

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

In the Matter of)	
)	
Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies To Provide Spectrum-Based Services)	WT Docket No. 02-381
)	
2000 Biennial Regulatory Review Spectrum Aggregation Limits For Commercial Mobile Radio Services)	WT Docket No. 01-14
)	
Increasing Flexibility To Promote Access to and the Efficient and Intensive Use of Spectrum and the Widespread Deployment of Wireless Services, and To Facilitate Capital Formation)	WT Docket No. 03-202
)	

NOTICE OF PROPOSED RULEMAKING

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

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I. INTRODUCTION AND OVERVIEW

1. In this Notice of Proposed Rulemaking (NPRM), we continue to examine ways to promote the rapid and efficient deployment of quality spectrum-based services in rural areas.¹ We build

¹ The NPRM addresses regulations and policies pertaining to the provision of commercial and private terrestrial wireless services and, in certain respects, unlicensed systems and devices. In addition, pursuant to Section 11 of the Communications Act, the NPRM examines whether our cellular cross-interest rule continues to be necessary in the public interest, in light of meaningful economic competition. See 47 U.S.C. §§ 161(a)(1), (2). While the policies and proposals discussed herein are targeted at promoting wireless services to consumers in rural areas, certain of our proposals have broader application to non-rural areas as well. While satellite-based services present another viable means to serve rural and underserved areas, we do not propose any rule changes to our policies or

(continued....)

upon the record developed in response to our Notice of Inquiry, in which we sought comment on how we could modify our policies to further encourage the provision of wireless services in rural areas.² We also draw upon the findings and recommendations of the Spectrum Policy Task Force, which identified and evaluated potential changes in our spectrum policy that would increase public benefits from spectrum-based services.³

2. In this proceeding, the Commission continues its efforts in the spectrum policy arena to facilitate the provision of wireless services to all Americans, including those residing in or traveling through rural areas. The continued development and operation of quality wireless facilities, systems and devices using licensed and unlicensed spectrum in rural areas is critical. In our highly mobile and increasingly untethered world, consumers value wireless services that offer ubiquitous and seamless coverage in a reliable manner. The Commission's primary mission is the promotion of "communication by wire and radio so as to make available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nation-wide, and world-wide wire and radio communication service."⁴ Furthermore, for auctionable services, the Commission is required to promote various objectives in designing a system of competitive bidding, including the development and rapid deployment of new technologies, products, and services for the benefit of the public, "including those residing in rural areas," and "the efficient and intensive use of spectrum."⁵ Under Section 706 of the Communications Act, the Commission is also directed to "encourage the provision of new technologies and services to the public."⁶ Consistent with these statutory mandates, the Commission's spectrum policy goals generally have been to facilitate efficient use, competition, and rapid, widespread service consistent with the goals of the Communications Act.⁷

3. On a national scale, the deployment of wireless mobile services has been a huge success,

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regulations governing satellite-based services at this time, nor do we address regulations governing the provision of broadcast, wireline telecommunications or information services. We note that, in the broadcasting context, we have recently issued an NPRM regarding extending digital television opportunities to rural areas. *See* Amendment of Parts 73 and 74 of Commission's Rules To Establish Rules for Digital Low Power Television, Television Translator, and Television Booster Stations, and To Amend Rules for Digital Class A Television Stations, *Notice of Proposed Rulemaking*, FCC 03-198, 2003 WL 22023945 (rel. Aug. 29, 2003).

² Facilitating the Provision of Spectrum-Based Service to Rural Areas and Promoting Opportunities for Rural Telephone Companies to Provide Spectrum-Based Services, *Notice of Inquiry*, 17 FCC Rcd 25554 (2002) (*Rural NOI*).

³ *See* Federal Communications Commission, Spectrum Policy Task Force Report, ET Docket No. 02-135 (released Nov. 2002) (*SPTF Report*). This report and other materials can be found at <<http://www.fcc.gov/sptf>>. *See also* "Commission Seeks Public Comment on Spectrum Policy Task Force Report," *Public Notice*, 17 FCC Rcd 24316 (2002).

⁴ 47 U.S.C. § 151.

⁵ 47 U.S.C. § 309(j).

⁶ 47 U.S.C. § 157.

⁷ 47 U.S.C. §§ 151, 309(j).

resulting in increased competition and services overall.⁸ We believe that a number of measures that the Commission has already adopted have contributed to this successful deployment of wireless service. For example, we have adopted mechanisms such as small business bidding credits,⁹ partitioning and disaggregation,¹⁰ and the designation of various sizes of geographic service areas for spectrum licenses in order to encourage participation in spectrum auctions and facilitate deployment of wireless services generally.¹¹ Existing data indicates that wireless service providers have taken advantage of these regulatory mechanisms. As of July 2003, the Commission has completed 35 auctions for terrestrial wireless licenses. 76 percent of the winning bidders in these auctions claimed eligibility status as a “small business” and were the winning bidders for 52 percent of the licenses sold.¹² Furthermore, within the 35 completed auctions, 12 percent of the winning bidders self-certified as being rural telephone companies

⁸ 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, *Eighth Report*, 18 FCC Rcd 14783 (2003) (*Eighth Competition Report*).

⁹ See Implementation of Section 309(j) of the Communications Act – Competitive Bidding, *Second Report and Order*, 9 FCC Rcd 2348, 2350 ¶ 6 (1994) (*Competitive Bidding Second Report and Order*). See also Extending Wireless Telecommunications Services to Tribal Lands, *Report and Order and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 11794 (2000).

¹⁰ Partitioning and disaggregation is now permitted in the 218-219 MHz Service (47 C.F.R. § 95.823), 220 MHz Service (47 C.F.R. § 90.1019), 800 MHz (47 C.F.R. § 90.911) and 900 MHz (47 C.F.R. § 90.813) Specialized Mobile Service (SMR), 24 GHz Service (47 C.F.R. § 101.535), 39 GHz Service (47 C.F.R. § 101.56), Local Multipoint Distribution Service (LMDS) (47 C.F.R. § 101.1111), Location and Monitoring Service (LMS) (47 C.F.R. § 90.365), Multiple Address Systems (MAS) (47 C.F.R. § 101.1323), Multipoint Distribution Service (MDS) (47 C.F.R. § 21.931), Maritime Services (47 C.F.R. § 80.60), Paging and Radiotelephone Service (47 C.F.R. § 22.513), Cellular Radiotelephone Service (47 C.F.R. § 22.948), broadband Personal Communications Services (PCS) (47 C.F.R. § 24.714), narrowband PCS (47 C.F.R. § 27.104), and all Part 27 services (47 C.F.R. §§ 27.15, 27.605).

¹¹ The smallest of these geographic service areas are Rural Service Areas (RSAs) and Metropolitan Statistical Areas (MSAs), of which there are 734 licenses comprising the United States and its territories. The Commission has also licensed spectrum according to Economic Area Groupings (EAGs), which make up six licensing areas for the entire country. Some terrestrial wireless services, such as narrowband Personal Communications Services (PCS) and 1670-1675 MHz, have geographic service areas that have nationwide coverage. Narrowband PCS is also licensed on a regional basis. See 47 C.F.R. § 24.102. Other geographic service areas fall along a range of intermediate sizes between RSAs and nationwide service areas, e.g., Major Trading Areas (MTAs), Basic Trading Areas (BTAs), Economic Areas (EAs), and Major Economic Areas (MEAs). See Summary of Completed Auctions, available at <<http://wireless.fcc.gov/auctions/>> (denoting geographic service areas for each auction that has been conducted pursuant to 47 U.S.C. § 309(j)). We note that Rand McNally & Company owns the copyright to the MTA and BTA listings. See Rand McNally, 1992 Commercial Atlas and Marketing Guide at 36-39 (123rd ed. 1992).

¹² For the purposes of this analysis, “small business” includes all winning bidders that claimed eligibility status as a small or very small business for the purposes of qualifying for bidding credits. The data for this analysis was obtained from publicly available information from the Commission's Auctions website. See <<http://wireless.fcc.gov/auctions/>>.

(rural telcos), as that term is defined by the Communications Act.¹³ Moreover, the Commission's analysis of applications for geographic partitioning and spectrum disaggregation reveals that 13.5 percent of all assignees have voluntarily identified themselves as rural telcos.¹⁴ In addition to these regulatory mechanisms, the Commission has also adopted flexible regulations for unlicensed systems under Part 15 and is in the process of examining targeted issues raised by wireless Internet service providers (WISPs) with respect to unlicensed spectrum in rural areas.¹⁵ Recently, the Commission took steps to facilitate spectrum leasing in secondary markets, building upon existing, flexible, market-based policy efforts to encourage more efficient use of spectrum.¹⁶ The Commission did so with the belief that secondary markets would also facilitate investment in rural areas. We will be monitoring investment to see whether secondary markets have contributed to the growth of wireless services in rural areas.

4. We recognize that the inherent economic challenges of providing telecommunications services in sparsely populated, expansive rural areas are of significant importance to any carrier that serves or is considering serving these areas. We note that the Federal-State Joint Board has solicited comment on issues relating to the eligibility of wireless carriers to receive universal service support.¹⁷ Further, the Wireless Telecommunications Bureau and the U.S. Department of Agriculture's Rural Utilities Service (RUS) have recently initiated a "Federal Rural Wireless Outreach Initiative" that seeks to harmonize the agencies' policies regarding rural wireless deployment and highlight the RUS loan programs available to wireless companies that serve rural communities.¹⁸ We will continue to monitor developments in those arenas and will consider the impact that these policy issues may have on the delivery of spectrum-based services in rural areas.

5. At present, a number of explicit programs are available to support the provision of spectrum-based services in rural areas. For example, wireless telecommunications carriers may seek Universal Service Fund support for service in high cost areas and can also apply for RUS funds in the deployment of broadband services. From the beginning of fiscal year 2000 through June 24, 2003,

¹³ See 47 U.S.C. § 153(37) (defining "rural telecommunications carrier"). We note that the list of entities self-certifying as rural telcos and the list of entities that claimed eligibility as small businesses are not mutually exclusive.

¹⁴ *Rural NOI* at 25559 ¶ 8.

¹⁵ Additional Spectrum for Unlicensed Devices below 900 MHz and 3 GHz Band, *Notice of Inquiry*, 17 FCC Rcd 25632 (2002); see also *SPTF Report*.

¹⁶ See "FCC Adopts Spectrum Leasing Rules and Streamlined Processing for License Transfer and Assignment Applications, and Proposes Further Steps To Increase Access to Spectrum through Secondary Markets," *News Release*, 2003 WL 21088542 (rel. May 15, 2003) (*Secondary Markets News Release*). This new policy will facilitate the development of secondary markets in spectrum by allowing licensees to engage in certain types of spectrum leases with minimal regulatory involvement.

¹⁷ See "Federal-State Joint Board on Universal Service Seeks Comment on Certain of the Commission's Rules Relating to High-Cost Universal Service Support and the ETC Designation Process," *Public Notice*, FCC 03J-1 (rel. February 7, 2003). Although we received substantial input into Universal Service issues in response to the *Rural NOI*, we do not address direct subsidy programs further in this proceeding, but acknowledge their importance to promoting the availability of rural service and will address them in separate proceedings.

¹⁸ See "FCC and USDA Hold Kick-Off Meeting of the "Federal Rural Wireless Outreach Initiative," *News Release*, 2003 WL 21511807 (rel. July 2, 2003) (*Federal Rural Wireless Outreach Initiative News Release*).

18 companies received infrastructure and pilot broadband loans totaling almost \$158 million from RUS to provide wireless service.¹⁹ The Universal Service Administrative Company (USAC) projects that 102 competitive Eligible Telecommunications Carriers (ETCs) will receive portable high-cost support in the third quarter of 2003.²⁰ In addition, USAC projects that, in the third quarter of 2003, competitive ETCs will receive approximately \$32 million or 3.7 percent of all federal high-cost support.²¹

6. We believe that rural as well as urban consumers and businesses have benefited from our market-oriented policies that promote facilities-based competition for telecommunications services. The Commission recently found that there is effective competition in the CMRS marketplace as a whole, including in rural areas.²² The Commission's policy to let market forces determine the number of firms operating in a given geographic area, subject to limits on spectrum availability and aggregation, recognizes this fact, and allows firms to operate at a competitive and efficient scale of operation. The providers are then able to pass along to consumers the cost savings from efficient operation. In contrast, if there were more than an efficient number of providers in a market, absent other support such as subsidies, in the long run some of these providers would go out of business, causing a loss of service and other inconvenience to consumers.

7. The Commission recognizes that, as a result of varying technical and demographic characteristics, the economics of providing service can be significantly different in rural areas as compared to urban areas. Our proposals attempt to acknowledge that market characteristics, especially demographics, will affect the optimal market structure. For example, because of economies of scale in wireless networks and lower population densities in rural areas, the economically efficient number of providers likely will be fewer. On the other hand, fewer competitors in rural areas may indicate a market failure. Any small, new entrant attempting to serve a niche market might face barriers to entry arising from its inability to exploit economies of scale, and will inevitably have less bargaining power to secure equipment, supplies, or negotiate agreements. This may be the case in some rural markets, and raises the question of the effect on consumer welfare of inducing additional providers to serve rural areas. Our proposals attempt to account for these market realities and to promote rural service in a manner consistent with our statutory obligations.

8. Furthermore, there may well be a public interest in policies that encourage potential users to become mobile subscribers due to the network externalities that would result. In short, network externalities occur when adding a user to a communications network increases the value of the network for existing users who wish to communicate with that new user.²³ For this reason, it is an especially

¹⁹ Information provided by correspondence from Ken Ackerman, Assistant Administrator – Program Accounting and Regulatory Analysis, RUS, to Cindi Scheiber, Analyst, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, on June 24, 2003.

²⁰ See Federal Universal Service Support Mechanism Fund Size Projections for the Third Quarter 2003, at HC-1, available at <<http://www.universalservice.org/filings>> (filed May 2, 2003). Most competitive ETCs are wireless providers.

²¹ *Id.*

²² *Eighth Competition Report* at 14792 ¶¶ 12, 13.

²³ See M. L. Katz and C. Shapiro, "Systems Competition and Network Effects," *Journal of Economic Perspectives* 8: 93-115 (1994); M. L. Katz and C. Shapiro, "Technology Adoption in the Presence of Network Externalities," *Journal of Political Economy* 94: 822-841 (1986); M. L. Katz and C. Shapiro, "Network Externalities,

(continued....)

important Commission goal to facilitate access to service broadly, not just in urban markets but also in rural areas, to enable Americans who travel, reside or conduct business throughout the country to communicate effectively for the benefit of the general public interest.

9. As a complement to the measures the Commission has already taken, we seek to minimize regulatory costs and eliminate unnecessary regulatory barriers to the deployment of spectrum-based services in rural areas. At the same time, however, regulatory initiatives may be appropriate to encourage and promote the rapid deployment of new technologies, products, and services for the benefit of those residing in rural areas consistent with our statutory obligation. As reflected in the proposals set forth in the following NPRM, we believe there are additional spectrum policy initiatives the Commission can adopt to reduce the overall cost of regulation and increase flexibility in a manner that will facilitate spectrum access, capital formation, build out and coverage in rural areas. Specifically, we focus upon the following issues: (1) determining an appropriate definition of what constitutes a “rural” area for purposes of our policies and requirements; (2) creating mechanisms for access to “unused” spectrum; (3) relaxing performance requirements to remove disincentives to serve rural areas and to allow all geographic area licensees to satisfy construction requirements by providing “substantial service” in their initial license term; (4) determining whether geographic area licensees should be required to provide coverage to increased portions of their licensed areas after their initial license term; (5) amending our regulations to permit increased power limits in rural areas for both licensed services and unlicensed services; (6) evaluating the appropriate size of licensing areas for geographic area licenses; (7) determining what, if any, regulatory or policy changes should be made to complement the RUS program for low interest loans for deployment of broadband services; (8) considering whether we could enhance access to capital by permitting the grant of conditional security interests in spectrum licenses to RUS; (9) considering whether we should modify application of the cellular cross-interest rule in Rural Service Areas (“RSAs”) with greater than three competitors; (10) establishing a clear, predictable policy on infrastructure sharing; and (11) updating and refining our rules governing the Rural Radiotelephone Service (“RRS”) and Basic Exchange Telephone Radio Systems (“BETRS”).

II. NOTICE OF PROPOSED RULEMAKING ON INCREASING FLEXIBILITY AND THE DEPLOYMENT OF SPECTRUM-BASED SERVICES IN RURAL AREAS

A. Definition of “Rural”

10. As an initial matter, we seek comment on an appropriate definition of a “rural area” for use in conjunction with each of the policies addressed in this proceeding.²⁴ We seek comment on whether a uniform definition of “rural area” is appropriate to the proposals discussed in this item, or whether the definition of “rural area” should differ depending upon the particular regulatory initiative at issue. Furthermore, given the various definitions of “rural” that already have been utilized by federal agencies generally and the Commission specifically, we believe that some clarification of the term is necessary in

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Competition, and Compatibility,” *American Economic Review* 75: 424-440 (1985); Jeffrey Rolfs, “A Theory of Interdependent Demand for a Communications Service,” *Bell Journal of Economics and Management Science* 5, no. 1 (Spring 1974), pp. 16-37.

²⁴ We note that any definition of “rural area” adopted for purposes of this proceeding would not affect the definition of rural in other contexts, such as the Commission’s rules related to universal service and rural areas, or designation of eligible telecommunications carriers.

order to ensure that our proposals are appropriately tailored to promote service to consumers in rural areas and ensure uniform understanding of how our regulatory proposals will be implemented. Although Sections 309(j)(3) and 309(j)(4) of the Communications Act direct the Commission to promote the development and deployment of spectrum-based services to “rural areas,” the Communications Act does not define “rural areas,” nor has the Commission adopted a specific definition of “rural areas” for purposes of implementing Section 309(j).²⁵ In the *Seventh* and *Eighth Competition Reports*, the Commission used three different proxy definitions of “rural” for purposes of analyzing the average number of mobile telephony competitors in rural versus non-rural counties: the Commission compared the number of competitors in: (1) RSA counties versus MSA counties²⁶; (2) non-nodal Economic Area (EA) counties versus nodal EA counties;²⁷ and (3) counties with population densities below 100 persons per square mile versus those with population densities above 100 persons per square mile.²⁸ In connection with administering universal service support programs for schools, libraries, and rural health care providers, the Commission defines “rural area” as any county outside of an MSA (with some exceptions).²⁹ Moreover, the federal government has multiple ways of defining “rural,” reflecting the multiple purposes for which the definitions are used.³⁰ The Commission has used RSAs as a proxy for “rural” in certain instances.³¹ In administering its financial assistance program for broadband access to rural areas, RUS defines “rural” as any place that is not located within an MSA and that has no more than 20,000 inhabitants (based upon the most recently available Census data).³² The Economic Research Service of the USDA, in conjunction with others, developed a definition of “rural” based on a set of

²⁵ We note that “rural telephone companies” are defined under Section 3 of the Communications Act. *See* 47 U.S.C. § 153(37). Because the regulatory measures discussed in the NPRM are focused upon promoting service to consumers residing within rural areas, and not upon whether a wireless service provider itself is a “rural” company, we do not believe this particular definition is appropriate with respect to the proposals discussed herein.

²⁶ *See Eighth Competition Report* at 14837, ¶ 113; *see also* Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act – Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, *Seventh Report*, 17 FCC Rcd 12985, 13022 (2002) (*Seventh Competition Report*).

²⁷ Each EA consists of one or more counties that are “Economic Nodes” and the surrounding counties that are economically related to it. An EA may have more than one economic node. The counties that are economic nodes are metropolitan areas or similar areas that serve as the EA’s center(s) of economic activity. As a proxy for urban and rural geographic areas, we looked at counties that make up economic nodes, *i.e.*, nodal counties, versus those counties that do not make up economic nodes, *i.e.*, non-nodal counties. *See Eighth Competition Report* at 14836 ¶ 112; *see also Seventh Competition Report* at 13022.

²⁸ *See Eighth Competition Report* at 14837 ¶ 114; *Seventh Competition Report* at 13023.

²⁹ *See* 47 C.F.R. § 54.5.

³⁰ *See Eighth Competition Report* at 14835 ¶ 108; *see also Seventh Competition Report* at 13022; *Rural NOI* at 25563 ¶ 15.

³¹ In the CMRS spectrum cap proceeding, the Commission designated RSAs as rural areas and stated, “[o]ther market designations used by the Commission for CMRS, such as [EAs], combine urbanized and rural areas, while MSAs and RSAs are defined expressly to distinguish between rural and urban areas.” Biennial Regulatory Review, Spectrum Aggregation Limits for Wireless Telecommunications Carriers, *Report and Order*, 15 FCC Rcd 9219, 9256 ¶ 84 n. 203 (1999).

³² *See* 7 C.F.R. § 1738.2

metrics that delineates each census tract as being either rural or urban.³³ By contrast, the Census Bureau established a different metric for defining “rural” areas during its 2000 census.³⁴

11. Although there are many definitions of “rural” used by the federal government, we have developed a record in response to our *Rural NOI* proceeding that provides some guidance with respect to an appropriate definition of “rural area.”³⁵ We seek to further expand upon that record. Several commenters support the adoption of the definition of an RSA for “rural area.”³⁶ USCC recommends adoption of such a definition because it is “widely known, used and accessible in the industry and because it has already been demonstrated to be a workable proxy for analytical purposes.”³⁷ Other commenters suggest factors that should be taken into account when determining whether an area is rural, such as commuting patterns,³⁸ or the number of persons per square mile.³⁹ On the other hand, at least with respect to defining “rural areas” for purposes of CMRS, Dobson Communications Corporation states that, “as the CMRS industry has matured, competition in rural areas has developed sufficiently to make meaningless any competitive distinction between urban and rural areas.”⁴⁰

12. Based upon the record developed in the *Rural NOI* proceeding, as well as certain definitions used by the Commission and by other federal agencies as proxies for “rural,” we have identified and seek comment on the following potential definitions of “rural area,” or some combination of elements combined in these potential definitions: (1) counties with a population density of 100 persons or fewer per square mile; (2) RSAs; (3) non-nodal counties within an EA; (4) the definition for “rural” used by the RUS for its broadband program; (5) the definition for “rural area” used by the Commission in

³³ See <<http://www.ers.usda.gov/briefing/rural/data/desc.htm>>.

³⁴ The glossary on the Census website (<<http://factfinder.census.gov/servlet/BasicFactsServlet>>) defines “rural” as “Territory, population and housing units not classified as urban. ‘Rural’ classification cuts across other hierarchies and can be in metropolitan or non-metropolitan areas.” The definition of “urban” is all populations in “Urbanized Areas,” as defined by the Census, and populations of more than 2,500 people outside of urbanized areas.

³⁵ See *Rural NOI* at 25563 ¶ 15. In addition, we have received feedback on the appropriate definition of “rural” as a result of the public forum held in connection with the Seventh Competition Report. See *Seventh Competition Report* at 13020 n. 241 (For access to forum participants’ presentations, see Commercial Mobile Radio Services (CMRS) Competition Report Public Forum, <<http://wireless.fcc.gov/cmrs-crforum.html>>. The transcript of the forum can be found at Public Hearing for 7th Annual CMRS Competition Report: Transcript of the Day’s Event, <<http://wireless.fcc.gov/services/cmrs/presentations/020228.pdf>>).

³⁶ See, e.g., *Rural NOI*, Comments of the National Telecommunications Cooperative Association at 9 (NTCA Comments); Comments of United States Cellular Corporation at 5-6 (USCC Comments); cf. Comments of South Dakota Telecommunications Association at 5 (suggesting that “[b]y definition, an RSA is an area made up of rural territory,” and that “[t]his fact would allow the Commission to avoid the definitional quandary . . . since any construction within the RSA would be service to a rural area”).

³⁷ *Rural NOI*, USCC Comments at 6. USCC noted that, in the *Seventh Competition Report*, the Commission found “that its analysis of the competitive conditions in rural areas based on non-nodal [Economic Areas], population density and RSAs provided ‘. . . remarkably similar estimates.’” *Id.* (internal citations omitted).

³⁸ See NTCA Comments at 2.

³⁹ See *Rural NOI*, Comments of Air Networking at 1.

⁴⁰ See *Rural NOI*, Comments of Dobson Communications Corporation at 4.

connection with universal service support for schools, libraries, and rural health care providers;⁴¹ (6) the definition of “rural” based on census tracts as outlined by the Economic Research Service of the USDA; (7) the Census Bureau definition of “rural” counties; and (8) any census tract that is not within ten miles of any incorporated or census-designated place containing more than 2,500 people, and is not within a county or county equivalent which has an overall population density of more than 500 persons per square mile of land. As a practical matter, we note that definitions based upon county population data would be relatively easy for the Commission to administer: county boundaries are widely known and rarely change, all FCC-defined market areas are comprised of counties, and a considerable amount of data at the county level exists. On the other hand, there are potential drawbacks to a county-based definition. For example, a population-density based definition of “rural” might be unsuitable in cases where a county might have a very dense population center that covers only a small portion of the geographic area of the county, such that the county might be considered “rural” when, in fact, most of the county’s population is not rural. In the event that commenters disagree with these potential definitions, we ask commenters to provide alternative definitions of “rural.” Commenters that believe that none of these potential definitions are workable or feasible should identify specific factors that the Commission should consider when determining whether an area is a “rural area,” such as population density, Census rankings, or other criteria. Commenters should articulate specific reasons and provide quantitative data supporting the use of their proposed definitions of “rural areas.” Finally, we recognize that one definition of “rural” may not be universally applied to all situations. Accordingly, we seek comment on whether we should adopt different definitions of what constitutes a “rural area” depending upon the policy initiative for which the definition is used, as set out in this proceeding.

B. Improved Access to Unused Spectrum

1. Background

13. The Commission has promoted access to and efficient use of spectrum through a variety of means that may foster the rapid and efficient deployment of wireless services in rural areas. Applied to licensed spectrum, these approaches may be viewed as existing along a continuum, with voluntary, market-based mechanisms at one end, regulatory incentives and other approaches in the middle, and regulatory mandates and enforcement mechanisms at the other end. More specifically, the means by which the Commission may promote access to and use of spectrum range from allowing voluntary arrangements that move spectrum and licenses between users to establishing regulatory mechanisms by which the Commission reclaims and re-licenses unused spectrum.

14. While the process by which licensees may assign or transfer control of spectrum licenses – or partition, disaggregate, or aggregate spectrum – is well-established,⁴² the Commission’s efforts to facilitate voluntary movement of spectrum usage rights from licensees to other users through spectrum leasing is more recent.⁴³ In the 1999 *Policy Statement* outlining principles for spectrum allocation, the Commission stated that a key priority was making additional spectrum available, as well as creating

⁴¹ As we noted above, any definition of “rural area” that is adopted for purposes of this proceeding will not affect the definition of rural in other contexts. *See* n.24, *supra*.

⁴² *See* 47 C.F.R. § 1.948. Assignments and transfers of control are regulated under 47 U.S.C. § 310(d).

⁴³ *See Secondary Markets News Release*.

flexibility in its use.⁴⁴ In its 2002 Report, the Spectrum Policy Task Force recommended that the Commission promote spectrum leasing that, in addition to partitioning, could make more spectrum available in rural areas.⁴⁵ A rationale for the Commission's adopting the Report and Order and Further Notice of Proposed Rulemaking in the *Secondary Markets* proceeding was the facilitation of the voluntary exchange of spectrum usage rights and to allow licensees to provide access to other parties when those parties have a need for the spectrum, which, in turn, could increase opportunities for construction and service in rural areas.⁴⁶

15. In many spectrum-based services, the Commission has established rules by which it reclaims unused spectrum and makes it available to other parties. This process for reclaiming unused licensed spectrum differs across services. For example, with site-based private land mobile radio services, licensees generally are given one year to construct particular sites.⁴⁷ A licensee with an unconstructed site after one year loses its authorization to operate at that site, and other parties subsequently may request a license to operate in that unused spectrum. In the geographically-based cellular service, initial licensees are given five years to construct facilities and begin providing service within a geographic service area.⁴⁸ At the end of the initial five-year period, the licensee is allowed to keep those portions of its licensed area in which it has constructed, while the unconstructed portions of the market become available for licensing to other parties via the cellular "unserved area" licensing process.⁴⁹ We refer to this standard as a "keep what you use" approach. Among the advantages of a "keep what you use" approach is that there is a clear relationship between the provision of service to a geographic area and the retention of the licensee's right to serve that area, with spectrum in unserved areas made available to other users. Among the disadvantages, incumbent licensees often engage in

⁴⁴ Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, *Policy Statement*, 14 FCC Rcd 19868, 19870-75 ¶¶ 9-18 (1999).

⁴⁵ See *SPTF Report* at 58-60.

⁴⁶ See *Secondary Markets News Release*, Joint Statement of Chairman Michael K. Powell and Commissioner Kevin J. Martin, and Separate Statement of Commissioner Jonathan S. Adelstein.

⁴⁷ 47 C.F.R. § 90.155.

⁴⁸ 47 C.F.R. § 22.947.

⁴⁹ 47 C.F.R. § 22.949. At the end of the five-year build-out period, the licensee provides the Wireless Telecommunications Bureau a map of all constructed facilities. All areas within the market that are not covered by those facilities are considered "unserved areas" and become available for re-licensing on a site-by-site basis. The incumbent licensee, neighboring licensees, or new entrants may then apply on a site-by-site basis to serve any and all portions of the unserved area. The Commission receives approximately 40 cellular unserved area applications each month. Dobson Communications Corporation (Dobson) filed a Petition for Reconsideration of the Commission's decision in WT Docket No. 01-108, seeking to permit cellular carriers to extend cellular service area boundaries into unserved areas on a secondary basis. See Dobson Communications Corporation Petition for Limited Reconsideration, WT Docket No. 01-108 (filed Jan. 16, 2003) (Dobson Petition). We will address the Dobson Petition in the context of that proceeding. See Year 2000 Biennial Regulatory Review – Amendment of Part 22 of the Commission's Rules to Modify or Eliminate Outdated Rules Affecting the Cellular Radiotelephone Service and other Commercial Mobile Radio Services, WT Docket No. 01-108, *Report and Order*, 17 FCC Rcd 18401 (2002).

contentious battles with other parties that wish to access unused spectrum or service areas.⁵⁰

16. Other geographically licensed services, in contrast, face notably different construction benchmarks and means by which unused spectrum may be reclaimed and re-licensed by the Commission. For example, PCS licensees must meet five- and ten-year benchmarks that mandate coverage of a certain percentage of the population of their licensed areas, or where applicable, make a showing of substantial service. Failure to meet these benchmarks results in automatic cancellation or non-renewal of the entire license, including the rights to operate from any facilities already constructed under the authorization.⁵¹ Moreover, for many services, if the licensee loses its authorization for failing to meet the coverage requirements, it is often ineligible to reapply for that authorization.⁵² However, once these benchmarks are achieved, licensees are generally afforded exclusive rights and a renewal expectancy for the entire area and band under the license regardless of whether service is being provided in all parts of the area or over all of the spectrum. Because licensees that fail to comply with this coverage requirement lose their entire license, we refer to this standard of termination or forfeiture as the “complete forfeiture” approach. Among the advantages of this model, since licensees subject to this standard do not have to cover their entire geographic license areas or use all of their licensed spectrum capacity, there is a greater incentive during their initial license term for licensees to build out those areas that will ensure their economic viability as providers. Among the disadvantages of this model, and of particular relevance for this proceeding, is the potentially lower likelihood that rural and less-populous areas will be served by the licensee, at least during its initial license term, because there may be an incentive for construction to focus first on populous areas and there may be little corresponding incentive for licensees to construct in rural areas.

17. In addition, there are other approaches the Commission may use to transition spectrum to higher-valued uses. For example, as the Spectrum Policy Task Force observed, the Commission could create expanded “overlay” rights to licensed spectrum, whereby usage rights are given to new licensees.⁵³ To address issues related to the incumbent licensees in these bands, the Commission could adopt various policies, including mandatory relocation of incumbents to other bands, grandfathering incumbents in the existing band, or providing incentives for band-clearing. Overlays with relocation of incumbents were used in broadband PCS, while grandfathering of incumbents was used in services such as paging and SMR.⁵⁴ Among the advantages of this approach, in comparison to other mechanisms such as “keep what you use” and “complete forfeiture,” overlays may be more flexible and, in some cases, less burdensome on incumbents.⁵⁵ Among the disadvantages of this approach are potential incumbent hold-out problems,

⁵⁰ See “Wireless Telecommunications Bureau Approves Settlement Agreement between WWC License L.L.C. and WWC Holding Co., Inc. and N.E. Colorado Cellular Inc.,” *Public Notice*, 17 FCC Rcd 26148 (rel. December 23, 2002).

⁵¹ 47 C.F.R. § 24.203.

⁵² See, e.g., 47 C.F.R. §§ 24.103(h) (narrowband PCS), 24.203(a) and (b) (broadband PCS), 101.1011 (LMDS); 101.1325 (MAS).

⁵³ See *SPTF Report* at 48-49.

⁵⁴ *Id.*

⁵⁵ In order to achieve these benefits, flexible build out rules may be necessary.

lengthy periods for incumbent relocation, and the expense of additional auctions.⁵⁶

18. Because the “keep what you use,” “complete forfeiture,” and other approaches such as overlays may not be effective tools to ensure prompt delivery of service to rural and underserved areas,⁵⁷ we explore below alternative methods to facilitate access to and use of spectrum in these markets.⁵⁸ In the discussion that follows, we consider what constitutes use of spectrum by a licensee and, therefore, what spectrum should be subject to the Commission’s rules and policies that govern its use or failure to use. We then discuss different re-licensing mechanisms and compare these approaches to more market-based spectrum leasing mechanisms. We seek comment on whether we should advance certain re-licensing mechanisms, such as “keep what you use,” so as to further the goal of promoting service in rural areas.

2. Discussion

a. What Constitutes “Use” of Spectrum

19. As the Commission attempts to increase efficient access to and use of spectrum, and as it subsequently establishes policies for access to unused spectrum, we must provide a clear definition of “use” for all parties affected by these rules. That is, licensees that construct or lease their spectrum must understand how this use is construed in terms of construction requirements, re-licensing, and other policies that may affect them so that they will know what rights licensees will retain in the event they do not “use” their spectrum, however we define it. We seek comment on how to define “use” in order to effectively promote access to and use of spectrum in rural areas. We also inquire how to define this term in a flexible manner so as to recognize the many ways in which licensees provide service, or allow other parties to provide service, with their licensed spectrum. Under our current rules for many service bands, “use” is defined to reflect construction and operation of specified facilities by the licensee. We seek comment on whether this is the appropriate baseline standard for determining use and, if not, what this standard or other “performance” criteria should be.

20. We recognize that leasing *via* secondary markets may require viewing the concept of use from a different perspective. That is, under a negotiated spectrum leasing arrangement, a licensee assigns a usage right to a third party. Depending on the nature of the lease, this third party may then construct, operate, or otherwise use the spectrum of the licensee. We propose that spectrum in rural areas that is leased by a licensee, and for which the lessee meets the performance requirements that are applicable to the licensee, should be construed as “used” for the purposes of this proceeding and any other performance criteria we adopt. We expect that this approach would further enhance leasing in rural areas. We note that merely leasing spectrum, where the lessee does not fully meet the lessors’ performance requirements, would not be considered “use” under this proposal. We seek comment on this approach and other ways we could better tailor or expand the concept of “use” to encourage service by licensees or lessees in rural and underserved areas. Finally, should our definition of “use” be in any way limited as it applies to

⁵⁶ To the extent overlays result in mutually exclusive applications for spectrum usage rights, competitive bidding is required. *See* 47 C.F.R. § 309(j).

⁵⁷ 47 C.F.R. § 309(j)(4)(B).

⁵⁸ We retain current benchmarks for geographic-area licensees but, as discussed in Section II.C.1, below, we will add a substantial service option to provide such licensees with greater flexibility in meeting their construction requirements.

leasing? How would such limits be consistent with our attempts to create incentives for licensees to move their spectrum to higher valued uses?

21. Under one approach to defining construction, the Commission would rely on the filings of wireless providers, perhaps with certain reporting criteria. This approach is based on the presumption that wireless providers are in the best position to determine the meaning of “built” for their particular technology and application. Moreover, such an approach is consistent with recent Commission precedent and trends. With broadband PCS licensees, for example, the Commission did not attempt to specify a particular signal level, but instead required licensees to provide a signal level “sufficient to provide adequate service” to one-third of the population in the market within five years, and to two-thirds within ten years.⁵⁹ The rules require licensees to provide notification to the Commission in the form of maps and other supporting documents showing areas where they provide “a signal level sufficient to provide adequate service”⁶⁰ and otherwise demonstrating compliance with the respective construction requirements. The Wireless Telecommunications Bureau has received over 1,800 such notifications. The vast majority (approximately 93 percent) defined their coverage in terms of a signal strength between -92 and -104 dBm. In other words, there was some variance from system to system, but most were in a certain range. In applying this approach to measuring construction, the Commission could provide guidance regarding what type of range would be acceptable and how this might vary from service to service. Alternatively, under this approach, we could decline to provide direction and simply monitor the various means by which licensees report their construction.

22. We recognize that the approach described above, however, may present certain risks, particularly in the event that a licensee claims that it is satisfying the more flexible “substantial service” standard, instead of satisfying a concrete coverage benchmark. The Commission may not have sufficient resources to verify that the many different uses of rural spectrum likely to emerge will actually serve the goals of our build out requirements. We are concerned that companies could assert that a build out scenario was sufficient to meet our substantial service requirements without some baseline established by the Commission. Additionally, we note that this approach might present some risk for the licensee. For example, were it able to do so, the Commission could determine, upon receiving an assertion of compliance by a licensee, that the indicated build out is insufficient and that the licensee must do more in order to satisfy its construction requirements. This would require additional construction and investments not planned for by the licensee, which ultimately could prove more expensive to comply with than if they had been planned for and completed with the original build out. We therefore seek comment regarding whether the Commission should establish a baseline above which a licensee must reach in order to minimally comply with our substantial service requirements. We seek comment on whether this baseline should be determined in terms of signal strength or using some other metric.

23. We also seek comment on two other approaches for determining whether spectrum is being used in accordance with construction requirements or for purposes of finding available spectrum in rural areas. First, the Commission has developed rules defining protected service areas for site-based incumbents, such as 220 MHz, 800 MHz SMR, and paging licensees. For example, with the 220 MHz Band licensees, we measure the service area that is protected under our rules as that within a 38 dbu service contour,⁶¹ while for 800 MHz SMR licensees we measure this same area as that within a 40 dbu

⁵⁹ 47 C.F.R. § 24.203.

⁶⁰ 47 C.F.R. § 24.203.

⁶¹ 47 C.F.R. § 90.763(b)(1)(i)(A). Note that 38 dbu is equivalent to -84 dbm, assuming an antenna gain of 0 dbd.

service contour.⁶² For paging licensees, the estimate of the service contour uses a formula based on antenna height (HAAT) and ERP (watts).⁶³ We seek comment on how we should address these and other differences in estimating coverage in rural areas. In light of the fact that our rules defining protected service areas vary by service, we ask commenters whether we should harmonize these regulations across services and establish a data base of available “white space” in rural areas. Second, we seek comment on expanding the use of spectrum “audits” and on exploring the means and methodologies for making *in situ* measurements of signal strength in selected rural areas to maintain an “inventory” of available spectrum resources. The Wireless Bureau has recently begun a process of conducting spectrum audits, and we inquire as to whether expanded use of such audits would help identify unused spectrum in rural areas so as to ultimately make more spectrum, and thus more service, available in these markets. We also inquire as to what may be an appropriate way to test whether a spectrum inventory is feasible. Should we limit such an inventory to the most rural or underserved areas? If so, where should we focus our efforts? We believe markets in Alaska, Appalachia, and the Mississippi Delta may be particularly appropriate, and we inquire as to whether commenters recommend these or other areas.⁶⁴

b. Re-licensing vs. Market-Based Mechanisms

24. As described above, the Commission practices re-licensing in several different forms, both in terms of the conditions under which licensed spectrum is returned to the Commission, and in terms of how that spectrum subsequently is made available to other users. Generally, licensed spectrum may return to the Commission due to non-use under a “complete forfeiture” standard, as applied to PCS licensees, or under a “keep what you use” standard, as applied to cellular licensees. Once this spectrum is reclaimed, the Commission may then re-license via competitive bidding, as with PCS licenses, or it may use a non-auction mechanism such as the cellular unserved area re-licensing rule.⁶⁵

25. We seek comment on when, and under what circumstances, the Commission should use re-licensing as a means to increase access to spectrum, and thus service, especially in rural areas. We do not propose to change the current re-licensing rules for any current wireless service. Rather, we inquire as to whether we should apply one of the current rules, or some other rule, to future spectrum allocations. We also inquire as to whether we should apply a new standard to spectrum that has been returned, under the current rules, to the Commission for re-licensing at the end of a licensee’s second term.

26. In the event of spectrum re-licensing, we seek comment on whether there are particular construction standards, such as “complete forfeiture” or “keep what you use,” that are most effective in

⁶² 47 C.F.R. §§ 90.693(b), 90.683, 90.621. Note that 40 dbu is equivalent to -93 dbm, assuming an antenna gain of 0 dbd.

⁶³ 47 C.F.R. §§ 101.527, 101.17.

⁶⁴ The Consumer & Governmental Affairs Bureau (CGB) recently announced significant new outreach initiatives in these defined regions in light of the disproportionate number of households without basic telephone service compared to the Nation overall. See “FCC Commences Lands of Opportunity Initiative for Rural America: Access to Affordable and Quality Telecommunications Services in Rural America,” *News Release*, 2003 WL 21804679 (rel. Aug. 6, 2003). CGB’s efforts are designed to educate consumers and other stakeholders, including industry participants, about federal programs and policies intended to ensure that all Americans have access to quality, affordable telecommunications services.

⁶⁵ If there are mutually exclusive applications to a cellular unserved area, then the Commission auctions the usage rights to that area. See Section II.B.1, *supra*, for more details on these re-licensing approaches.

promoting access and service, especially in rural areas. What are the costs and benefits associated with each of these approaches? In particular, we seek comment on whether a “keep what you use” standard based on the cellular unserved area model is most appropriate to advance our goal of promoting rural service, should we decide to extend this approach to additional services. Further, how might the “keep what you use” approach work in tandem with the substantial service safe harbor that we propose in section II.C, below? For example, could we use the substantial service safe harbor, as explained below, as a way of defining “use” for purposes of “keep what you use”? Or, do commenters believe that the concepts of having a substantial service safe harbor and a “keep what you use” approach are mutually exclusive? We encourage commenters to be specific in their discussion of the advantages and disadvantages of these and alternative models.

27. As described above, in the cellular service, after the initial five-year period, there is an unserved area licensing process whereby unconstructed portions of a market become available to other parties. In a Petition for Reconsideration filed in WT Docket 01-108, Dobson proposed that licensees should be permitted to extend into unserved areas of less than 50 square miles operating on a secondary non-interference basis to any licensee that might be authorized to cover the area in the future.⁶⁶ While we intend to address Dobson’s petition in the context of that proceeding, we seek comment on whether there are other changes to the cellular unserved area rules that could promote service in rural areas.

28. We also seek comment on whether, for purposes of defining use, the most appropriate approach would be based on the PCS model (*i.e.*, allowing providers to define construction based on their particular technology and application). We note that the approach with the PCS model is technology neutral, yet it requires a sufficiently strong signal to produce a reasonable level of service. What advantages would be associated with alternative measures, particularly those that employ a specific approach or that mandate the services or technologies to be used? How could such alternative measures be applied equitably across this wider variety of services?

29. In addition, we seek comment on the relative merits of re-licensing as compared to secondary markets. Are there particular circumstances or factors that we should consider in deciding to use one approach or the other? We recognize that re-licensing is a more regulatory approach, and we therefore inquire as to whether we should limit its application. If so, for what services, or in what markets? What market conditions or other measures should we consider in determining whether to apply re-licensing to a particular service or in a particular market? Is this approach more appropriate for rural markets, and if so, why?

30. Finally, we note that while the Spectrum Policy Task Force recommended that the Commission, in the first instance, focus on secondary markets as the primary means to increase access to spectrum, it also recommended that, after there has been sufficient time to consider the effectiveness of this approach, the Commission also consider alternative mechanisms such as government-defined easements.⁶⁷ We seek comment on whether now is an appropriate time to consider the use of spectrum easements for new licenses. We recognize that, using easements, software-defined radios and other frequency-agile devices may provide third parties with the ability to take advantage of unused portions of

⁶⁶ Dobson Petition at 3.

⁶⁷ *SPTF Report* at 58. As used in the *SPTF Report*, and for purposes of this proceeding, the term “easements” refers to government-defined access rights to licensed spectrum that would not require the easement user to obtain the prior consent of the licensee so long as the user complied with the easement conditions, *e.g.*, non-interference with the licensee’s use of the spectrum. *Id.* at 55.

licensed spectrum.⁶⁸ At the same time, we also recognize that the Commission's efforts to expand the use of secondary markets through spectrum leasing are recent, and that there has been little time to evaluate the effectiveness of this approach.

C. Performance Requirements

31. Subsequent to the enactment of Section 309(j), the Commission initiated the *Competitive Bidding* proceeding, which, among other things, addressed how the Commission intended to implement the statutory mandate for "performance requirements" for licenses awarded through competitive bidding.⁶⁹ Initially, the Commission focused primarily on the need for performance requirements to prevent spectrum warehousing and provided little or no discussion of the other performance goals in Section 309(j), *i.e.*, service to rural areas and promotion of new technologies and services.⁷⁰ Later, when adopting specific service rules, particularly for PCS, the Commission more specifically addressed the issue of service to rural areas. For example, the Commission stated that one of its goals in adopting requirements for PCS was to ensure that PCS service was available in rural and remote areas, but offset this goal with the notion that it did not want to adopt requirements that may lead to coverage where service was not needed and therefore economically unjustified.⁷¹ The Commission concluded that the appropriate balance would be met by adopting minimum coverage requirements.

32. In implementing competitive bidding, the Commission moved away from site-by-site licensing and instead awarded licenses based upon geographic areas. Furthermore, in transitioning towards licensing by geographic areas, the Commission has shifted away from what effectively has been an "all or nothing" construction requirement. A site-specific licensee is required to construct and begin operation on all its authorized frequencies at each particular site – essentially providing 100 percent coverage with 100 percent capacity. In most cases, areas and/or frequencies that were unconstructed at the end of the period reverted back to the Commission to be re-licensed.⁷² With geographic area licenses, however, licensees are not required to construct their entire geographic area in order to retain their authorizations because the areas encompassed by these licenses are very large compared to site-based licenses, and because the Commission sought to provide flexibility for licensees to provide a variety of services with their spectrum, some of which do not require ubiquitous geographic coverage. Depending upon the service, the Commission's construction benchmarks may require coverage of a certain percentage of the licensed area's population or coverage of a certain percentage of the licensed area's geographic area. For many, but not all services,⁷³ the Commission adopted a flexible "substantial

⁶⁸ *SPTF Report* at 13-14.

⁶⁹ See Implementation of Section 309(j) of the Communications Act – Competitive Bidding, *Notice of Proposed Rulemaking*, 8 FCC Rcd 7635 (1993).

⁷⁰ *Id.* at 7650 ¶¶ 90-92.

⁷¹ See, *e.g.*, Amendment of the Commission's Rules to Establish New Personal Communications Services, *Memorandum Opinion and Order*, 9 FCC Rcd 4957 ¶ 155 (1994) (*PCS MO&O*).

⁷² In some cases, frequencies for which an applicant was granted exclusivity subject to a loading condition reverted to being available for shared use if the first licensee failed to load fully.

⁷³ At present, the following geographic area licensees are subject to construction requirements and do not have a substantial service construction option: 30 MHz broadband PCS licensees, 800 MHz SMR (blocks A, B, and C (continued....))

service” construction standard that allows licensees that are providing a beneficial use of the spectrum to retain their authorizations.⁷⁴ The substantial service approach was intended to provide flexibility for services with a variety of uses for the spectrum (*i.e.*, fixed or mobile, voice or data) or with a high level of incumbency that would prevent a new geographic-based licensee from meeting the coverage requirements. While the definition of “substantial service” is generally consistent among wireless services, the factors that the Commission will consider when determining if a licensee has met the standard vary among services.⁷⁵ Substantial service generally means service that is sound, favorable, and substantially above a level of mediocre service that would barely warrant renewal.⁷⁶

33. In the following paragraphs, we propose modifications to our construction requirements to promote licensee flexibility and to spur build-out in rural areas. First, we seek to increase flexibility by harmonizing construction requirements for wireless geographic area licensees so that all such licensees have the opportunity to provide “substantial service” as a means of complying with their construction requirements. As we discuss below, many geographic area licensees already have the flexibility to provide substantial service, but some geographic area licensees do not. While we intend to retain current benchmarks for individual services, we believe that providing all geographic area licensees with the additional option of satisfying a “substantial service” benchmark will provide all such licensees with parallel flexibility. We also ask whether requiring compliance with additional construction requirements in license terms following initial renewal of the license might be likely to increase build-out in rural areas.

1. Substantial Service Construction Benchmarks

a. Background

34. As we have explained throughout this item, the Commission has taken a market-oriented approach to spectrum policy that, where possible, has allowed economic forces to determine build-out of wireless facilities and the provision of wireless services. The Commission has shifted towards providing licensees increased flexibility to tailor use of their spectrum to unique business plans and needs. This increased flexibility is evident in our adoption of the “substantial service” benchmark for many of our services. In more recently adopted rules for wireless services, such as our Part 27 rules for private

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only), 220 MHz licensees providing services other than fixed services and who do not have at least one incumbent licensee in their markets, LMS licensees, and MDS/ITFS licensees.

⁷⁴ For some services, such as LMDS and 39 GHz, the Commission has adopted only a “substantial service” construction requirement. *See* 47 C.F.R. §§ 101.1011(a) (LMDS), 101.17(a) (39 GHz).

⁷⁵ For example, in some wireless services, the Commission indicated that licensees providing niche, specialized, or technologically sophisticated services may be considered to be providing “substantial service.” *See, e.g.*, Amendment to Parts 2 and 90 of the Commission’s Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and the 935-940 MHz Bands Allotted to the Specialized Mobile Radio Pool, *Second Report and Order*, 10 FCC Rcd 6884 ¶ 41 (1995). In other services, the Commission has indicated that licensees providing an offering that does not cover large geographic areas or population (*e.g.*, point-to-point fixed service), but nonetheless provides a benefit to consumers, also may meet the standard. *See, e.g.*, Amendment of Part 90 of the Commission’s Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, 12 FCC Rcd 10943 ¶ 158 (1998).

⁷⁶ *See, e.g.*, 47 C.F.R. §§ 22.503(k)(3), 27.14; 90.685(b), 95.831, 101.527(a), 101.1011(a).

services, Lower and Upper 700 MHz, 39 GHz, and 24 GHz, the Commission established the substantial service standard as the only construction requirement. The Commission declined to prescribe more specific coverage benchmarks because the main use of the spectrum was still in question. Especially in services where the Commission envisioned fixed services being deployed, the substantial service standard permits a licensee to make a showing based on criteria other than population or geography covered. In these situations, the Commission determined that the substantial service demonstration within ten years of license grant (*i.e.*, coincident with the first renewal deadline) would satisfy the dictates of Section 309(j)(4)(B). In addition, for licensees subject *only* to the substantial service requirement, the Commission often has included “safe harbors,” *i.e.*, examples of how a licensee would meet the substantial service standard.

b. Discussion

35. As a general matter, we believe that our current performance requirements, in combination with economic incentives and the licensing of multiple competitors, have served to promote significant build out and have resulted in the provision of service to the vast majority of the population, including national population centers, at least during the initial license term. Nevertheless, we believe that current geographic area licensees without a “substantial service” option or a rural-specific construction requirement may be unduly constrained and may lack sufficiently flexibility to provide service to rural areas or to offer niche services. Moreover, given the unique characteristics and considerations inherent in constructing within rural areas, we believe that applying an inflexible construction standard that is based upon coverage of a requisite percentage of an area’s population may be an inappropriate measure of levels of rural construction. Accordingly, while we intend to keep our current construction requirements, as they are set forth in our service-specific rule sections, we propose to adopt a “substantial service” alternative for all wireless services that are licensed on a geographic area basis and that are subject to construction requirements.⁷⁷ This proposal therefore would affect the following licensees: 30 MHz broadband PCS licensees; 800 MHz SMR licensees (blocks A, B, and C only); certain 220 MHz licensees;⁷⁸ LMS licensees; MDS/ITFS licensees; and 700 MHz public safety licensees.⁷⁹ If we adopt our proposed modification of our build-out rules, these licensees would have the

⁷⁷ Our proposal includes only those types of geographic licenses where our rules require that only a portion of the area be constructed. A substantial service option is one way to provide these licensees flexibility in determining which areas within their geographic license to build based on demand, market conditions, and their business plans. We do not propose to extend this concept to site-based licenses that have applied for and received licenses to construct stations at specific sites of their choosing based on specific technical parameters. For these site-based services, the licensee (not the Commission) dictates the specific location of station facilities and therefore no further flexibility in our construction requirements is necessary.

⁷⁸ This proposal would not include Phase II EA and regional 220 MHz licensees offering fixed services or who have at least one incumbent, co-channel Phase I licensee in their markets. These licensees already may satisfy their construction requirement through the provision of substantial service. *See* 47 C.F.R. § 90.767(b). Similarly, Phase II nationwide 220 MHz licensees offering fixed services already have a substantial service option and therefore are excluded from the scope of this proposal. *See* 47 C.F.R. § 90.769(b).

⁷⁹ We note that we already have initiated a proceeding that seeks comment with respect to providing MDS/ITFS licensees with a substantial service construction benchmark. *See* Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150 - 2162 and 2500 - 2690 MHz Bands; Part 1 of the Commission’s Rules - Further Competitive Bidding Procedures; Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and the Instructional Television Fixed Service Amendment of Parts 21 and 74 to Engage in Fixed Two-Way

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flexibility to comply with existing service-specific benchmarks or to satisfy the substantial service benchmark, at their option. While we have some concerns regarding firm population- and geographic-based coverage requirements, as discussed below, we recognize that geographic-area benchmarks nevertheless might be useful in providing licensees with a means of complying with our construction requirements without building out population centers. We therefore seek comment on whether we should adopt a geographic-based construction requirement, as an alternative for licensees with population-based requirements, as a means of providing licensees with yet another option for compliance with our construction requirements.

36. We are concerned that current population- or geographic area-specific benchmarks may impinge upon licensees' abilities to serve niche or less populated areas, and may unintentionally discourage construction in rural areas.⁸⁰ Particularly in the case of a population-based construction requirement, a licensee has both an economic and practical incentive to achieve compliance with the requirement by providing service only to the urban areas of its licensed area. For example, in response to the *Rural NOI*, NRTC states that "[t]he Commission's decision to use milestones based on geographic or population statistics is counterproductive to consumers residing in truly rural areas. Once licensees have built out the urbanized portions of their licensing areas, only the more densely populated rural areas are targeted for further buildout."⁸¹ NRTC contends that because the Commission only specifies a population or geographic coverage benchmark, without specifying which population or which areas must be built, "there is no incentive – economic, regulatory or otherwise – to build out rural areas" and that, "[i]n practical terms, this means licensees will naturally tend to build out more densely populated (i.e. non-rural) areas to satisfy Commission[-]established construction milestones."⁸² In reference to the population-based build-out requirement for broadband PCS, Corr Wireless states that "[t]he natural consequence of this rule is that licensees concentrate their build-out activities where population density is highest."⁸³ In addition, because each licensee must satisfy the same population-based benchmark, we are concerned that, as multiple licensees enter a market, they likely will construct systems in the same populous areas, thereby duplicating coverage. Consequently, within any given market, urban areas are likely to have multiple wireless competitors providing service, whereas rural areas may have fewer options.

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Transmissions; Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Licensing in the Multipoint Distribution Service and in the Instructional Television Fixed Service for the Gulf of Mexico, *Notice of Proposed Rule Making and Memorandum Opinion and Order*, 18 FCC Rcd 6722 (2003) (*MDS/ITFS NPRM*). We will review the record submitted in response to the *MDS/ITFS NPRM* and will incorporate comments to the extent they pertain to the issue of substantial service for MDS/ITFS licensees. We note that our current construction requirements require 700 MHz public safety licensees to provide "substantial service," but this requirement is premised upon the provision of substantial service to a certain percentage of their licensed population at five and ten years. See 47 C.F.R. § 90.529(b). Because this "substantial service" requirement is not a flexible benchmark, we include 700 MHz public safety spectrum within the scope of this proceeding.

⁸⁰ Based upon the construction notifications we have received to date, when licensees are given a choice of satisfying either geographic- or population-based benchmarks, they consistently elect compliance with the latter.

⁸¹ *Rural NOI*, NRTC Comments at 10.

⁸² *Id.* at 7.

⁸³ *Rural NOI*, Comments of Corr Wireless Communications, LLC at 11.

37. We believe that providing all geographic area wireless licensees with a substantial service option will address concerns that construction requirements based on population or geographic coverage may discourage the build-out of rural areas.⁸⁴ As we have explained in past proceedings, the substantial service option provides licensees with greater flexibility and therefore may result in the more efficient use of spectrum and the provision of service to rural, remote, and insular areas.⁸⁵ For example, in the *Chasetel Order*, the Wireless Telecommunications Bureau determined that the licensee was providing substantial service to the Middlesboro-Harlan, KY BTA (Middlesboro BTA) because it was providing service to an educational campus in a relatively remote portion of a rural and sparsely populated market.⁸⁶ Providing all wireless licensees with a “substantial service” construction alternative may create more opportunities for CMRS licensees to focus their build-out efforts on previously untargeted niche or rural areas, as in the *Chasetel Order*, rather than having to duplicate existing services and thereby tapping into an otherwise unserved market. Furthermore, in light of the fact that we have been moving towards a more flexible approach to coverage requirements, offering all geographic area wireless licensees a substantial service option will increase regulatory parity. We also note that, by providing terrestrial wireless licensees with greater flexibility in satisfying their construction requirements and by alleviating the pressure of satisfying minimum population-based benchmarks, licenses that are comprised largely of rural areas might be more likely to appeal to a wider range of potential bidders at auction. We think increasing flexibility will make these licenses more attractive because wireless providers will have a wider range of options in terms of developing a business plan that is cost-effective, tailored to their individual needs, and satisfies the Commission’s construction requirements.

38. We intend to retain our current construction benchmarks and propose adopting the substantial service benchmark as an additional means of satisfying our construction requirements. Our proposal effectively would harmonize construction benchmarks across all wireless services licensed on a geographic-basis (and that are subject to construction requirements) so that all geographic area licensees have the increased flexibility of a substantial service option. Licensees may elect to satisfy either the

⁸⁴ We note that comments received in response to the *Rural NOI* do not universally support adoption of a substantial service requirement. See, e.g., *Rural NOI*, Joint Comments of the Organization for the Promotion and Advancement of Small Telecommunications Companies/Rural Telecommunications Group at 12-13 (“The Commission should refrain from repeating its recent use of the vague and nearly unenforceable ‘substantial service’ standard. A ‘substantial service’ requirement will not speed the delivery of new, spectrum-based services to rural areas.”); NTCA Comments at 11 (“The Commission has a ‘substantial service’ requirement as its construction requirement. Under this approach licensees need merely show that they provide ‘substantial service’ to either a geographic service area or to the population within the geographic service area within a specific period of time. Therefore, a licensee may get its license renewed by serving just a portion of the urban area within its licensed territory. It thus provides service to a ‘substantial’ portion of the population, while completely ignoring and providing no service to the vast majority of the license territory, i.e., the rural territory.”).

⁸⁵ See, e.g., Amendment of the Commission’s Rules to Establish Part 27, the Wireless Communications Service (“WCS”), *Report and Order*, 12 FCC Rcd 10785, 10843 ¶¶ 111-112 (1997) (*WCS Report and Order*); *PCS MO&O* at 5018-5020 ¶¶ 154-158.

⁸⁶ See *Chasetel Licensee Corp.*, Request for Extension of Broadband Construction Requirements and Construction Notification for Call Sign KNLF468 in Middlesboro-Harlan, KY BTA, File Nos. 0000594507, 0000603542, *Order*, 17 FCC Rcd 9351, 9356, ¶ 11 (WTB CWD 2002) (*Chasetel Order*). In addition to the fact that the Middlesboro BTA itself was sparsely populated and rural, the licensee was providing service to an area within the Middlesboro BTA where the mountainous terrain inhibited coverage from neighboring towns, such that the residents of the educational community may have been less likely to receive adequate service by multiple PCS providers in a competitive environment. *Id.* at 9355 ¶ 10.

construction benchmark options already available to them today or the substantial service benchmark, according to their preference. In the past, in evaluating substantial service showings, we have considered factors such as whether the licensee is offering a specialized or technologically sophisticated service that does not require a high level of coverage to be of benefit to customers, and whether the licensee's operations serve niche markets.⁸⁷ In the context of providing substantial service to rural areas, we are particularly interested in the following factors: (1) coverage of counties or geographic areas where population density is less than or equal to 100 persons per square mile; (2) significant geographic coverage; (3) coverage of unique or isolated communities or business parks; and (4) expanding the provision of E911 services into areas that have limited or no access to such services. We intend to limit this proposal to wireless services that are currently licensed on a geographic area basis. In the event we adopt geographic areas for new wireless services at a future date, we will examine the appropriateness of adopting a substantial service or alternative construction requirement for the new service at that time.

39. We seek comment on our proposal to adopt a "substantial service" benchmark for all wireless services that are licensed by geographic area and are subject to build-out requirements, but currently do not have a substantial service option. We also seek comment on whether any services should be excluded from our proposal. For example, are there certain radio services where it makes sense not to have a substantial service requirement in order to satisfy other, competing policy objectives? Furthermore, is the "substantial service" requirement likely to promote build-out in rural areas for some services currently licensed on a geographic area basis, but not for others? In what circumstances, and for what services, is an alternative construction benchmark, other than the substantial service standard, likely to be more effective in promoting rural build-out? In the event that commenters believe that a substantial service standard is inappropriate for certain services, we ask commenters to suggest alternative benchmarks that might promote the deployment of service within rural areas. In the event that commenters believe that we should exclude particular services, such as public safety services, commenters should provide us with a detailed explanation for why excluding such services would serve the public interest. We ask commenters whether the adoption of a substantial service requirement is likely to increase deployment of wireless services in rural areas. Finally, because this proposed modification of our rules will apply generally to all geographic area licensees, and not just those licensees serving rural areas, we ask how the adoption of a substantial service requirement might affect the deployment of wireless services in non-rural areas.

40. We also seek comment on whether we should adopt geographic-based construction requirements for those private and commercial terrestrial wireless services that are licensed on a

⁸⁷ For example, with respect to the 218-219 MHz service, we have stated that we will consider the following "safe harbor" examples in determining whether a 218-219 MHz service licensee has provided substantial service: (a) a demonstration of coverage to twenty percent of the population or land area of the licensed service area; or (b) a demonstration of specialized or technologically sophisticated service that does not require a high level of coverage to be of benefit to customers; or (c) a demonstration of service to niche markets or a focus on serving populations outside of areas currently serviced by other licensees. See Amendment of Part 95 of the Commission's Rules to Provide Regulatory Flexibility in the 218-219 MHz Service, *Report and Order and Memorandum Opinion and Order*, 15 FCC Rcd 1497, 1538 ¶ 70 (1999) (*218-219 MHz Report and Order*). See also Amendment of the Commission's Rules To Establish New Personal Communications Services, Narrowband PCS, *Second Report and Order and Second Further Notice of Proposed Rule Making*, 15 FCC Rcd 10456 ¶ 28 (2000); *WCS Report and Order*, 12 FCC Rcd at 10843-44 ¶¶ 111-13; Revision of Part 22 and Part 90 of the Commission's Rules To Facilitate Future Development of Paging Systems, Implementation of Section 309(j) of the Communications Act - Competitive Bidding, *Memorandum Opinion and Order on Reconsideration and Third Report and Order*, 14 FCC Rcd 10030, 10072-73 ¶ 70 (1999).

geographic area basis and that currently do not have a geographic area coverage option. Narrowband PCS (NBPCS) licensees, for example, have a choice of meeting a population-based benchmark, a geographic-based benchmark, or making a showing of substantial service.⁸⁸ The five-year geographic benchmark for NBPCS licensees varies based on market size, *i.e.*, nationwide licensees must provide coverage to 750,000 square kilometers, regional licensees must provide coverage to 150,000 square kilometers, while MTA licensees must provide coverage to 75,000 square kilometers or 25 percent of the geographic area in the MTA. A geographic benchmark would provide an alternative for licensees who do not intend to focus construction efforts on population centers. Further, like population-based benchmarks, geographic benchmarks would provide increased certainty for licensees, in comparison to the more flexible substantial service standard. Commenters supporting geographic-based construction requirements should identify the applicable radio service(s) and recommend benchmark levels, or percentages, for the relevant market sizes. We seek comment on whether the benchmark levels may be reduced where the geographic areas in question are rural areas. In this connection, we seek comment on how we should define rural for purposes of implementing geographic benchmarks for these services.

41. In addition to proposing the adoption of a substantial service benchmark for all wireless services that are licensed by geographic area, we propose the adoption of a substantial service “safe harbor” based on provision of rural service. We propose two different rural safe harbors, depending on whether a licensee is providing mobile or fixed wireless service. With respect to mobile wireless services, we propose that a licensee will be deemed to have met the substantial service requirement if it provides coverage, through construction or lease, to at least 75 percent of the geographic area of at least 20 percent of the “rural” counties within its licensed area. We propose that “rural” counties be defined as those counties with a population density less than or equal to 100 persons per square mile.⁸⁹ For example, if a licensee’s market contains five counties (all having a population density of 100 persons per square mile or fewer), the licensee could meet the safe harbor by providing coverage to 75 percent of the geography in one of those five counties. With respect to fixed wireless services, we propose to define the substantial service requirement as met if a licensee, through construction or lease, constructs at least one end of a permanent link in at least 20 percent of the “rural” counties within its licensed area (using the same “rural” county definition). For example, if a licensee’s market contains five counties (all having a population density of 100 persons per square mile or fewer), the licensee could meet the safe harbor by constructing one end of a permanent link in one of those five counties. Our proposal to base the safe harbor on a population density of 100 persons per square mile or fewer is derived from our finding in the *Eighth Competition Report*, which indicates that counties with population densities of 100 persons per square mile or less “have an average of 3.3 mobile competitors, while the more densely populated counties have an average of 5.6 competitors.”⁹⁰ We note that these proposed “safe harbors” are intended

⁸⁸ See 47 C.F.R. § 24.103. Phase II 220 MHz nationwide licensees also have a choice of meeting a population-based benchmark or geographic benchmark. See 47 C.F.R. § 90.769.

⁸⁹ There are approximately 2300 counties within the United States that would satisfy this definition of “rural,” constituting roughly 71 percent of all U.S. counties. These counties comprise about 21 percent of the total U.S. population. Of the 51 MTAs, three do not contain any counties with population densities of 100 persons per square mile or less. Of the remaining 48 MTAs, all have at least 3 counties with population densities of 100 persons per square mile or less and 42 of the MTAs have at least 10 counties with population densities below 100 persons per square mile or less. Of the 734 Cellular Market Areas (CMAs), 212 do not contain any counties with population densities of 100 persons per square mile or less. Of the remaining 522 CMAs, 40 contain only one county and the county has a population density of 100 persons per square mile or less. Furthermore, 276 CMAs contain 2 or more counties where all counties have population densities of 100 persons per square mile or less.

⁹⁰ *Eighth Competition Report* at 14837 ¶ 114.

to provide licensees with a measure of certainty in determining whether they are providing substantial service, but are not intended to be the only means of demonstrating substantial service. Accordingly, a licensee may still satisfy a “substantial service” standard without complying with one of the safe harbors; while we intend to provide licensees with regulatory certainty through the establishment of safe harbors, we also seek to optimize licensees’ flexibility to pursue individualized business plans.

42. We seek comment on whether we should adopt rural safe harbors and, if so, whether it is advisable to adopt the specific safe harbors described above. We note that although the analyses of competition in counties with population densities of 100 persons per square mile or fewer were based upon data pertaining to the mobile telephony industry (dominated by cellular, broadband PCS, and digital SMR providers), we believe that 100 persons per square mile nevertheless provides a usable and reasonable proxy for “rural” for the purpose of establishing a rural substantial service safe harbor. We seek comment on this proposed population-density based standard. In particular, we seek comment on whether this safe harbor is suitably flexible to accommodate variances in service areas. For example, will this safe harbor accommodate service areas with relatively few rural counties (using our “rural” county definition described above), as well as service areas with many rural counties? While it may be easier for wireless providers serving areas with relatively few rural counties to satisfy the rural safe harbors, we think that profit incentives and market pressures will encourage construction of more populous areas. Conversely, we recognize that our proposed safe harbors may prove burdensome for wireless providers serving large or nationwide areas with many rural counties; accordingly, we seek comment on how we might modify our safe harbors to accommodate various geographic service areas and uneven population distributions. In the event commenters disagree with our proposed safe harbors, we ask that commenters suggest examples of alternative rural safe harbors, in light of their practical experience and based upon their own service-specific demands and requirements. Should we adopt a rural safe harbor that applies to all services, or are services sufficiently specialized that we should adopt service-specific safe harbors?

2. Renewal License Terms

a. Background

43. At present, we require compliance with our construction requirements during the initial license term. Depending upon the particular service, we require licensees to satisfy minimum coverage benchmarks at an interim period prior to the end of the initial license term, and/or at the conclusion of the initial license term.⁹¹ Licensees obtain authorizations to use designated spectrum for a specific period of time (typically a term of ten years), and may request renewal of their authorizations prior to the expiration of their license terms.⁹² Once a licensee renews its license, however, no additional performance requirements are imposed in subsequent license terms.⁹³

b. Discussion

⁹¹ See 47 C.F.R. §§ 24.203(a),(b) (five-year and ten-year construction requirements for broadband PCS), 90.655(c) (three-year and five-year requirements for 900 MHz SMR), 101.1011(a) (ten-year requirement for MDS).

⁹² See 47 C.F.R. § 1.949.

⁹³ See *id.* Licensees must file applications for renewal of their authorizations and must comply with any additional renewal requirements set forth in the applicable service-specific subsections of our rules.

44. We seek comment on whether we should require geographic area licensees to satisfy performance requirements during their renewal license terms (for ease of reference, we will refer to license terms subsequent to the initial license term as “renewal terms”). This question of whether licensees should satisfy additional performance requirements during renewal terms is particularly relevant as licensees approach the end of their initial license terms or enter into their renewal terms. In the next few years, a number of our auctioned licenses will be subject to renewal. For example, in 2005, 357 broadband PCS licenses and 152 of our 218-219 MHz licenses will be subject to renewal; in 2006, 732 of our 900 MHz SMR licenses will be subject to renewal. We ask whether additional performance requirements are likely to increase the provision of wireless services to rural areas.

45. With respect to commercial mobile wireless services, we have seen the prompt use of at least a portion of the spectrum and provision of at least a minimum level of service. As we noted in the *Eighth Competition Report*, 270 million people, or 95 percent of the total U.S. population, live in counties with access to three or more different operators (cellular, broadband PCS, and/or digital SMR providers) offering mobile telephone service, and more than 236 million people, or 83 percent of the U.S. population, live in counties with five or more mobile telephone operators competing to offer service.⁹⁴ While this data appears to suggest that our construction requirements have facilitated competition and have promoted the deployment of wireless services, it is nevertheless difficult to identify whether wireless deployment is the result of our minimum coverage requirements or the operation of market forces. We ask commenters whether market forces, and not build out requirements, should govern any additional construction during renewal terms. Will the imposition of additional performance requirements during renewal terms likely result in uneconomic construction? We note that, at least with respect to certain commercial services such as broadband PCS, demand for these services is high and, particularly with the advent of secondary markets, the opportunity cost of the spectrum is fairly clear. In light of these circumstances, additional performance requirements may be unnecessary because existing and emerging market incentives may be sufficient to ensure deployment in areas where such investment makes sound economic sense. To the extent possible, we are inclined to allow market forces to operate without the imposition of regulatory restrictions or requirements. On the other hand, we recognize that market forces may not always be sufficient to accomplish our statutory objective of promoting the widespread and rapid deployment of wireless services to consumers, including consumers in rural areas. We seek comment on how we can achieve the right balance, in light of these concerns.

46. In the event that commenters believe additional construction requirements are appropriate and necessary to promote the continued deployment of wireless services to consumers in rural areas, we ask what form these construction requirements should take. For example, should we adopt a population- or geography-based benchmark? Should we adopt a modified version of substantial service and require the provision of additional coverage beyond what is sufficient to satisfy “substantial service” during the initial license term (in effect, a “substantial service plus” requirement)? Should we require compliance with these benchmarks at the expiration of the renewal term, or at some interim period prior to the end of the renewal term? Furthermore, given our objective of promoting service to rural consumers, we ask whether renewal term construction requirements should be specifically targeted towards construction in rural areas or otherwise include a rural component. For example, should we require that licensees provide service to some percentage of the rural population of their licensed areas during their renewal terms? What effects might the adoption of such performance requirements have beyond promoting the deployment of service in rural areas?

⁹⁴ *Eighth Competition Report* at 14794-95 ¶ 18.

D. Relaxed Power Limits

1. Background

47. In the following sections, we propose modifications to our regulations governing power limits and technical specifications for operations in rural areas. In its report, the Spectrum Policy Task Force recommended that in less congested areas (*i.e.*, rural areas) spectrum users should be permitted to operate at higher power levels so long as they do not cause interference and do not receive additional interference protection.⁹⁵ Similarly, in the *Rural NOI* we observed that technical and operational rules throughout the spectrum-based services are necessary to facilitate efficient use of the radio spectrum while minimizing the potential for interference among licensees.⁹⁶ We sought comment on the degree of flexibility that these regulations afford to providers of spectrum-based services in rural areas and asked whether there are aspects of these rules that could be modified or made more flexible to encourage expanded service to rural areas while ensuring that services remain free of interference.⁹⁷

2. Discussion

a. Part 15 Unlicensed Devices and Systems

48. Unlicensed devices are permitted to operate under Part 15 of our rules at very low power levels.⁹⁸ The popularity of these devices has grown steadily over the past few years.⁹⁹ Today, a growing number of service providers are using unlicensed devices within wireless networks to serve the varied needs of industry, government, and general consumers alike. One of the more significant developments in the use of unlicensed devices is the emergence of wireless Internet service providers or “WISPs.” Using unlicensed devices, WISPs around the country are beginning to provide an alternative high-speed connection to cable or DSL services.¹⁰⁰ In addition to providing competition to cable and DSL, we note that the record reflects that WISPs have taken root in many rural areas where these services have been

⁹⁵ See *SPTF Report* at 59.

⁹⁶ See, e.g., 47 C.F.R. §§ 22.301-22.383 and 22.901-22.925 (Cellular Radiotelephone Service); 47 C.F.R. §§ 24.50-24.55 and 24.229-24.238 (broadband PCS); 47 C.F.R. §§ 90.201-90.219, 90.401-90.469, 90.476-90.483, and 90.635-90.658 (Specialized Mobile Radio Service); 47 C.F.R. §§ 101.101-101.151 (technical standards for fixed microwave services); and 47 C.F.R. §§ 101.201-101.217 (operational standards for fixed microwave services).

⁹⁷ *Rural NOI* at 25569, ¶ 27.

⁹⁸ 47 C.F.R. Part 15.

⁹⁹ One example of the popular use of such devices is the development of Wireless Internet or “Wi-Fi.” Many consumers are now able to access the Internet wirelessly through the use of unlicensed devices. The Commission has even installed several points within its headquarters (called “HotSpots”) providing limited wireless Internet access for any visitors who have a Wi-Fi (802.11(a) or 802.11(b)) compliant network card installed on their portable devices.

¹⁰⁰ For example, see www.part-15.org. Part-15.org is a trade organization formed in 2002. The organization acts as an educational and support resource for emerging and established WISPs. The organization offers certification courses for WISP professionals designed to provide technical background and hands-on experience.

slow to arrive.¹⁰¹

49. In response to the *Rural NOI*, a number of WISPs filed comments asking the Commission to permit transmission by Part 15 devices at greater power levels in rural areas. According to these parties, using greater power may, in some cases, allow them to use unlicensed devices to cover the extended ranges needed to serve rural communities.¹⁰² Other parties, including certain other Part 15 device manufacturers and wireless carriers, raise objections, arguing that higher power levels for certain Part 15 devices in rural areas would cause unacceptable levels of interference and that it would be difficult, if not impossible, to ensure that such higher power levels were used only in those areas.¹⁰³

50. We remain committed to exploring more flexible spectrum policies for rural areas to help foster, where possible, a viable last mile solution for delivering Internet services, other data applications, or even video and voice services to underserved or isolated communities.¹⁰⁴ The record in the *Rural NOI* identifies legitimate issues under our Part 15 policies, such as interference with other Part 15 devices and how to design a framework that reasonably ensures that Part 15 devices operate using different parameters in different locations or under differing RF conditions.¹⁰⁵ Cognitive radio technologies, which permit radio systems to modify their performance in response to such external information, would appear to hold great promise in resolving such issues.¹⁰⁶ In this connection, we plan to initiate a proceeding shortly to consider how to leverage these technologies to permit more intensive use of spectrum in a number of situations, including possible rule changes that would permit greater use of spectrum in rural areas.¹⁰⁷ In this proceeding, we plan to invite comment on any specific factors that may need to be

¹⁰¹ See, e.g., *Rural NOI*, Nextweb Comments at 1, Rodney W. Applegate Comments at 1, and Waverider Communications at 4.

¹⁰² See, e.g., *Rural NOI*, Airzip Internet Inc. Comments at 1, Patti Jones Comments at 1, and Waverider Communications at 4.

¹⁰³ See, e.g., *Rural NOI*, Dobson Comments at 12, Itron Comments at 1-2, WaveRider Comments at 4, and AT&T Wireless Reply at 15.

¹⁰⁴ The Commission is addressing the need for additional unlicensed spectrum in two ongoing proceedings. See *Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band, Notice of Inquiry*, 17 FCC Rcd 25632 (2002); *Revision of Parts 2 and 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band, Notice of Proposed Rule Making*, 18 FCC Rcd 11581 (2003).

¹⁰⁵ See, e.g., *Rural NOI*, Dobson Communications Comments at 12, Itron Comments at 1-2, NTCH Comments at 5-6 and Reply at 8-9, South Dakota Telecommunications Association Comments at 17-19, UT Starcom Reply at 3, WaveRider Communications Comments at 4, AT&T Wireless Reply at 15. In addition, the Commission is initiating a proceeding that will explore rule changes to enable the use of advanced antenna technologies to increase spectrum efficiency for unlicensed devices. See "FCC Proposes Changes in Technical Regulations for Unlicensed Devices To Facilitate Deployment of Advanced Technologies and To Streamline Regulations To Increase Flexibility," *News Release*, ET Docket No. 03-201 (rel. Sept. 10, 2003).

¹⁰⁶ See *SPTF Report* at 67; "The Office of Engineering and Technology hosting Workshop on Cognitive Radio Technologies May 19, 2003 ET Docket No. 03-108," *News Release* at 1 (rel. May 16, 2003) (*Cognitive Radio Workshop News Release*).

¹⁰⁷ See *Cognitive Radio Workshop News Release* at 1.

considered to allow cognitive radios to operate with higher power in rural America. This impending proceeding also will address power limits for the operation of “dumb” or “non-cognitive radio” unlicensed devices in rural areas.

b. Licensed Services

51. Two commenters responding to the *Rural NOI* address the issue of whether we should modify our regulations to permit increased power levels in the context of mobile voice systems.¹⁰⁸ South Dakota Telecommunications Association (SDTA) points out that higher power levels could reduce the number of transmitters required to connect stretches of roadways between small rural towns and to serve ranches and farms beyond the highways.¹⁰⁹ SDTA cautions that, while it may be feasible to increase power and still safeguard urban and suburban operations, such safeguards must include “clear-cut interference definitions and protections.”¹¹⁰ CTIA, however, argues that an increase in base station power levels would not improve matters unless mobile station (*i.e.*, handset) power levels are increased as well.¹¹¹ CTIA contends that it is unlikely that handset manufacturers would make special “high power” handsets for rural areas due to the relatively small size of the areas where such handsets would be useful and the potential interference problems that such handsets may generate.¹¹² Specifically, CTIA notes that increased handset power levels could pose problems when roaming (*e.g.*, when a high power handset roams outside of rural areas.)¹¹³

52. Increasing the range of radio systems is one means of making it more economical to provide spectrum-based radio services in rural areas by potentially lowering infrastructure costs. One way to increase the range of radio systems is by increasing power levels.¹¹⁴ While there may be

¹⁰⁸ *Rural NOI*, Space Data Corporation (Space Data) commented and raised a related issue, asking the Commission to consider adding flexibility in its licensing and service rules to permit implementation of stratospheric platform systems. In this vein, Space Data argued that increasing antenna height may eliminate the need to increase handset power by eliminating the path loss effects (deep fading and clutter losses) present when a signal path is over land. Space Data asks the Commission to explore granting wide area licenses and allocating frequency usage based on an “Interference Temperature Limit.” Although the Spectrum Policy Task Force raised the idea of an Interference Temperature Limit in its report, the Commission has not yet explored this idea. Therefore, we will not address Space Data’s request here. *See SPTF Report* at 27. *See also* Petition for a Declaratory Ruling, a Clarification or, in the Alternative, a Waiver of Certain Narrowband Personal Communications Services (PCS) Rules as they Apply to a High-Altitude Balloon-Based Communications System, *Memorandum Opinion and Order*, 16 FCC Rcd 16421 (WTB 2001).

¹⁰⁹ *Rural NOI*, SDTA Comments at 17.

¹¹⁰ *Id.*

¹¹¹ *Rural NOI*, CTIA Comments at 9.

¹¹² *Id.*

¹¹³ *Id.*

¹¹⁴ The Commission took this approach for the Cellular Radiotelephone Service in 1986 when it increased the maximum power level for rural base stations from 100 Watts to 500 Watts, and again in 1988 when it extended this flexibility to all cellular base stations, subject to a coordination zone along market boundaries. *See* Amendment of the Commission’s Rules for Rural Cellular Service, *First Report and Order*, 60 Rad. Reg. 2d (P&F) 1029 ¶ 29 (1986); Amendment of Parts 2 and 22 of the Commission’s Rules to Permit Liberalization of (continued....)

challenges in implementing increased power levels for cellular-like mobile systems, we would like to further investigate whether power increases may be beneficial for other mobile or fixed services. In doing so, we must consider increasing power levels in rural areas in the context of base/mobile systems, point-to-point systems, and point-to-multipoint systems. Base/mobile systems (e.g., cellular, PCS, SMR, private land mobile) consist of a base station antenna intended to provide coverage over a specific area, and the mobile units that communicate with the base station. The base station operates at a sufficient power level to cover the desired area, while the battery-powered mobile units operate at relatively low power. The ability of the base station to reach a mobile unit is limited by, among other things, transmitter power, the propagation characteristics of the frequency band, antenna directionality (gain), antenna height, terrain, clutter, man-made obstructions, and the sensitivity of the mobile unit receiver. As stated above, there are challenges related to increasing power levels. First, increasing the base station power may cause unacceptable levels of interference to nearby systems. Second, simply guaranteeing that a mobile unit can “hear” the base station, however, is not sufficient for two-way communications. The low power mobile unit, which is likely located close to ground level, must also be able to return a signal to the base station antenna, i.e., the base station must be able to “hear” the mobile unit. One can observe that, at the fringe of the base station coverage area, the most significant limiting factors to two-way transmissions are the power level and the location of the mobile unit. Thus, merely increasing the base station power level may not improve the communications range unless the mobile unit is capable of returning a signal to the base station antenna.

53. It is instructive to provide examples of the likely results of increasing base station power for specific types of base/mobile systems. Because received signal levels decrease exponentially as the receiver moves farther from the transmitter, we would expect that relatively large increases in power would yield only small increases in communications range. In the case of a rural 800 MHz cellular system, we found that increasing the base station power by 10 percent (500 W ERP to 550 W ERP) and 20 percent (500 W ERP to 600 W ERP) increased the base station range by 1.5 km (0.93 mi) and 3 km (1.86 mi) respectively.¹¹⁵ We note, however, that our calculations show that a typical 0.5 W ERP mobile unit would not have sufficient range to reach the base station from the edge of the base station coverage area regardless of whether the base station power is 500 (maximum under the rules today), 550, or 600 W ERP. Similarly, in the case of a rural 1,900 MHz PCS system, we found that increasing the base station power by 10 percent (1,640 W EIRP to 1,804 W EIRP) and 20 percent (1,640 W EIRP to 1,968 W EIRP) increased the base station range by 1 km (0.62 mi) and 2 km (1.24 mi) respectively.¹¹⁶ We note, however, that our calculations show that a typical 0.8 W EIRP mobile unit would not have sufficient range to reach

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Technology and Auxiliary Service Offerings in the Domestic Public Cellular Radio Telecommunications Service, *Report and Order*, 3 FCC Rcd 7033, 7036-37 ¶¶ 17-23 (1988).

¹¹⁵ We based this example on licensed operating parameters of cell sites in rural, central South Dakota. Specifically, we utilized the Okumura Hata propagation model assuming an 800 MHz cellular base transmitter, flat terrain, average height AMSL of 250 m, open clutter, omni-directional antennas (9dBd gain), antenna centerlines (multiple cells) from 41 to 90 m AGL, mobile height of 3 m, received signal level of -102 dBm, and mobile power of 0.5 W ERP.

¹¹⁶ We based this example on a theoretical system placed in rural, western Kansas. Specifically, we utilized the Okumura Hata propagation model assuming a 1,900 MHz PCS base transmitter, flat terrain, average height AMSL of 230 m, open clutter, omni-directional antennas (9dBd gain), antenna centerline (all sites) of 60 m AGL, mobile height of 3 m, received signal level of -102 dBm, and mobile power of 0.8 W EIRP.

the base station from the edge of the base station coverage area regardless of whether the base station power is 1,640 (maximum under the rules today), 1,806, or 1,968 W EIRP.

54. Microwave point-to-point systems generally consist of a highly directional, high gain transmitting antenna and a highly directional, high gain receive antenna separated by some distance along a path. System performance is impacted by, among other things, transmitter power,¹¹⁷ propagation characteristics of the frequency band, antenna directionality (gain), height of transmit and receive antennas, terrain between the antennas, interference, clutter, man-made obstructions, weather, type of modulation, and sensitivity of the receiver. Unlike a base/mobile system, however, the system designer can increase the distance of the path by increasing transmitter power or using a higher gain antenna as well as elevating the receive antenna. Point-to-multipoint microwave systems share many of the characteristics of point-to-point microwave systems, except that there are multiple receive antennas situated in an area of desired service and the transmitting antenna may not be as highly directional. In either case, as with base/mobile systems, increasing the transmitter power may cause unacceptable levels of interference to neighboring paths, or limit the number of paths in a particular area.

55. For example, in the theoretical case of a typical rural microwave path in the 6.8 GHz band, a 45 percent increase in transmitter output power yields only a one km (0.62 mi) increase in path length. We seek comment on whether the benefits of such a modest increase in path length outweigh the potential for unacceptable levels of interference to neighboring paths, or siting limitations on new paths in the same area.¹¹⁸

56. We seek comment on whether it is beneficial, feasible, and advisable to increase the current power limits for stations located in rural areas licensed under Parts 22, 24, 27, 80, 87, 90, and 101.¹¹⁹ A licensee can increase power by increasing transmitter output power and/or by using a directional antenna that focuses energy on the specific area to be covered and reduces energy in other directions, serving to limit interference potential, and potentially improving reception of signals from mobile units. Commenters should indicate which radio service(s) and power level(s) should be increased, specify a particular amount of additional power (either transmitter output power, EIRP, or both), specify directional antenna parameters if applicable (*e.g.*, front to back ratio or beamwidth), and quantify the

¹¹⁷ The maximum power and antenna limitations found in our rules were adopted in the 1970s in order to provide satisfactory performance while at the same time precluding diffraction or troposcatter propagation modes. *See* Amendment of the Commission's Rules To Establish a Private Operational-Fixed Microwave Radio Service (Part 94), Docket No. 19869, FCC 73-1162, 1973 WL 20973 (FCC) (rel. Nov. 26, 1973).

¹¹⁸ In this example we assumed a 6.8 GHz band microwave path, dry climate, reliability of 99.999 percent, flat terrain, and receive threshold of -75 dBm. An increase from 316 kW EIRP to 459 kW EIRP (approximately 45 percent) increases the path length from 12.94 km (8.04 mi) to 13.94 km (8.66 mi). The calculations in this example were based on the Vigants multipath fading model.

¹¹⁹ Because the Commission recently addressed this matter with respect to MVDDS stations licensed under Part 101, we exclude those stations from our inquiry. Specifically, the Commission opted to slightly increase power levels for all MVDDS stations, rather than increase power levels for certain stations in remote and less-populated areas. *See* 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, *Fourth Memorandum Opinion and Order*, 18 FCC Rcd 8428 (2003).

benefits that one could expect from the power increase. In particular, we are interested in how such increases may increase the potential for unacceptable levels of interference to other stations, increase exposure to electromagnetic radiation for workers and consumers,¹²⁰ or limit future use of the spectrum in such areas.

57. We also seek comment on how best to define the term “rural” for purposes of permitting increased power levels. In the case of base/mobile systems, would both the base stations and mobile stations need to be located in a rural area? For example, for base/mobile systems that utilize frequency or code re-use schemes (*e.g.*, TDMA, GSM, CDMA), it may not be desirable to use increased base station power levels or increased antenna heights for cells that are not sufficiently distant from urban areas. Such cell sites located just outside of urban areas could cause unacceptable levels of interference to urban cells by virtue of increased power or antenna height. For point-to-point and point-to-multipoint systems, would both ends of the transmission path need to be in a rural area? Rather than defining certain geographic areas as rural for these purposes, would some other measure (*e.g.*, taking into account a combination of terrain and nearby spectrum usage) be more appropriate?

58. We also seek comment on other measures that licensees may be using to minimize the costs associated with serving rural areas, and whether our rules and policies are sufficiently flexible to facilitate and encourage such innovations. For example, cellular and PCS licensees in rural areas may be using tower top amplifiers in order to boost incoming mobile signals, thus increasing the two-way communications range of cell sites.¹²¹ In fact, Nortel Networks has developed a CDMA cell that uses a high power amplifier for forward link and a tower top amplifier for improved sensitivity in the reverse link. When installed on a hill or other high terrain, Nortel claims that this approach has demonstrated coverage of up to 240 km over water and 130 km over land without requiring higher powered handsets.¹²² Similarly, licensees may deploy “smart antenna” systems capable of increasing base station range and suppressing interference from unwanted sources.¹²³ Commenters should identify specific rules or policies that may hinder the development and deployment of these and other technologies that could benefit persons in rural areas.

E. Appropriate Size of Geographic Service Areas

1. Background.

59. Over the past decade, the Commission has moved from the use of site-based licenses to

¹²⁰ We note that some cellular handsets available today already approach the specific absorption rate limits specified in our rules. *See* 47 C.F.R. §§ 1.1310, 2.1091, and 2.1093. Therefore, commenters who advocate higher power level for cellular handsets may wish to consider whether other design considerations can compensate for increased power levels so that such handsets do not violate our electromagnetic radiation exposure rules.

¹²¹ Tower top amplifiers improve system sensitivity by filtering and amplifying signals received at the base station antenna. While the gain delivered by a tower top amplifier may improve talkback signals from mobiles and portables greatly, its use must be limited to the extent it increases the system noise floor to undesirable or intolerable levels. *See, e.g.*, <<http://www.top-cape.com/TTA.htm>>.

¹²² *See* <http://www.nortelnetworks.com/products/01/cdma_radio/rural/>.

¹²³ *See, e.g.*, “Smart Antenna Systems,” <http://www.iec.org/online/tutorials/smart_ant/index.html>.

the use of geographic areas for licensing commercial wireless services.¹²⁴ In selecting the initial size of geographic service areas for licenses with mutually exclusive applications (and thus competitive bidding), Section 309(j)(4)(C) directs the Commission to promote certain goals. Specifically, Section 309(j)(4)(C) requires the Commission to, consistent with other objectives, prescribe service areas “that promote (i) an equitable distribution of licenses and services among geographic areas, (ii) economic opportunity for a wide variety of applications, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women, and (iii) investment in and rapid deployment of new technologies and services.”¹²⁵

60. The Commission’s assignment of cellular licenses employed geographic service areas, despite the fact that this process preceded competitive bidding and the policy objectives found in Section 309(j)(4)(C). The Commission decided that, for cellular licenses, geographic service areas would be based on Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs), collectively designated Cellular Market Areas (CMAs), of which there are 734 for the United States as a whole.¹²⁶

61. For broadband PCS licenses, in 1993 the Commission decided that, pursuant to Section 309(j)(4)(C), geographic service areas would be based on 493 Basic Trading Areas (BTAs) and 51 Major Trading Areas (MTAs).¹²⁷ The Commission initially designated four licenses for each of the smaller BTAs and two licenses for each of the larger MTAs. In making this determination for PCS licenses, the Commission concluded that smaller service areas, such as CMAs, were not necessary, because such smaller areas already had been made available with cellular licenses, and that larger areas, such as BTAs and MTAs, currently were demanded by potential providers.¹²⁸ The Commission determined that, in many cases, cellular licenses were aggregated by providers so as to create larger, even nationwide service areas and provide economies of scale.¹²⁹

62. For WCS licenses, in 1997 the Commission decided to license the geographic areas for this service based on 12 Regional Economic Area Groupings (REAGs) and 52 Major Economic Areas (MEAs).¹³⁰ The Commission designated two licenses for each REAG and two for each MEA. In considering the different options for WCS geographic service areas, the Commission noted that commenters requested a variety of sizes, ranging from nationwide licenses to CMAs. The Commission

¹²⁴ Many commercial wireless licenses have site-based incumbents, including the 220 MHz, 800 MHz SMR, and paging services.

¹²⁵ 47 U.S.C. § 309(j)(4)(C).

¹²⁶ 47 C.F.R. § 22.909. There are 306 MSAs and 428 RSAs.

¹²⁷ 47 C.F.R. § 24.202. MTAs comprise aggregations of BTAs. MTAs and BTAs originally were developed by Rand McNally and modified, with permission, by the Commission in issuing broadband PCS licenses.

¹²⁸ Amendment of the Commission’s Rules To Establish New Personal Communications Services, *Notice of Proposed Rulemaking and Tentative Decision*, 7 FCC Rcd 5676, 5699-701 ¶¶ 56-62, and Amendment of the Commission’s Rules to Establish New Personal Communications Services, *Second Report and Order*, 8 FCC Rcd 7700, 7732-33 ¶¶ 73-75.

¹²⁹ *Id.*

¹³⁰ Amendment of the Commission’s Rules to Establish Part 27, the Wireless Communications Service (WCS), *Report and Order*, 12 FCC Rcd 10785, 10814-15 ¶¶ 55-57 (1997).

decided that the larger REAs would accommodate those parties needing large areas to achieve economies of scale, facilitate interoperability, or provide innovative services, while the smaller MEAs would provide an opportunity for smaller providers to participate in the competitive bidding for WCS licenses.¹³¹

2. Discussion

63. We believe that the Commission's choice for the initial size of geographic service areas plays an important role in promoting a number of policy goals, including efficiency of spectrum use, competition among providers, and advancing service to rural areas. If geographic service area licenses are assigned with an initial size that does not represent the needs of service providers, then transaction costs are incurred, as carriers seek to acquire rights to spectrum in areas they wish to serve and divest their interest in areas they do not wish to serve. For example, if the initial size of geographic service areas is too small, then providers demanding large areas must aggregate, either during the auction or afterwards. If the initial size of geographic service areas is too large, then providers demanding small areas must disaggregate post-auction. In contrast, if the size of geographic service areas represents the needs of providers, substantial costs may be saved. For example, smaller license areas make it easier for small, regional, and/or rural providers to acquire needed spectrum without having to negotiate through secondary markets. While we hope that the Commission's recent efforts to facilitate the development of secondary markets will make these transaction costs less burdensome, we recognize that some costs to moving spectrum to its highest valued use will remain.

64. Since it is costly to aggregate or disaggregate spectrum, it is important that the Commission select initial license sizes and boundaries that are appropriate for the likely users and services to be provided. We recognize that there are tradeoffs between the use of large service areas and small service areas.¹³² Large service areas provide economies of scale and reduce coordination costs. Economies of scale may be realized in manufacturing of equipment and in providing service with certain technologies, such as satellites, which have high fixed costs but low marginal costs to serve large geographic areas. Large service areas are likely to reduce several types of coordination costs, including standard setting, providing seamless roaming, and avoiding co-channel interference. On the other hand, smaller service areas allow local, independent operators to better tailor their services to local conditions and provide greater financial incentives to local licensees than if they were managers in very large enterprises. Adopting small license areas also may allow smaller enterprises with limited financing to acquire spectrum licenses. In addition, license boundaries, as well as license size, are a concern of the Commission, which has attempted to choose boundaries that combine people and firms who are part of the same community and who are likely to communicate with each other. The Commission also has attempted to avoid setting boundaries that would preclude incumbents from bidding on licenses because of cross-ownership rules. For example, in setting license areas for broadband PCS, the Commission attempted to create licenses whose boundaries were contiguous with cellular service areas.

65. We recognize that carriers are divided on the issue of the appropriate size of geographic service areas. In various Commission proceedings, representatives of small, regional, and rural providers

¹³¹ *Id.*

¹³² Many of these tradeoffs between large service areas and small service areas are those between centralization and decentralization. See McAfee, R. Preston, *Competitive Solutions: A Strategist's Toolkit*, Princeton University Press (2003).

have argued that CMAs are the most appropriate size.¹³³ These parties contend that if the geographic service areas are too large, then they will be unable to compete against large carriers in the auction.¹³⁴ Smaller carriers further argue that when licenses for large geographic areas are auctioned and acquired by large, nationwide carriers, it is costly and often impossible for small, regional, and rural carriers to negotiate partitioning and disaggregation agreements.¹³⁵ In contrast, representatives of large regional and nationwide CMRS providers and other parties have argued that service areas that are too small may be inefficient.¹³⁶ These parties contend that small areas may make it more difficult for providers to achieve economies of scale or otherwise impede their ability to provide cost-effective service. Still other parties have argued that the size of service areas should be tailored to the wireless service in question.¹³⁷

66. We seek comment on the costs of partitioning post-auction as compared to the costs of aggregating spectrum during or after the auction process. We observe that spectrum aggregation within auctions is fairly common. While we recognize the concerns of small carriers regarding their access to spectrum in rural markets, especially when large geographic areas are used, we note that partitioning also is relatively common. Some carriers appear to be partitioning their licenses, indicating there is a market for partitioned spectrum.¹³⁸ Most partitioning occurs along county boundaries, but there have been instances of partitioning along “undefined areas.”¹³⁹ There have been approximately 780 geographic-area

¹³³ See e.g., *Rural NOI*, Dobson Communications Corporation Reply Comments at 1-2; Comments of NTCA at 9-10; OPASTCO/RTG Joint Comments at 8-10; Comments of U.S. Cellular at 7-8; Comments of Rural Cellular Association at 3. See also Amendments to Part 1, 2, 27 and 90 of the Rules To License Services in 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, *Report & Order*, 17 FCC Rcd 9980, 9990 ¶16 (2002) (citing Rural Telecommunications Group Comments at 2, Office of Advocacy, U.S. Small Business Administration, Reply Comments at 3-4) (*27 MHz Report and Order*); Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission’s Rules, *First Report & Order*, 15 FCC Rcd 476, 499 ¶55 (2000) (citing Comments of Rural Telecommunications Group at 3) (*Upper 700 MHz Band Report and Order*); Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), *Report and Order*, 17 FCC Rcd 1022, 1058 ¶ 88 (2001) (citing Comments of Cellular South at 6, Comments of CROW at 7-8, Reply Comments of Leap at 4, Comments of NTCA at 2, Comments of SDN at 5-6) (*Lower 700 MHz Band Report and Order*).

¹³⁴ See, e.g., *Rural NOI*, NTCA *Ex Parte* (filed Jan. 27, 2003), OPASTCO/RTG Joint Comments at 8-10.

¹³⁵ *Id.*

¹³⁶ See, e.g., *Rural NOI*, *Reply Comments of Space Data Corporation at 11-12*. See also *27 MHz Report and Order* at 9990 ¶16 (citing Comments of AMTA at 6); *Upper 700 MHz Band Report and Order* at 499 ¶55 (citing Comments of AirTouch at 19-20, Comments of US West at 3); *Lower 700 MHz Band Report and Order* at 1058 ¶ 87 (citing Comments of Qwest at 7, ArrayComm *Ex Parte* at 5).

¹³⁷ See *Rural NOI*, Comments of AT&T Wireless Services, Inc. at 8-9, Comments of Western Wireless at 31-32.

¹³⁸ The statistics reported in this paragraph reflect analysis performed by Commission staff using publicly available data from the Commission’s Universal Licensing System and population figures based on the 2000 Census.

¹³⁹ Undefined areas are considered geographic areas that cannot be expressed by county boundaries. An example of undefined area partitioning includes the Des Moines – Quad Cities Major Trading Area (MTA032), where one carrier has partitioned its license over 100 times to various small carriers.

licenses partitioned at least once.¹⁴⁰ Approximately 90 percent of all partitioned licenses are broadband PCS or 800 MHz SMR, which are spectrum bands used primarily for the provision of mobile telephony service. We note that over 60 percent of all counties in the broadband PCS service have been partitioned at least once.¹⁴¹ Partitioning appears to be occurring across all regions of the country and includes many counties that fall within the various definitions of “rural” that are proposed in Section II.A, above. For example, of the partitioned broadband PCS counties, 72 percent are counties with a population density of 100 persons per square mile or less. In addition, 77 percent of the partitioned broadband PCS counties are contained within RSAs. Furthermore, 71 percent of the partitioned broadband PCS counties are non-nodal EA counties. In addition, we observe that partitioning sometimes occurs to different degrees in different services, even when the same size of geographic service areas is used. For example, both 900 MHz SMR licenses and broadband PCS A and B Block licenses are licensed across MTAs, yet we see significant partitioning with broadband PCS licenses and very little with 900 MHz SMR licenses.

67. We seek comment on the lessons we should draw from the Commission’s experience in choosing initial service area sizes. Is there evidence of net aggregation towards nationwide service areas for certain services such as cellular and PCS? Is there evidence of net partitioning for other services? To the extent partitioning is more common in some services and less so in others, is this trend indicative of some miscalculation by the Commission in choosing the initial size of service areas? Alternatively, could this activity reflect changes in the demand for services that could be provided in this band, or changes in technologies or other factors that affect what services could be supplied in this band? We also seek comment as to whether the difference in the level of partitioning across services could reflect the application of different Commission rules, such as build-out requirements. Finally, we note that there are certain transaction costs associated with any partitioning. Should we expect that licenses for highly valued spectrum, in highly valued services, will be more likely to be partitioned, given the greater likelihood that the value created by this trade will exceed the transaction costs? Similarly, as secondary markets develop and transaction costs decline, should we expect that partitioning through leasing arrangements will become more feasible in more services? To what extent might such partitioning be limited by a hold-out problem? That is, might licensees with large geographic areas refuse to make spectrum available to small providers that want to serve small or niche markets, which tend to be in rural areas?

68. We tentatively conclude that it is in the public interest for the Commission to balance the needs of different providers, including the larger carriers’ need for economies of scale and the smaller carriers’ need for license areas that more closely resemble their service areas. We recognize that, since users of spectrum have a variety of needs, one size of service area does not fit all. We intend to continue establishing geographic areas on a service-by-service basis, and we seek comment on steps we can take to effectively balance the competing needs of different users as we make these service area decisions. Would such an approach produce economically efficient results? Is such an approach necessary, given our expectation that secondary markets will become more prevalent in the future? We especially encourage commenters to use empirical evidence to support their assessment of partitioning costs,

¹⁴⁰ This total includes applications currently pending before the Commission and granted applications. The total number of licenses is represented by counting a license as being partitioned each time a license is listed on a partitioning application. Therefore, certain licenses may be counted more than once for the purposes of this analysis. A license can involve the partitioning of many counties or undefined areas.

¹⁴¹ Those counties that make up this 60 percent estimate do not include counties where only a portion of the county has been partitioned (*i.e.*, undefined areas). Because, as described above, partitioning also occurs along undefined areas, we conclude that the actual number of partitioned counties is greater than 60 percent.

aggregation costs, and the efficiency of any approach they recommend.

69. In addition, while the largest geographic service area the Commission may adopt would be a nationwide area, there is some question as to what would be the smallest size that would still be functional. That is, at what point is it more appropriate for the Commission to use site-based licenses instead of very small geographic area licenses? Also, to the extent we believe small license areas are appropriate for specific bands, what size is most appropriate – CMAs, EAs, or some other measure? Are there particular frequencies that are better suited for allocations to small license areas? We also inquire as to whether it is possible that use of relatively small geographic areas would introduce an unreasonable risk of another type of hold-out problem. In particular, might such an approach result in many small incumbent licensees who could then frustrate post-auction attempts to aggregate licenses efficiently by refusing to sell except at excessive prices?

70. At the same time we seek comment on whether to use smaller service areas, we also seek ways to make it easier for providers in need of larger areas to acquire them with minimal transaction costs. One way to achieve this objective may be to adopt bidding design mechanisms that permit the aggregation of geographic areas or spectrum blocks during an auction. Typically, the Bureau uses a simultaneous multiple-round auction design, which facilitates aggregation by making all licenses in the auction available at the same time. Under this approach, bidders may observe bidding activity on all licenses and make aggregation decisions based on such observations of relative prices. Recently, the Bureau selected a package bidding design for two auctions.¹⁴² This relatively new approach to auctions allows bidders to submit all-or-nothing bids on combinations of geographic areas or spectrum blocks in addition to bids on individual licenses or authorizations. We believe that, in instances in which the Commission has determined that smaller size license areas are appropriate, a package bidding format may be helpful to bidders seeking to acquire larger geographic areas or spectrum blocks. We recognize, however, that in such circumstances, the use of package bidding may introduce significant computational complexities.

71. We also observe that choosing a geographic service area that represents a “middle solution” may be an inefficient approach. For example, if nationwide providers need large or nationwide service areas and regional or rural providers need very small areas, then the use of service areas that are medium sized in an attempt to find a “middle solution” may impose unnecessary transaction costs. In such cases, the likely users would have to either aggregate or partition in order to meet their spectrum needs. We note that, as an alternative to such a “middle solution” in which service area size represents a compromise that may not be ideal for either small or large service providers, there may be situations in which it is possible to create geographic service areas of mixed sizes. In particular, if there is sufficient bandwidth available, both large regional (or even national) and small local license areas can be created. We inquire as to whether such a mixed plan may reduce the aggregation/disaggregation transaction costs inherent in a single size geographic licensing scheme, and we seek comment on what other costs, as well as benefits, may be associated with such an approach. We recognize that, while a mixed approach may be useful in some bands with spectrum users that have very different needs, it may not be appropriate in other bands, and we conclude that our approach must be tailored to the needs of each band or service in

¹⁴² “Auction of Regional Narrowband PCS Licenses Scheduled for September 24, 2003, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, Package Bidding and Other Auction Procedures,” *Public Notice*, DA 03-1994 (rel. June 18, 2003); “Auction of Licenses in the 747-762 And 777-792 MHz Bands Scheduled for June 19, 2002, Further Modification of Package Bidding Procedures And Other Procedures For Auction No. 31,” *Public Notice*, 17 FCC Rcd 7049 (2002).

question.

F. Facilitating Access to Capital

72. In this section we explore ways that we may facilitate increased access to capital to fund the build out and provision of spectrum-based facilities and services in rural and underserved areas. First, we seek comment on what, if any, further regulatory or policy changes should be made to complement the U.S. Department of Agriculture's RUS program, under which qualified wireless providers can obtain low interest loans for deployment of broadband facilities, and any other method of securing financing for rural build out and operations. We also seek comment regarding whether we should permit RUS to obtain security interests in spectrum licenses, whether we have the statutory authority to do so, and whether allowing RUS to take security interests in licenses is likely to provide licensees serving rural and other areas with greater opportunities to leverage the value of their licenses and the rights thereunder, thereby increasing their access to capital. Finally, we seek comment on discontinuing application of the cellular cross-interest rule in RSAs with more than three competitors to avoid impeding opportunities for financing and investment in rural areas and shift to standard case-by-case review process for RSA cellular license transactions to safeguard competition in these markets.

1. Rural Utilities Service

a. Rural Loan Programs

(i) Background

73. The U.S. Department of Agriculture's RUS Telecommunications Program assists the private sector in developing, planning, and financing the construction of telecommunications infrastructure in rural America. Programs administered by RUS include: (1) infrastructure loans; (2) broadband loans and grants; (3) distance learning and telemedicine loans and grants; (4) weather radio grants; (5) local TV loan guarantees; and (6) digital translator grants. The largest of these programs are the infrastructure loan program and the broadband loan program.

74. The infrastructure loan program is technology neutral, requires broadband-capable facilities, and provides financing for infrastructure (*e.g.*, building and equipment), but not financing for the costs of operating the business. Within the infrastructure loan program, there are four types of financing: (1) hardship loans; (2) cost-of-money loans; (3) rural telephone bank loans; and (4) federal financing bank loans.¹⁴³ For fiscal year 2003, the total authorized loan level for these four programs is \$670 million.¹⁴⁴

75. The broadband loan program is technology neutral; requires provision of high-quality data transmission service and may provide voice, graphics, and video; and must enable a subscriber to transmit and receive at a rate of no less than 200 kilobits per second.¹⁴⁵ Similar to the infrastructure loan

¹⁴³ 7 C.F.R. §§ 1735.30 – 1735.33.

¹⁴⁴ See Slides of Roberta D. Purcell, Assistant Administrator, Telecommunications Program, Rural Utilities Service, Kick Off Meeting of the Federal Rural Wireless Outreach Initiative, July 2, 2003, available at <http://wireless.fcc.gov/outreach/presentations/JointFCC-RUSPresentation_1.pdf> (Purcell Slides). See also <<http://wireless.fcc.gov/outreach/ruralinitiative/event20030702.html>>.

¹⁴⁵ 7 C.F.R. § 1738.

program, the broadband loan program finances the construction or acquisition of new facilities and facility improvements.¹⁴⁶ RUS makes broadband loans available to any legally organized entity that has sufficient authority to enter into a contract with RUS and carry out the purposes of the loan, so long as the entity is providing or proposes to provide service to an area that meets the following criteria: (1) there are no more than 20,000 inhabitants, and (2) the service area does not fall within a standard metropolitan statistical area.¹⁴⁷ For fiscal year 2003, RUS has \$80 million for 4 Percent loans,¹⁴⁸ \$80 million for Guaranteed loans, and \$1.3 billion for Treasury Rate loans.¹⁴⁹ In fiscal year 2004, the total loan level is anticipated to be \$418 million.¹⁵⁰

76. The Commission's Wireless Telecommunications Bureau (WTB) has partnered with RUS to sponsor the "Federal Rural Wireless Outreach Initiative" (FCC/RUS Outreach Partnership).¹⁵¹ The FCC/RUS Outreach Partnership is designed to exchange program and regulatory information about rural development and wireless telecommunications access in rural areas. The four key goals of the FCC/RUS Outreach Partnership are to: (1) exchange information about products and services each agency offers to promote the expansion of wireless telecommunications services in rural America; (2) harmonize rules, regulations and processes whenever possible to maximize the benefits for rural America; (3) educate partners and other agencies about Commission, WTB and USDA/RUS offerings; and (4) expand the FCC/WTB and USDA/RUS partnership, to the extent that it is mutually beneficial, to other agencies and partners.

(ii) Discussion

77. We seek methods to help facilitate access to capital in rural areas in order to increase the ability of wireless telecommunications providers to offer service in rural areas. An important part of accomplishing this goal is through the promotion of federal government financing programs. We seek comment on how the Commission can assist in making the RUS loan programs more effective. We seek comment on whether there are any Commission regulations or policies that should be reexamined or modified to facilitate participation in the RUS programs by wireless licensees and service providers. In addition, we ask for comment on whether the FCC/RUS Outreach Partnership could be expanded to

¹⁴⁶ 7 C.F.R. § 1738.10(a).

¹⁴⁷ 7 C.F.R. §§ 1738.2, 1738.16. Individuals or partnerships of individuals are not eligible entities. An entity is not eligible if it serves more than 2 percent of the telephone subscriber lines installed in the United States. A State or local government, including any agency, subdivision, or instrumentality thereof (including consortia thereof) shall be eligible for a broadband loan only if, not later than April 30, 2002, no other eligible entity is already offering or has committed to offer broadband service to the eligible rural community. RUS will determine whether the commitment is sufficient for purposes of this paragraph. 7 C.F.R. § 1738.16.

¹⁴⁸ To be eligible for a direct loan bearing a fixed interest rate of 4 percent, the applicant must be proposing to serve a community of 2,500 people or less, located in a county where the per capita income is 55 percent of the national average, with a population density is no more than 10 people per square mile, and where there is not currently broadband service (as defined by 7 CFR § 1738.11(b)). The loans are capped at \$5 million. See Purcell Slides; 7 CFR § 1738.30(b).

¹⁴⁹ 7 C.F.R. § 1738.30. Some loan types have additional eligibility criteria. *Id.*

¹⁵⁰ See Purcell Slides.

¹⁵¹ See *Federal Rural Wireless Outreach Initiative News Release*.

include other federal, state, or local government programs and, if so, which programs should be included in this FCC/RUS Outreach Partnership. We further seek comment on whether there is a role for non-governmental entities in the FCC/RUS Outreach Partnership and how such entities might be able to participate.

78. We also ask for suggestions regarding effective outreach programs and the groups that should be targeted. For example, we ask service providers; federal, state, and local governments; and other interested parties what outreach initiatives they have found most effective in the past. In addition, we ask for submission of lists of associations, government agencies, or other interested parties that would want to join in this FCC/RUS Outreach Partnership or receive future information regarding this program.

b. Security Interests

(i) Background

79. As a historical matter, the Commission has not permitted third parties to take a security interest in spectrum licenses. At the same time, the Commission's legal and policy bases for various restrictions on transactions involving licenses have evolved over the years. For instance, at one time, the policy of prohibiting the sale of bare licenses, as well as the policies against security and reversionary interests in licenses, were based on the Commission's interpretation of the Communications Act.¹⁵² In various decisions, the Commission modified its views on the statutory basis for these policies in the context of cellular and other wireless licenses.¹⁵³ In 1992, the Commission examined these policies in connection with capital formation issues facing the broadcasting industry.¹⁵⁴ For all spectrum-based services, the Commission has expressly permitted licensees to grant security interests in the stock of the licensee, in the physical assets used in connection with its licensed spectrum, and in the proceeds from operations associated with the licensed spectrum.¹⁵⁵ The Commission and the courts have likewise

¹⁵² See generally Stephen F. Sewell, Assignments and Transfers of Control of FCC Authorizations Under Section 310(d) of the Communications Act of 1934, 43 Fed. Comm. L.J. 277, 330-31 (1991); William L. Fishman, *Property Rights, Reliance, and Retroactivity under the Communications Act of 1934*, 50 Fed. Comm. L.J. 1, 16-20 (1997); Nancy R. Selbst, "Unregulation" and Broadcast Financing: New Ways for the Federal Communications Commission to Serve the Public Interest, 58 U. Chi. L. Rev. 1423, 1439 (1991).

¹⁵³ See Bill Welch, *Memorandum Opinion and Order*, 3 FCC Rcd 6502, 6503 (1988) (approving for-profit sale of a permit for construction of a cellular telephone facility on ground that relevant provisions of the Communications Act of 1934 "do[] not bar the for-profit sale to a private party, subject to prior Commission approval, of whatever private rights a permittee has in its license") (footnotes omitted); Application of Walter O Cheskey, Trustee-in-Bankruptcy for N.C.P.T. Cellular, Inc. (Assignor) and Triad Cellular L.P. (Assignee), *Memorandum Opinion and Order*, 9 FCC Rcd 986 (Mobile Serv. Div., Comm. Car. Bur. 1994), application for review denied, 13 FCC Rcd 10656, 10660 (1998), application for review denied, *Amarillo CellTelCo v. FCC*, 1998 WL 796204 (D.C. Cir. 1998) (*Cheskey*).

¹⁵⁴ Review of the Commission's Regulations and Policies Affecting Investment in the Broadcast Industry, *Notice of Proposed Rule Making and Notice of Inquiry*, 7 FCC Rcd 2654 (1992) (*Broadcasting Capital Formation Notice*). See also Petition for Declaratory Ruling filed by Hogan & Hartson (Feb. 21, 1991), available at <http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=1035940001> and <http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=1035940002> (Hogan & Hartson Petition).

¹⁵⁵ See Commission Policy Regarding the Advancement of Minority Ownership in Broadcasting, 99 FCC 2d 1249, 1254 (1985).

determined that security interests in the proceeds of the sale of a license do not violate Commission policy.¹⁵⁶ In connection with the auction installment payment program, the Commission itself has taken an exclusive security interest in licenses subject to installment payments and a senior security interest in the proceeds of a sale of an auctioned license. In such circumstances, the Commission has allowed licensees to provide their lenders a subordinated security interest in the proceeds of a license sale.¹⁵⁷ Courts and commentators have been closely watching these policy developments.¹⁵⁸ In its *Secondary Markets Policy Statement*, the Commission considered ways in which licensees may be able to maximize their efficient use of spectrum by leveraging “the value of their retained spectrum usage rights to increase access to capital.”¹⁵⁹ Specifically, the Commission said “we plan to evaluate our policies prohibiting security and reversionary interests in licenses.”¹⁶⁰

(ii) Discussion

80. Pursuant to our stated intent in the *Secondary Markets Policy Statement*, we initiate a discussion regarding whether we should permit RUS to obtain security interests in the spectrum licenses of their borrowers. We seek comment on whether, and to what extent, licensees in rural areas would benefit from the opportunity to pledge their licenses to RUS as collateral as a means of overcoming their difficulties in raising capital. Would modifying our current policy to allow RUS to take limited security interests in wireless licenses be likely to provide licensees seeking to build out and serve rural and underserved areas with additional assistance in capital formation?

81. As an initial matter, we limit the scope of our inquiry to commercial and private terrestrial wireless services.¹⁶¹ We further limit our inquiry concerning security interests to licenses and licensees in rural and underserved areas that are seeking federal financial assistance through RUS loan programs. We believe that such licensees will benefit most in light of their apparently greater need for lower-cost capital and the new opportunities presented by RUS loans discussed below. Also with regard

¹⁵⁶ See *Cheskey*, 13 FCC Rcd at 10659-60 ¶ 7.

¹⁵⁷ 47 C.F.R. § 1.2110(g)(3).

¹⁵⁸ See, e.g., *FCC v. NextWave Personal Communications Inc.*, 123 S.Ct. 832, 842 (2003); *MLQ Investors, L.P. v. Pacific Quadracasting, Inc.*, 146 F.3d 746, 748 (9th Cir. 1998) (*MLQ Investors*); *Beach Television Partners v. George F. Mills, Jr.*, 38 F.3d 535, 537 (11th Cir. 1994) (*Beach Television Partners*); *In re PBR Communications Systems, Inc.*, 172 B.R. 132, 135 (Bankr. S.D. Fla. 1994); Timothy F. Boyce, *Collateralizing Nonassignable Contracts, Licenses, And Permits: Half a Loaf is Better Than No Loaf*, 52 Bus. Law. 559, 575 (1997); William L. Fishman, *Property Rights, Reliance, and Retroactivity Under the Communications Act of 1934*, 50 Fed. Comm. L.J. 1, 52 (1997); Lorin Brennan, *Financing Intellectual Property Under Revised Article 9: National And International Conflicts*, 23 Hastings Comm. & Ent. L.J. 313, 455 (2001); Edwin E. Smith, *Article 9 In Revision: A Proposal For Permitting Security Interests In Nonassignable Contracts and Permits*, 28 Loy. L.A. L. Rev. 335, 349 (1994); Thomas Hutton, *Lenders Seeking to Take a Security Interest in FCC Licenses Obtain Only Limited Protection By Structuring Loans Through Subsidiaries That Will Hold The Licenses*, 20 Nat'l L.J. B5, col. 1 (Jan. 26, 1998).

¹⁵⁹ Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets, *Policy Statement*, 14 FCC Rcd 24178, 24187 ¶ 23 (2000) (*Secondary Markets Policy Statement*).

¹⁶⁰ *Id.* at 24187-88.

¹⁶¹ See n.1, *supra*.

to the scope of our inquiry, we note that we do not intend to implement any policy change that would, in the case of a licensee operating under the installment payment program, compromise the Commission's exclusive or senior secured position with respect to the license and the proceeds of the sale of such license. Nevertheless, we seek comment on whether permitting RUS to obtain security interests in the spectrum licenses of their borrowers, as described below, could have unintended effects on installment licensees and the Commission's rights under these arrangements.

82. Our primary goal is to determine whether further relaxation of the security interest restrictions – by allowing at least a modified form of collateralization of FCC licenses by licensees obtaining RUS funds – could increase opportunities to raise capital or avoid financial collapse. We therefore seek comment on the extent to which a licensee's ability to grant RUS a security interest directly in an FCC license would, in fact, create new financing opportunities and facilitate the construction, deployment and continuity of new and existing wireless services in rural and underserved areas. We also ask how this change in our policy would affect the ability of small businesses to obtain much needed startup capital.

83. On the other hand, despite these potential benefits, we recognize that a licensee's current ability to grant security interests in its stock and in the proceeds of a license sale may already provide it with financing opportunities that are similar to those we seek to foster by our proposal below. If so, it would appear that we may not significantly enhance financing opportunities. We ask all interested parties, including licensees, vendors, RUS, lenders and others to comment on these potential benefits and to identify any other specific benefits that could accrue from such a policy change.

84. We further note that any security interest granted to RUS would be expressly conditioned, in writing as part of all applicable financing documents, on the Commission's prior approval of any assignment of the license or any transfer of *de jure* or *de facto* control of the licensee to RUS. We discuss below the reasons for this limitation and seek comment on some specific concerns.

85. First, in addition to the benefits from lower costs of and greater access to capital, we seek comment on whether modifying our policy to permit RUS to take a security interest in FCC licenses is a natural outgrowth of the Commission and judicial developments discussed above, which recognize the value and ability of a lender obtaining a security interest in the licensee's stock, proceeds and other assets without infringing upon the Commission's statutory obligations.¹⁶² For instance, in *MLQ Investors*, the U.S. Court of Appeals for the Ninth Circuit determined that a security interest in the proceeds of the sale of a broadcast license can be perfected prior to the sale of the license, and that “[g]overnment licenses, as a general rule, are considered to be ‘general intangibles’ under the Uniform Commercial Code, ‘i.e., personal property interests in which security interests may be perfected.’”¹⁶³ The Ninth Circuit identified the Commission's primary policy concern by stating that “[t]he FCC may prohibit security interests in licenses themselves because the creation of such an interest could result in foreclosure and transfer of the license without FCC approval.”¹⁶⁴ The Ninth Circuit went on to explain that the Commission's interest in regulating spectrum to promote the public interest is not implicated “by a security interest in the proceeds of licenses, which does not grant the creditor any power or control over the license.”¹⁶⁵ We also note that

¹⁶² See *Cheskey, Beach Television Partners*.

¹⁶³ See *MLQ Investors*, 146 F.3d at 749.

¹⁶⁴ *Id.* at 748.

¹⁶⁵ *Id.*

application of state laws under Article 9 of the Uniform Commercial Code is generally limited in connection with the treatment of security interests of non-assignable “personal property” governed by federal law.¹⁶⁶ We seek comment on how cases like *MLQ Investors* and the application of the UCC provisions have affected lending practices for FCC licensees and what, if any, impact the grant of security interests in spectrum licenses to RUS might have on established law in this area, including the appropriate method of how RUS would perfect a security interest in FCC licenses.

86. Next, we address the concerns that have led us to propose that any security interest granted to RUS be expressly conditioned on the Commission’s prior approval of any assignment of the license or any transfer of *de jure* or *de facto* control. We ask whether it may be feasible for a licensee to grant RUS a security interest in an FCC license without compromising our obligation to maintain control of spectrum in the public interest, so long as we are completely able to fulfill our applicable mandates under the Communications Act of 1934, as amended.¹⁶⁷ For example, we must and will preserve our authority under Section 310(d) to review and approve license assignments and transfers of control, to assess and confirm the basic qualifications of assignees and transferees, and, more generally, to exercise our statutory responsibility to determine whether the Section 310(d) transaction in question will serve the public interest, convenience and necessity.¹⁶⁸ The Commission has historically disallowed granting security interests in FCC licenses, based upon its concern that such financing arrangements may interfere with its ability to regulate the assignment of licenses, the transfer of control over licenses, and, more generally, the use of spectrum.¹⁶⁹ If, however, we can ensure that appropriate prior approval of assignments and transfers is obtained, and if we further limit any grant of a security interest to RUS, a federal loan agency, do commenters believe that our policy and statutory concerns would be satisfactorily addressed, thus enabling us to promote flexibility and financing opportunities for licensees serving rural and underserved areas? In this regard, we note that we have seen no detectable erosion of our regulatory authority from our current policy of permitting licensees to engage in a very similar type of financing arrangement – that is, a licensee grant of a third party security interest in its stock and the proceeds of the sale of the license, along with third party perfection of that interest, *prior* to the sale of the subject license. We seek comment on the relative impact that such developments may have on our ability to implement and enforce our statutory obligations.

87. We recognize that permitting RUS to obtain security interests in FCC licenses would

¹⁶⁶ See U.C.C. § 9-104(a)(1995); U.C.C. [Revised] § 9-109(c)(1)(2000); see also Brennan, *Financing Intellectual Property Under Revised Article 9: National And International Conflicts*, 23 *Hastings Comm. & Ent. L.J.* 313 (2001) (noting that the UCC drafting committee modeled its approach on the “well-established” law that applies to FCC licenses); Weise, *The Financing of Intellectual Property Under Revised Article 9*, 74 *Chi.-Kent L. Rev.* 1077, 1092-93 (1999) (noting same).

¹⁶⁷ See 47 U.S.C. §§ 301, 304. Section 301 of the Act provides that the government can authorize the use but not the ownership of the spectrum (“channels of radio transmission”). Section 304 requires that any license applicant waive any claim to the use of the spectrum as against the regulatory power of the United States.

¹⁶⁸ See 47 U.S.C. § 310(d); see also 47 U.S.C. §§ 308, 309; Hogan & Hartson Petition, *supra* n. 154 at 25 (“Transfer of a license would continue to be subject to prior Commission approval.”). In the *Secondary Markets* proceeding, we ask whether we should forbear from requiring prior Commission approval for certain categories of transfers of control and license assignments that do not raise public interest issues requiring prior Commission review. See *Secondary Markets News Release*.

¹⁶⁹ See *Beach Television Partners* at 537; *Broadcasting Capital Formation Notice* at ¶¶ 22-23.

provide RUS with greater rights vis-à-vis the license and licensee than it currently can obtain. We therefore ask whether our proposed condition requiring prior FCC approval before RUS can foreclose on the license would satisfactorily and adequately preserve existing regulatory relationships. The type of security interest that we are seeking comment on would be a right between the licensee and RUS, exercisable only upon Commission approval. Would such a right be fully consistent with our responsibilities under the Communications Act? We ask whether it would not be different than granting RUS an option to purchase a license, for example. We note that we would review and require our approval of an assignment to RUS in accordance with our transfer and assignment policies *before* RUS could assume control of a license. Such a process is designed to ensure that the federal government retains appropriate control over use of the spectrum consistent with Sections 301 and 304 of the Act, and that the perfection of a security interest in a license does not interfere with these or other statutory obligations and policy prerogatives. For example, would a security interest in a license give RUS any rights that might conflict with the Commission's regulatory oversight (other than an unapproved foreclosure or assertion of control) that it could exercise against the licensee? Furthermore, in light of the fact that RUS is a federal government agency, we ask whether we may have greater statutory latitude to grant it a security interest while still ensuring that the federal government retains control over spectrum.

88. Our next concern relates to any unintended consequences that may result from this potential policy change, especially as it relates to existing and future financial and regulatory relationships and any new claims or conflicts that may arise. It appears that one of the main conceptual differences between the current limits on the scope of permissible security interests and our proposal is that a security interest in a license itself would link the secured party more directly to the Commission. It is our understanding that under current financing practices involving FCC licensees, the secured party's rights stem from its relationship as a lender (and possibly an equipment vendor, bondholder or stockholder) to the licensee, not directly to the Commission, even after default and foreclosure on the secured assets. We seek comment on whether the grant by a licensee of a contingent interest in a Commission authorization to RUS – without the Commission's permission or review – would undermine our regulatory authority embodied in Sections 301 and 304. We also ask how the existence of RUS, as a secured creditor, may affect the ability of the licensee to seek financing from other sources in this situation? In sum, we seek comment on what, if any, difference from the perspective of RUS, a third-party lender, or the licensee, would there be on a relaxation of the current security interest policies in the circumstances described above.

89. Finally, we seek comment on one other concern that had been raised in the past by the Commission in connection with prior similar proposals. In particular, in the context of broadcast licenses, the Commission expressed concern about the independence of broadcast stations and about the ability of creditors to have substantial influence over a borrower station.¹⁷⁰ We seek comment on whether such dangers exist in the connection with RUS's attainment of security interests in non-broadcasting wireless licenses, especially as it relates to preserving and protecting facilities-based competition and innovation by and among wireless service providers.

2. Cellular Cross-Interests in Rural Service Areas

90. We seek comment regarding whether our current rule against cellular cross-interests in all RSAs,¹⁷¹ as set forth in Section 22.942 of the Commission's rules,¹⁷² remains in the public interest. Given

¹⁷⁰ *Broadcast Capital Formation Notice* at ¶ 23.

¹⁷¹ For additional background regarding the adoption of RSAs, *see* our discussion at n. 11 and ¶¶ 10-11, *supra*.

the importance of increasing capital formation options for licensees, we request comment on whether continued application of the existing cellular cross-interest rule in all RSAs may be impeding financing to and investment in rural areas. We seek comment below on a range of options for modifying or eliminating the current rule in a way that balances the need to safeguard competition in these markets with our efforts to remove unnecessary regulatory barriers to financing, constructing, and operating wireless systems in rural areas. Further, as discussed below, we tentatively conclude to retain the current cellular cross-interest rule in RSAs with three or fewer CMRS competitors, and we seek comment on removing the rule as it applies to other RSAs and to non-controlling investments in all RSA licensees.

a. Background

91. Section 22.942 of the Commission's rules substantially limits the ability of parties to have interests in cellular carriers on different channel blocks in the same rural geographic area.¹⁷³ To the extent licensees on different channel blocks have any degree of overlap between their respective cellular geographic service areas (CGSAs) in an RSA,¹⁷⁴ Section 22.942 prohibits any entity from having a direct or indirect ownership interest of more than 5 percent in one such licensee when it has an attributable interest in the other licensee.¹⁷⁵ An attributable interest is defined generally to include an ownership interest of 20 percent or more or any controlling interest.¹⁷⁶ An entity may have a non-controlling and otherwise non-attributable direct or indirect ownership interest of less than 20 percent in licensees for different channel blocks in overlapping CGSAs within an RSA.¹⁷⁷

92. The Commission initiated a comprehensive review of the cellular cross-interest rule in January 2001 as part of its 2000 biennial regulatory review of spectrum aggregation limits.¹⁷⁸ In addition

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¹⁷² 47 C.F.R. § 22.942.

¹⁷³ 47 C.F.R. § 22.942. The original cellular cross-interest rule was adopted in 1991. *See* Amendment of Part 22 of the Commission's Rules to Provide for the Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules, *First Report and Order and Memorandum Opinion and Order on Reconsideration*, 6 FCC Rcd 6185, 6228-29 ¶¶ 103-06.

¹⁷⁴ Application of the cellular cross-interest rule requires comparison of the CGSAs of cellular licensees operating on A Block frequencies in an RSA with those of cellular licensees operating on B Block frequencies in the same RSA. Because cellular licensees are authorized on frequencies in either one or the other of these channel blocks, any geographic area within an RSA will fall within the CGSAs of no more than two cellular licensees (one on each channel block).

¹⁷⁵ 47 C.F.R. § 22.942(a).

¹⁷⁶ 47 C.F.R. § 22.942(d)(1), (2). Other rules for determining attributable interests are set forth elsewhere in Section 22.942(d). *See* 47 C.F.R. §§ 22.942(d)(3)-(9).

¹⁷⁷ 47 C.F.R. § 22.942(b).

¹⁷⁸ *See* 2000 Biennial Regulatory Review Spectrum Aggregation Limits for Commercial Mobile Radio Services, *Notice of Proposed Rulemaking*, 16 FCC Rcd 2763 (2001) (*Spectrum Cap Sunset NPRM*). Staff had recommended that the Commission consider cellular cross-ownership issues as part of the 2000 biennial regulatory review proceeding reviewing the need for the CMRS spectrum cap, 47 C.F.R. § 20.6. *See* Federal Communications Commission Biennial Regulatory Review 2000, CC Docket No. 00-175, *Updated Staff Report*, app. IV at 34, 69 (rel. Jan. 17, 2001).

to considering to what extent there was then meaningful economic competition in CMRS markets,¹⁷⁹ the Commission sought comment on whether spectrum management and other regulatory considerations justified retaining, modifying, or eliminating prophylactic spectrum aggregation limits.¹⁸⁰ In December 2001, pursuant to Section 11 of the Communications Act,¹⁸¹ the Commission released its *Spectrum Cap Sunset Order*¹⁸² and, on the basis of the state of competition in CMRS markets, sunset the CMRS spectrum cap rule in all markets effective January 1, 2003.¹⁸³ In that order, the Commission also determined that cellular carriers in urban areas no longer enjoyed first-mover, competitive advantages, and it therefore eliminated the cellular cross-interest rule in MSAs on that basis, also pursuant to Section 11 of the Act.¹⁸⁴ While the Commission left the cross-interest rule in place in RSAs, it indicated that it would consider waiver requests and reassess the need for the rule at a future date.¹⁸⁵

93. In March 2002,¹⁸⁶ the Commission sought comment on petitions filed by Dobson Communications Corporation, Western Wireless Corporation, and Rural Cellular Corporation (Dobson/Western/RCC) and Cingular Wireless LLC (Cingular) seeking reconsideration of the decision in the *Spectrum Cap Sunset Order* to retain the cellular cross-interest rule in RSAs.¹⁸⁷ Petitioners and commenting parties focused on the sufficiency of the competitive market analysis underlying the decision to retain the cellular cross-interest rule in RSAs, as well as the consequences of relying on case-by-case review to examine cellular competition in rural areas.¹⁸⁸ Parties also asserted that the waiver process

¹⁷⁹ See *Spectrum Cap Sunset NPRM* at 2771-77 ¶¶ 13-25.

¹⁸⁰ For example, the Commission sought comment on any costs that prophylactic limits may impose on the development of advanced wireless services, the costs and benefits of bright-line standards, and whether such limits promote efficiency. See *id.* at 2777-83 ¶¶ 26-39.

¹⁸¹ Section 11 of the Communications Act requires the Commission, every two years, to review all regulations that apply to “the operations or activities of any provider of telecommunications service” and to “determine whether any such regulation is no longer necessary in the public interest as the result of meaningful economic competition between providers of such service.” 47 U.S.C. §§ 161(a)(1), (2).

¹⁸² See 2000 Biennial Regulatory Review Spectrum Aggregation Limits For Commercial Mobile Radio Services, *Report and Order*, 16 FCC Rcd 22668 (2001) (*Spectrum Cap Sunset Order*).

¹⁸³ *Id.* at 22669 ¶ 1.

¹⁸⁴ *Id.*

¹⁸⁵ *Id.* at 27708 ¶ 88.

¹⁸⁶ See “Petitions for Reconsideration of Action in Rulemaking Proceeding,” *Public Notice*, Report No. 2540 (Mar. 15, 2002).

¹⁸⁷ Petition for Reconsideration filed by Cingular, WT Docket No. 01-14 (Feb. 13, 2002) (Cingular Petition); Petition for Reconsideration filed by Dobson/Western/RCC, WT Docket No. 01-14 (Feb. 13, 2002) (Dobson/Western/RCC Petition).

¹⁸⁸ See generally *id.* Sprint PCS L.P. d/b/a Sprint PCS (Sprint PCS) filed comments opposing the petitions. See generally Sprint PCS Opposition filed by Sprint PCS, WT Docket No. 01-14 (Apr. 5, 2002) (Sprint PCS Opposition). The Cellular Telecommunications & Internet Association (CTIA) and Verizon Wireless filed comments supporting the petitions. See generally Comments of the Cellular Telecommunications & Internet Association in Support of Petitions Seeking Reconsideration filed by CTIA, WT Docket No. 01-14 (Apr. 5, 2002)

(continued....)

established in the *Spectrum Cap Sunset Order* creates regulatory uncertainty and discourages potential transactions and financing that could benefit rural consumers.¹⁸⁹ These petitions remain pending and are being consolidated into the instant rulemaking.¹⁹⁰

94. In its December 2002 *Rural NOI*, the Commission sought comment on the cellular cross-interest rule as it reviewed its policies to encourage the provision of wireless services in rural areas. The Commission explained that its retention in 2001 of the cellular cross-interest rule in RSAs was designed to protect against the cellular incumbents developing cross interests that might create the incentive and ability to restrict the availability of spectrum-based services in those areas and thereby raise prices.¹⁹¹ It then solicited comment on the extent to which retention of the rule actually advances the provision of such services to rural areas,¹⁹² including whether the rule should be changed to further the provision of wireless services to rural areas.¹⁹³ The Commission received comments supporting either modification or elimination of the rule so as to facilitate investment and financing arrangements for rural cellular providers.¹⁹⁴

b. Discussion

95. Adequate financing is a vital precondition for the development of wireless infrastructure and offering of services in both urban and rural CMRS systems. We seek comment on whether the continued application of the cellular cross-interest rule in all RSAs may impede market forces that drive investment and economic development in rural areas. The recent downturn in telecommunications markets, worsening financial condition of many carriers, and the ongoing need for capital investment to

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(CTIA Comments); Reply Comments on Petitions for Reconsideration filed by Verizon Wireless, WT Docket No. 01-14 (Apr. 15, 2002) (Verizon Wireless Reply Comments).

¹⁸⁹ Cingular Petition at 5; Dobson/Western/RCC Petition at 8-10; *see also* Reply to Opposition to Petition for Reconsideration filed by Cingular, WT Docket No. 01-14, 6-7 (Apr. 18, 2002) (Cingular Reply to Opposition); Reply to Sprint PCS Opposition filed by Dobson/Western/RCC, WT Docket No. 01-14, 4 (Apr. 18, 2002) (Dobson/Western/RCC Reply to Opposition); CTIA Comments at 4.

¹⁹⁰ In addition to incorporating submissions from these parties into the instant proceeding, pursuant to the recommendation of staff, *see* Federal Communications Commission 2002 Biennial Regulatory Review, WT Docket No. 02-310, GC Docket No. 02-390, *Staff Report of the Wireless Telecommunications Bureau*, DA 03-129, app. IV at 56 (rel. Mar. 14, 2003), we also incorporate the comments of parties seeking elimination of the cellular cross-interest rule in the context of our 2002 biennial regulatory review. *See generally* 2002 Biennial Regulatory Review, *Report*, 18 FCC Rcd 4726 (2003).

¹⁹¹ *See Rural NOI*, 17 FCC Rcd at 25561, ¶ 10.

¹⁹² *See id.* at 25568, ¶ 24.

¹⁹³ *Id.*

¹⁹⁴ *See* United States Cellular Corporation Comments at 12-16 (supporting an increase in the permissible controlling interest threshold from 5 to 20 percent and adoption of a waiver criteria similar to that found in former Section 20.6, note 3 of the Commission's rules); Dobson Communications Corporation Comments at 8-9 ("Complete repeal of the cellular cross-interest rule will help rural carriers attract capital and promote the deployment of wireless services in rural areas.").

keep up with technological and regulatory changes, has made it more difficult for wireless carriers, especially those serving rural areas, to obtain financing. In light of the foregoing, we seek comment regarding whether we should modify the cellular cross-interest rule to promote investment while protecting against potential competitive harms. Specifically, we tentatively conclude to retain the cellular cross-interest rule as it applies only in RSAs with three or fewer CMRS competitors and we seek comment on removing the rule as it applies to other RSAs and to non-controlling investments in all RSA licensees.

96. In the *Spectrum Cap Sunset Order*, the Commission concluded that it would be more efficient and less costly to the Commission to maintain a prophylactic cross-interest rule applicable to all RSAs and to entertain waiver requests for the small subset of transactions in RSAs where competition was more robust.¹⁹⁵ As a consequence of that decision, cellular licensees in MSAs are free to procure financing that involves ownership interests that fall below the threshold that triggers the cross-interest rule,¹⁹⁶ while cellular licensees in all RSAs are not. While the Commission attempted to address this barrier to investment in rural areas by providing a specific waiver process,¹⁹⁷ the transactions costs and regulatory uncertainty surrounding any waiver procedure may deter some beneficial investment in these areas.¹⁹⁸ For example, Dobson/Western/RCC claim that the cross-interest rule interferes with investment in rural areas by presumptively prohibiting certain financing in the RSA portions of a regional market but not in the MSA portions.¹⁹⁹

97. We seek comment on whether changing the cellular cross-interest rule for RSAs that enjoy a greater degree of competition will spur needed investment in these rural areas and foster even more competition in others. As an initial matter, we seek comment regarding what constitutes a “competitor” for purposes of this rule. For example, we ask whether a “competitor” might be any CMRS provider with significant geographic overlap with the cellular licensee.²⁰⁰ We also seek comment regarding whether, in the event we do eliminate the cellular cross-interest rule for RSAs with greater than three competitors, we should adopt a transition period after which time the rule would sunset for these RSAs. In the event that commenters support such a sunset period, we seek comment regarding the appropriate length of the sunset period.

98. We also ask commenters for additional suggestions regarding how we may modify our cellular cross-interest rule to promote investment in rural areas while retaining adequate competitive

¹⁹⁵ See *Spectrum Cap Sunset Order* at 22696 ¶ 56.

¹⁹⁶ 47 U.S.C. § 310(d).

¹⁹⁷ See *Spectrum Cap Sunset Order* at 22709 ¶ 90.

¹⁹⁸ Earlier this year, the Wireless Telecommunications Bureau (Bureau) did grant a request for waiver of the cellular cross-interest rule to allow CenturyTel Wireless, Inc. to acquire a 14 percent non-controlling limited partnership interest in Lafayette MSA LP. See CenturyTel Wireless, Inc. and Century Tel, Inc., *Memorandum Opinion and Order*, 18 FCC Rcd 1260 (WTB 2003). The Bureau found that the cellular cross-interests in the RSA overlap area did not involve a substantial likelihood of significant competitive harm, because the local market was generally competitive with six providers offering service at similar prices. *Id.* at 1266 ¶ 19.

¹⁹⁹ See Dobson/Western/RCC Petition at 7-10; see also CTIA Comments at 4.

²⁰⁰ We have used “significant overlap” in the context of applying the CMRS spectrum cap rule and ask whether a similar concept could be used in the context of the cellular cross-interest rule. See 47 C.F.R. § 20.6(c).

safeguards. For example, should we eliminate the cellular cross-interest restriction for all RSAs where the ownership interest being transferred, assigned or acquired is not a controlling interest (*i.e.*, where the interest is a non-controlling interest and where the transaction otherwise would not require prior FCC approval)? We ask parties to focus their comments on the effect of the cross-interest rule on licensees' acquisition of adequate capital in these areas. Commenters should also consider whether financing arrangements and investment deals are being hindered because of the transaction costs or the uncertainty of the existing waiver process. Because we received little empirical evidence on these questions and issues in response to our *Rural NOI* and our public notice seeking comment on the petitions for reconsideration of the *Spectrum Cap Sunset Order*, we stress that commenters supporting our proposal should identify and discuss specific past instances in which they have had difficulty obtaining financing in rural areas due to the cellular cross-interest rule. In answering these questions, we also request parties to provide examples of the extent to which the waiver process has deterred or prevented acquisition of capital in a rural market(s). Thus, we seek specific market data and historical examples to assist our public interest determination of the extent to which application of the cellular cross-interest rule in RSAs impedes market forces that drive development in these rural and underserved areas.

99. We also seek comment on whether extension of the case-by-case review, as established in the *Spectrum Cap Sunset Order*, will promote investment and is sufficient to safeguard competition in RSAs with more than three competitors. Although we recognize the role that the cellular cross-interest rule has provided in the past against the possibility of significant additional consolidation of cellular providers in rural areas, we ask whether the public interest may be better served by the benefits of pure case-by-case review. In the *Spectrum Cap Sunset Order*, the Commission concluded that case-by-case review under Section 310(d) of the Act,²⁰¹ properly performed and with appropriate enforcement mechanisms, allows greater regulatory flexibility and greater attention to the actual circumstances of a particular transaction, thus promoting economic efficiency by reducing the possibility both of approving secondary market transactions that are not in the public interest and of impeding transactions that are actually in the public interest.²⁰² In the markets still covered by the cellular cross-interest rule, for example, the rule prevents the two cellular licensees from merging regardless of the competitive circumstances in a given market, but does not prevent one cellular licensee from merging with a PCS licensee, even though the competitive effect of both transactions might be very similar. We seek comment on whether this inequity may distort the market in any area in which more than just the two cellular licensees are operating and whether the better approach to safeguarding competition is to take account of the particular circumstances of each market through case-by-case competitive review. While case-by-case review does place greater resource demands on parties and the Commission, we are gaining significant experience performing case-by-case review with regard to other markets, and we believe that we can utilize this tool to promote competition and investment.

G. Infrastructure Sharing

1. Background

100. Both in the United States (U.S.) and the European Union (EU), commercial wireless providers have sought to minimize their capital expenditures and maximize their coverage by engaging in joint ventures with other providers to share infrastructure costs. Such arrangements are generally known

²⁰¹ 47 U.S.C. § 310(d).

²⁰² See *Spectrum Cap Sunset Order*, 16 FCC Rcd at 22670, 22693-94, 22695-96, 22695-96 ¶¶ 4, 49-50, 54.

as “infrastructure sharing,” and they can take place at various levels. At the most basic level is sharing of passive elements such as antennas and towers, followed by sharing of active or “intelligent” elements of the networks such as switches and nodes, followed by sharing of spectrum.

101. In the United States, several infrastructure sharing arrangements have been announced in the past two years. In October 2001, Cingular Wireless and T-Mobile announced a joint venture to share their existing networks, with T-Mobile launching service using Cingular’s infrastructure in California and Nevada, and Cingular launching service using T-Mobile’s infrastructure in New York.²⁰³ In January 2002, Cingular and AT&T Wireless announced an infrastructure sharing agreement in which these firms would cooperate to build a network over 3,000 miles of highways in the West and Midwest.²⁰⁴ Recently, in January 2003, AT&T Wireless and Sprint PCS announced a similar arrangement to share the costs of building and maintaining new wireless towers.²⁰⁵ The providers claim that such infrastructure sharing will allow them to cover a larger geographic area at lower cost.²⁰⁶ In addition, because two or more providers share the infrastructure, these arrangements may allow for more providers to serve a market than otherwise would be possible. Finally, to the extent that these arrangements make it possible for providers to cover a larger geographic area, and thus serve a greater number of consumers, they may provide an important public interest benefit.

102. Infrastructure sharing arrangements that do not involve a transfer of control, as defined under Section 310(d),²⁰⁷ do not require Commission review. Infrastructure sharing arrangements that do involve a transfer of control, like other arrangements, require Commission review. Also, while previous infrastructure sharing arrangements have not required Commission review, the Commission has taken no regulatory action to either promote or create incentives for parties to enter into such arrangements.

103. As compared to the U.S. market, infrastructure sharing has received more attention from regulators in the EU and its Member States, who tend to allow sharing of the passive elements and, to a certain extent, some of the active elements.²⁰⁸ Within the past year, the European Commission announced a preliminary conclusion to favorably view two agreements for the provision of 3G services, one in the United Kingdom and one in Germany.²⁰⁹ The European Commission noted that these arrangements should allow for faster rollout of service and greater coverage, especially in remote and rural areas.²¹⁰

²⁰³ See *Seventh Competition Report* at 13001.

²⁰⁴ *Id.*

²⁰⁵ See *Eighth Competition Report* at 14809 ¶ 46.

²⁰⁶ *Id.*

²⁰⁷ 47 U.S.C. § 310(d).

²⁰⁸ A summary of EU Member States’ policies on infrastructure sharing is available at the European Commission’s website, at http://europa.eu.int/information_society/topics/telecoms/radiospec/doc/word/nis_moods_20020823.doc.

²⁰⁹ “Commission intends to clear 3G network sharing agreements between T-Mobile and MM02 in the UK and Germany,” press release, European Commission, Brussels, September 10, 2002, IP/02/1277.

²¹⁰ *Id.* See also, “Commission approves third-generation mobile network sharing in the UK,” Europemedia.net, January 5, 2003, available at <http://www.europemedia.net/shownews.asp?ArticleID=16138&Print=true>.

2. Discussion

104. As noted in the Introduction, because of the lower population density and smaller customer base found in rural areas, the economically efficient number of providers for these markets will be fewer than that for urban markets. With fewer customers over which to spread their costs, there will be fewer providers. Because infrastructure sharing helps lower capital costs and thus extend the coverage of providers, this practice may be particularly important in rural areas, for which geographic coverage is especially important. In addition, because infrastructure sharing may make it possible for more providers to operate in a given area, this practice again is important for rural markets that tend to have fewer competitors.

105. We continue to believe that, under certain circumstances, licensees should be able to engage in infrastructure sharing in order to further promote service in these markets. Thus, for infrastructure sharing in rural areas that involve no transfer of control, as defined by Section 310(d),²¹¹ there are no requirements for Commission pre-clearance. For infrastructure sharing arrangements in rural areas that involve a transfer of control, we will maintain Section 310(d) review.²¹² We note that in the *Secondary Markets* proceeding we have significantly streamlined the transfer of control and assignment process,²¹³ and we inquire as to whether there are other steps we should consider to further streamline this process.

106. We seek comment on the extent to which infrastructure sharing may promote service in rural markets. Are there particular types of infrastructure sharing arrangements that may be most effective in promoting this goal? Are there specific policy steps we should take as a regulatory matter to promote infrastructure sharing arrangements that, in turn, promote service in rural areas? We encourage comments from providers involved in infrastructure sharing in the U.S. and EU as well as those familiar with such arrangements.

107. We also seek comment on the potential costs and benefits of this proposed policy. With regard to the potential benefits, we note that comments by European Commission regulators in support of such arrangements in the E.U. generally focus on the ability of carriers to lower costs and increase their coverage area, especially to rural markets.²¹⁴ Can we assume similar benefits for rural areas in the U.S.? We recognize that the Commission has stressed the value of facilities-based competition, and that infrastructure sharing by definition limits competition between two potential competitors.²¹⁵ We note that, with the recent infrastructure sharing arrangement in the United Kingdom, an EU Competition Commissioner remarked that their decision to allow the venture “strikes the right balance between infrastructure competition in 3G markets and the immediate consumer benefit of having faster and wider

²¹¹ 47 U.S.C. § 310(d).

²¹² *Id.*

²¹³ See *Secondary Markets News Release*.

²¹⁴ “Commission approves third-generation mobile network sharing in the UK,” Europemedia.net, January 5, 2003, available at <<http://www.europemedia.net/shownews.asp?ArticleID=16138&Print=true>>.

²¹⁵ The Commission has discussed the value of facilities-based competition in various proceedings. See, e.g., *Eighth Competition Report* at 14786-91 ¶¶ 3-8; *Spectrum Cap Sunset Order* at 22679-85 ¶¶ 27-34.

rollout of advanced 3G services.”²¹⁶ We seek comment on the factors we should consider in evaluating infrastructure sharing arrangements that require Section 310 approval so as to effectively balance promoting competition among providers and promoting expanded coverage in rural areas.

108. In addition, we recognize that, as in the case of secondary market spectrum leasing, infrastructure sharing may require reconsideration of our regulatory definitions of spectrum use. As described above, we propose that licensees that make their spectrum in rural areas available to other parties *via* secondary markets are, in a sense, using that spectrum. Should we similarly consider spectrum involved in infrastructure sharing arrangements to be “used” and thus not subject to re-licensing or any other mechanism to make the spectrum available to third parties?

H. Rural Radiotelephone Service and Basic Exchange Telecommunications Radio Service

1. Background

109. The Rural Radiotelephone Service (RRS) was established to permit the use of certain VHF and UHF spectrum to provide radio telecommunications services, in particular, basic telephone service, to subscribers in locations generally deemed so remote that traditional wireline service or service by other means is not feasible.²¹⁷ The RRS operates in the paired 152/158 MHz and 454/459 MHz bands, which are also used by paging services.²¹⁸ In 1987, the Commission adopted rules that authorized the establishment of the Basic Exchange Telecommunications Radio Service (BETRS) within the RRS.²¹⁹ BETRS is authorized in the same paired spectrum bands as RRS and in addition, on fifty channel pairs in the 816-820/861-865 MHz band.²²⁰ BETRS, which is essentially a type of technology used to provide RRS, utilizes a digital system that is more spectrally efficient than traditional analog RRS, provides private calling, and has a much lower call blocking rate than RRS. Only local exchange carriers that have been state certified to provide basic exchange telephone service (or others having state approval to provide such service) in the pertinent area are eligible to hold authorizations for BETRS.²²¹

110. The *BETRS R&O* provided that traditional RRS and BETRS would be co-primary with

²¹⁶ “Commission approves third-generation mobile network sharing in the UK,” Europemedia.net, January 5, 2003, available at <http://www.europemedia.net/shownews.asp?ArticleID=16138&Print=true>, quoting EU Competition Commissioner Marlo Monti.

²¹⁷ 47 C.F.R. § 22.99.

²¹⁸ These spectrum bands are allocated on a primary basis to the Paging and Radiotelephone Service. See 47 C.F.R. § 22.561.

²¹⁹ See Basic Exchange Telecommunications Radio Service, *Report and Order*, 3 FCC Rcd 214 (1988) (*BETRS R&O*).

²²⁰ The Commission recently proposed to eliminate the assignment of 800 MHz frequencies for BETRS. See Amendment of Part 22 of the Commission’s Rules To Benefit the Consumers of Air-ground Telecommunications Services and Biennial Regulatory Review – Amendment of Parts 1, 22, and 90 of the Commission’s Rules, *Notice of Proposed Rule Making*, 18 FCC Rcd 8380, 8408 ¶ 71 (2003). This spectrum band is allocated on a primary basis to the Specialized Mobile Radio (SMR) service. See 47 C.F.R. § 90.617(d).

²²¹ 47 C.F.R. § 22.702.

other services that were authorized to use the same spectrum. Prior to the establishment of BETRS, RRS was licensed on a secondary, non-interfering basis. In 1997, the Commission established rules to auction the 152/158 MHz and 454/459 MHz bands and issue paging licenses on a geographic basis.²²² As a result, existing RRS and BETRS licensees authorized for these spectrum bands were afforded protection as incumbent licensees and could continue operating on a primary basis. However, we indicated that subsequent RRS and BETRS licenses in these bands would be issued on a secondary basis to the geographic area licensee. Similarly, in 1997, the Commission established rules to auction the 816-820/861-865 MHz bands and issue SMR licenses on a geographic basis.²²³ As a result, existing BETRS licensees authorized in the 800 MHz band were afforded protection as incumbent licensees and could continue operating on a primary basis. Again, we indicated subsequent BETRS licenses in these bands would be issued on a secondary basis to the geographic area licensee.²²⁴ Today new RRS and BETRS licenses are issued on a secondary, non-interfering basis.

2. Discussion

111. Although RRS and BETRS have been available for some time to provide basic telecommunications services in rural areas where wireline service is not feasible or practical, we have very limited information about their effectiveness in addressing the telecommunications needs of rural consumers. We seek to establish a more complete record regarding these services in order to allow us to determine if certain rules and policy changes are needed to facilitate the use of RRS and BETRS. As discussed below, we seek comment on whether: (1) there is a current demand for RRS and BETRS; (2) other wireless services have supplanted RRS and BETRS as alternatives to wireline service; (3) access to spectrum is a limiting factor for RRS and BETRS and (4) current Commission rules and policies are prohibiting/limiting the effectiveness of RRS and BETRS to provide service in rural areas.

112. As an initial matter, we would like to determine the level of demand for RRS and BETRS. We reviewed licensing data, locations where basic exchange service does not appear to be available, and the availability of equipment for RRS and BETRS. Our records indicate there are RRS licenses covering a total of 520 locations and BETRS licenses covering a total of 71 locations. A majority of the locations are located in the western portions of the U.S. and in Alaska. In the last three years, only seven RRS licenses and three BETRS licenses were issued.²²⁵ It appears, on the surface, certain areas that do not have basic telephone service might benefit from RRS or BETRS. For example, we note that no RRS or BETRS facilities are licensed in Mississippi, which according to 2000 Census data, has the lowest household telephone penetration rate in the U.S.²²⁶ In addition to the relatively low

²²² See *Revision of Part 22 and Part 90 of the Commission's Rules To Facilitate Future Development of Paging Systems - Implementation of Section 309(j) of the Communications Act - Competitive Bidding*, *Second Report and Order and Further Notice of Proposed Rulemaking*, 12 FCC Rcd 2732 (1997) (*Paging Second R&O*).

²²³ See Part 90 of the Commission's Rules To Facilitate Future Deployment of SMR Systems in the 800 MHz Frequency Band, *Second Report and Order*, 12 FCC Rcd 19079 (1997).

²²⁴ There is only one 800 MHz BETRS license and the licensee received a waiver to provide service other than BETRS.

²²⁵ Two of the BETRS licenses were authorized with rule waivers that allow the licensee to provide services other than BETRS.

²²⁶ U.S. Census Bureau, American Fact Finder, Census 2000 Summary File 3 (SF 3) – Sample Data (GCT-H8. Occupancy, Equipment, and Utilization of Occupied Housing Units), <<http://factfinder.census.gov/>>.

number of licenses issued for these services, we cannot find evidence that 800 MHz BETRS equipment has ever been manufactured and made available in the U.S. Furthermore, we only found one company that claimed it provided new RRS and BETRS equipment.²²⁷ We are very interested in determining if RRS and BETRS are being fully used as a tool to provide basic telecommunications services to rural America. We seek comment on whether there is still a demand for RRS and BETRS, beyond what is currently offered, and whether RRS and BETRS are viable options in the provision of basic telecommunications services. If there is a demand for these services, are there ways that RRS and BETRS could be used more efficiently and/or effectively?

113. If there is a demand for basic communications services, other than wireline, and it is not being met using traditional RRS and BETRS spectrum, we are interested in exploring how the demand is being met. The Commission has embraced policies that provide many wireless licensees with added flexibility in providing various types of services (*i.e.*, fixed or mobile/voice or data). For example, licensees in the broadband PCS service may provide any mobile services on their assigned spectrum and in addition, may provide fixed services on a co-primary basis with mobile operations.²²⁸ In turn, the added flexibility gives licensees the ability to provide a range of services using spectrum that was previously allocated, for example, for only mobile wireless use or only fixed wireless use. It is now possible that services (*i.e.*, basic exchange service) previously offered only by RRS and BETRS licensees could be offered by licensees in other wireless services, using other spectrum bands. Furthermore, it is possible with the proliferation of mobile telephony throughout the country, individuals that in the past would have been a prime candidate to receive RRS or BETRS may now have access to a mobile telephone that is the sole telephone used within a household. We are not able to determine how many licensees are providing basic exchange service to rural areas using alternative spectrum or how many licensees are providing services (*i.e.*, mobile telephony) and therefore could negate the need for RRS or BETRS in particular areas. We therefore seek comment on the effectiveness of non-RRS and BETRS licensees in providing the same services or alternative services in lieu of RRS and BETRS. Furthermore, we seek comment on whether additional flexibility is necessary in order to fully exploit capabilities of licensees in this context? In addition, we seek comment regarding to what, if any, extent unlicensed spectrum is being used to provide services that have traditionally been provided by RRS and BETRS licensees.

114. In some instances, there may be a demand for a service; however, access to the spectrum needed to provide such services may not be readily available. We noted in the *Secondary Markets* proceeding that facilitating spectrum leasing arrangements permits additional spectrum users to gain access to spectrum.²²⁹ Furthermore, several commenters in the *Secondary Markets* proceeding specifically indicated that facilitating leasing arrangements would increase service offerings to rural customers by enabling rural telephone companies and others to access underutilized spectrum.²³⁰ We

²²⁷ The Commission found three companies with equipment authorizations for RRS and/or BETRS.

²²⁸ 47 C.F.R. § 24.3.

²²⁹ See *Secondary Markets News Release*.

²³⁰ See Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, WT Docket No. 00-230, Blooston, Mordkofsky, Dickens, Duffy and Prendergast Comments at 2-3 (relaxation of policies and rules that stand in way of innovative spectrum use arrangements would help eliminate unnecessary inhibitions on secondary markets and create incentives for larger carriers to lease to rural telephone cooperatives, thereby helping to spur rapid deployment of services to all areas of the country); National Telephone Cooperative Association Comments at 1-4; Rural Telecommunications Group Comments at 2 (spectrum leasing (continued....))

seek comment on whether there is a problem for potential providers of RRS or BETRS in accessing spectrum and if so, whether parties feel secondary markets will provide the appropriate means for access to the desired spectrum.

115. We are also interested in determining if the Commission's current rules and policies for RRS and BETRS are limiting factors towards a more expansive use of these services. We note that currently there is an eligibility restriction for BETRS that restricts the issuance of a license to only those entities that receive state approval to provide basic exchange telephone service.²³¹ We believe that this rule may be unnecessary and may serve as a potential regulatory hurdle towards a more rapid and efficient use of the BETRS spectrum. We therefore propose to remove the eligibility restrictions contained within Section 22.702 of our rules regarding state approval prior to the issuance of a BETRS license. Furthermore, the current service rules for RRS and BETRS provides that new licenses are issued on a secondary, non-interfering basis. This approach ensures that RRS and BETRS licensees are provided access to spectrum so long as they do not cause harmful interference to the primary licensee and must give up their facilities if the primary licensee decides to construct facilities within the same area. In a Petition for Rulemaking filed by several parties, which eventually lead to the establishment of BETRS, a request was made to provide 2 MHz of dedicated spectrum for the use of BETRS. At the time, we determined that the demand for BETRS was not clear and therefore made the decision not to provide discrete spectrum for the use of BETRS. However, we indicated that if the spectrum that was made available for BETRS proved to be insufficient at a future date, we would revisit the problem at that time.²³² We note that in the *Rural NOI* we sought comment on how we might revise existing RRS and BETRS rules to further facilitate the provision of wireless services to rural areas.²³³ We did not receive any comments that specifically addressed the need to revise RRS or BETRS rules. In section II.D., above, we address the potential for increased power levels in rural areas and seek comment on whether it is beneficial, feasible, and/or advisable to increase the current power limits for stations located in rural areas. We seek comment on our proposal to remove the eligibility restrictions in Section 22.702 of the Commission's rules for BETRS licensees. Based on the current RRS and BETRS licensing scheme, we seek comment on whether there is a need for us to expand the secondary status for RRS and BETRS to other spectrum bands in order to facilitate and encourage construction in rural areas. For example, would allowing RRS and BETRS operations in other bands on a secondary, non-interfering basis provide a viable alternative to increase the level of RRS and BETRS services? If so, what spectrum bands could RRS and BETRS be expanded to include? Although we are not convinced that providing additional spectrum on a primary basis for BETRS is needed at this time, especially since secondary markets has not had a chance to mature, we are, however, interested in seeking comment on this issue. Specifically, if additional spectrum should be designated on a primary basis for BETRS, what band(s) would be viable? How much spectrum would be needed? Is there existing equipment or equipment that can be manufactured and made readily available for use in the band(s)?

(Continued from previous page)

would significantly increase the use of already-assigned spectrum bands and allow companies not holding licenses to offer a panoply of wireless services in unserved and underserved areas)).

²³¹ 47 C.F.R. § 22.702.

²³² See *BETRS R&O* at 216 ¶ 25.

²³³ *Rural NOI* at 25569 ¶ 28.

116. As a final matter, and in light of the Commission's policies towards a more flexible-use, market-based approach to spectrum management, we believe it is appropriate at this time to determine if the current designation of RRS and BETRS as fixed services creates disincentives towards a more expansive use of the spectrum. Currently, the service rules for RRS and BETRS limit the use of the spectrum to fixed offerings, which are intended primarily to be used as a vehicle to provide basic communications services to rural areas using wireless technologies. We seek comment on whether providing additional flexibility to allow other types of service offerings using RRS and BETRS spectrum on a secondary basis would provide the proper incentives for these spectrum bands to be more fully utilized in providing telecommunications services to rural areas. If a more flexible use policy were created for RRS and BETRS, what considerations must the Commission consider in adopting rules and policies to facilitate such flexible use?

III. PROCEDURAL MATTERS

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

117. 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 as provided in Commission rules. *See generally* 47 C.F.R. §§ 1.1202, 1.1203, and 1.1206.

B. Initial Regulatory Flexibility Analysis

118. As required by the Regulatory Flexibility Act, *see* 5 U.S.C. § 603, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible impact on small entities of the proposals in the Notice of Proposed Rulemaking. The IRFA is set forth in the Appendix. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines for comments on the Notice of Proposed Rulemaking, and they must have a separate and distinct heading designating them as responses to the Initial Regulatory Flexibility Analysis. The Commission's Consumer Information Bureau, Reference Information Center, will send a copy of this Notice of Proposed Rulemaking, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration, in accordance with the Regulatory Flexibility Act. *See* 5 U.S.C. § 603(a).

C. Initial Paperwork Reduction Act of 1995 Analysis

119. This NPRM seeks comment on a proposed information collection. As part of the Commission's continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget (OMB) to take this opportunity to comment on the information collections contained in this NPRM, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. Public and agency comments are due at the same time as other comments on this NPRM and must have a separate heading designating them as responses to the Initial Paperwork Reduction Analysis (IPRA). OMB comments are due 60 days from date of publication of this NPRM 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 to filing comments with the Secretary, a copy of any comments on the information collection(s) contained herein should be submitted to Judy Boley, Federal Communications Commission, Room 1-C804, 445 12th Street, S.W., Washington, D.C. 20554, or via the Internet to <jboley@fcc.gov> and to Edward Springer, OMB Desk Officer, Room 10236 NEOB, 725

17th Street, N.W., Washington, D.C. 20503, or *via* the Internet to <edward.springer@omb.eop.gov>.

D. Comment Dates

120. Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules,²³⁴ interested parties may file comments on or before 45 days after publication in the Federal Register and reply comments on or before 75 days after publication in the Federal Register. Comments and reply comments should be filed in WT Docket No. 03-202. All relevant and timely comments will be considered by the Commission before final action is taken in this proceeding. To file formally in this proceeding, interested parties must file an original and four copies of all comments, reply comments, and supporting comments. If interested parties want each Commissioner to receive a personal copy of their comments, they must file an original plus nine copies.

121. Comments also may be filed using the Commission's Electronic Comment Filing System (ECFS). *See* Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24,121 (1998). Comments filed through the ECFS can be sent as an electronic file via the Internet to <<http://www.fcc.gov/cgb/ecfs>>. Generally, only one copy of an electronic submission must be filed. Commenters should transmit one electronic copy of the comments to WT Docket No. 03-202. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit electronic comments by Internet e-mail. To receive 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.

122. 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, NE, Suite 110, Washington, DC 20002. The filing hours at this location will be 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. In addition, parties who choose to file by paper should provide a courtesy copy of each filing to Nicole McGinnis, Attorney Advisor, Commercial Wireless Division, Wireless Telecommunications Bureau, 445 12th Street, SW, Room 6223, Washington, DC 20554 or by email to Nicole McGinnis at Nicole.McGinnis@fcc.gov.

123. 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, DC 20554. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

If you are sending this type of document or using this delivery method...	It should be addressed for delivery to...
Hand-delivered or messenger-delivered paper filings for the Commission's Secretary	236 Massachusetts Avenue, NE, Suite 110,

²³⁴ 47 C.F.R. §§ 1.415, 1.419.

	Washington, DC 20002 (8:00 to 7:00 p.m.)
Other messenger-delivered documents, including documents sent by overnight mail (other than United States Postal Service Express Mail and Priority Mail)	9300 East Hampton Drive, Capitol Heights, MD 20743 (8:00 a.m. to 5:30 p.m.)
United States Postal Service first-class mail, Express Mail, and Priority Mail	445 12 th Street, SW Washington, DC 20554

124. Regardless of whether parties choose to file electronically or by paper, parties should also file one copy of any documents filed in this docket with the Commission's copy contractor, Qualex International, Portals II, 445 12th Street, SW, CY-B402, Washington, DC 20554 (see alternative addresses above for delivery by hand or messenger) (telephone 202-863-2893; facsimile 202-863-2898) or via e-mail at qualexint@aol.com.

125. The full text of this document is available for public inspection and copying during regular business hours at the FCC Reference Information Center, Portals II, 445 12th Street, SW, Room CY-A257, Washington, DC, 20554. This document may also be purchased from the Commission's duplicating contractor, Qualex International, Portals II, 445 12th Street, SW, Room CY-B402, Washington, DC, 20554, telephone 202-863-2893, facsimile 202-863-2898, or via e-mail qualexint@aol.com. Alternative formats (computer diskette, large print, audio cassette and Braille) are available to persons with disabilities by contacting Brian Millin at (202) 418-7426, TTY (202) 418-7365, or at brian.millin@fcc.gov.

IV. ORDERING CLAUSES

126. Accordingly, IT IS ORDERED that, pursuant to the authority contained in Sections 4(i), 11, 303(r), 309(j) and 706 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 157, 161, 303(r), and 309(j), this NOTICE OF PROPOSED RULEMAKING is hereby ADOPTED.

127. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of the Notice of Proposed Rulemaking and Further Notice of Inquiry, 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:
INITIAL REGULATORY FLEXIBILITY ANALYSIS**

As required by the Regulatory Flexibility Act of 1980, as amended (RFA),²³⁵ the Commission has prepared this present Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in 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 deadlines for comments on the Notice provided in paragraph 123 of the item. The Commission will send a copy of the Notice, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.²³⁶ In addition, the Notice and IRFA (or summaries thereof) will be published in the Federal Register.²³⁷

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

In this NPRM, we continue to examine ways of amending our regulations and policies governing the electromagnetic spectrum and the facilities-based commercial and private wireless services that rely on spectrum, in order to promote the rapid and efficient deployment of these services in rural areas. This NPRM builds upon the work of our Notice of Inquiry, in which we sought comment on how we could modify our policies to encourage the provision of wireless services in rural areas.²³⁸ This NPRM also draws upon the efforts and recommendations of the Spectrum Policy Task Force, which identified and evaluated potential changes in our spectrum policy that would increase public benefits from spectrum-based services.²³⁹ This NPRM proposes several ways in which the Commission can modify and improve its regulations and policies in order to promote such wireless service within rural areas while simultaneously removing any disincentives or other barriers to construction and operation in rural areas.

As a complement to the measures the Commission has already taken, we seek to minimize regulatory costs and eliminate unnecessary regulatory barriers to the deployment of spectrum-based services in rural areas. As reflected in the proposals set forth in this NPRM, we believe there are additional spectrum policy initiatives the Commission can adopt to reduce the overall cost of regulation and increase flexibility in a manner that will facilitate access, capital formation, build-out and coverage in rural areas. Specifically, in this NPRM, we seek comment on the appropriate definition of what constitutes a “rural area” for the purposes of this proceeding.²⁴⁰ We also seek comment on how to define “built” spectrum and we inquire as to

²³⁵ See 5 U.S.C. § 603. The RFA, see 5 U.S.C. § 601 – 612 has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

²³⁶ See 5 U.S.C. § 603(a).

²³⁷ See 5 U.S.C. § 603(a).

²³⁸ Facilitating the Provision of Spectrum-Based Service to Rural Areas and Promoting Opportunities for Rural Telephone Companies to Provide Spectrum-Based Services, *Notice of Inquiry*, 17 FCC Rcd 25554 (2002) (“*Rural NOI*”).

²³⁹ See Federal Communications Commission, Spectrum Policy Task Force Report, ET Docket No. 02-135 (released Nov. 2002) (“*SPTF Report*”). This report can be found at www.fcc.gov/sptf.

²⁴⁰ NPRM at ¶¶ 10-12, *supra*.

whether the most efficient approach may be to rely on providers' filings of their construction notifications, an approach used with broadband PCS. Notably, we propose that spectrum in rural areas that is leased by a licensee, and for which the lessee meets the performance requirements that are applicable to the licensee, should be construed as "used" for the purposes of this proceeding and any performance requirements we adopt. Furthermore, we seek comment on ways the Commission could modify its regulations pertaining to unused spectrum.

In this NPRM, we propose the adoption of a "substantial service" construction benchmark during the initial license term for all wireless services that are licensed on a geographic area basis and that are subject to performance requirements. We also propose a substantial service safe harbor for rural areas. We also seek comment on whether we should adopt a geography-based benchmark for wireless services that are licensed on a geographic area basis and that currently do not have a geographic area coverage option. In addition, we seek comment on whether we should impose performance requirements in subsequent license terms after initial renewal. We also seek comment on measures that may be taken to increase power flexibility for licensed services. We also seek comment as to the relative effect on service in rural areas of the Commission's use of small versus large geographic service areas.

In this NPRM, we seek comment on what, if any, regulatory or policy changes should be made to complement the Rural Utilities Service's (RUS) financing programs. We also ask whether we should allow RUS to take security interests in spectrum licenses, provided that any security interest is expressly conditioned on the Commission's prior approval of any assignment of the license from the licensee to the secured party. We also seek comment on whether we should eliminate the cellular cross-interest rule in Rural Service Areas with greater than three competitors, and we seek comment on what should constitute a "competitor." In addition, we seek comment on whether clarifying the Commission's policy on infrastructure sharing may promote service in rural areas. Finally, we propose ways of modifying our rules governing Rural Radiotelephone Service (RRS) and Basic Exchange Telephone Radio Systems (BETRS) to expand the use of these services, including removing eligibility restrictions on the use of BETRS spectrum.

B. Legal Basis.

We tentatively conclude that we have authority under Sections 4(i), 11, 303(r), 309(j) and 706 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 157, 161, 303(r), and 309(j), to adopt the proposals set forth in the NPRM.

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

The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the rules adopted herein.²⁴¹ The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."²⁴² In addition, the term "small business" has the same meaning as

²⁴¹ 5 U.S.C. § 604(a)(3).

²⁴² 5 U.S.C. § 601(6).

the term “small business concern” under the Small Business Act.²⁴³ A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).²⁴⁴

Cellular Licensees. The SBA has developed a small business size standard for small businesses in the category “Cellular and Other Wireless Telecommunications.”²⁴⁵ Under that SBA category, a business is small if it has 1,500 or fewer employees.²⁴⁶ According to the Bureau of the Census, only twelve firms out of a total of 1,238 cellular and other wireless telecommunications firms operating during 1997 had 1,000 or more employees.²⁴⁷ Therefore, even if all twelve of these firms were cellular telephone companies, nearly all cellular carriers are small businesses under the SBA’s definition.

220 MHz Radio Service – Phase I Licensees. The 220 MHz service has both Phase I and Phase II licenses. Phase I licensing was conducted by lotteries in 1992 and 1993. There are approximately 1,515 such non-nationwide licensees and four nationwide licensees currently authorized to operate in the 220 MHz band. The Commission has not developed a definition of small entities specifically applicable to such incumbent 220 MHz Phase I licensees. To estimate the number of such licensees that are small businesses, we apply the small business size standard under the SBA rules applicable to “Cellular and Other Wireless Telecommunications” companies. This category provides that a small business is a wireless company employing no more than 1,500 persons.²⁴⁸ According to the Census Bureau data for 1997, only twelve firms out of a total of 1,238 such firms that operated for the entire year, had 1,000 or more employees.²⁴⁹ If this general ratio continues in the context of Phase I 220 MHz licensees, the Commission estimates that nearly all such licensees are small businesses under the SBA’s small business standard.

220 MHz Radio Service – Phase II Licensees. The 220 MHz service has both Phase I and Phase II licenses. The Phase II 220 MHz service is subject to spectrum auctions. In the *220 MHz Third Report and Order*, we adopted a small business size standard for defining “small” and “very small” businesses for purposes of determining their eligibility for special provisions such as bidding credits and installment

²⁴³ 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.”

²⁴⁴ 15 U.S.C. § 632.

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

²⁴⁶ *Id.*

²⁴⁷ U.S. Census Bureau, 1997 Economic Census, Information – Subject Series, Establishment and Firm Size, Table 5 (Employment Size of Firms Subject to Federal Income Tax), NAICS code 517212 (2002).

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

²⁴⁹ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, Establishment and Firm Size (Including Legal Form Organization), Table 5, NAICS code 517212 (2002).

payments.²⁵⁰ This small business standard indicates that a “small business” is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$15 million for the preceding three years.²⁵¹ A “very small business” is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that do not exceed \$3 million for the preceding three years.²⁵² The SBA has approved these small size standards.²⁵³ Auctions of Phase II licenses commenced on September 15, 1998, and closed on October 22, 1998.²⁵⁴ In the first auction, 908 licenses were auctioned in three different-sized geographic areas: three nationwide licenses, 30 Regional Economic Area Group (EAG) Licenses, and 875 Economic Area (EA) Licenses. Of the 908 licenses auctioned, 693 were sold.²⁵⁵ Thirty-nine small businesses won 373 licenses in the first 220 MHz auction. A second auction included 225 licenses: 216 EA licenses and 9 EAG licenses. Fourteen companies claiming small business status won 158 licenses.²⁵⁶ A third auction included four licenses: 2 BEA licenses and 2 EAG licenses in the 220 MHz Service. No small or very small business won any of these licenses.²⁵⁷

Lower 700 MHz Band Licenses. We adopted criteria for defining three groups of small businesses for purposes of determining their eligibility for special provisions such as bidding credits.²⁵⁸ We have defined a small business as an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$40 million for the preceding three years.²⁵⁹ A very small business is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$15 million for the preceding three years.²⁶⁰ Additionally, the lower 700 MHz Service has a third category of small business status that may be claimed for Metropolitan/Rural Service Area (MSA/RSA) licenses. The third category is entrepreneur, which is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$3

²⁵⁰ Amendment of Part 90 of the Commission’s Rules to Provide For the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, *Third Report and Order*, 12 FCC Rcd 10943, 11068-70 ¶¶ 291-295 (1997).

²⁵¹ *Id.* at 11068 ¶ 291.

²⁵² *Id.*

²⁵³ See Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated January 6, 1998.

²⁵⁴ See generally “220 MHz Service Auction Closes,” *Public Notice*, 14 FCC Rcd 605 (WTB 1998).

²⁵⁵ See “FCC Announces It is Prepared to Grant 654 Phase II 220 MHz Licenses After Final Payment is Made,” *Public Notice*, 14 FCC Rcd 1085 (WTB 1999).

²⁵⁶ See “Phase II 220 MHz Service Spectrum Auction Closes,” *Public Notice*, 14 FCC Rcd 11218 (WTB 1999).

²⁵⁷ See “Multi-Radio Service Auction Closes,” *Public Notice*, 17 FCC Rcd 1446 (WTB 2002).

²⁵⁸ See Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), *Report and Order*, 17 FCC Rcd 1022 (2002).

²⁵⁹ *Id.* at 1087-88 ¶ 172.

²⁶⁰ *Id.*

million for the preceding three years.²⁶¹ The SBA has approved these small size standards.²⁶² An auction of 740 licenses (one license in each of the 734 MSAs/RSAs and one license in each of the six Economic Area Groupings (EAGs)) commenced on August 27, 2002, and closed on September 18, 2002. Of the 740 licenses available for auction, 484 licenses were sold to 102 winning bidders. Seventy-two of the winning bidders claimed small business, very small business or entrepreneur status and won a total of 329 licenses.²⁶³ A second auction commenced on May 28, 2003, and closed on June 13, 2003, and included 256 licenses: 5 EAG licenses and 476 CMA licenses.²⁶⁴ Seventeen winning bidders claimed small or very small business status and won sixty licenses, and nine winning bidders claimed entrepreneur status and won 154 licenses.²⁶⁵

Upper 700 MHz Band Licenses. The Commission released a *Report and Order* authorizing service in the upper 700 MHz band.²⁶⁶ This auction, previously scheduled for January 13, 2003, has been postponed.²⁶⁷

Paging. In the *Paging Second Report and Order*, we adopted a size standard for “small businesses” for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.²⁶⁸ A small business is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$15 million for the preceding three years.²⁶⁹ The SBA has approved this definition.²⁷⁰ An auction of Metropolitan Economic Area (MEA) licenses commenced on February 24, 2000, and closed on March 2, 2000. Of the 2,499 licenses auctioned, 985 were sold.²⁷¹

²⁶¹ *Id.* at 1088 ¶ 173.

²⁶² See Letter to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated August 10, 1999.

²⁶³ See “Lower 700 MHz Band Auction Closes,” *Public Notice*, 17 FCC Rcd 17272 (WTB 2002).

²⁶⁴ See “Lower 700 MHz Band Auction Closes,” *Public Notice*, 18 FCC Rcd 11873 (WTB 2003).

²⁶⁵ *Id.*

²⁶⁶ Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission’s Rules, *Second Memorandum Opinion and Order*, 16 FCC Rcd 1239 (2001).

²⁶⁷ See “Auction of Licenses for 747-762 and 777-792 MHz Bands (Auction No. 31) Is Rescheduled,” *Public Notice*, 16 FCC Rcd 13079 (WTB 2003).

²⁶⁸ Revision of Part 22 and Part 90 of the Commission’s Rules to Facilitate Future Development of Paging Systems, *Second Report and Order*, 12 FCC Rcd 2732, 2811-2812 ¶¶ 178-181 (*Paging Second Report and Order*); see also Revision of Part 22 and Part 90 of the Commission’s Rules to Facilitate Future Development of Paging Systems, *Memorandum Opinion and Order on Reconsideration*, 14 FCC Rcd 10030, 10085-10088 ¶¶ 98-107 (1999).

²⁶⁹ *Paging Second Report and Order*, 12 FCC Rcd at 2811 ¶ 179.

²⁷⁰ See Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, from Aida Alvarez, Administrator, Small Business Administration, dated December 2, 1998.

²⁷¹ See “929 and 931 MHz Paging Auction Closes,” *Public Notice*, 15 FCC Rcd 4858 (WTB 2000).

Fifty-seven companies claiming small business status won 440 licenses.²⁷² An auction of Metropolitan Economic Area (MEA) and Economic Area (EA) licenses commenced on October 30, 2001, and closed on December 5, 2001. Of the 15,514 licenses auctioned, 5,323 were sold.²⁷³ 132 companies claiming small business status purchased 3,724 licenses. A third auction, consisting of 8,874 licenses in each of 175 EAs and 1,328 licenses in all but three of the 51 MEAs commenced on May 13, 2003, and closed on May 28, 2003. Seventy-seven bidders claiming small or very small business status won 2,093 licenses.²⁷⁴

Currently, there are approximately 24,000 Private Paging site-specific licenses and 74,000 Common Carrier Paging licenses. According to the most recent *Trends in Telephone Service*, 608 private and common carriers reported that they were engaged in the provision of either paging or “other mobile” services.²⁷⁵ Of these, we estimate that 589 are small, under the SBA-approved small business size standard.²⁷⁶ We estimate that the majority of private and common carrier paging providers would qualify as small entities under the SBA definition.

Broadband Personal Communications Service (PCS). The broadband PCS spectrum is divided into six frequency blocks designated A through F, and the Commission has held auctions for each block. The Commission has created a small business size standard for Blocks C and F as an entity that has average gross revenues of less than \$40 million in the three previous calendar years.²⁷⁷ 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.²⁷⁸ These small business size standards, in the context of broadband PCS auctions, have been approved by the SBA.²⁷⁹ 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.²⁸⁰ On March 23, 1999, the Commission reaucted 155 C, D, E, and F Block licenses; there were 113 small business winning

²⁷² See *id.*

²⁷³ See “Lower and Upper Paging Band Auction Closes,” *Public Notice*, 16 FCC Rcd 21821 (WTB 2002).

²⁷⁴ See “Lower and Upper Paging Bands Auction Closes,” *Public Notice*, 18 FCC Rcd 11154 (WTB 2003).

²⁷⁵ See *Trends in Telephone Service*, Industry Analysis Division, Wireline Competition Bureau, Table 5.3 (Number of Telecommunications Service Providers that are Small Businesses) (May 2002).

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

²⁷⁷ 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 ¶¶ 57-60 (1996); see also 47 C.F.R. § 24.720(b).

²⁷⁸ 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 ¶ 60.

²⁷⁹ 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.

²⁸⁰ FCC News, “Broadband PCS, D, E and F Block Auction Closes,” No. 71744 (rel. January 14, 1997).

bidders.²⁸¹

Narrowband PCS. The Commission held an auction for Narrowband PCS licenses that commenced on July 25, 1994, and closed on July 29, 1994. A second commenced on October 26, 1994 and closed on November 8, 1994. For purposes of the first two Narrowband PCS auctions, “small businesses” were entities with average gross revenues for the prior three calendar years of \$40 million or less.²⁸² Through these auctions, the Commission awarded a total of forty-one licenses, 11 of which were obtained by four small businesses.²⁸³ To ensure meaningful participation by small business entities in future auctions, the Commission adopted a two-tiered small business size standard in the *Narrowband PCS Second Report and Order*.²⁸⁴ A “small business” is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than \$40 million.²⁸⁵ A “very small business” is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than \$15 million.²⁸⁶ The SBA has approved these small business size standards.²⁸⁷ A third auction commenced on October 3, 2001 and closed on October 16, 2001. Here, five bidders won 317 (MTA and nationwide) licenses.²⁸⁸ Three of these claimed status as a small or very small entity and won 311 licenses.

Specialized Mobile Radio (SMR). The Commission awards “small entity” bidding credits in auctions for Specialized Mobile Radio (SMR) geographic area licenses in the 800 MHz and 900 MHz bands to firms that had revenues of no more than \$15 million in each of the three previous calendar years.²⁸⁹ The Commission awards “very small entity” bidding credits to firms that had revenues of no more than \$3 million in each of the three previous calendar years.²⁹⁰ The SBA has approved these small business size

²⁸¹ See “C, D, E, and F Block Broadband PCS Auction Closes,” *Public Notice*, 14 FCC Rcd 6688 (WTB 1999).

²⁸² Implementation of Section 309(j) of the Communications Act – Competitive Bidding Narrowband PCS, *Third Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 10 FCC Rcd 175, 196 ¶ 46 (1994).

²⁸³ See “Announcing the High Bidders in the Auction of ten Nationwide Narrowband PCS Licenses, Winning Bids Total \$617,006,674,” *Public Notice*, PNWL 94-004 (rel. Aug. 2, 1994); “Announcing the High Bidders in the Auction of 30 Regional Narrowband PCS Licenses; Winning Bids Total \$490,901,787,” *Public Notice*, PNWL 94-27 (rel. Nov. 9, 1994).

²⁸⁴ Amendment of the Commission’s Rules to Establish New Personal Communications Services, Narrowband PCS, *Second Report and Order and Second Further Notice of Proposed Rule Making*, 15 FCC Rcd 10456, 10476 ¶ 40 (2000).

²⁸⁵ *Id.*

²⁸⁶ *Id.*

²⁸⁷ 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.

²⁸⁸ See “Narrowband PCS Auction Closes,” *Public Notice*, 16 FCC Rcd 18663 (WTB 2001).

²⁸⁹ 47 C.F.R. § 90.814(b)(1).

²⁹⁰ *Id.*

standards for the 900 MHz Service.²⁹¹ The Commission has held auctions for geographic area licenses in the 800 MHz and 900 MHz bands. The 900 MHz SMR auction began on December 5, 1995, and closed on April 15, 1996. Sixty bidders claiming that they qualified as small businesses under the \$15 million size standard won 263 geographic area licenses in the 900 MHz SMR band. The 800 MHz SMR auction for the upper 200 channels began on October 28, 1997, and was completed on December 8, 1997. Ten bidders claiming that they qualified as small businesses under the \$15 million size standard won 38 geographic area licenses for the upper 200 channels in the 800 MHz SMR band.²⁹² A second auction for the 800 MHz band was held on January 10, 2002 and closed on January 17, 2002 and included 23 BEA licenses. One bidder claiming small business status won five licenses.²⁹³

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

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

Private Land Mobile Radio (PLMR). PLMR systems serve an essential role in a range of industrial, business, land transportation, and public safety activities. These radios are used by companies of all sizes operating in all U.S. business categories, and are often used in support of the licensee’s primary (non-telecommunications) business operations. For the purpose of determining whether a licensee of a PLMR system is a small business as defined by the SBA, we could use the definition for “Cellular and Other Wireless Telecommunications.” This definition provides that a small entity is any such entity employing no more than 1,500 persons.²⁹⁴ The Commission does not require PLMR licensees to disclose information about number of employees, so the Commission does not have information that could be used to determine how many PLMR licensees constitute small entities under this definition. Moreover, because PLMR licensees generally are not in the business of providing cellular or other wireless

²⁹¹ See Letter to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated August 10, 1999. We note that, although a request was also sent to the SBA requesting approval for the small business size standard for 800 MHz, approval is still pending.

²⁹² See “Correction to Public Notice DA 96-586 ‘FCC Announces Winning Bidders in the Auction of 1020 Licenses to Provide 900 MHz SMR in Major Trading Areas,’” *Public Notice*, 18 FCC Rcd 18367 (WTB 1996).

²⁹³ See “Multi-Radio Service Auction Closes,” *Public Notice*, 17 FCC Rcd 1446 (WTB 2002).

²⁹⁴ See 13 C.F.R. § 121.201, NAICS code 517212.

telecommunications services but instead use the licensed facilities in support of other business activities, we are not certain that the Cellular and Other Wireless Telecommunications category is appropriate for determining how many PLMR licensees are small entities for this analysis. Rather, it may be more appropriate to assess PLMR licensees under the standards applied to the particular industry subsector to which the licensee belongs.²⁹⁵

The Commission's 1994 Annual Report on PLMRs²⁹⁶ indicates that at the end of fiscal year 1994, there were 1,087,267 licensees operating 12,481,989 transmitters in the PLMR bands below 512 MHz. Because any entity engaged in a commercial activity is eligible to hold a PLMR license, the revised rules in this context could potentially impact every small business in the United States.

Fixed Microwave Services. Fixed microwave services include common carrier,²⁹⁷ private-operational fixed,²⁹⁸ and broadcast auxiliary radio services.²⁹⁹ Currently, there are approximately 22,015 common carrier fixed licensees and 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not yet defined a small business with respect to microwave services. For purposes of this FRFA, we will use the SBA's definition applicable to "Cellular and Other Wireless Telecommunications" companies – that is, an entity with no more than 1,500 persons.³⁰⁰ The Commission does not have data specifying the number of these licensees that have more than 1,500 employees, and thus is unable at this time to estimate with greater precision the number of fixed microwave service licensees that would qualify as small business concerns under the SBA's small business size standard. Consequently, the Commission estimates that there are 22,015 or fewer small common carrier fixed licensees and 61,670 or fewer small private operational-fixed licensees and small broadcast auxiliary radio licensees in the microwave services that may be affected by the rules and policies adopted herein. The Commission notes, however, that the common carrier microwave fixed licensee category includes some large entities.

Wireless Communications Services. This service can be used for fixed, mobile, radiolocation, and digital audio broadcasting satellite uses. The Commission defined "small business" for the wireless communications services (WCS) auction as an entity with average gross revenues of \$40 million for each of the three preceding years, and a "very small business" as an entity with average gross revenues of \$15

²⁹⁵ See generally 13 C.F.R. § 121.201.

²⁹⁶ Federal Communications Commission, 60th Annual Report, Fiscal Year 1994, at ¶ 116.

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

²⁹⁸ Persons eligible under parts 80 and 90 of the Commission's rules can use Private Operational-Fixed Microwave services. See generally 47 C.F.R. parts 80 and 90. Stations in this service are called operational-fixed to distinguish them from common carrier and public fixed stations. Only the licensee may use the operational-fixed station, and only for communications related to the licensee's commercial, industrial, or safety operations.

²⁹⁹ Auxiliary Microwave Service is governed by part 74 of Title 47 of the Commission's Rules. See 47 C.F.R. Part 74. Available to licensees of broadcast stations and to broadcast and cable network entities, broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile TV pickups, which relay signals from a remote location back to the studio.

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

million for each of the three preceding years.³⁰¹ The SBA has approved these definitions.³⁰² The FCC auctioned geographic area licenses in the WCS service. In the auction, which commenced on April 15, 1997 and closed on April 25, 1997, there were seven bidders that won 31 licenses that qualified as very small business entities, and one bidder that won one license that qualified as a small business entity. An auction for one license in the 1670-1674 MHz band commenced on April 30, 2003 and closed the same day. One license was awarded. The winning bidder was not a small entity.

39 GHz Service. The Commission defines “small entity” for 39 GHz licenses as an entity that has average gross revenues of less than \$40 million in the three previous calendar years.³⁰³ “Very small business” is defined as an entity that, together with its affiliates, has average gross revenues of not more than \$15 million for the preceding three calendar years.³⁰⁴ The SBA has approved these definitions.³⁰⁵ The auction of the 2,173 39 GHz licenses began on April 12, 2000, and closed on May 8, 2000. The 18 bidders who claimed small business status won 849 licenses.

Local Multipoint Distribution Service. An auction of the 986 Local Multipoint Distribution Service (LMDS) licenses began on February 18, 1998, and closed on March 25, 1998. The Commission defined “small entity” for LMDS licenses as an entity that has average gross revenues of less than \$40 million in the three previous calendar years.³⁰⁶ An additional classification for “very small business” was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than \$15 million for the preceding three calendar years.³⁰⁷ These regulations defining “small entity” in the context of LMDS auctions have been approved by the SBA.³⁰⁸ There were 93 winning bidders that qualified as small entities in the LMDS auctions. A total of 93 small and very small business bidders won approximately 277 A Block licenses and 387 B Block licenses. On March 27, 1999, the Commission re-auctioned 161 licenses; there were 32 small and very small business winning bidders that won 119

³⁰¹ Amendment of the Commission’s Rules to Establish Part 27, the Wireless Communications Service (WCS), *Report and Order*, 12 FCC Rcd 10785, 10879 ¶ 194 (1997).

³⁰² 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.

³⁰³ See Amendment of the Commission’s Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Band, *Report and Order*, 12 FCC Rcd 18600 (1997).

³⁰⁴ *Id.*

³⁰⁵ See Letter to Margaret Wiener, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Hector Barreto, Administrator, Small Business Administration, dated January 18, 2002.

³⁰⁶ See Rulemaking to Amend Parts 1, 2, 21, 25, of the Commission’s Rules to Redesignate the 27.5-29.5 GHz Frequency Band, Reallocate the 29.5-30.5 Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, *Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rule Making*, 12 FCC Rcd 12545, 12689-90 ¶ 348 (1997).

³⁰⁷ *Id.*

³⁰⁸ See Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated January 6, 1998.

licenses.

218-219 MHz Service. The first auction of 218-219 MHz (previously referred to as the Interactive and Video Data Service or IVDS) spectrum resulted in 178 entities winning licenses for 594 Metropolitan Statistical Areas (MSAs).³⁰⁹ Of the 594 licenses, 567 were won by 167 entities qualifying as a small business. For that auction, we defined a small business as an entity that, together with its affiliates, has no more than a \$6 million net worth and, after federal income taxes (excluding any carry over losses), has no more than \$2 million in annual profits each year for the previous two years.³¹⁰ In the *218-219 MHz Report and Order and Memorandum Opinion and Order*, we defined a small business as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and their affiliates, has average annual gross revenues not exceeding \$15 million for the preceding three years.³¹¹ A very small business is defined as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and its affiliates, has average annual gross revenues not exceeding \$3 million for the preceding three years.³¹² The SBA has approved of these definitions.³¹³ At this time, we cannot estimate the number of licenses that will be won by entities qualifying as small or very small businesses under our rules in future auctions of 218-219 MHz spectrum. Given the success of small businesses in the previous auction, and the prevalence of small businesses in the subscription television services and message communications industries, we assume for purposes of this FRFA that in future auctions, many, and perhaps all, of the licenses may be awarded to small businesses.

Location and Monitoring Service (LMS). Multilateration LMS systems use non-voice radio techniques to determine the location and status of mobile radio units. For purposes of auctioning LMS licenses, the Commission has defined “small business” as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not exceeding \$15 million.³¹⁴ A “very small business” is defined as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not exceeding \$3 million.³¹⁵ These definitions have been approved by the SBA.³¹⁶ An auction for LMS licenses commenced on February 23, 1999, and closed on March 5, 1999. Of the 528 licenses auctioned, 289 licenses were sold to four small

³⁰⁹ See “Interactive Video and Data Service (IVDS) Applications Accepted for Filing,” *Public Notice*, 9 FCC Rcd 6227 (1994).

³¹⁰ Implementation of Section 309(j) of the Communications Act – Competitive Bidding, *Fourth Report and Order*, 9 FCC Rcd 2330 (1994).

³¹¹ Amendment of Part 95 of the Commission’s Rules to Provide Regulatory Flexibility in the 218-219 MHz Service, *Report and Order and Memorandum Opinion and Order*, 15 FCC Rcd 1497 (1999).

³¹² *Id.*

³¹³ See Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated January 6, 1998.

³¹⁴ Amendment of Part 90 of the Commission’s Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, *Second Report and Order*, 13 FCC Rcd 15182, 15192 ¶ 20 (1998); see also 47 C.F.R. § 90.1103.

³¹⁵ Amendment of Part 90 of the Commission’s Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, *Second Report and Order*, 13 FCC Rcd at 15192 ¶ 20; see also 47 C.F.R. § 90.1103.

³¹⁶ See Letter to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated February 22, 1999.

businesses. We cannot accurately predict the number of remaining licenses that could be awarded to small entities in future LMS auctions.

Rural Radiotelephone Service. We use the SBA definition applicable to cellular and other wireless telecommunication companies, *i.e.*, an entity employing no more than 1,500 persons.³¹⁷ There are approximately 1,000 licensees in the Rural Radiotelephone Service, and the Commission estimates that there are 1,000 or fewer small entity licensees in the Rural Radiotelephone Service that may be affected by the rules and policies adopted herein.

Air-Ground Radiotelephone Service. We use the SBA definition applicable to cellular and other wireless telecommunication companies, *i.e.*, an entity employing no more than 1,500 persons.³¹⁸ There are approximately 100 licensees in the Air-Ground Radiotelephone Service, and the Commission estimates that almost all of them qualify as small entities under the SBA definition.

Offshore Radiotelephone Service. This service operates on several ultra high frequency (UHF) TV broadcast channels that are not used for TV broadcasting in the coastal area of the states bordering the Gulf of Mexico. At present, there are approximately 55 licensees in this service. We use the SBA definition applicable to cellular and other wireless telecommunication companies, *i.e.*, an entity employing no more than 1,500 persons.³¹⁹ The Commission is unable at this time to estimate the number of licensees that would qualify as small entities under the SBA definition. The Commission assumes, for purposes of this FRFA, that all of the 55 licensees are small entities, as that term is defined by the SBA.

Multiple Address Systems (MAS). Entities using MAS spectrum, in general, fall into two categories: (1) those using the spectrum for profit-based uses, and (2) those using the spectrum for private internal uses. With respect to the first category, the Commission defines “small entity” for MAS licenses as an entity that has average gross revenues of less than \$15 million in the three previous calendar years.³²⁰ “Very small business” is defined as an entity that, together with its affiliates, has average gross revenues of not more than \$3 million for the preceding three calendar years.³²¹ The SBA has approved of these definitions.³²² The majority of these entities will most likely be licensed in bands where the Commission has implemented a geographic area licensing approach that would require the use of competitive bidding procedures to resolve mutually exclusive applications. The Commission’s licensing database indicates that, as of January 20, 1999, there were a total of 8,670 MAS station authorizations. Of these, 260 authorizations were associated with common carrier service. In addition, an auction for 5,104 MAS licenses in 176 EAs began November 14, 2001, and closed on November 27, 2001.³²³ Seven winning

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

³¹⁸ *Id.*

³¹⁹ *Id.*

³²⁰ See Amendment of the Commission’s Rules Regarding Multiple Address Systems, *Report and Order*, 15 FCC Rcd 11956, 12008 ¶ 123 (2000).

³²¹ *Id.*

³²² See Letter to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated June 4, 1999.

³²³ See “Multiple Address Systems Spectrum Auction Closes,” *Public Notice*, 16 FCC Rcd 21011 (2001).

bidders claimed status as small or very small businesses and won 611 licenses.

With respect to the second category, which consists of entities that use, or seek to use, MAS spectrum to accommodate their own internal communications needs, we note that MAS serves an essential role in a range of industrial, safety, business, and land transportation activities. MAS radios are used by companies of all sizes, operating in virtually all U.S. business categories, and by all types of public safety entities. For the majority of private internal users, the definitions developed by the SBA would be more appropriate. The applicable definition of small entity in this instance appears to be the “Cellular and Other Wireless Telecommunications” definition under the SBA rules. This definition provides that a small entity is any entity employing no more than 1,500 persons.³²⁴ The Commission’s licensing database indicates that, as of January 20, 1999, of the 8,670 total MAS station authorizations, 8,410 authorizations were for private radio service, and of these, 1,433 were for private land mobile radio service.

Incumbent 24 GHz Licensees. The rules that we adopt could affect incumbent licensees who were relocated to the 24 GHz band from the 18 GHz band, and applicants who wish to provide services in the 24 GHz band. The Commission did not develop a definition of small entities applicable to existing licensees in the 24 GHz band. Therefore, the applicable definition of small entity is the definition under the SBA rules for “Cellular and Other Wireless Telecommunications.” This definition provides that a small entity is any entity employing no more than 1,500 persons.³²⁵ The 1992 Census of Transportation, Communications and Utilities, conducted by the Bureau of the Census, which is the most recent information available, shows that only 12 radiotelephone (now Wireless) firms out of a total of 1,178 such firms that operated during 1992 had 1,000 or more employees.³²⁶ This information notwithstanding, we believe that there are only two licensees in the 24 GHz band that were relocated from the 18 GHz band, Teligent³²⁷ and TRW, Inc. It is our understanding that Teligent and its related companies have less than 1,500 employees, though this may change in the future. TRW is not a small entity. Thus, only one incumbent licensee in the 24 GHz band is a small business entity.

Future 24 GHz Licensees. With respect to new applicants in the 24 GHz band, we have defined “small business” as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the three preceding years not exceeding \$15 million.³²⁸ “Very small business” in the 24 GHz band is defined as an entity that, together with controlling interests and affiliates, has average gross revenues not exceeding \$3 million for the preceding three years.³²⁹ The SBA has approved these

³²⁴ See 13 C.F.R. § 121.201, NAICS code 517212.

³²⁵ See *id.*

³²⁶ 1992 Census, Series UC-92-S-1 at Firm Size 1-123.

³²⁷ Teligent acquired the Digital Electronic Message Service (DEMS) licenses of FirstMark, the only licensee other than TRW in the 24 GHz band whose license has been modified to require relocation to the 24 GHz band.

³²⁸ Amendments to Parts 1, 2, 87 and 101 of the Commission’s Rules To License Fixed Services at 24 GHz, Report and Order, 15 FCC Rcd 16934, 16967 ¶ 77 (2000) (24 GHz Report and Order); see also 47 C.F.R. § 101.538(a)(2).

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

definitions.³³⁰ The Commission will not know how many licensees will be small or very small businesses until the auction, if required, is held.

700 MHz Guard Band Licenses. In the 700 MHz Guard Band Order, we adopted a small business size standard for “small businesses” and “very small businesses” for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.³³¹ A “small business” is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$15 million for the preceding three years. Additionally, a “very small business” is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$3 million for the preceding three years. An auction of 52 Major Economic Area (MEA) licenses commenced on September 6, 2000, and closed on September 21, 2000. Of the 104 licenses auctioned, 96 licenses were sold to nine bidders. Five of these bidders were small businesses that won a total of 26 licenses. A second auction of 700 MHz Guard Band licenses commenced on February 13, 2001 and closed on February 21, 2001. All eight of the licenses auctioned were sold to three bidders. One of these bidders was a small business that won a total of two licenses.³³²

Multipoint Distribution Service, Multichannel Multipoint Distribution Service, and Instructional Television Fixed Service. Multichannel Multipoint Distribution Service (MMDS) systems, often referred to as “wireless cable,” transmit video programming to subscribers using the microwave frequencies of the Multipoint Distribution Service (MDS) and Instructional Television Fixed Service (ITFS).³³³ In connection with the 1996 MDS auction, the Commission defined “small business” as an entity that, together with its affiliates, has average gross annual revenues that are not more than \$40 million for the preceding three calendar years.³³⁴ The SBA has approved of this standard.³³⁵ The MDS auction resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs).³³⁶ Of the 67 auction winners, 61 claimed status as a small business. At this time, we estimate that of the 61 small business MDS auction winners, 48 remain small business licensees. In addition to the

³³⁰ See Letter to Margaret Wiener, Deputy Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Gary Jackson, Assistant Administrator, Small Business Administration, dated July 28, 2000.

³³¹ See Service Rules for the 746-764 MHz Bands, and Revisions to part 27 of the Commission’s Rules, WT Docket No. 99-168, Second Report and Order, 15 FCC Rcd 5299 (2000), 65 FR 17599 (Apr. 4, 2000).

³³² Public Notice, “700 MHz Guard Band Auction Closes,” DA 01-478 (rel. Feb. 22, 2001).

³³³ Amendment of Parts 21 and 74 of the Commission’s Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act – Competitive Bidding, *Report and Order*, 10 FCC Rcd 9589, 9593 ¶ 7 (1995) (*MDS Auction R&O*).

³³⁴ 47 C.F.R. § 21.961(b)(1).

³³⁵ See Letter to Margaret W. Wiener, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Bureau, from Gary M. Jackson, Assistant Administrator for Size Standards, Small Business Administration, dated March 20, 2003 (noting approval of \$40 million size standard for MDS auction).

³³⁶ Basic Trading Areas (BTAs) were designed by Rand McNally and are the geographic areas by which MDS was auctioned and authorized. See *MDS Auction R&O*, 10 FCC Rcd at 9608 ¶ 34.

48 small businesses that hold BTA authorizations, there are approximately 392 incumbent MDS licensees that have gross revenues that are not more than \$40 million and are thus considered small entities.³³⁷

After adding the number of small business auction licensees to the number of incumbent licensees not already counted, we find that there are currently approximately 440 MDS licensees that are defined as small businesses under either the SBA's or the Commission's rules. Some of those 440 small business licensees may be affected by the proposals in the Further Notice.

In addition, the SBA has developed a small business size standard for Cable and Other Program Distribution,³³⁸ which includes all such companies generating \$12.5 million or less in annual receipts.³³⁹ According to Census Bureau data for 1997, there were a total of 1,311 firms in this category, total, that had operated for the entire year.³⁴⁰ Of this total, 1,180 firms had annual receipts of under \$10 million, and an additional 52 firms had receipts of \$10 million or more but less than \$25 million.³⁴¹ Consequently, we estimate that the majority of providers in this service category are small businesses that may be affected by the rules and policies proposed in the Further Notice.

Finally, while SBA approval for a Commission-defined small business size standard applicable to ITFS is pending, educational institutions are included in this analysis as small entities.³⁴² There are currently 2,032 ITFS licensees, and all but 100 of these licenses are held by educational institutions. Thus, we tentatively conclude that at least 1,932 ITFS licensees are small businesses.

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

The NPRM does not propose any specific reporting, recordkeeping or compliance requirements. However, we seek comment on what, if any, requirements we should impose if we adopt the proposals set forth in the NPRM.

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

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

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

³³⁹ *Id.*

³⁴⁰ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization)," Table 4 (issued October 2000).

³⁴¹ *Id.*

³⁴² In addition, the term "small entity" under SBREFA applies to small organizations (nonprofits) and to small governmental jurisdictions (cities, counties, towns, townships, villages, school districts, and special districts with populations of less than 50,000). 5 U.S.C. §§ 601(4)-(6). We do not collect annual revenue data on ITFS licensees.

The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in developing its approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small Entities.³⁴³

As stated earlier, we seek to minimize regulatory costs and eliminate unnecessary regulatory burdens to the deployment of spectrum-based services in rural areas. Therefore, we believe that modifying or eliminating certain rules should decrease the costs associated with regulatory compliance for licensees and increase flexibility in a manner that will facilitate access, capital formation, build-out and coverage in rural areas. We therefore anticipate that, although it seems likely that there will be a significant economic impact on a substantial number of small entities, there will be no adverse economic impact on small entities. In fact, certain of the proposed rules may particularly benefit small entities.

For example, the NPRM proposes that spectrum in rural areas that is leased by a licensee, and for which the lessee meets the performance requirements that are applicable to the licensee, should be construed as “used” for the purposes of this proceeding and any performance requirements we adopt.³⁴⁴ Although adoption of this proposal would benefit both small and large entities in the radio services where leasing is allowed, the majority of businesses in these radio services are small entities.

The NPRM further proposes a “substantial service” construction benchmark for all wireless services licensed on a geographic basis.³⁴⁵ We believe this proposal, if adopted, will affect small and large entities alike by providing increased flexibility, particularly in rural areas, for licensees to meet their performance requirements.

In addition, the NPRM proposes to modify the eligibility restrictions on the use of spectrum within the Basic Exchange Telephone Radio Systems (BETRS) to allow more flexible use of the spectrum.³⁴⁶ We believe this proposal, if adopted, will provide a particular benefit to small entities by providing current BETRS licensees, of which a majority are small entities, with increased flexibility to use BETRS spectrum.

³⁴³ 5 U.S.C. § 603 (c).

³⁴⁴ NPRM at ¶ 20, *supra*.

³⁴⁵ NPRM at ¶ 35, *supra*.

³⁴⁶ NPRM at ¶ 115, *supra*.

In the NPRM, then, the Commission has set forth various options it is considering for each rule, from modifying them to eliminating them all together. We seek comment on any additional appropriate alternatives and especially alternatives that may further reduce economic impacts on small entities.

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

None.

**APPENDIX B:
PROPOSED RULE CHANGES**

Part 22 of Title 47 of the Code of Federal Regulations is amended as follows:

1. The authority citation for Part 22 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 222, 303, 309 and 332.

2. Section 22.702 is amended to read as follows:

§ 22.702 Eligibility.

Existing and proposed communications common carriers are eligible to hold authorizations to operate conventional central office, interoffice and rural stations in the Rural Radiotelephone Service. Subscribers are also eligible to hold authorizations to operate rural subscriber stations in the Rural Radiotelephone Service.

Part 24 of Title 47 of the Code of Federal Regulations is amended as follows:

1. The authority citation for Part 24 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 301, 302, 303, 309 and 332.

2. Section 24.203(a) is amended to read as follows:

§ 24.203 Construction requirements.

(a) Licensees of 30 MHz blocks must serve with a signal level sufficient to provide adequate service to at least one-third of the population in their licensed area within five years of being licensed and two-thirds of the population in their licensed area within ten years of being licensed. Alternatively, licensees may provide "substantial service" to their licensed area within ten years. Licensees may choose to define population using the 1990 census or the 2000 census. Failure by any licensee to meet these requirements will result in forfeiture or non-renewal of the license and the licensee will be ineligible to regain it.

Part 90 of Title 47 of the Code of Federal Regulations is amended as follows:

1. The authority citation for Part 90 continues to read as follows:

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

2. Section 90.155(d) is amended to read as follows:

§ 90.155 Time in which station must be placed in operation.

(d) Multilateration LMS EA-licensees, authorized in accordance with § 90.353 of this part, must

construct and place in operation a sufficient number of base stations that utilize multilateration technology (see paragraph (e) of this section) to provide multilateration location service to one-third of the EA's population within five years of initial license grant, and two-thirds of the population within ten years. Alternatively, licensees may provide "substantial service" to their licensed area within ten years. In demonstrating compliance with the construction and coverage requirements, the Commission will allow licensees to individually determine an appropriate field strength for reliable service, taking into account the technologies employed in their system design and other relevant technical factors. At the five and ten year benchmarks, licensees will be required to file a map and FCC Form 601 showing compliance with the coverage requirements (see § 1.946).

3. Section 90.685(b) is amended to read as follows:

§ 90.685 Authorization, construction and implementation of EA licenses.

(b) EA licensees in the 806-821/851-866 MHz band must, within three years of the grant of their initial license, construct and place into operation a sufficient number of base stations to provide coverage to at least one-third of the population of its EA-based service area. Further, each EA licensee must provide coverage to at least two-thirds of the population of the EA-based service area within five years of the grant of their initial license. Alternatively, EA-based licensees may provide substantial service to their markets within five years of the grant of their initial license. Substantial service shall be defined as: "Service which is sound, favorable, and substantially above a level of mediocre service."

4. Section 90.767 is amended to read as follows:

§ 90.767 Construction and implementation of EA and Regional licenses.

(a) An EA or Regional licensee must construct a sufficient number of base stations (i.e., base stations for land mobile and/or paging operations) to provide coverage to at least one-third of the population of its EA or REAG within five years of the issuance of its initial license and at least two-thirds of the population of its EA or REAG within ten years of the issuance of its initial license. Alternatively, licensees may provide "substantial service" to their licensed area at their five- and ten-year benchmarks.

(b) Licensees must notify the Commission in accordance with § 1.946 of this chapter of compliance with the Construction requirements of paragraph (a) of this section.

(c) Failure by an EA or Regional licensee to meet the construction requirements of paragraph (a) of this section, as applicable, will result in automatic cancellation of its entire EA or Regional license. In such instances, EA or Regional licenses will not be converted to individual, site- by-site authorizations for already constructed stations.

(d) EA and Regional licensees will not be permitted to count the resale of the services of other providers in their EA or REAG, e.g., incumbent, Phase I licensees, to meet the construction requirement of paragraph (a) or (b) of this section, as applicable.

(e) EA and Regional licensees will not be required to construct and place in operation, or commence service on, all of their authorized channels at all of their base stations or fixed stations.

5. Section 90.769 is amended to read as follows:

§ 90.769 Construction and implementation of Phase II nationwide licenses.

(a) A nationwide licensee must construct a sufficient number of base stations (i.e., base stations for land mobile and/or paging operations) to provide coverage to a composite area of at least 750,000 square kilometers or 37.5 percent of the United States population within five years of the issuance of its initial license and a composite area of at least 1,500,000 square kilometers or 75 percent of the United States population within ten years of the issuance of its initial license. Alternatively, licensees may provide “substantial service” to their licensed area at their five- and ten-year benchmarks.

(b) Licensees must notify the Commission in accordance with § 1.946 of this chapter of compliance with the Construction requirements of paragraph (a) of this section.

(c) Failure by a nationwide licensee to meet the construction requirements of paragraph (a) of this section, as applicable, will result in automatic cancellation of its entire nationwide license. In such instances, nationwide licenses will not be converted to individual, site-by-site authorizations for already constructed stations.

(d) Nationwide licensees will not be required to construct and place in operation, or commence service on, all of their authorized channels at all of their base stations or fixed stations.

**SEPARATE STATEMENT OF
CHAIRMAN MICHAEL K. POWELL**

Re: Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies To Provide Spectrum-Based Services

Wireless facilities-based providers are delivering remarkable competition and innovation in rural markets. However, just because the Commission's policies work, does not mean they cannot work better.

Our actions over the past few months dramatically illustrate our resolve to bring competitive, quality, spectrum-based services to rural America. Last month alone, we supported a series of items that: advanced digital TV deployment in rural America, expanded outreach to underserved communities, reported on the state of rural broadband deployment, reported on our partnership with RUS, and announced the Rural Wireless Internet Service Provider Forum for September 18. And today, three items on the agenda – including this one – have elements aimed at advancing the Commission's rural-service vision.

The Notice we adopt today includes initiatives and policies aimed directly at facilitating access to capital and lowering regulatory and market barriers to spectrum and infrastructure in rural areas. This Notice also seeks comment on how we can clarify rules, minimize regulatory costs, and provide other incentives to promote service to rural markets. While a number of past Commission measures have been intended to foster the deployment of wireless services throughout the country, the Notice we adopt today for the first time expands upon these measures and will help ensure that rural Americans can experience the breadth of wireless service offerings currently available and further fulfill the Commission's statutory mandate to make available, in a rapid and efficient manner, communications services to all Americans.

**SEPARATE STATEMENT OF
COMMISSIONER KATHLEEN Q. ABERNATHY**

Re: Facilitating the Provisions of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies to Provide Spectrum-Based Services, Notice of Proposed Rulemaking (WT Docket No. 03-202)

This NPRM is the next step in our examination of how the FCC can amend its spectrum regulations and policies in order to promote the rapid and efficient deployment of spectrum-based services in rural areas. It follows many actions that we have taken in this area, including the recent adoption of an order creating a secondary market for spectrum and increasing the amount of spectrum available for use for unlicensed services, such as wi-fi.

Given the high value consumers place on the ability to communicate anywhere, anytime the Commission wants to ensure that we are promoting and encouraging the efficient utilization of spectrum in rural areas. Wireless services have become pervasive in many of our day-to-day lives as we rely on them for personal, business and safety reasons. Rural America has the same needs and the same demand for better, smarter, faster communications capabilities.

I am looking forward to reviewing the record in this proceeding to understand commenters' views on whether the proposals promote the deployment of efficient spectrum-based services to rural areas.

**SEPARATE STATEMENT OF
COMMISSIONER MICHAEL J. COPPS**

RE: Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies To Provide Spectrum-Based Services; 2000 Biennial Review Spectrum Aggregation Limits for Commercial Mobile Radio Services; and Increasing Flexibility To Promote Access to and the Efficient and Intensive Use of Spectrum and the Widespread Deployment of Wireless Services, and To Facilitate Capital Formation.

I would like to thank the Chairman for continuing to move forward with this important proceeding. Over the past several years I have noted in statements, along with my colleagues, that we need to redouble our efforts to promote wireless service in rural areas. The Commission has specific and significant statutory obligations to ensure that we manage the spectrum to the benefit of rural Americans. In response, the Chairman agreed to initiate last-year's NOI in this proceeding, which has now yielded this important NPRM. So, I'd like to thank him.

I support this NPRM, whole-heartedly in some places, with reservations in others. We seek comment on how to determine what areas are truly rural. We propose to allow higher power limits in areas where this will not unduly increase interference, in order to give rural carriers more coverage. We discuss the benefits of auctioning spectrum on an RSA basis, and ask where we ought to do so. And we ask how we can work with RUS in a more constructive way. All this goes down the right track.

I have reservations about other parts of this NPRM. For example, we seek comment on whether we should eliminate the cellular cross ownership rule in some rural areas. I am concerned that it may be a mistake to eliminate this rule and rely on an unpredictable case-by-case review process that is not guided by any written Commission standards. I am pleased that we tentatively conclude to keep the rule in markets where there are three or fewer carriers. Remember that while many cities boast six competitors, consumers in more than 25% of U.S. counties have three or fewer wireless carriers to choose from. So because we tentatively conclude to maintain the rule for the most vulnerable markets, and because we make no proposal on whether to eliminate the rule elsewhere, I can support this section of the item.

I am most concerned that the NPRM considers allowing companies to use their FCC licenses as collateral when seeking loans with the RUS. Spectrum and FCC licenses are not property. They should not be property. Congress is clear on this matter. If we allow companies to grant security interests in licenses we will be taking a big step toward spectrum privatization. This NPRM limits its questions to where the RUS, a part of the federal government, is the holder of the security interest. Because of this limitation, and because we do not make any proposal or tentative conclusion on the matter, I will support the item. But my deep concerns with granting authority to use FCC licenses as collateral remain. In fact, they grow every day. This policy could well violate the Communications Act. I do not see how we can allow companies to use licenses as collateral without violating the intent of Congress to keep control and ownership of spectrum and licenses in the hands of American citizens rather than private interests.

From the time I first called for a proceeding on promoting rural wireless up to today, I have supported creative ways of achieving this goal. But we have to do some cost-benefit analysis here. I fear that allowing the use of security interests could provide precious little benefit

compared to the potentially large cost to the spectrum management system. The marginal improvement in access to capital may be small, given that companies today can already grant security interests in stock and in the proceeds of a license sale. But the costs are potentially huge. Allowing security interests could undermine our authority in Sections 301 and 304 of the Act. The FCC's basic ability to develop wireless policy and manage interference could be threatened. If a court is convinced that an FCC decision to require additional CALEA compliance, E-911 public safety actions, or to change operations to reduce interference unduly puts the investment of a security interest holder at risk, could that court tie the Commission's hands? If so, we would be unable to do our job. Finally, after NextWave, we should be wary of decisions that put us at a disadvantage in bankruptcy disputes. Yet, allowing security interests creates great uncertainty in this context, and could lead to the Commission being unable to protect public funds when a licensee declares bankruptcy.

But this section of the item merely asks questions. Because of the limited nature of this section of the item, because we are not considering allowing any party other than RUS to hold a security interest, and because of the presence of these good probing questions, I can support this section of the item.

The Bureau has done a good job seeking comment on each of the worries that I just mentioned. I also want to acknowledge and thank my colleagues for working to make this a better item as we went through the deliberative process. I hope that people will pay attention to this proceeding and file comments. I want to especially encourage folks who share my doubts to respond fulsomely to this NPRM. We need to know the implications of this decision fully before acting. We certainly do not have the answers yet. So we need your help.

**SEPARATE STATEMENT OF
COMMISSIONER KEVIN J. MARTIN**

Re: Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies to Provide Spectrum-Based Services (WT Docket No. 02-381); 2000 Biennial Regulatory Review Spectrum Aggregation Limits for Commercial Mobile Radio Services (WT Docket No. 01-14); and Increasing Flexibility to Promote Access to and the Efficient and Intensive Use of Spectrum and the Widespread Deployment of Wireless Services, and to Facilitate Capital Formation.

I have always maintained that one of the Commission's most important priorities is to facilitate the deployment of communications services in rural America. Wireless services are particularly critical in rural communities where such technologies may provide not only the most efficient, but sometimes the only practical method of offering communications services. Accordingly, it is crucial that we fulfill our obligation to promote the development and rapid deployment of wireless services in rural America.

The item we consider today raises a broad set of questions, ranging from how to define "rural," to whether technical changes such as modified power limits in rural areas will further our goals, to requesting input on how we can maximize our partnership with the USDA and the Rural Utilities Services program. I am glad we are asking these questions and addressing these important issues. I look forward to seeing the comments responding to this NPRM.

**SEPARATE STATEMENT OF
COMMISSIONER JONATHAN S. ADELSTEIN**

Re: Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies to Provide Spectrum-Based Services; WT Docket No. 02-381

At our last open meeting, we shed an important light on the Commission's ongoing efforts to support the deployment of basic and advanced telecommunications services to those Americans living in our Nation's rural communities. At that time I highlighted my goal of implementing policies that provide for and maintain a rural telecommunications system that is second to none. In that light, I am very pleased to support this Notice of Proposed Rule Making (NPRM) because spectrum-based communications can play such an integral part of that telecommunications network.

The NPRM tackles a number of the issues that I believe are so critical to promoting the provision of spectrum-based services in rural areas. Not only do we address the nuts and bolts of how we define "rural," but we also look at some of the more challenging issues such as performance requirements and relaxed power limits for licensed services.

I am particularly supportive of the request for comment on ways the Commission can support the USDA's Rural Utilities Service (RUS) Telecommunications Program. As I mentioned at our last meeting, I had the privilege of working on legislation authorizing and providing funds to the RUS for deployment of broadband services in rural areas when I was a staffer in the Senate as part of last year's Farm Bill. It is so worthwhile to explore how the Commission can support the wireless applications of this program, as I truly believe that spectrum-based services offer great potential to Rural America.

I also am pleased to support our limited question on the ability of the Commission to allow security interests by RUS in FCC licenses. I very much appreciate the efforts of the Wireless Telecommunications Bureau staff to draft a section that presents a balanced discussion of this novel issue. I take very seriously Congress' charge that we manage the nation's airwaves because spectrum is a finite public national resource, with characteristics unlike that of any other. The Commission always must retain the authority and flexibility to regulate the rights and responsibilities of its licensees. RUS, because it also is part of the Federal Government, may be an appropriate holder of a security interest, particularly as it is my understanding that RUS retains the security interests it holds through its rural loan program. I believe that the document as drafted weighs these important considerations in asking the questions of whether or not we should or even can allow RUS to hold security interests in FCC licenses.

Finally, while I do have some concerns with the question of a possible modification to the cellular-cross ownership rule, I am encouraged by the tentative conclusion to retain the rule for those RSA that are served by three or fewer providers. I believe that we have set the bar sufficiently high to changing the rule for those mobile wireless markets that are served by the fewest providers.