in the *ATC Report and Order*, which determined that neither base nor mobile ATC stations operating under our Part 24 out-of-band emission standards would cause harmful interference to adjacent band satellite receivers.[209] We therefore tentatively conclude that no special requirements will be needed to

[204] CTIA Comments to *AWS Third NPRM* at 3.

[205] *See infra* ¶ 111.

[206] If base station transmissions are prohibited from the 2020-2025 MHz band, there would be no possibility of "base-to-base" interference occurring to ATC base stations receiving in the 2000-2020 MHz band.

[207] These satellite operations are Earth-to-space transmissions in the Space Operation, Space Research, and Earth-Exploration Satellite services.

[208] The BAS is authorized under 47 C.F.R. Part 74, and the CARS is authorized under 47 C.F.R. Part 78

[209] *See ATC Report and Order*, 18 FCC Rcd at 2131-32 (App. C1).

protect space systems operating in the 2025-2110 MHz band from mobile transmissions in the 2020-2025 MHz band, and we seek comment on this tentative conclusion.

101. We note however, that the Earth-Exploration Satellite Service (EESS) uplink stations operating in the 2025-2110 MHz band could potentially cause harmful interference to AWS mobile or fixed receivers operating in the adjacent 2020-2025 MHz band. US footnote 347 in the Table of Frequency Allocations grants the non-Government Earth-to-space allocation to the EESS in the 2025-2110 MHz band with the condition that EESS uplink stations do not cause harmful interference to stations operating in accordance with the Table of Frequency Allocations. Currently, there are four non-Government licensees operating in this band. Due to their limited number, and the fact that AWS stations are not yet in operation, we tentatively conclude that the four incumbent Earth-to-space EESS stations operating in the 2025-2110 MHz band should not be required to protect AWS stations. We also tentatively conclude that any future non-Government EESS stations should be required to protect AWS operations.[210] We seek comment on these tentative conclusions.

102. We tentatively conclude, as well, that neither mobile nor fixed transmissions in the 2020-2025 MHz band should cause harmful interference to BAS and CARS operations. This determination is based on discussions in the *ATC Report and Order*, which suggest that low-powered, adjacent band transmissions will not cause harmful interference to BAS and CARS operations.[211] We therefore tentatively conclude that no special requirements are necessary to protect BAS and CARS operations from AWS systems operating in the 2020-2025 MHz band, and we seek comment on this tentative conclusion.

103. *The 2175-2180 MHz Band*: Situated immediately below the 2175-2180 MHz band is the 2155-2175 MHz spectrum. Within that spectrum is the band from 2150 MHz to 2162 MHz, which is currently used by MDS. Though MDS operations will be vacating the 2.1 GHz band, until such time as that occurs, AWS licensees will have to protect this service. If in this proceeding we adopt rules permitting only base and fixed station transmissions in the 2175-2180 MHz band,[212] we must explore the possibility that such transmissions could cause harmful interference to MDS operations. MDS systems are permitted to employ both base/fixed and mobile station transmissions. Thus, base and fixed station transmissions in the 2175-2180 MHz band would be compatible with MDS base/fixed stations operations in the 2150-2162 MHz spectrum. However, such transmissions would not be compatible with mobile station transmissions in that band. In its comments to the *AWS Third NPRM*, WCA, which represents the interests of the MDS industry, indicated that a minimum of 10 MHz of separation would be needed to prevent harmful interference to MDS base/fixed station receivers from AWS base station transmissions.[213] Though we have no independent verification of WCA's

[210] The criteria for protecting AWS operations from future EESS uplink stations would be established in a future proceeding.

[211] *ATC Report and Order*, 18 FCC Rcd at 2024 ¶ 116 and App. C1. In comments in IB Docket No. 01-185, the Society of Broadcast Engineers (SBE) had expressed concern about potential brute force overload (BFO) interference to BAS receivers from high-powered ATC base stations (*i.e.*, base stations operating at power levels in excess of 500 watts EIRP). However, in this proceeding we propose that the power level of fixed stations operating in the 2020-2025 MHz band be limited to only 1 watt EIRP.

[212] *See infra* ¶ 112.

[213] *See* WCA Comments to *AWS Third NPRM* at 27.

assessment, we are confident that, based on WCA's conclusion, the 13 MHz of separation between the 2175-2180 MHz band and the MDS band will be sufficient to prevent harmful interference to MDS operations. We therefore tentatively conclude that, in seeking to prevent interference to base and mobile receivers operating in the 2150-2162 MHz band, it should not be necessary to require transmitters operating in the 2175-2180 MHz band to comply with an out-of-band emission (OOBE) limit that is more restrictive than our standard limit of 43 + 10 log P dB.

104. Also within the 2155-2175 MHz band is the spectrum from 2160 MHz to 2175 MHz, which is currently used by various terrestrial FS. FS facilities operating in the 2160-2175 MHz band, as well as FS facilities operating in the spectrum from 2175 MHz to 2200 MHz, will eventually be relocated to other bands, but until such relocation takes place, those facilities will have to be protected from base and fixed station operations in the 2175-2180 MHz band. In the *AWS 1.7 and 2.1 GHz Service Rules Order*[214] we decided that AWS licensees would be required to coordinate, prior to initiating operations from any base or fixed station, their frequency usage with co-channel and adjacent channel, incumbent fixed-point-to-point microwave licensees operating in the 2110-2155 MHz band. We decided further that, in determining when such coordination is necessary, we would apply the provisions of Section 24.237 of our rules, which details the coordination requirements for the protection of incumbent fixed microwave systems in the PCS bands.[215] We tentatively conclude that licensees operating in the 2175-2180 MHz band should similarly be required to coordinate with incumbent FS facilities operating on co-channel and adjacent spectrum prior to initiating operations. We seek comment on this tentative conclusion.

105. Also situated above the 2175-2180 MHz band are MSS/ATC operations, which occupy the spectrum from 2180 MHz to 2200 MHz. If in this proceeding we adopt rules permitting only base and fixed station transmissions in the 2175-2180 MHz band,[216] then operations in the band will be compatible with the use of the MSS/ATC spectrum above 2180 MHz, which is to be used for MSS downlink and ATC base/fixed station transmissions.[217] Thus, we tentatively conclude that, in seeking to prevent interference to operations above 2180 MHz, it should not be necessary to require transmitters operating in the 2175-2180 MHz band to comply with an out-of-band emission limit that is more restrictive than our standard limit of 43 + 10 log P dB. We seek comment on this tentative conclusion.

3. Power Limits for Base, Fixed and Mobile Stations

106. In order to ensure that interference does not occur to adjacent band operations, we must determine appropriate power limits for transmitters operating in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, and 2175-2180 MHz bands. With regard to the 1915-1920 MHz band, it is situated immediately above the 1850-1910 MHz and 1910-1915 MHz spectrum bands, which will be used for

[214] *See AWS 1.7 and 2.1 GHz Service Rules Order*, 18 FCC Rcd at 25206 ¶ 114.

[215] Section 24.237(a) of our rules specifies that TIA Technical Services Bulletin (TSB) 10-F be used as the guideline to determine when co-channel and adjacent channel fixed microwave facilities must be coordinated. 47 C.F.R. § 24.237(a).

[216] *See infra* ¶ 112.

[217] If mobile transmissions are prohibited from the 2175-2180 MHz band, there would be no possibility of "mobile-to-mobile" interference occurring to ATC or MSS mobiles receiving in the 2180-2200 MHz band.

mobile transmissions.[218] To limit harmful interference to operations in these bands, we tentatively conclude that licensees operating mobile systems in the 1915-1920 MHz band should be required as well to operate only mobile stations in the band.[219]

107. As to the appropriate power limit for 1915-1920 MHz mobiles, we seek comment on whether to restrict the transmitting power of such devices in order to prevent interference to PCS handsets receiving in the 1930-1990 MHz band. In the *AWS Sixth Report and Order*, our analysis suggests that if the power level of handsets transmitting in the 1915-1920 MHz band is limited to 200 mW peak EIRP – a power level not generally exceeded by CDMA mobile transmitters – this should be sufficient to adequately address concerns about overload interference to nearby PCS handsets.[220] In view of this analysis, we seek comment on the appropriate power limit for 1915-1920 MHz handsets, in order to prevent interference to PCS operations. For example, should transmission power be limited to 200 mW peak EIRP, or to some other level? Also, should similar power limitations be imposed on CDMA handsets and GSM/TDMA handsets operating in the 1915-1920 MHz band, or are different limitations appropriate for different technologies? Commenters are asked to submit test reports and technical analyses or studies in support of their recommendations.

108. If more stringent power limitations are determined to be necessary to prevent 1915-1920 MHz handsets from causing interference to nearby PCS handsets, we seek comment on the impact such power restrictions might have on the viability of a terrestrial mobile service in the 1915-1920 MHz and 1995-2000 MHz bands. We also seek comment on the possibility of alternative mobile services in these bands where there would be no close proximity between 1915-1920 MHz and PCS handsets, such as an Air-to-Ground service. For example, if the 1915-1920 MHz and 1995-2000 MHz bands were used for an Air-to-Ground Service, 1915-1920 MHz transmitters and PCS receivers would be situated several miles from one another, thereby eliminating the possibility of mobile-to-mobile interference.[221]

109. The 1915-1920 MHz band is also allocated for fixed services, so fixed stations will be allowed to operate in the band. However, because fixed station antennas are generally located some distance above ground level, the possibility of interference from fixed stations to PCS handsets will likely be less than the anticipated interference from 1915-1920 MHz mobiles to PCS handsets. We therefore believe that 1915-1920 MHz fixed stations should be permitted to employ a higher power level than mobiles operating in that band. We seek comment as to what that power level should be.

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[218] The 1850-1910 MHz band is not specifically designated for mobile or base station transmissions, but is used as the "mobile transmit" band by PCS licensees. The Commission recently designated the 1910-1915 MHz band for mobile transmissions, *see 800 MHz Report and Order,* Appendix C (to be codified at 47 C.F.R. § 24.229(c).).

[219] Licensees operating mobile systems would therefore be prohibited from operating base stations in the 1915-1920 MHz band.

[220] *See AWS Sixth Report and Order* at ¶ 27.

[221] In an Air-to-Ground service, 1915-1920 MHz transmissions would originate on aircraft, while PCS handsets would be operate on the ground, several miles away. Thus, 1915-1920 MHz handsets could transmit at relatively high power levels without causing interference.

110. The 1930-1990 MHz and 1990-1995 MHz spectrum bands, which will be used for base station transmissions, are situated immediately below the 1995-2000 MHz band.[222] To prevent mobile-to-mobile interference from occurring to operations in these adjacent bands, we tentatively conclude that licensees authorized in the 1995-2000 MHz band should be required to operate base or fixed stations only. As to the appropriate power limit for such stations, we tentatively conclude that base and fixed stations operating in the 1995-2000 MHz band should comply with a power limit of 1640 watts EIRP – the same power limit prescribed for stations operating in the 1930-1990 and 1990-1995 MHz bands. We seek comment on these tentative conclusions.

111. The 2020-2025 MHz band is situated immediately above the 2000-2020 MHz band, which will be used for mobile transmissions. To ensure non-interference among all licensees operating from 2000 to 2025 MHz, we tentatively conclude that licensees operating mobile systems in the 2020-2025 MHz band should be required to operate only mobile stations in the band.[223] As to the appropriate power limit for 2020-2025 MHz mobiles, we tentatively conclude that such devices should be limited to the same power level prescribed for ATC and MSS mobiles operating in the spectrum immediately below the 2020-2025 MHz band – *i.e.*, 1 watt EIRP. Because the 2020-2025 MHz band is allocated for fixed services as well, fixed stations will be permitted to operate in the band. To limit the potential for harmful interference to adjacent band ATC base stations, we tentatively conclude that fixed stations operating in the 2020-2025 MHz band should also be limited to a power level of 1 watt EIRP. We seek comment on these tentative conclusions.

112. The 2180-2200 MHz band, which will be used for base station transmissions, is situated immediately above the 2175-2180 MHz band. To prevent mobile-to-mobile interference from occurring to operations in this adjacent band, we tentatively conclude that licensees authorized in the 2175-2180 MHz band should be required to operate base or fixed stations only. As to the appropriate power limit for such stations, we tentatively conclude that base and fixed stations operating in the 2175-2180 MHz band should comply with a power limit of 1640 watts EIRP. We seek comment on these tentative conclusions.

113. Finally, we do not believe that any limit should be placed on the height-above-average-terrain (HAAT) of base or fixed station antennas operating in the 1995-2000 and 2175-2180 MHz bands. We reached this same conclusion in the recent *AWS 1.7 and 2.1 GHz Service Rules Order*[224] because we found that, with the requirement to limit signal strength at a licensee's geographic border, it was not necessary to place a limit on the coverage area produced by the licensee's individual base stations. We therefore tentatively conclude that no limit should be placed on the HAAT of base or fixed station antennas operating in the 1995-2000 and 2175-2180 MHz bands, and we seek comment on this tentative conclusion.

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[222] The 1930-1990 MHz PCS band is not specifically designated as a base-transmit or mobile-transmit band, but is used by PCS licensees for base transmissions. The Commission recently designated the 1910-1915 MHz band for mobile transmissions, *see 800 MHz Report and Order,* Appendix C (to be codified at 47 C.F.R. § 24.229(c).).

[223] Licensees operating mobile systems would therefore be prohibited from operating base stations in the 2020-2025 MHz band.

[224] *See AWS 1.7 and 2.1 GHz Service Rules Order*, 18 FCC Rcd at 25202 ¶ 103.

4. RF Safety

114. Our rules implementing the National Environmental Policy Act of 1969 are intended to prevent human exposure to potentially unsafe levels of radiofrequency (RF) radiation.[225] In this regard we note that section 1.1307(b) of our rules requires preparation of Environmental Assessments when licensees propose to construct fixed transmission facilities that exceed specified parameters.[226] The Commission recently adopted a 1000-watt effective radiated power (ERP) threshold for licensees operating in the 1710-1755 and 2110-2155 MHz bands, determining that this power limit was appropriate to ensure compliance with the Commission's RF exposure standards.[227] Given that the exposure guidelines for 1710-1755 and 2110-2155 MHz bands are the same as those for spectrum at 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, and 2175-2180 MHz,[228] we tentatively conclude that the threshold for environmental review of fixed transmission facilities should be an ERP greater than 1000 watts, and that we should make any necessary modifications to sections 1.1307(b), 2.1091, and 2.1093 of our rules[229] to include services and devices applicable to the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, and 2175-2180 MHz bands.[230] Evaluation of mobile and portable devices in these bands will follow the rules adopted in sections 2.1091 and 2.1093, respectively. We seek comment on this tentative conclusion.

5. Other Technical Rules; Canadian and Mexican Coordination

115. *Other Technical Rules*: The application of general provisions of Part 27[231] would include rules related to equipment authorization, frequency stability, antenna structures and air navigation, environmental requirements, quiet zones, and disturbance of AM broadcast antenna patterns.[232] We seek comment on applying these provisions to the spectrum that is the subject of this

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[225] *AWS 1.7 and 2.1 GHz Service Rules NPRM*, 17 FCC Rcd at 24161 ¶ 68; *see also* 47 C.F.R. §§ 1.1310, 2.1093.

[226] 47 C.F.R. § 1.1307(b). Similarly, sections 2.1091 and 2.1093 require environmental evaluation of certain mobile and portable transmitters prior to equipment authorization or use. *See* 47 C.F.R. §§ 2.1091, 2.1093. The Commission provides guidance on acceptable methods of evaluating compliance with exposure limits in OET Bulletin No. 65. OET Bulletin No. 65 (Edition 97-01) was issued on August 25, 1997, and is available for downloading at the FCC Web Site: <http://www.fcc.gov/oet/rfsafety>. Copies of OET Bulletin No. 65 also may be obtained by calling the FCC RF Safety Line at (202) 418-2464. Other circumstances may also trigger an Environmental Assessment. *See generally* 47 C.F.R. § 1.1307(a).

[227] *AWS 1.7 and 2.1 GHz Service Rules Order*, 18 FCC Rcd at 25213 ¶ 133.

[228] *See* 47 C.F.R. § 1.1310.

[229] 47 C.F.R. §§ 1.1307(b), 2.1091, 2.1093.

[230] 47 C.F.R. §§ 1.1307(b), 27.52; *see also* 47 C.F.R. § 24.52 (PCS). We note that with the pending NPRM in ET Docket No. 03-137, this standard could change. *See* Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields, ET Docket No. 03-137, *Notice of Proposed Rulemaking*, 18 FCC Rcd 13187 (2003).

[231] *See supra* ¶ 14.

[232] *See, e.g.*, 47 C.F.R. §§ 27.50-27.66.

Notice. We propose that all of these technical rules would apply to all licensees in these bands, including licensees who acquire their licenses through partitioning or disaggregation.

116. *Canadian and Mexican Coordination*: At this time, changes to international agreements between and among the United States, Mexico and Canada concerning the spectrum at issue in this proceeding are not complete. In the meantime, until such time as adjusted agreements between the United States, Mexico and/or Canada become effective, operations must not cause harmful interference across the border based on the terms of the agreements currently in force. We note that further modification (of the proposed rules) might be necessary in order to comply with future agreements with Canada and Mexico regarding the use of these bands. We seek comments on this issue.

F. Competitive Bidding Procedures

117. As discussed above, if we adopt a geographic area licensing scheme for the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands, we will resolve mutually exclusive applications through competitive bidding, consistent with our statutory mandate.[233]

1. Incorporation by Reference of the Part 1 Standardized Auction Rules

118. We propose to conduct any auction of initial licenses in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands in conformity with the general competitive bidding rules set forth in Part 1, Subpart Q, of the Commission's rules, and substantially consistent with the competitive bidding procedures that have been employed in previous auctions.[234] Specifically, we propose to employ the Part 1 rules governing competitive bidding design, designated entities, application and payment procedures, reporting requirements, collusion issues, and unjust enrichment.[235] Under this proposal, such rules would be subject to any modifications that the Commission may adopt in its Part 1 proceeding.[236] We seek comment on whether any of our Part 1 rules would be inappropriate or should be modified for an auction of licenses in these bands.

2. Provisions for Designated Entities

119. In authorizing the Commission to use competitive bidding, Congress mandated that the Commission "ensure that small businesses, rural telephone companies, and businesses owned by

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[233] *See supra* ¶ 17; 47 U.S.C. § 309(j); *BBA Report and Order,* 15 FCC Rcd 22709 (2000).

[234] *See, e.g.,* Amendment of Part 1 of the Commission's Rules—Competitive Bidding Procedures, WT Docket No. 97-82, *Order, Memorandum Opinion and Order and Notice of Proposed Rule Making,* 12 FCC Rcd 5686 (1997); *Third Report and Order and Second Further Notice of Proposed Rule Making,* 13 FCC Rcd 374 (1997) (*Part 1 Third Report and Order*); *Order on Reconsideration of the Third Report and Order, Fifth Report and Order, and Fourth Further Notice of Proposed Rule Making,* 15 FCC Rcd 15293 (2000), *aff'd in part and modified in part, Second Order on Reconsideration of the Third Report and Order and Order on Reconsideration of the Fifth Report and Order,* WT Docket No. 97-82, 18 FCC Rcd 10180 (2003) (recon. pending) (*Part 1 Recon Order and Fifth Report and Order*); *Seventh Report and Order,* 16 FCC Rcd 17546 (2001); *Eighth Report and Order,* 17 FCC Rcd 2962 (2002).

[235] 47 C.F.R. § 1.2101 *et seq.* As discussed below, we tentatively conclude that in the event we adopt a nationwide licensing scheme, designated entity bidding credits are not appropriate. If bidding credits are ultimately adopted, we will employ the Part 1 rules governing designated entities.

[236] *See Part 1 Recon Order and Fifth Report and Order,* 15 FCC Rcd 15293 (2000).

members of minority groups and women (sometimes referred to as "designated entities") are given the opportunity to participate in the provision of spectrum-based services."[237] In addition, section 309(j)(3)(B) of the Act provides that in establishing eligibility criteria and bidding methodologies, the Commission shall promote "economic opportunity and competition . . . by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women."[238] One of the principal means by which the Commission fulfills this mandate is through the award of bidding credits to small businesses.

120. In the *Competitive Bidding Second Memorandum Opinion and Order*, the Commission stated that it would define eligibility requirements for small businesses on a service-specific basis, taking into account the capital requirements and other characteristics of each particular service in establishing the appropriate threshold.[239] The *Part 1 Third Report and Order*, while it standardizes many auction rules, provides that the Commission will continue a service-by-service approach to defining small businesses.[240]

121. We do not know precisely the type of services that a licensee may seek to provide in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands. Thus, as noted above, we seek comment on what geographic licensing areas would be appropriate for these bands without reaching any tentative conclusion regarding this question. We are prepared to consider a range of possible service areas, including small service areas such as MSAs and RSAs or EAs and large service areas such as EAGs, REAGs, or nationwide service areas.

122. We do anticipate, however, that if the Commission issues licenses on a non-nationwide basis, the services that will be deployed in these bands may have capital requirements comparable to those in the broadband PCS service and AWS in the 1710-1755 MHz and 2110-2155 MHz bands. We also anticipate that, if they are issued non-nationwide licenses, licensees in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands may be presented with issues and costs similar to those presented to broadband PCS licensees and licensees in the 1710-1755 MHz and 2110-2155 MHz bands, including issues and costs involved in relocating incumbents, and developing markets, technologies, and services. In light of these anticipated similarities, we propose to establish the same small business size standards and associated bidding credits for the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands as the Commission adopted for broadband PCS and AWS in the 1710-1755 MHz and 2110-2155 MHz bands in the event that we adopt a licensing scheme based on non-nationwide geographic licensing areas.[241] Thus, we propose to define a small business as an

[237] 47 U.S.C. § 309(j)(4)(D).

[238] 47 U.S.C. § 309(j)(3)(B).

[239] Implementation of Section 309(j) of the Communications Act—Competitive Bidding, PP Docket No. 93-253, *Second Memorandum Opinion and Order*, 9 FCC Rcd 7245, 7269 ¶ 145 (1994) (*Competitive Bidding Second Memorandum Opinion and Order*); 47 C.F.R. § 1.2110(c)(1).

[240] *Part 1 Third Report and Order*, 13 FCC Rcd at 388 ¶ 18; 47 C.F.R. § 1.2110 (c)(1).

[241] *See* Implementation of Section 309(j) of the Communications Act—Competitive Bidding, PP Docket No. 93-253, *Order on Reconsideration*, 15 FCC Rcd 17384, 17394 ¶ 21 (2000) (summarizing the bidding credits offered in broadband PCS C and F Block auctions); 47 C.F.R. § 24.720 (1994); *AWS 1.7 and 2.1 GHz Service* (continued....)

entity with average annual gross revenues for the preceding three years not exceeding $40 million, and a very small business as an entity with average annual gross revenues for the preceding three years not exceeding $15 million.[242]

123. In addition, in the event we establish non-nationwide service areas, we propose to provide small businesses with a bidding credit of 15 percent and very small businesses with a bidding credit of 25 percent, as set forth in the standardized schedule in Part 1 of our Rules.[243] We seek comment on the use of these standards and associated bidding credits, with particular focus on the appropriate definitions of small and very small businesses as they may relate to the size of the geographic area to be served and the spectrum allocated to each license. In discussing these issues, commenters are requested to address the expected capital requirements for services in these bands and other characteristics of the service. Commenters are also invited to use comparisons with other services for which the Commission has already established auction procedures as a basis for their comments regarding the appropriate small business size standards.

124. If, on the other hand, we decide to adopt a nationwide licensing scheme for the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands, we anticipate that the costs of implementing service will be very high.[244] In the past, the Commission has declined to adopt designated entity provisions for certain services, such as the direct broadcast satellite service and the digital audio radio service, which have extremely high implementation costs.[245] The Commission reached this conclusion in large part because it was unclear whether small businesses could attract the capital necessary to implement and provide a nationwide service.[246] We also note that in previous auctions of nationwide licenses in which the Commission offered bidding credits to designated entities,

(Continued from previous page)
Rules Order, 18 FCC Rcd at 25221 ¶ 149. The Commission also adopted the broadband PCS standards for WCS in the 2.3 GHz band. *Part 27 Report and Order,* 12 FCC Rcd at 10879 ¶ 194.

[242] We are coordinating these proposed small business size standards with the U.S. Small Business Administration.

[243] In the *Part 1 Third Report and Order*, we adopted a standard schedule of bidding credits, the levels of which were developed based on our auction experience. *Part 1 Third Report and Order*, 13 FCC Rcd at 403-04 ¶ 47; *see also* 47 C.F.R. § 1.2110(f)(2).

[244] In the *800 MHz Report and Order,* various parties who responded to a proposal submitted by Nextel Communications, Inc., to assign it a 10-megahertz block of nationwide contiguous spectrum at 1.9 GHz, in exchange for its costs incurred in reconfiguring the 800 MHz band, submitted filings that identified fair market values for this 1.9 GHz band segment that ranged from $3.5 to $5.3 billion. Even assuming that these valuations are only roughly analogous to the value bidders might place on nationwide spectrum in the 1915-1920, 1995-2000, 2020-2025 and 2175-2180 MHz bands, we think it is clear that a business with average annual gross revenues under $40 million would be unable to attract the capital necessary to bid successfully on such spectrum and implement a nationwide service. See *800 MHz Report and Order at* ¶¶ 279-282.

[245] Revision of Rules and Policies for the Direct Broadcast Satellite Service, *Report and Order*, 11 FCC Rcd 9712 (1995) (*DBS Auction Order*); Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Band, *Report and Order, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, IB Docket No. 95-91, 12 FCC Rcd 5745 (1997) (*DARS Auction Order).*

[246] *See DBS Auction Order* at ¶ 217; *DARS Auction Order* at ¶¶ 174-176.

none of the licenses was won by a designated entity.[247] Moreover, the legislative history of the designated entity provisions of section 309(j) demonstrates that Congress did not necessarily intend the Commission to adopt special measures for designated entities in nationwide services. The House Report to the Omnibus Budget Reconciliation Act of 1993 states that "[t]he characteristics of some services are inherently national in scope, and are therefore ill-suited for small businesses."[248] Thus, we tentatively conclude that if we decide to license the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands on a nationwide basis, small business bidding credits are not appropriate for these bands. We seek comment on this tentative conclusion.

125. Finally, we acknowledge the difficulty in accurately predicting the market forces that will exist at the time these frequencies are licensed. Thus, our forecasts of types of services that will be offered over these bands may require adjustment depending upon ongoing technological developments and changes in market conditions. To the extent commenters support a different approach to bidding credits than those discussed here, they should support their proposals with relevant information on the types of system architecture that are likely to be deployed in these bands, the availability of equipment, market conditions, and other factors that may affect the capital requirements of the types of services that may be provided.

IV. PROCEDURAL MATTERS

A. *Ex Parte* Rules – Permit-But-Disclose

126. This is a permit-but-disclose notice and comment rulemaking proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed pursuant to the Commission's rules.[249]

B. Comment Period and Procedures

127. Pursuant to applicable procedures set forth in sections 1.415 and 1.419 of the Commission's rules,[250] interested parties may file comments on this Notice on or before November 23, 2004, and reply comments on or before January 7, 2005. Comments and reply comments should be filed in WT Docket No. 04-356, and may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies.[251] All relevant and timely comments will be considered by the Commission before final action is taken in this proceeding.

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[247] *See* Announcing the High Bidders in the Auction of Ten Nationwide Narrowband PCS Licenses, *Public Notice*, PNWL 94-4 (rel. August 2, 1994). In the nationwide narrowband PCS auction (Auction No. 1), bidding credits on ten nationwide licenses were offered to women- and minority-owned businesses. *See also* 1670-1675 MHz Band Auction Closes, Winning Bidder Announced, *Public Notice*, DA 03-1472 (rel. May 2, 2003). In the 1670-1675 MHz Band auction (Auction No. 46), the Commission offered a bidding credit on a nationwide license in the 1670-1675 MHz band to small businesses with average annual revenues not exceeding $40 million and very small businesses with average annual revenues not exceeding $15 million.

[248] H.R. Rep. No. 103-111, 103rd Cong., 1st Sess., at 254.

[249] *See generally* 47 C.F.R. §§ 1.1202, 1.1203, 1.1206.

[250] *See* 47 C.F.R. §§ 1.415, 1.419.

[251] Electronic Filing of Documents in Rulemaking Proceedings, *Report and Order*, 13 FCC Rcd 11322 (1998).

128. Comments filed through the ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket number. Parties may also submit an electronic comment by e-mail via the Internet. To obtain filing instructions for e-mail comments, commenters should send an e-mail to <ecfs@fcc.gov>, and should include the following words in the body of the message: "get form <your e-mail address>." A sample form and directions will be sent in reply.

129. Parties who choose to file by paper must file an original and four copies of each filing. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). The Commission's contractor, Natek, Inc., will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building. Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743. U.S. Postal Service first-class mail, Express Mail, and Priority Mail should be addressed to 445 12th Street, SW, Washington, D.C. 20554. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

130. Parties who choose to file by paper should also submit their comments on diskette. These diskettes should be attached to the original paper filing submitted to the Office of the Secretary. Such a submission should be on a 3.5 inch diskette formatted in an IBM compatible format using Microsoft ™ Word 97 for Windows or compatible software. The diskette should be accompanied by a cover letter and should be submitted in "read only" mode. The diskette should be clearly labeled with the commenter's name, proceeding, type of pleading (comment or reply comment), date of submission, and the name of the electronic file on the diskette. The label should also include the following phrase "Disk Copy – Not an Original." Each diskette should contain only one party's pleadings, preferably in a single electronic file. In addition, commenters should send diskette copies to the Commission's copy contractor, Best Copy and Printing, Inc., 445 12th Street, SW, Room CY-B402, Washington, DC, 20554, 202-863-2893.

131. The public may view the documents filed in this proceeding during regular business hours in the FCC Reference Information Center, Federal Communications Commission, 445 12th Street, S.W., Room CY-A257, Washington, D. C. 20554, and on the Commission's Internet Home Page: <http://www.fcc.gov>. Copies of comments and reply comments are also available through the Commission's duplicating contractor: Best Copy and Printing, Inc., 445 12th Street, SW, Room CY-B402, Washington, DC, 20554, (202) 863-2893. Accessible formats (computer diskettes, large print, audio recording and Braille) are available to persons with disabilities by contacting Brian Millin, of the Consumer & Governmental Affairs Bureau, at (202) 418-7426, TTY (202) 418-7365, or at <bmillin@fcc.gov>.

C. Initial Regulatory Flexibility Analysis

132. As required by the Regulatory Flexibility Act of 1980 (RFA),[252] the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact

[252] 5 U.S.C. § 603.

on small entities of the policies and rules proposed in the Notice. The analysis is found in Appendix B. We request written public comment on the analysis. Comments must be filed by the same dates as listed in paragraph 127, and must have a separate and distinct heading designating them as responses to the IRFA. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of this Notice, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.

D. Initial Paperwork Reduction Analysis

133. This document contains proposed new or modified information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. Public and agency comments are due 60 days after date of publication in the Federal Register. Comments should address: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology. In addition, pursuant to the Small Business Paperwork Relief Act of 2002,[253] we seek specific comment on how we might "further reduce the information collection burden for small business concerns with fewer than 25 employees."

134. In addition to filing comments with the Secretary, a copy of any comments on the information collections contained herein should be submitted to Judith Boley Herman, Federal Communications Commission, 445 12th Street, S.W., Room 1-C804, Washington, D.C. 20554, or via the Internet to <jboley@fcc.gov>, and to Kristy LaLonde, Policy Analyst, Office of Information and Regulatory Affairs (OIRA), Office of Management and Budget (OMB), Docket Library, Room 10234, New Executive Office Building (NEOB), 725 17th Street, N.W., Washington, D.C. 20503, or via the Internet at <LaLonde@omb.eop.gov>.

E. Further Information

135. For further information concerning this rulemaking proceeding, contact Peter Corea, Broadband Division, at (202) 418-7931 or Eli Johnson, Spectrum and Competition Policy Division, at (202) 418-1395, Wireless Telecommunications Bureau, Federal Communications Commission, 445 12th Street, S.W., Room 3-C124, Washington, D.C. 20554; or via the Internet to <peter.corea@fcc.gov> or <eli.johnson@fcc.gov>.

V. ORDERING CLAUSES

136. Accordingly, IT IS ORDERED, pursuant to sections 1, 2, 4(i), 7, 10, 201, 214, 301, 302, 303, 307, 308, 309, 310, 319, 324, 332 and 333 of the Communications Act of 1934, 47 U.S.C. §§ 151, 152, 154(i), 157, 160, 201, 214, 301, 302, 303, 307, 308, 309, 310, 319, 324, 332, 333, that this Notice of Proposed Rulemaking is hereby ADOPTED.

137. IT IS FURTHER ORDERED that NOTICE IS HEREBY GIVEN of the proposed regulatory changes described in this Notice, and that comment is sought on these proposals.

[253] Public Law 107-198, *see* 44 U.S.C. 3506(c)(4).

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

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

PROPOSED RULES

PART 1 – PRACTICE AND PROCEDURE

PART 27 – MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

1. The authority citation for Part 27 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 301, 302, 303, 307, 309, 332, 336, and 337 unless otherwise noted.

2. Amend the table of contents for Part 27, Subpart L as follows:

Subpart L – 1710-1755 MHz, 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, 2110-2155 MHz and 2175-2180 MHz Bands

LICENSING AND COMPETITIVE BIDDING PROVISIONS

27.1101 1710-1755 MHz, 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, 2110-2155 MHz and 2175-2180 MHz bands subject to competitive bidding.
27.1102 Designated entities.

RELOCATION OF INCUMBENTS

27.1111 Relocation of fixed microwave service licensees in the 2110-2150 MHz band.
27.1112 Relocation of fixed microwave service licensees in the 1915-1920 MHz band.
27.1113 Relocation of Broadcast Auxiliary Service, Cable Television Relay Service, and Local Television Transmission Service licensees in the 1995-2000 MHz and 2020-2025 MHz bands.

PROTECTION OF INCUMBENT OPERATIONS

27.1131 Protection of Part 101 operations.
27.1132 Protection of Part 21 operations.
27.1133 Protection of Part 74 and Part 78 operations.
27.1134 Protection of Federal Government operations.
27.1135 Protection of non-Federal Government Meteorological-Satellite operations.
27.1136 Protection of Fixed Service stations operating in the 2160-2200 MHz band.

3. Add new paragraphs (b)(9) and (b)(10) to § 27.1 to read as follows:

§ 27.1 Basis and purpose.

* * * * *

(b) * * *

* * * * *

(9) 1915-1920 MHz and 1995-2000 MHz.

(10) 2020-2025 MHz and 2175-2180 MHz.

* * * * *

4. In § 27.5, revise paragraph (h) to read as follows:

§ 27.5 Frequencies.

(h) *1710-1755 MHz, 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, 2110-2155 MHz and 2175-2180 MHz bands*. The following frequencies are available for licensing pursuant to this part in the 1710-1755 MHz, 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, 2110-2155 MHz and 2175-2180 MHz bands:

(1) Two paired channel block of 10 megahertz each are available for assignment as follows:

Block A: 1710-1720 MHz and 2110-2120 MHz; and
Block B: 1720-1730 MHz and 2120-2130 MHz.

(2) Four paired channel blocks of 5 megahertz each are available for assignment as follows:

Block C: 1730-1735 MHz and 2130-2135 MHz;
Block D: 1735-1740 MHz and 2135-2140 MHz;
Block F: 1915-1920 MHz and 1995-2000 MHz; and
Block G: 2020-2025 MHz and 2175-2180 MHz.

(3) One paired channel block of 15 megahertz each is available for assignment as follows:

Block E: 1740-1755 MHz and 2140-2155 MHz.

* * * * *

5. In § 27.11, revise paragraph (i) to read as follows:

§ 27.11 Initial authorization.

* * * * *

(i) *1710-1755 MHz, 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, 2110-2155 MHz and 2175-2180 MHz bands*. Initial authorizations for the 1710-1755 MHz, 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, 2110-2155 MHz and 2175-2180 MHz bands shall be for 5, 10 or 15 megahertz of spectrum in each band in accordance with § 27.5(h) of this part.

(1) Authorizations for Block A, consisting of two paired channels of 10 megahertz each, will be based on those geographic areas specified in § 27.6(h)(1).

(2) Authorizations for Block B, consisting of two paired channels of 10 megahertz each, will be based on those geographic areas specified in § 27.6(h)(2).

(3) Authorizations for Block C, consisting of two paired channels of 5 megahertz each, will be based on those geographic areas specified in § 27.6(h)(2).

(4) Authorizations for Block D, consisting of two paired channels of 5 megahertz each, will be based on those geographic areas specified in § 27.6(h)(3).

(5) Authorizations for Block E, consisting of two paired channels of 15 megahertz each, will be based on those geographic areas specified in § 27.6(h)(2).

(6) Authorizations for Block F, consisting of two paired channels of 5 megahertz each, will be based on those geographic areas specified in § 27.6(h).

(7) Authorizations for Block G, consisting of two paired channels of 5 megahertz each, will be based on those geographic areas specified in § 27.6(h).

6. In § 27.13, add new paragraph (h) to read as follows:

§ 27.13 License period.

* * * * *

(h) *1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands.* Authorizations for the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands will have a term not to exceed ten years from the date of initial issuance or renewal.

7. In § 27.50, redesignate paragraphs (e), (f), (g) and (h) as paragraphs (f), (g), (h) and (i), and add new paragraph (e) to read as follows:

§ 27.50 Power and antenna height limits.

* * * * *

(e) The following power limits apply to stations transmitting in the 1995-2000 MHz, 2020-2025 MHz, and 2175-2180 MHz bands:

(1) Fixed and base stations transmitting in the 1995-2000 MHz and 2175-2180 MHz bands are limited to a peak effective isotropic radiated power (EIRP) of 1640 watts and a peak output power of 100 watts.

(2) Fixed, mobile, and portable (hand-held) stations operating in the 2020-2025 MHz bands are limited to a peak EIRP of 1 watt.

* * * * *

8. In § 27.53, redesignate paragraphs (h), (i), (j), (k) and (l) as paragraphs (i), (j), (k), (l) and (m), respectively, and add new paragraph (h) to read as follows:

§ 27.53 Emission limits.

* * * * *

(h) For operations in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, and 2175-2180 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB.

(1) Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.

(3) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

* * * * *

9. In § 27.57, revise paragraph (c) to read as follows:

§ 27.57 International coordination.

* * * * *

(c) Operation in the 1710-1755, 1915-1920, 1995-2000, 2020-2025, 2110-2155 and 2175-2180 MHz bands is subject to international agreements with Mexico and Canada.

10. Revise §§ 27.1101 to read as follows:

LICENSING AND COMPETITIVE BIDDING PROVISIONS

§ 27. 1101 1710-1755 MHz, 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, 2110-2155 MHz and 2175-2180 MHz bands subject to competitive bidding.

Mutually exclusive applications for initial licenses in the 1710-1755 MHz, 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, 2110-2155 MHz and 2175-2180 MHz bands are subject to competitive bidding. The general competitive bidding procedures set forth in 47 C.F.R. Part 1, Subpart Q will apply unless otherwise provided in this subpart.

11. Add new §§ 27.1112 and 27.1113 to read as follows:

§ 27.1112 Relocation of fixed microwave service licensees in the 1915-1920 MHz band.

(a) Any new entrants granted a license for the 1915-1920 MHz band must reimburse UTAM, Inc. a 25-percent share of its total expenses incurred in clearing the 1910-1930 MHz band to date. These expenses cover the relocation of fixed point-to-point microwave links that the Commission ordered UTAM to do in anticipation for the Unlicensed Personal Communication Service.

(b) New licensees will be responsible for the actual costs associated with future relocation activities in their licensed spectrum.

§ 27.1113 Relocation of Broadcast Auxiliary Service, Cable Television Relay Service, and Local Television Transmission Service licensees in the 1995-2000 MHz and 2020-2025 MHz bands.

Sections 74.690 and 78.40 of the Commission's rules contain provisions governing the relocation of incumbent Broadcast Auxiliary, Cable Television Relay and Local Television Transmission Service licensees in the 1995-2000 MHz and 2020-2025 MHz bands.

12. Add new paragraph § 27.1136 to read as follows:

§ 27.1136 Protection of Fixed Service stations operating in the 2160-2200 MHz band

Prior to initiating operations, AWS licensees authorized in the 2175-2180 MHz band must coordinate with incumbent co-channel and adjacent channel Fixed Service licensees operating on spectrum between 2160 MHz and 2200 MHz.

APPENDIX B

INITIAL REGULATORY FLEXIBILITY ANALYSIS

1. As required by the Regulatory Flexibility Act (RFA),[1] the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in this Notice of Proposed Rulemaking (NPRM). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadline for comments provided in paragraph 127 of this NPRM. The Commission will send a copy of this NPRM, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).[2] In addition, the NPRM and IRFA (or summaries thereof) will be published in the Federal Register.[3]

A. Need for, and Objectives of, the Proposed Rules

2. The NPRM seeks comment on service rules for licensed fixed and mobile services, including advanced wireless services (AWS), in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands. These service rules include application, licensing, operating and technical rules and competitive bidding provisions. As with the Commission's recently adopted AWS service rules for the 1710-1755 MHz and 2110-2155 MHz bands,[4] the NPRM proposes to allow licensees in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands the flexibility to use this spectrum for any licensed fixed or mobile service, including advanced wireless services, that is consistent with the bands' allocations. In order to promote flexibility, the Notice tentatively concludes to license this spectrum under the Commission's market-oriented Part 27 rules. In addition, the NPRM tentatively concludes to license this spectrum using geographic area licensing, as opposed to site-by-site licensing, and seeks comment on the appropriate size geographic licensing area or areas to utilize.

3. Concurrently with the adoption of the NPRM, the Commission has adopted a *Sixth Report and Order*, in ET Docket No. 00-258, designating the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands for licensed fixed and mobile services, including advanced wireless services.[5] The Commission's goal is to enable service providers to maximize the use of this spectrum with minimal transaction costs. Within the limits of the licensed fixed and mobile allocation, the marketplace and not the government will determine how this spectrum is used. Thus, the NPRM's tentative conclusions allow flexibility for licensees to provide third generation (3G) and other advanced wireless services in the near term, while fostering innovation and agility so they can quickly adapt to changes in technological

[1] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601– 612, have been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

[2] *See* 5 U.S.C. § 603(a).

[3] *See id.*

[4] Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, *Report and Order*, 18 FCC Rcd 25162 (2003).

[5] Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, ET Docket No. 00-258, *Sixth Report and Order, Third Memorandum Opinion and Order and Fifth Memorandum Opinion and Order*, FCC 04-219, released Sept. 22, 2004.

capabilities and marketplace conditions into the future. It is the Commission's belief that the licensing and service rules proposed in the NPRM will benefit consumers by giving them the services and value that they demand, and thereby provide the new business opportunities necessary to support continued service enhancements by licensees.

4. As discussed in paragraphs 121-122 of the NPRM, while the Commission does not know precisely what types of services may be developed in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands, the Commission anticipates that the services that will be deployed in these bands may have capital requirements comparable to those in the broadband PCS service and AWS in the 1710-1755 MHz and 2110-2155 MHz bands. The Commission also anticipates that licensees in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands will be presented with issues and costs similar to those presented to broadband PCS licensees and licensees in the 1710-1755 MHz and 2110-2155 MHz bands, including issues and costs involved in relocating incumbents, and developing markets, technologies, and services. In light of these similarities, the NPRM proposes the adoption of the same small business size standards for the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands as the Commission adopted for broadband PCS and AWS in the 1710-1755 MHz and 2110-2155 MHz bands. Accordingly, if the Commission adopts bidding credits, the NPRM proposes to define a small business as an entity with average annual gross revenues for the preceding three years not exceeding $40 million, and a very small business as an entity with average annual gross revenues for the preceding three years not exceeding $15 million.[6]

5. The NPRM also proposes to provide small businesses with a bidding credit of 15 percent and very small businesses with a bidding credit of 25 percent, as set forth in the standardized schedule in Part 1 of the Commission's rules. The NPRM seeks comment on the use of these standards and associated bidding credits for applicants to be licensed in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands, with particular focus on the appropriate definitions of small and very small businesses as they may relate to the size of the geographic area to be covered and the spectrum allocated to each license. In discussing these issues, commenters are requested to address the expected capital requirements for services in these bands and other characteristics of the service. Commenters are also invited to use comparisons with other services for which the Commission has already established auction procedures as a basis for their comments regarding the appropriate small business size standards.

B. Legal Basis

6. The proposed action is authorized pursuant to sections 1, 2, 4(i), 7, 10, 201, 214, 301, 302, 303, 307. 308, 309, 310, 319, 324, 332 and 333 of the Communications Act of 1934, 47 U.S.C. §§ 151, 152, 154(i), 157, 160, 201, 214, 301, 302, 303, 307, 308, 309, 310, 319, 324, 332, 333.

C. Description and Estimate of the Number of Small Entities To Which the Proposed 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 proposed rules and policies, if adopted.[7] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business,"

[6] We are coordinating these proposed small business size standards with the U.S. Small Business Administration.

[7] 5 U.S.C. § 603(b)(3).

"small organization," and "small governmental jurisdiction."[8] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[9] 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.[10]

8. **Small Businesses.** Nationwide, there are a total of 22.4 million small businesses, according to SBA data.[11]

9. **Small Organizations.** Nationwide, there are approximately 1.6 million small organizations.[12]

10. **Small Governmental Jurisdictions.** The term "small governmental jurisdiction" is defined as "governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[13] As of 1997, there were approximately 87,453 governmental jurisdictions in the United States.[14] This number includes 39,044 county governments, municipalities, and townships, of which 37,546 (approximately 96.2%) have populations of fewer than 50,000, and of which 1,498 have populations of 50,000 or more. Thus, we estimate the number of small governmental jurisdictions overall to be 84,098 or fewer.

11. Also, as stated in paragraph 66 of the NPRM, Sections 310(a) and 310(b) of the Communications Act, as modified by the Telecommunications Act of 1996, impose foreign ownership and citizenship requirements that restrict the issuance of licenses to certain applicants. See Section D, infra.

12. The Commission has not yet determined how many licenses will be awarded in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands. Moreover, the Commission does not yet know how many applicants or licensees in these bands will be small entities. Thus, the Commission assumes, for purposes of this IRFA, that all prospective licensees are small entities as that term is defined by the SBA or by our proposed small business definitions for these bands. The Commission invites comment on this analysis.

13. Although the Commission does not know for certain which entities are likely to apply for these frequencies, we note that the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands are comparable to cellular service and personal communications service.

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[8] 5 U.S.C. § 601(6).

[9] 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."

[10] 15 U.S.C. § 632.

[11] *See* SBA, Programs and Services, SBA Pamphlet No. CO-0028, at page 40 (July 2002).

[12] Independent Sector, The New Nonprofit Almanac & Desk Reference (2002).

[13] 5 U.S.C. § 601(5).

[14] U.S. Census Bureau, Statistical Abstract of the United States: 2000, Section 9, pages 299-300, Tables 490 and 492.

14. **Wireless Service Providers.** The SBA has developed a small business size standard for wireless firms within the two broad economic census categories of "Paging"[15] and "Cellular and Other Wireless Telecommunications."[16] Under both SBA categories, a wireless business is small if it has 1,500 or fewer employees. For the census category of Paging, Census Bureau data for 1997 show that there were 1,320 firms in this category, total, that operated for the entire year.[17] Of this total, 1,303 firms had employment of 999 or fewer employees, and an additional 17 firms had employment of 1,000 employees or more.[18] Thus, under this category and associated small business size standard, the great majority of firms can be considered small. For the census category Cellular and Other Wireless Telecommunications, Census Bureau data for 1997 show that there were 977 firms in this category, total, that operated for the entire year.[19] Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.[20] Thus, under this second category and size standard, the great majority of firms can, again, be considered small.

15. **Wireless Telephony.** Wireless telephony includes cellular, personal communications services, and specialized mobile radio telephony carriers. The SBA has developed a small business size standard for "Cellular and Other Wireless Telecommunications" services.[21] Under that SBA small business size standard, a business is small if it has 1,500 or fewer employees.[22] According to the most recent *Trends in Telephone Service* data, 447 carriers reported that they were engaged in the provision of wireless telephony.[23] We have estimated that 245 of these are small under the SBA small business size standard.

16. **Broadband Personal Communications Service.** The broadband personal communications services (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

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[15] 13 C.F.R. § 121.201, NAICS code 513321 (changed to 517211 in October 2002).

[16] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

[17] U.S. Census Bureau, 1997 Economic Census, Subject Series: "Information," Table 5, Employment Size of Firms Subject to Federal Income Tax: 1997, NAICS code 513321 (issued October 2000).

[18] U.S. Census Bureau, 1997 Economic Census, Subject Series: "Information," Table 5, Employment Size of Firms Subject to Federal Income Tax: 1997, NAICS code 513321 (issued October 2000). The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1000 employees or more."

[19] U.S. Census Bureau, 1997 Economic Census, Subject Series: "Information," Table 5, Employment Size of Firms Subject to Federal Income Tax: 1997, NAICS code 513322 (issued October 2000).

[20] U.S. Census Bureau, 1997 Economic Census, Subject Series: "Information," Table 5, Employment Size of Firms Subject to Federal Income Tax: 1997, NAICS code 513322 (issued October 2000). The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1000 employees or more."

[21] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

[22] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

[23] FCC, Wireline Competition Bureau, Industry Analysis and Technology Division, "Trends in Telephone Service" at Table 5.3, page 5-5 (May 2004). This source uses data that are current as of October 22, 2003.

and F as an entity that has average gross revenues of less than $40 million in the three previous calendar years.[24] 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.[25] These small business size standards, in the context of broadband PCS auctions, have been approved by the SBA.[26] 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.[27] On March 23, 1999, the Commission reauctioned 155 C, D, E, and F Block licenses; there were 113 small business winning bidders.[28]

17. On January 26, 2001, the Commission completed the auction of 422 C and F Broadband PCS licenses in Auction No. 35. Of the 35 winning bidders in this auction, 29 qualified as "small" or "very small" businesses.[29] Subsequent events concerning Auction 35, including judicial and agency determinations, resulted in a total of 163 C and F Block licenses being available for grant.

18. **Cellular Licensees.** The SBA has developed a small business size standard for wireless firms within the broad economic census category "Cellular and Other Wireless Telecommunications."[30] Under this SBA category, a wireless business is small if it has 1,500 or fewer employees. For the census category Cellular and Other Wireless Telecommunications firms, Census Bureau data for 1997 show that there were 977 firms in this category, total, that operated for the entire year.[31] Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.[32] Thus, under this category and size standard, the great majority of firms can be considered

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[24] *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).

[25] *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.

[26] *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.

[27] FCC News, "Broadband PCS, D, E and F Block Auction Closes," No. 71744 (released January 14, 1997).

[28] *See* "C, D, E, and F Block Broadband PCS Auction Closes," *Public Notice*, 14 FCC Rcd 6688 (WTB 1999).

[29] *See* "C and F Block Broadband PCS Auction Closes; Winning Bidders Announced," *Public Notice*, 16 FCC Rcd 2339 (2001).

[30] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

[31] U.S. Census Bureau, 1997 Economic Census, Subject Series: "Information," Table 5, Employment Size of Firms Subject to Federal Income Tax: 1997, NAICS code 513322 (issued October 2000).

[32] U.S. Census Bureau, 1997 Economic Census, Subject Series: "Information," Table 5, Employment Size of Firms Subject to Federal Income Tax: 1997, NAICS code 513322 (issued October 2000). The census data (continued....)

small. According to the most recent *Trends in Telephone Service* data, 447 carriers reported that they were engaged in the provision of cellular service, personal communications service, or specialized mobile radio telephony services, which are placed together in the data.[33] We have estimated that 245 of these are small, under the SBA small business size standard.[34]

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

19. The NPRM proposes to apply to the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands essentially the same licensing and operating provisions as the Commission adopted for advanced wireless services in the 1710-1755 MHz and 2110-2155 MHz bands. These licensing and operating provisions include reporting, recordkeeping and other compliance requirements. The Commission will provide time for public comment on and seek Office of Management and Budget approval for any proposals that entail Paperwork Reduction Act burdens.

20. In paragraph 11 of the NPRM, the Commission proposes to permit licensees in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands the flexibility to use this spectrum for any services that are consistent with the bands' fixed and mobile allocations. The NPRM, at paragraph 14, also tentatively concludes to license the bands under the Commission's market-orientated Part 27 licensing and operating provisions. In addition, as discussed in paragraphs 18-20 of the NPRM, the Commission tentatively concludes to use a geographic area licensing scheme for the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands.

21. Entities interested in acquiring an initial license to use the spectrum in the 1915-1920 MHz, 1995-2000 MHz. 2020-2025 MHz and 2175-2180 MHz bands will be required to file using the Universal Licensing System, as noted in paragraph 80 of the NPRM. As in other services, licensees in these bands would be allowed to provide all allowable services anywhere within their licensed area. The Commission's current mobile service license application requires an applicant for mobile services to identify the regulatory status of the service(s) they intend to provide, since service offerings may bear on eligibility and other statutory and regulatory requirements. The NPRM also proposes to permit applicants to request common carrier status as well as non-common carrier status for authorization in a single license, rather than to require the applicant to choose between common carrier and non-common services. These proposed regulatory status obligations are discussed at paragraphs 63-65 of the NPRM.

22. In paragraphs 73-76 of the NPRM, the Commission seeks comment on whether licensees in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands should be subject to any performance requirements in addition to a substantial service requirement at license renewal. The NPRM notes that in some services the Commission has imposed minimum coverage requirements on licensees to ensure that spectrum is used effectively and service is implemented promptly. The NPRM seeks comment on whether the Commission should establish any specific coverage requirements in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands, or whether coverage criteria should be adopted as one means, but not the exclusive means, of meeting a substantial service

(Continued from previous page)
do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1000 employees or more."

[33] FCC, Wireline Competition Bureau, Industry Analysis and Technology Division, "Trends in Telephone Service" at Table 5.3, page 5-5 (May 2004). This source uses data that are current as of October 22, 2003.

[34] FCC, Wireline Competition Bureau, Industry Analysis and Technology Division, "Trends in Telephone Service" at Table 5.3, page 5-5 (May 2004). This source uses data that are current as of October 22, 2003.

requirement. The NPRM also seeks comment on whether licensees should be subject to interim performance requirements prior to the end of the license term.

23. In paragraphs 77-79 of the NPRM, the Commission seeks comment on allowing licensees in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands to partition their service areas and to disaggregate their spectrum. If the Commission permits partitioning, then the partitioning licensee would have to include with its request a description of the partitioned service area and a calculation of the population of the partitioned service area and the licensed geographic service area.

24. In paragraphs 82-116, the NPRM seeks comment on a number of technical issues and licensing obligations. The NPRM requests information on how best to control in-band and out-of-band interference, appropriate power limits, RF safety limits, and Canadian and Mexican coordination.

25. The Commission requests comment on how all of these requirements may be modified to reduce the burden on small entities and still meet the objectives of the proceeding.

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

26. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed 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.[35]

27. Specifically to assist small businesses, the NPRM proposes to establish the same small business size standards and associated small business bidding credits for the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands as the Commission adopted for broadband PCS and AWS in the 1710-1755 MHz and 2110-2155 MHz bands in the event that licensing is based on non-nationwide geographic areas. Thus, the NPRM proposes to define a small business as an entity with average annual gross revenues for the preceding three years not exceeding $40 million, and a very small business as an entity with average annual gross revenues for the preceding three years not exceeding $15 million, if licenses are not nationwide. The NPRM proposes a bidding credit of 15 percent for small businesses and a bidding credit of 25 percent for very small businesses. The NPRM tentatively concludes that small business bidding credits are not appropriate if a nationwide licensing scheme is adopted for the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands. (Paragraph 124 of the NPRM.) The NPRM bases this conclusion on the fact that the implementation costs associated with a nationwide license in these bands is presumed to be very high, and it is not clear whether small businesses could attract the capital necessary to implement and provide nationwide service.

28. The NPRM solicits comment on a number of proposals and alternatives regarding the service rules for the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz bands. The NPRM seeks to adopt rules that will reduce regulatory burdens, promote innovate services and encourage flexible use of this spectrum. It opens up economic opportunities to a variety of spectrum users, which could include small businesses. The NPRM considers various proposals and alternatives partly because the Commission seeks to minimize, to the extent possible, the economic impact on small businesses.

[35] 5 U.S.C. § 603(c).

29. The NPRM invites comment on various alternative licensing and service rules and on a number of issues relating to how the Commission should craft service rules for this spectrum, that could have an impact on small entities. For example, the Commission seeks comment on the size of spectrum blocks for these frequencies and how the size of spectrum blocks would impact small entities. (Paragraphs 21-33 of the NPRM.) The NPRM proposes a geographic area approach to service areas, as opposed to a station-defined licensing approach, and seeks comment on the appropriate size of service areas. Specifically, the NPRM asks for comment on whether smaller geographic areas would better serve the needs of small entities. As explained in paragraphs 21-22 of the NPRM, the Commission's approach to determining optimum geographic area license size(s) attempts to accommodate the likely range of applicant desires by balancing efficiency with the policy goal of disseminating licenses among a wide variety of applicants. The NPRM notes that the Commission wishes to foster service to rural areas and tribal lands, and to promote investment in and rapid deployment of new technologies and services. The NPRM also notes that small license areas may favor smaller entities with regional business plans and no interest in providing large-area service. In summary, the NPRM seeks comment on the advantages and disadvantages to small entities of a large geographic licensing scheme over a small one in terms of impact on rural and small entities. (Paragraphs 21-33 of the NPRM.)

30. As noted earlier, the NPRM seeks comment on permitting geographic partitioning and spectrum disaggregation. The NPRM notes that geographic partitioning and spectrum disaggregation is a tool utilized by the Commission to promote efficient spectrum use and economic opportunity for a wide variety of applicants, including small business, rural telephone, minority-owned, and women-owned applicants. (Paragraphs 77-79 of the NPRM.) The NPRM seeks comment on the benefits and costs of partitioning and disaggregation, and whether it promotes the public interest. Finally, the NPRM, in paragraphs 67-69, seeks comment on whether any band-specific limits on spectrum aggregation are necessary or appropriate in this case, and how this would impact the marketplace, including small entities.

31. The regulatory burdens proposed in the NPRM, such as filing applications on appropriate forms, appear necessary in order to ensure that the public receives the benefits of innovative new services, or enhanced existing services, in a prompt and efficient manner. The Commission will continue to examine alternatives in the future with the objectives of eliminating unnecessary regulations and minimizing any significant economic impact on small entities. The Commission invites comment on any additional significant alternatives parties believe should be considered and on how the approach outlined in the NPRM will impact small entities, including small businesses and small government entities.

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

32. None.

SEPARATE STATEMENT OF CHAIRMAN MICHAEL K. POWELL

Re: Service Rules for Advanced Wireless Services in the1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, and 2175-2180 MHz Bands, Notice of Proposed Rulemaking. WT Docket No. 04-356; and Sixth Report and Order, Third Memorandum Opinion and Order (ET Docket No. 00-258), and Fifth Memorandum Opinion and Order (ET Docket No. 95-18)

One of our core mandates is to promote the efficient use of spectrum. Today we further that mandate by making available 20 MHz of spectrum suitable for the provision of new advanced wireless services and technology.

The 20 MHz of licensed spectrum we make available, in addition to the 90 MHz of spectrum previously made available, will help expedite the delivery of licensed broadband Internet wireless service to all consumers across the nation. As is evident from today's Ninth Competition Report, wireless providers are increasingly utilizing their licensed spectrum holdings to build infrastructure to support Internet applications. This additional spectrum will enable providers to employ more bandwidth-intensive applications and services and expedite the delivery of true broadband access.

Overall, our allocation and proposed service rules seek to maximize the flexibility of licensees to choose the types and characteristics of the services that they will offer in their licensed spectrum and define spectrum users' rights and responsibilities clearly. We also address an appropriate relocation and reimbursement policy to compensate entities for expenses incurred in relocating incumbents.

There have been interference concerns raised in the record about proceeding with the designation of the 1915-1920 MHz band for advanced wireless services. I particularly note and appreciate the efforts of Sprint and Nokia to produce, under very short time frames, real world test results for our analysis. I believe that today's designation decision combined with the initiation of a service rules proceeding will afford the Commission latitude to address comprehensively the existing and future test results about the most viable and valuable uses of this band. In the end, my colleagues and I unanimously felt that we could proceed responsibly now and produce services rules responsive to a full record on these issues.

In sum, we strike the right balance by promoting the efficient use and availability of spectrum while at the same time seeking comments on a number of licensing, technical, and operational rules to govern the use of the 20 megahertz of spectrum designated for AWS. I know that these rules are of great interest and I welcome industry input and independent testing on these issues.

Lastly, I applaud the collaborative efforts of the Wireless Telecommunication Bureau and the Office of Engineering and Technology in helping to bring these important items before the Commission.

SEPARATE STATEMENT OF COMMISSIONER KATHLEEN Q. ABERNATHY

Re: Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, FCC 04-219

One of the most important roles of the Commission is to make additional spectrum available for new and innovative communications services. Over the past few years, the FCC, in conjunction with NTIA, has made available 90 MHz of additional spectrum for advanced wireless communications services. Today, we go further by making another 20 MHz of spectrum available for these uses. By doing so we are continuing to promote spectrum efficiency and creating an environment that encourages the deployment of new and innovative services, including broadband, to Americans.

While supporting this action, I also recognize that redesignation of the H block spectrum for advanced wireless communications uses holds the potential to cause harmful interference with existing broadband PCS services unless we adopt appropriate technical limitations on operations within the H block. However, I believe that these concerns can be adequately addressed as we craft the service and technical rules for this band. Accordingly, I look forward to receiving the comments and test data we are soliciting in response to the notice of proposed rulemaking in the service rule companion proceeding. At that point, I will carefully review the record and work with all interested parties to ensure that we craft technical rules that protect incumbent broadband PCS operations while also permitting the deployment of advanced wireless services in the H block.

SEPARATE STATEMENT OF COMMISSIONER MICHAEL J. COPPS

Re: *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems (ET Docket No. 00-258); Petition for Rulemaking of the Wireless Information Networks Forum Concerning the Unlicensed Personal Communications Service (RM-9498); Petition for Rulemaking of UTStarcom, Inc., Concerning the Unlicensed Personal Communications Service (RM-10024); and Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile-Satellite Service (ET Docket No. 95-18).*

Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz, and 2175-2180 MHz (WT Docket No. 04-356).

I support both the allocation order and the service rules NPRM with the hope that this band will bring new service to American consumers in the near future. This can be a real boon for advanced telecommunications. At the same time, we have our work cut out to make it a reality. Importantly, the Commission must ensure that the use of this band does not cause unacceptable interference to consumers who currently use proximate bands. Because of the importance of the surrounding bands, and because of the allegations made by terrestrial mobile and satellite license holders, I support deferring interference findings until more information can be collected as part of the NPRM process. Once we have this information, I hope that we will integrate it into our final decision as quickly as possible. We also have some standards matters to resolve with our friends in Canada and Mexico. I look forward to accomplishing all this work and to bringing an advanced generation of new services to America's consumers.

SEPARATE STATEMENT OF COMMISSIONER JONATHAN S. ADELSTEIN

Re: Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems; ET Docket No. 00-258

Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands; WT Docket No. 04-356

It's always exciting to consider new spectrum opportunities. I very much appreciate the efforts of the Office of Engineering and Technology and the Wireless Telecommunications Bureau to explore new ways to improve the use of spectrum. I have talked before about one of my goals to maximize the services and information that flow over our nation's airwaves. And the items before us can really help to further that goal.

At the same time, there clearly are some challenges in looking at new services for the so-called "H" block. I am pleased that we are moving forward a little cautiously on some of the technical issues presented by possible use of this band. In promoting new services, we always need to make sure that we are adequately protecting any existing service. In this case, we must ensure that our rules shield the significant base of existing PCS customers from harmful interference. Consistent with a framework for innovation, the Commission has a responsibility to establish ground rules for ensuring that harmful interference does not occur – while still striving to promote new technologies and services.

I think we are on the right track here. We have teed up a lot of good discussion in the NPRM on the interference issue. I look forward to hearing the result of industry tests over the next several months and to following the healthy debate that is sure to follow. I am pleased with the outcome today, and think we have struck just the right balance in addressing these valuable pieces of spectrum.