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

REPORT AND ORDER
AND FURTHER NOTICE OF PROPOSED RULE MAKING

Adopted: July 8, 2004 **Released:** September 27, 2004

Comment Date: 30 Days from Publication in the Federal Register
Reply Comment Date: 60 Days after Publication in the Federal Register

By the Commission: Chairman Powell issuing a statement; Commissioners Copps and Adelstein approving in part, dissenting in part and issuing separate statements.

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I. INTRODUCTION AND EXECUTIVE SUMMARY

1. Over the past decade, most Americans have enjoyed dynamic growth in the variety and quality of wireless service offerings available to them, as well as increased choice among facilities-based telecommunications service providers.[1] The Commission is committed to ensuring that this success is enjoyed by all Americans in all areas of the country "so far as possible."[2] This *Report and Order* adopts

[1] In its *Eighth Competition Report*, released last year, the Commission found that "[c]ontinued downward price trends, the continued expansion of mobile networks into new and existing markets, high rates of investment, and churn rates of about 30 percent, when considered together with the other metrics, demonstrate a high level of competition for mobile telephone consumers." *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, 14812 ¶ 57 (2003) (*Eighth Competition Report*). The Commission also noted that 95 percent of the total U.S. population live in counties with access to three or more different mobile telephony providers, and 83 percent of the population live in counties with five or more competing mobile telephony providers. *See id.* at 14793-94, 14823 ¶¶ 18, 84.

[2] *See* 47 U.S.C. § 151 (stating that 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"); *see also* Mission Statement of the FCC Strategic Plan, available at <http://www.fcc.gov/omd/strategicplan/>.

several measures intended to increase the ability of wireless service providers to use licensed spectrum resources flexibly and efficiently to offer a variety of services in a cost-effective manner. By our actions today, we take steps to promote access to spectrum and facilitate capital formation for entities seeking to serve rural areas or improve service in rural areas.[3] We expect these decisions will facilitate the deployment of new and advanced wireless services, including broadband services, and thereby foster much-needed economic development. The actions we adopt in the *Report and Order* are derived from those proposed in the *Notice of Proposed Rule Making* in this proceeding.[4]

2. In this *Report and Order*, we modify certain regulations and policies in order to facilitate the deployment of wireless services in rural areas. Specifically, we take the following actions:

- As an initial matter, we examine the various definitions that are used to describe "rural areas" and establish the presumption that, on a going-forward basis, and unless otherwise specified in the context of specific policies or regulations governing wireless communications services, counties with a population density of 100 persons per square mile or less constitute "rural areas" for purposes of our wireless spectrum policies.

- Second, we take a close look at some of our policies affecting access to spectrum and the provision of service in rural areas. In particular, we consider our policies governing the licensing of spectrum, both with respect to initial licensing through the competitive bidding process as well as subsequent re-licensing after an authorization is returned to the Commission. We affirm that we will continue to establish licensing areas on a service-by-service (or band-by-band) basis as appropriate, based upon the flexibility that such an approach provides and our past experience in determining the initial size of service areas. We also reaffirm that when developing rules for licensing individual services, we will consider using smaller service areas in some spectrum blocks in order to encourage deployment in rural areas for the service in question.

- Third, we take steps to facilitate increased access to capital for rural licensees. We eliminate the remaining components of the cellular cross-interest rule that currently apply only in rural service areas and transition to case-by-case review for cellular transactions, while closely examining those that present a significant likelihood of substantial competitive harm in a market. We also revise our policies governing security interests in wireless licenses and permit licensees, at their option, to grant such interests to the Department of Agriculture's Rural Utilities Service (RUS), subject to the Commission's prior approval of any transfer of control.

- Fourth, we take several actions to increase licensee flexibility and permit more cost-effective coverage of rural areas. We amend our regulations to increase permissible power levels for base stations in certain wireless services that are located in rural areas or that provide coverage to

[3] This *Report and Order* takes action affecting the provision of commercial and private terrestrial wireless services. While the policies and regulations discussed herein are targeted to promote wireless services in rural areas, we note that certain of our actions will likely have broader application to non-rural areas as well.

[4] 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*, 18 FCC Rcd 20802 (2003) (*Rural NPRM*).

otherwise unserved areas. By this action, we anticipate that coverage of such areas will be more economical, as licensees may provide increased coverage of rural areas using fewer base stations and less associated infrastructure. We also amend our regulations to permit certain geographic-area licensees to provide substantial service as a means of complying with their construction requirements, thus countering existing disincentives to build out less densely populated areas.[5] Finally, we clarify our policies governing infrastructure sharing and discuss the various types of infrastructure arrangements that parties generally may enter into without the need for Commission review.

3. In the *Further Notice*, we seek to expand upon the record received in response to the *Rural NPRM* with respect to additional measures that the Commission can take in order to promote access to spectrum in rural areas. Specifically, we seek additional comment on adopting an unserved-area or "keep what you use" re-licensing process for current and future wireless services. Although evidence suggests that, on the whole, our current policies are working to provide wireless services in rural areas, the *Further Notice* asks whether there are additional measures, such as adopting a "keep what you use" approach to reclaim and re-license "unused" spectrum, that may complement existing market-based mechanisms. Among other inquiries, the *Further Notice* seeks comment on whether such measures are likely to spur the delivery of wireless services to rural areas. The *Further Notice* also seeks to build upon the *Rural NPRM* record by asking whether additional performance requirements might be appropriate for license terms subsequent to initial renewal.

II. BACKGROUND

4. One of the Commission's primary statutory obligations, as well as one of its principal public policy objectives, is to facilitate the widespread deployment of facilities-based communications services to all Americans, including those doing business in, residing in, or visiting rural areas. In December 2002, the Commission released a *Notice of Inquiry* that sought comment on the effectiveness of its existing regulatory tools in promoting service to rural areas and asked how we could modify our policies to further encourage the provision of wireless services in rural areas.[6] In a follow-up *Notice of Proposed Rule Making*, released in October 2003, the Commission sought to build upon the record developed in response to the *Rural NOI* and sought comment regarding a variety of proposals to eliminate unnecessary regulatory barriers and encourage the deployment of spectrum-based services in rural areas.[7] The *Rural NPRM* focused on measures that would increase flexibility, reduce regulatory costs of providing service to rural areas, and promote access to both spectrum and capital resources for entities seeking to provide wireless services in rural areas. Among other issues, the *Rural NPRM* sought comment on the following policies and proposals: (1) determining an appropriate definition for "rural area" for purposes of implementing Commission policies; (2) promoting access to "unused" spectrum; (3) extending a "substantial service" construction option to all geographic-area licensees; (4) determining whether geographic-area licensees should satisfy additional construction requirements after their initial

[5] We note that we do not modify the performance requirements for MDS/ITFS and 70/80/90 GHz licensees, as discussed *supra* Section III.D.1.

[6] Facilitating the Provision of Spectrum-Based Service to Rural Areas and Promoting Opportunities for Rural Telephone Companies to Provide Spectrum-Based Services, WT Docket No. 03-281, *Notice of Inquiry*, 17 FCC Rcd 25554 (2002) (*Rural NOI*).

[7] *See generally Rural NPRM*, 18 FCC Rcd at 20808.

license term; (5) increasing power limits in rural areas for licensed services; (6) evaluating the appropriate initial size of licensing areas for geographic-area licenses; (7) fostering our partnership with RUS and determining whether additional measures should be taken to complement the RUS loan programs; (8) considering whether to modify long-held restrictive policies on security interests in licenses by permitting licensees to offer RUS security interests in their licenses; (9) considering modification or elimination of the cellular cross-interest rule in Rural Service Areas (RSAs); (10) clarifying our policies with respect to infrastructure sharing; and (11) updating and amending our rules governing the Rural Radiotelephone Service (RRS) and Basic Exchange Telephone Radio Systems (BETRS).

5. In response to the *Rural NPRM*, we received 30 comments and 20 reply comments.[8] Of these comments, many indicated that our market-oriented policies have been working to promote competitive service in rural areas.[9] Further, several commenters noted that the Commission should continue to allow these market-oriented policies to work and avoid mandating additional coverage that might result in uneconomic and unsustainable deployment.[10] For example, Nextel Communications urged the Commission to avoid micromanaging the market "by mandating a range of 'spectrum access' options that look more like 'forced access.'"[11] Commenters specifically referenced the Commission's recent actions to remove regulatory barriers to spectrum leasing and noted that secondary markets should be given an opportunity to work before intervening in the marketplace to force access to spectrum.[12] We note that although we received numerous comments indicating that the rural marketplace is competitive, at least with respect to Commercial Mobile Radio Services (CMRS), we also received comments to the contrary.[13]

6. As discussed below, we agree with the majority of commenters that the Commission's market-oriented policies largely have been successful in promoting facilities-based competition in the rural marketplace, especially with respect to CMRS.[14] These market-oriented policies, acting in concert with more historical licensing policies, such as the cellular unserved area process,[15] have resulted in the widespread provision of wireless services, including in rural areas. As the Commission noted in the *Eighth Competition Report*, 95 percent of the total U.S. population live in counties with access to three or

[8] In addition, 18 parties filed *ex-parte* and late-filed comments as of July 7, 2004.

[9] *See, e.g.,* AT&T Wireless Comments at 2, 6, Cingular Comments at 3-5, 9, 11, Dobson Comments at 2-5, AT&T Wireless Reply Comments at 3-4, Nextel Communications Reply Comments at 2, Western Wireless Reply Comments at 2-3.

[10] Cingular Comments at 3-4; NTCA Comments at 4, Sprint Reply Comments at 7.

[11] Nextel Communications Reply Comments at 10.

[12] Cingular Comments at 2, 4-5, 9, Dobson Comments at 2-3, 9-10; Nextel Partners Reply Comments at 7, Southern LINC Reply Comments at 10, T-Mobile Reply Comments at 3, Western Wireless Reply Comments at 12.

[13] *See* OPASTCO/RTG Reply Comments at 4.

[14] *See supra* notes 1, 9.

[15] The unserved area licensing process is discussed in more detail *infra* Section III.B.2.

more different mobile telephony providers.[16] Moreover, we are optimistic that recent Commission initiatives will encourage the further deployment of new and advanced wireless services in rural areas, including broadband services. For example, our *Secondary Markets Report and Order* adopted rules and policies to facilitate broad access to spectrum resources by enabling a wide array of facilities-based providers of broadband and other communications services to enter into spectrum leasing arrangements with Wireless Radio Service licensees.[17] Other ongoing initiatives seek to increase licensee flexibility and promote spectrum access through the development of advanced technologies such as cognitive radios.[18] These initiatives complement existing programs and regulations that, in our estimation, already are working to promote wireless service in rural areas. These existing measures include small business bidding credits[19] and partitioning and disaggregation.[20] As the Commission noted in the *Rural NPRM,* available data indicates that wireless service providers have taken advantage of these existing regulatory mechanisms.[21] As of June 2004, the Commission has completed 39 auctions for terrestrial wireless licenses. 77 percent of the winning bidders in these auctions claimed eligibility status as a "small business" and were the winning bidder for 52 percent of the licenses sold.[22] Furthermore, within the 39 completed auctions, 12 percent of winning bidders self-certified as being rural telephone companies (rural

[16] *See Eighth Competition Report*, 18 FCC Rcd at 14793-94 ¶ 18.

[17] Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, WT Docket No. 00-230, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 20604 (2003) (*Secondary Markets Report and Order* and *Secondary Markets Further Notice*); Erratum, 18 FCC Rcd 24817 (2003).

[18] *See* Facilitating Opportunities for Flexible, Efficient, and Reliable Spectrum Use Employing Cognitive Radio Technologies, ET Docket No. 03-108, *Notice of Proposed Rulemaking and Order*, FCC 03-322 (2003) (*Cognitive Radio NPRM*).

[19] *See* Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, *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, WT Docket No. 99-266, *Report and Order and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 11794 (2000).

[20] Partitioning and disaggregation is 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 Services (47 C.F.R. § 90.813); Specialized Mobile Radio (SMR) Service, 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. § 24.104); and all Part 27 services (47 C.F.R. §§ 27.15, 27.605).

[21] *Rural NPRM*, 18 FCC Rcd at 20805 ¶ 3.

[22] For purposes of this analysis, "small businesses" 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 on the Commission's Auctions website. *See* <http://wireless.fcc.gov/auctions>.

telcos), as that term is defined by the Communications Act.[23] With respect to partitioning and disaggregation, the Commission's analysis of available data indicates that 13.5 percent of all assignees have voluntarily identified themselves as rural telcos.[24] In its comments, AT&T Wireless noted that it has "entered into more than a dozen partitioning or disaggregation transactions in 2003 alone, most with small entities," and that the Commission's partitioning and disaggregation rules "are working, and working well, in providing opportunities for rural carriers and speeding service to rural areas."[25] We also note that there are explicit funding programs available to support the provision of wireless services in rural areas, including Universal Service Fund support for service in high cost areas and RUS funds for the deployment of broadband services.

7. Not only has the Commission taken steps to increase licensee flexibility and promote spectrum access, we are encouraged to learn from the record in this proceeding that licensees are taking proactive measures to promote wireless deployment in rural areas. For example, Nextel Partners indicates that, in cooperation with Nextel, it provides "customers in high cost rural areas and smaller markets the same national network and the same fully integrated four-in-one bundle of services available from Nextel in urban areas."[26] Nextel Partners states that it "was established specifically for the business purpose of deploying state-of-the-art national wireless service in the smaller markets, including rural areas, and the company has grown from covering about 6,000,000 [persons] at the end of 1999 to covering more than 37,000,000 [persons] in 31 states with more than 1.05 million subscriber lines."[27] AT&T Wireless states that "it is aggressively extending its GSM/GPRS/EDGE footprint into rural markets through new construction, joint ventures, and roaming agreements with other carriers, and it has entered into numerous agreements to partition rural markets to smaller entities."[28] Dobson's comments also indicate that it is aggressively deploying wireless services in rural areas, stating that, among other efforts, it "will have invested approximately $24 million in Alaska in 2003 and 2004 to improve wireless service statewide," and that, since the release of the *Rural NOI*, it has "entered into GSM/GPRS roaming agreements with two additional nationwide carriers," such that it "is able to offer its rural and suburban customers nationwide service and will also be able to provide advanced wireless services to customers throughout the United States and perhaps the world someday."[29] Dobson states that it "recognizes the growth opportunities afforded in rural areas, and has developed its business strategy to focus on these areas."[30] Likewise, other carriers note that they have taken proactive steps to provide wireless services to rural

[23] *See* 47 U.S.C. § 153(37) (defining "rural telephone company"). 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.

[24] *See Rural NOI*, 17 FCC Rcd at 25559 ¶ 8.

[25] AT&T Wireless Reply Comments at 7. Not all commenters, however, agreed that our partitioning and disaggregration procedures have been successful in promoting the deployment of wireless services in rural areas. *See* OPASTCO/RTG Comments at 10-11; Blooston Comments at 11-12. We address these issues in the *Further Notice*, *see infra* Section IV.C.1 ¶¶ 147-152.

[26] Nextel Partners Comments at 2.

[27] Nextel Partners Reply Comments at 4.

[28] AT&T Wireless Reply Comments at 4.

[29] Dobson Comments at 6-7.

[30] *Id.* at 7.

areas, such as through joint ventures[31] and infrastructure-sharing arrangements.[32] We commend these voluntary initiatives and urge carriers and equipment providers to continue their proactive efforts to provide services to rural areas.

8. In light of the record developed in response to the *Rural NPRM*, we conclude that our market-oriented policies, in tandem with substantial capital investment by licensees, generally have led to the growth of valuable, productivity-enhancing wireless services to a vast majority of Americans, including many who reside, work, or travel in rural areas. Nevertheless, we also conclude that there are additional steps that we can take in order to promote greater deployment of wireless services in rural areas, such as eliminating disincentives to serve or invest in rural areas, and helping to reduce the costs of market entry, network deployment and continuing operations.

III. REPORT AND ORDER

A. Definition of "Rural"

9. *Background.* In the *Rural NPRM*, the Commission requested comment on an appropriate definition of a "rural area" for use in conjunction with each of the policies addressed in this proceeding.[33] The Commission sought comment on whether a uniform definition of a "rural area" would be appropriate, or whether the definition of a "rural area" should differ depending upon the particular regulatory initiative at issue.[34] The Commission discussed various definitions that are currently used by the Commission or by other federal agencies as proxies for "rural," and sought comment on whether one or more of these definitions would be appropriate.[35] Specifically, the Commission sought comment on the following potential definitions: (1) counties with a population density of 100 persons or fewer per square mile;[36] (2) RSAs; [37] (3) non-nodal counties within an Economic Area (EA) as defined by the

[31] *See* AT&T Wireless Comments at 4-5 (describing its "RoadRunner" project with Cingular, which is "designed to provide state-of-the-art GSM/GPRS/EDGE service to their customers and roamers along more than 4000 miles of select major highways in rural parts of the country").

[32] *See* Ericsson Comments at 2 (noting that Ericsson has entered into agreements with three separate rural market operators "to migrate their TDMA wireless networks to GSM through a shared infrastructure arrangement" and that these "agreements will allow these operators to deploy a full-featured GSM network with less capital and operational expenses than traditional buildouts . . . .").

[33] *See Rural NPRM*, 18 FCC at 20809-11 ¶¶ 10-12.

[34] *See id.* at ¶ 10.

[35] *See id.* at ¶ 12.

[36] *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*). This definition was first suggested by a participant at the Commission's CMRS Competition Report Public Forum held in February 2002. *See* Commercial Mobile Radio Services (CMRS) Competition Report Public Forum <http://wireless.fcc.gov/cmrs-crforum.html> for access to participants' presentations and forum transcript. 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> (Transcript).

[37] *See Eighth Competition Report* at 14837 ¶ 114; *Seventh Competition Report* at 13023.

Department of Commerce's Bureau of Economic Analysis;[38] (4) the definition for "rural" used by RUS for its broadband loan program;[39] (5) the definition for "rural area" used by the Commission in connection with universal service support for schools, libraries, and rural health care providers;[40] (6) the definition of "rural" based on census tracts as outlined by the Economic Research Service of the USDA;[41] (7) the Census Bureau definition of "rural" counties;[42] and (8) any census tract that is not within 10 miles of any incorporated or census-designated place containing more than 2,500 people, and is not within a county or county equivalent that has an overall population density of more than 500 persons per square mile of land. To the extent that commenters believed that none of the eight definitions provided in the *NPRM* are appropriate, the Commission asked commenters to identify specific, quantifiable factors that the Commission should consider when determining whether an area is a "rural area."[43]

10. *Discussion.* We conclude that it is appropriate to establish a baseline definition of "rural area" for purposes of our regulatory policies. Rather than discussing "rural areas" in abstract terms, we believe that a baseline definition will provide clarity in situations where the Commission does not otherwise specifically designate an alternative definition. As noted in the *Rural NPRM*, we believe that some clarification of the term is necessary in order to ensure that our policies are appropriately tailored to promote service to consumers in rural areas and ensure uniform understanding of how our regulatory proposals will be implemented and evaluated. In addition, by adopting a baseline definition of "rural area," we can facilitate the evaluation of our rural-oriented policies. By providing continuity with respect

[38] 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.

[39] *See* 7 C.F.R. § 1738.2. A rural area, as characterized in RUS loan programs, is any incorporated or unincorporated place in the United States, its territories and insular possessions (including any area within the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau) that: (1) Has no more than 20,000 inhabitants based on the most recent available population statistics of the Bureau of the Census and (2) Is not located in an area designated as a standard metropolitan statistical area.

[40] *See* 47 C.F.R. § 54.5. As applied to the Universal Service Program, a "rural area" is a nonmetropolitan county or county equivalent, as defined in the Office of Management and Budget's (OMB) Revised Standards for Defining Metropolitan Areas in the 1990s and identifiable from the most recent Metropolitan Statistical Area (MSA) list released by OMB, or any contiguous non-urban Census Tract or Block Numbered Area within an MSA-listed metropolitan county identified in the most recent Goldsmith Modification published by the Office of Rural Health Policy of the U.S. Department of Health and Human Services.

[41] *See* <http://www.ers.usda.gov/briefing/rural/data/desc.htm>. This definition was developed to assist with analyzing U.S. settlement systems. *See* <http://www.ers.usda.gov/briefing/rurality/RuralUrbanCommutingAreas>.

[42] 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.

[43] *Rural NPRM* at 20811 ¶ 12.

to the meaning of a "rural area," we can form a basis for comparison of the effects of our "rural area" policies over time.

11. We establish a baseline definition of "rural area" as those counties (or equivalent) with a population density of 100 persons per square mile or less, based upon the most recently available Census data. The Commission first used this definition as a proxy definition in its annual CMRS Competition Report for purposes of analyzing the average number of mobile telephony competitors in rural versus non-rural counties. Our decision to adopt this specific definition over other possible definitions is based on several factors. In order to apply a specific definition to Commission policies, it is important that we not make the definition difficult to administer, or so narrowly tailored to only include what many refer to as the most rural areas. We believe this definition achieves an appropriate balance. As noted in the *Rural NPRM*, definitions based on county boundaries are easy to administer and understand, population data based on county boundaries are widely available to the public,[44] and county boundaries rarely change.[45] Moreover, the total population of the counties that fall within this definition of "rural area" closely tracks the Census Bureau's overall population for non-urban areas; accordingly, although we do not adopt the same definition for "rural area" as the Census Bureau, we believe that we are targeting the same general population. This definition encompasses 2,331 U.S. counties with a total population of approximately 60 million people. These figures, based on the 2000 Census, correspond to approximately 72 percent of all U.S. counties and 21 percent of the total U.S. population.[46] Many commenters support our decision to adopt a definition of a rural area, and several commenters specifically support our decision to adopt a definition based on county boundaries.[47] RCA and Blooston both indicate that for purposes of imposing and administering operational requirements that counties with a population density of 100 persons per square mile or less would be an appropriate definition of a rural area.[48]

12. We recognize, however, that the application of a single, comprehensive definition for "rural area" may not be appropriate for all purposes. Indeed, the Commission stated in the *Rural NPRM* that there may be potential drawbacks of adopting a definition based solely on county boundaries,[49] and a

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[44] For example, this information is available to the public on the Internet. *See*: <http://quickfacts.census.gov/qfd/>; <http://www.census.gov/prod/cen2000/index.html>.

[45] *Rural NPRM*, 18 FCC Rcd at 20811 ¶ 12. The Census Bureau states that, "because states, counties, and statistically equivalent entities are an integral part of many Census Bureau data presentations, they occupy a prominent position in the hierarchy of the basic geographic entities. Therefore, a major responsibility of the Census Bureau is to maintain accurate maps and records of the boundaries and names of these entities, and to identify their populations and other data items correctly." The Census Bureau also notes that, "the boundaries of the primary governmental divisions of the United States, States, counties, and their statistical equivalents, generally are static and change only rarely." *See* "States, Counties, and Statistically Equivalent Entities," <http://www.census.gov/geo/www/GARM/Ch4GARM.pdf>, visited June 14, 2004.

[46] *See* <http://wireless.fcc.gov/resources/ruralarea> (providing a list of counties/county equivalents, including among other things, total population and population density for each area that meets this default definition of a "rural area").

[47] *See* Blooston Reply Comments at 2; CTIA Comments at 4; RCA Comments at 5.

[48] *See* Blooston Reply Comments at 2; RCA Comments at 5.

[49] *Rural NPRM*, 18 FCC Rcd at 20811 ¶ 12.

few commenters similarly expressed concerns that a single definition will not suit all situations.[50] As noted in the *Rural NPRM*, there are several well-established definitions for "rural" utilized by federal agencies, and the Commission itself has employed different proxy definitions of "rural" in various proceedings.[51] We realize that definitions of a "rural area" previously adopted were tailored to specific policies, and that the 100 persons per square mile or less definition may not be a suitable alternative in all cases. We believe, therefore, that applying a comprehensive definition of "rural" to all policies as advocated by Southern LINC is not warranted and may instead have unintended results.[52] Rather than establish the 100 persons per square mile or less designation as a uniform definition to be applied in all cases, we instead believe that it is more appropriate to treat this definition as a presumption that will apply for current or future Commission wireless radio service rules, policies and analyses for which the term "rural area" has not been expressly defined. By doing so, we maintain continuity with respect to existing definitions of "rural" that have been tailored to apply to specific policies, while also providing a practical guideline.

B. Facilitating Access to Spectrum

13. Entities seeking to serve rural areas can be prevented from doing so by lack of access to spectrum that has not yet been made available by the Commission or that is held by others in such areas. We do not believe spectrum is overly congested in rural areas, as demand for spectrum in rural areas will in many cases be less than demand in suburban or urban areas.[53] However, we regularly hear from rural carriers that they are unable to gain access to spectrum in rural markets, notwithstanding their interest and the presence of unused spectrum in the market.[54] We therefore review our policies that affect access to spectrum – including initial licensing determinations, subsequent regulatory oversight of the secondary market, and our re-licensing policies – to ensure that our policies facilitate access to spectrum in rural areas.

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[50] *See* ITA Comments at 5; Itron Comments at 5-6. In its comments, Itron notes anomalies that may arise as a result of adopting a county-based definition for "rural area." Itron states that population in counties may be unevenly distributed, such that a more populated center may nevertheless be classified as part of a rural county. Itron also states that counties are unevenly sized, such that a county on the East coast is generally a smaller geographic area than in the remainder of the country. *See* Itron Comments at 5-6. Itron also indicates that the use of a county-based definition could present implementation problems for utility companies that use Automatic Meter Reading (AMR) devices that operate on unlicensed frequencies. Itron states that AMR systems encompass wide areas that include both rural and urban areas, and that it could lose operating efficiencies if utilities must operate multiple AMR systems to accommodate higher-power unlicensed devices in rural counties and lower-power unlicensed devices in urban counties. *Id.* at 6.

[51] *Rural NPRM*, 18 FCC Rcd at 20809 ¶ 10. For example, the Commission, as noted, uses a specific definition of a rural area in connection with administering universal service support programs for schools, libraries, and rural health care providers. *See* 47 C.F.R. § 54.5.

[52] *See* Southern Linc Reply Comments at 2 – 4.

[53] CTIA Comments at 7 (a shortage of available spectrum has not been shown to be a significant obstacle to the deployment of wireless service to rural areas); Nextel Communications Reply at 2 (no evident access to spectrum problems in rural markets).

[54] *See, e.g.*, Blooston Comments at 9 (does not seem to be an absence of knowledge about what spectrum is unused in rural areas, so much as there is are obstacles to obtaining and using this spectrum).

14. In the following paragraphs, we focus on facilitating opportunities for entities seeking to serve rural areas to acquire spectrum both through initial licensing and through secondary market transactions. We believe that the approach we take in this proceeding will promote service in rural areas, consistent with market-based policies that have encouraged wireless carriers to increase capital spending on equipment and other infrastructure.[55] One of our key objectives is to ensure that carriers that seek to serve rural areas are not prevented from doing so either because they lack of access to adequate spectrum or because those that already have such spectrum lack adequate economic or regulatory incentives to share it. Moreover, we want to do what we can to ensure that spectrum rights flow to those who are willing and able to put the spectrum to use in rural markets. We recognize that this approach is not a panacea. Even where spectrum access is not a barrier to entry, there will be certain rural areas that are very difficult to serve because of high equipment costs, low population density, or other economic factors. Instead of attempting at this time to dramatically manipulate market-based spectrum policies that have yielded tremendous benefits in prices and services for the overwhelming majority of American consumers, we believe the better approach is to gain more experience with secondary markets and to seek additional comment in our *Further Notice* on measures to promote the provision of service in these high-cost and underserved areas by either existing carriers or new entrants.[56]

15. In the sections that follow, we explain how our initial definitions of spectrum licenses, along with our commitment to make substantial amounts of spectrum and licenses available,[57] should facilitate access to spectrum in rural areas. To facilitate such access, we will determine the size of geographic service areas on a service-by-service basis and create opportunities for small service areas as appropriate. In addition, we will continue our commitment to flexible secondary market policies that facilitate post-auction access to spectrum. We also seek comment in our *Further Notice* on additional steps that we might take to promote spectrum access. Our goal is to ensure that the highest valued use of spectrum is not affected significantly by regulatory methodologies that may artificially constrain the choice of the technology used and services provided.

1. Size of Geographic Service Areas

16. *Background*. For many wireless services, the Commission has adopted geographic-area

[55] *See Eighth Competition Report*, 18 FCC Rcd at 14818-19 ¶ 70 (while noting an apparent decline in wireless industry capital spending between 2002 and 2003, citing one report that, since 1996, capital spending on wireless networks has grown at nearly three times the rate of growth of spending on wireline and a second report that in 2002 such carriers spent more on capital expenditures than in any year with the exception of 2001).

[56] We also note that providing incentives for existing carriers and new entrants to serve areas that they would not otherwise serve (or sooner than they would) is one objective of the Commission's Universal Service Fund proceeding. *See, e.g.,* Federal State Joint Board on Universal Service, CC Docket No. 96-45, *Report and Order*, 12 FCC Rcd 8776, 8880 (1997) (encouraging state commissions to designate service areas that require incumbent local exchange carriers to service areas that they have not traditionally served). In addition, we address competition in rural markets in our annual report on the state of CMRS competition (*see, e.g., Eighth Competition Repor*t, 18 FCC Rcd at 14834-38 ¶ ¶ 107-121).

[57] *See, e.g.*, Automated Maritime Telecommunications System Spectrum Auction Schedule for September 15, 2004, *Public Notice*, DA 04-1513 (May 26, 2004); Broadband PCS Spectrum Auction Scheduled for January 12, 2005, *Public Notice*, DA 04-1639 (June 18, 2004).

licensing.[58] In contrast to site-based licensing, geographic-area licensing provides licensees with flexibility to respond to demand within a geographic market without the need for additional licensing or authorization by the Commission.[59] When determining the size of geographic service areas, the Commission, after seeking comment, considers a number of factors including the nature of the service or services to be provided and the likely users. The Commission has designated various sizes of geographic service areas in order to encourage participation in spectrum auctions and to facilitate deployment of wireless services.[60]

17. The Act directs the Commission to design competitive bidding systems to promote "economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by minority groups and women."[61] Thus, the determination of geographic area sizes becomes an integral part of a system designed to disseminate licenses for a broad array of uses.

18. In the *Rural NPRM*, the Commission requested comments on the appropriate size of geographic markets in rural areas. The Commission recognized that the initial size of geographic service areas plays an important role in providing the requisite access to spectrum that would stimulate competition and result in greater wireless services in rural areas.[62] The Commission stated that it intends to continue establishing geographic areas on a service-by-service basis, and sought comments on this

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[58] *See, e.g.*, Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, *Report and Order*, 18 FCC Rcd 25162, 25175-77 ¶¶ 35-40 (2003) *reconsideration pending* (*AWS 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, 1058-62 ¶¶ 89-96, *reconsideration Memorandum Opinion and Order*, 17 FCC Rcd 11613 (2002) (*Lower 700 MHz Report and Order*).

[59] *See Lower 700 MHz Report and Order*, 17 FCC Rcd at 1058-59 ¶ 89 & n. 256.

[60] The smallest geographic service areas licensed by the Commission are RSAs and Metropolitan Statistical Areas (MSAs), of which there are 734 licenses comprising the U. S. and its territories. MSAs and RSAs are collectively known as "Cellular Market Areas" (CMAs). Spectrum also has been licensed based on Economic Area Groupings (EAGs), which consist of six licensing areas for the entire country. Some terrestrial wireless services, such as narrowband 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), EAs, and Major Economic Areas (MEAs). *See* Summary of Completed Auctions, *available at* <http://wireless.fcc.gov/auctions/summary.html#completed> (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 (123d ed. 1992).

[61] 47 U.S.C. § 309(j)(3)(B). The Commission is to prescribe area designations and bandwidth assignments that promote (i) an equitable distribution of licenses and services among geographic areas, (ii) economic opportunity for a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women, and (iii) investment in and rapid development of new technologies and services. *Id.* § 309(j)(4)(C).

[62] *See Rural NPRM*, 18 FCC Rcd at 20833-37 ¶ 63-71 (noting efficiency of spectrum use, competition among providers, and advancing rural wireless services).

approach.[63] The Commission also emphasized the importance of selecting appropriate sized geographic service areas for reducing transaction costs that providers may incur if it becomes necessary to aggregate or disaggregate spectrum, or negotiate in secondary markets, in order to meet spectrum needs.[64]

19. *Discussion*. Based on our experience in past proceedings and the record established in this one, we conclude that maintaining the flexibility to establish geographic areas on a service-by-service basis and promoting the use of a variety of service areas, including small areas such as MSAs/RSAs, are in the public interest. By adopting this framework, we seek to promote service in rural areas, encourage the efficient utilization of spectrum, and to make spectrum and licenses available to a wide array of licensees, including rural providers. Furthermore, we believe that this approach provides flexibility, while providing an opportunity for spectrum to be made available over small areas such as MSAs/RSAs depending on the record and other considerations relevant to the specific spectrum, thereby increasing the likelihood of service to rural markets.

20. Comments in the record support this approach. For instance, some parties commented that the Commission should maintain the flexibility to license on a service-by-service basis to address the particular needs of those services.[65] Comments generally indicated support for the use of various license area sizes to help provide access, including small areas such as MSAs/RSAs[66] and county-sized areas,[67] as well as a mixture of different sizes.[68] T-Mobile comments that the Commission should be careful about providing for smaller geographic market areas.[69] Some comments reflect disagreement with respect to the success of current partitioning and disaggregation rules relative to the deployment of wireless services in rural areas.[70]

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[63] *Id.* at 20836 ¶ 68.

[64] *Id.* at 20833-34 ¶¶ 63-64.

[65] Nextel Partners Reply Comments at 14; *see* AT&T Wireless Reply Comments at 6-7 (commenting that a one-size-fits-all approach undermines ability to ensure efficient spectrum use).

[66] *See* OPASTCO/RTG Comments at 7, OPASTCO/RTG Reply Comments at 8, Blooston Comments at 20, Blooston Reply Comments at 11, and USCC Comments at 4; *see also* RCA Comments at 11 (commenting that all licenses offered in auctions should be MSA/RSA-sized).

[67] Southern LINC Comments at 10; *see* UTStarcom Comments at 11.

[68] Blooston Reply Comments at 10-11, CTIA Comments at 11.

[69] *See* T-Mobile Reply Comments at 5-6 (commenting that service plans consumers want can only be delivered efficiently by carriers with national license footprints).

[70] *Compare* AT&T Wireless Comments at 4-5 (commenting that the ability to partition and disaggregate spectrum has allowed it to conduct transactions with other entities to expedite deployment of service in rural areas) *with* Blooston Comments at 11-12 (commenting that partitioning and disaggregation rules have been largely unsuccessful in assisting rural telephone companies and small businesses to enter the wireless business) *and* OPASTCO/RTG Comments at 10-11 (commenting that due to the small number of licenses that have been partitioned and/or disaggregated, the Commission's reliance on partitioning and disaggregation to stimulate the growth of rural markets is misplaced). "Partitioning" is the assignment of geographic portions of a license along geopolitical or other boundaries. "Disaggregation" is the assignment of discrete portions of "blocks" of spectrum licensed to a geographic licensee or qualifying entity. Disaggregation allows for multiple transmitters in the same

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21. The approach we adopt today will afford us with the flexibility necessary to tailor the size of licensed areas to balance the needs of the different prospective users of the spectrum together with other factors, including the unique characteristics of that spectrum. We believe that this approach will provide incentives for the provision of advanced applications and service offerings in rural areas.

22. *Service-by-Service Determination in Future Proceedings*. Consistent with our tentative finding in the *Rural NPRM*, we intend to continue a service-by-service approach in defining the initial scope of licenses in the future. We find that this approach is the best method to provide carriers adequate access to spectrum, including spectrum in rural areas, and is consistent with the methodologies used in prior proceedings.[71]

23. A service-by-service approach is consistent with our statutory mandate as well.[72] For services subject to auction, 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."[73] The flexibility afforded by a service-by-service approach permits us to balance our various obligations. For example, promoting efficient and intensive use of the spectrum may require the use of large spectrum blocks or service areas to achieve economies of scale, which in turn may conflict with promoting opportunities for small businesses and rural service providers that may require smaller spectrum blocks. Moreover, parties within the same geographic areas may have competing interests. In this regard, the flexibility afforded by a service-by-service approach allows the Commission to consider the extent to which multiple licenses and different sizes of geographic areas should be made available to promote competition within the market.[74] This approach also permits the

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geographic area operated by different companies on adjacent frequencies. *See AWS Report and Order*, 18 FCC Rcd at 25193 n. 203.

[71] *See, e.g., AWS Report and Order*, 18 FCC Rcd at 25175-77 ¶¶ 35-40 (licensing bands using a range of geographic licensing areas in order to maintain maximum flexibility); *Lower 700 MHz Report and Order*, 17 FCC Rcd at 1058-62 ¶¶ 89-96 (adopting a combination of large regional areas and small geographic areas based on record).

[72] In addition, a number of commenters indicate a preference for a service-by-service approach. *See* USCC Comments at 2-4 (commenting that approach would balance the competing needs of providers); CTIA Comments at 11 (commenting that design of service areas will vary depending on characteristics of specific block); AT&T Wireless Comments at 9 (commenting that approach is necessary to ensure that the technical and other requirements specific to the various services can be met); Nextel Partners Reply Comments at 14 (agreeing with AT&T Wireless). Comments also suggest that the Commission take affirmative steps to assure that there will be the opportunity for spectrum to be available for service to rural areas. *See* NTCA Comments at 6-8 (asking that presumption be created that spectrum will be licensed according to small geographic areas); OPASTCO/RTG Comments at 7, Reply Comments at 8 and Blooston Comments at 20-22 (commenting that at least one spectrum block in each newly allocated wireless service be reserved for licensing in MSAs/RSAs).

[73] 47 U.S.C. §§ 309(j)(3)(A),(D).

[74] For example, the Commission has assessed the use or uses to which spectrum is likely to be put and determined the geographic scope of licenses that, based on the record in the specific proceeding, would best facilitate rapid deployment of services. *See, e.g.*, Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, *First Report and Order*, 15 FCC Rcd 476, 500 ¶ 57

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Commission to consider the use of large service areas if necessary to provide for quicker build-out of facilities and deployment of new and innovative wireless services. In some instances, the adoption of larger areas may be more effective than the use of smaller areas where spectrum use is to be transitioned to new services. In these circumstances, the availability of licenses based on larger service areas may result in a quicker and more successful transition throughout the nation and thus enable the development and deployment of such new services.

24. Another important element of a service-specific methodology is that it takes into account any technical considerations associated with particular spectrum. For example, questions of whether and when new technologies would use the spectrum, and how much spectrum would be required for any such new technologies, may be considered in determining the appropriate geographic areas for a particular service.[75] In addition, a service-by-service approach would allow the Commission to determine whether propagation characteristics in a particular band would make it more or less conducive to business models that are built on serving customers over a particular size of service area.[76] This approach would help us to promote investment in and the rapid development of new technologies and services.[77]

25. We also find that a service-specific approach allows us to consider the appropriate size of each future service area in the context of geographic partitioning and spectrum disaggregation rules. Geographic partitioning and spectrum disaggregation are available to promote efficient spectrum use and economic opportunity by a wide range of applicants, including rural telephone companies.[78] A service-by-service approach permits the Commission to structure service areas in light of potential costs relating

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(2000). In the *AWS Report and Order*, the Commission observed that including EAs and Regional Economic Area Grouping (REAGs) in the band plan would provide licensees with the ability to form specific service territories, or provide an existing service provider an opportunity to acquire a licensing area in order to supplement existing spectrum holdings. *AWS Report and Order*, 18 FCC Rcd at 25176 ¶ 37. With respect to smaller service areas, the Commission observed that the inclusion of MSAs and RSAs in that licensing scheme would permit rural telephone companies and small service providers that have localized business plans to have various options, including the potential to combine several MSAs/RSAs if necessary. *See id*. at 25176-77 ¶ 39. In the *Lower 700 MHz Report and Order*, the Commission assigned some licenses over MSAs and RSAs, and found that the smaller areas may correspond to the needs of customers of small and rural providers. *Lower 700 MHz Report and Order*, 17 FCC Rcd at 1061-62 ¶ 96. *See also* 47 C.F.R. § 27.6(c) (identifying service areas for the 698-746 MHz band).

[75] *See* 47 U.S.C. § 309(j)(4)(C). The Commission has sought to make spectrum available for a variety of new technologies and providers. *See, e.g.*, Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, *Policy Statement*, 14 FCC Rcd 19868, 19879-80 ¶ 25 (1999) (*Spectrum Policy Statement*); *Lower 700 MHz Report and Order*, 17 FCC Rcd at 1061-62 ¶ 96; and Modification of Parts 2 and 15 of the Commission's Rules for unlicensed devices and equipment approval, ET Docket No. 03-201, *Report and Order*, FCC 04-165 (rel. July 12, 2004).

[76] *See, e.g.*, *Lower 700 MHz Band Report and Order*, 17 FCC Rcd at 1061 n. 273.

[77] *See* 47 U.S.C. § 309(j)(4)(C).

[78] *See AWS Report and Order*, 18 FCC Rcd at 25193 ¶ 80.

to aggregation, partitioning and disaggregation for the particular spectrum.[79] The Commission can consider whether potentially high transaction costs can be avoided by allowing the initial service areas to be sized in order to meet the needs of the service providers that want to use that spectrum.[80]

26. The continued use of service-specific determinations of appropriate geographic area sizes corresponds with the opportunity for parties to take advantage of our secondary markets leasing rules.[81] Even if the market size or sizes that we adopt in a particular proceeding are not necessarily the optimal size to meet the objectives of all potential users, small carriers are still afforded the opportunity to access appropriately sized market areas through spectrum leasing. In the *Secondary Markets Report and Order*, the Commission stated that facilitating the development of secondary markets enhances and complements several of the Commission's major policy initiatives and public interest objectives, including enabling the development of additional and innovative services in rural areas.[82]

27. AT&T Wireless comments that the establishment of a secondary market in spectrum will "promote the availability of wireless service in rural areas."[83] CTIA states that the operation of the secondary markets rules, together with the ability of parties to partition and disaggregate service areas, will "allow the market to determine the most efficient license size, and permit carriers to react to new technologies and service offerings."[84] We find that the continuing development of the benefits associated with the secondary markets policies and rules complements a service-specific approach to determining the appropriate size or sizes of geographic service areas.

28. We also note that a service-specific approach permits the Wireless Telecommunications Bureau (Bureau) to consider whether any particular auction methodology should be employed in light of the decisions that are made regarding the scope of licenses for that spectrum. For example, certain comments address the potential for use of package bidding.[85] In order to maintain maximum flexibility

[79] Geographic partitioning and spectrum disaggregation can result in transaction costs. *See* NTCA Comments at 7-8 (commenting that transactional and other costs are associated with partitioning and disaggregation). Transaction costs can include engineering, legal, and management expenses associated with aggregation, disaggregation, or partitioning of spectrum.

[80] With respect to particular spectrum, the Commission has found that the use of a single, large geographic license size could lead to disaggregation and partitioning costs after the auction, whereas the availability of only small geographic licenses at auction could result in aggregation costs either during or after the auction. *AWS Report and Order*, 18 FCC Rcd at 25176 ¶ 36.

[81] *See infra* Section III.B.2..

[82] *See generally Secondary Markets Report and Order,* 18 FCC Rcd at 20607 ¶ 2. The Commission observed that a substantial amount of spectrum is underutilized in rural areas, and stated that "[f]acilitating the ability of rural telephone companies and other entities to gain access to spectrum usage rights so that they can provide new and advanced services to rural consumers should help our efforts to promote the further development and delivery of spectrum-based services to rural communities." *Id.* at 20626 ¶ 45 (footnote omitted).

[83] AT&T Wireless Comments at 2.

[84] CTIA Comments at 11 n. 24.

[85] *See id.* at 11 (balanced approach to determining size of service areas may lead to aggregation of spectrum during auction process through use of package bidding), Southern LINC Comments at 11 (Commission should permit aggregation of geographic area licenses using package bidding). Package bidding allows bidders to submit

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with respect to removing barriers to spectrum, however, no particular form of auction design will be endorsed at this time, including the use of package bidding. Rather, consistent with our statutory obligations and with our actions in the past, the Bureau will seek comment on auction-related procedural issues, including auction design, prior to the start of the auctions for the individual spectrum.[86] This will provide an opportunity to weigh the benefits and disadvantages of any particular bidding design prior to the start of the auction, and will permit the auction procedures to be structured, if necessary, to center on matters that may be of particular concern to the likely participants in the auction and to the spectrum use, including the number of licenses to be auctioned, the number of spectrum blocks, and the size of the geographic service areas.

29. A number of commenters support the availability of smaller geographic service areas to help ensure that services are made available in rural areas.[87] One commenter asserts that all licenses should be based on MSAs/RSAs;[88] many others seek a licensing approach that would provide for some MSA/RSA sized units,[89] while others recommend the use of even smaller areas such as those that would be based on counties.[90] T-Mobile urges a cautious approach to setting license size, noting the transaction costs and network integration issue that faced cellular and PCS carriers in attempting to establish national footprints. Its experience suggests that consumers, including those in rural areas, want national service and pricing plans which "can only be delivered efficiently by carriers with national license footprints."[91] Some comments contend that a mixture of service area sizes should be adopted.[92]

30. In conclusion, we decline to adopt any particular size of geographic service area for future licensing at this time. Rather, as we state above, we believe that the existence of such a wide range of comments and views make it all the more appropriate for us to consider issues relating to spectrum access and the scope of licenses for particular spectrum in the context of proceedings to establish rules for the use of that spectrum. We believe that this methodology offers the opportunity for parties that would actually want to be involved with the use of that spectrum to target specific issues relating to adoption of the band plan that will help to remove barriers to entry and increase access to the spectrum.

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all-or-nothing bids on combinations of geographic areas or spectrum blocks in addition to bids on individual licenses or authorizations. *See Rural NPRM*, 18 FCC Rcd at 20837 ¶ 70.

[86] *See, e.g.*, *AWS Report and Order*, 18 FCC Rcd at 25173-74 ¶ 29.

[87] *See* NTCA Comments at 6-8, UTStarcom Comments at 11-13, Blooston Comments at 20-22, Blooston Reply Comments at 10-11, OPASTCO/RTG Comments at 7, OPASTCO/RTG Reply Comments at 7-8, CTIA Comments at 11, RCA Comments at 11.

[88] RCA Comments at 11.

[89] *See* Blooston Comments at 20-22, Blooston Reply Comments at 10-11, OPASTCO/RTG Comments at 7, OPASTCO/RTG Reply Comments at 7-8, CTIA Comments at 11.

[90] *See* Southern LINC comments at 10 (favoring use of county-sized areas), UTStarcom Comments at 11-12 (use geographic areas that are smaller than previously employed, *e.g.*, county-sized).

[91] T-Mobile Reply Comments at 5-6.

[92] CTIA Comments at 11, Blooston Comments at 21, OPASTCO/RTG Reply Comments at 7-8.

31. *Multiple Licensing; Opportunities for Providers in Small and Rural Areas.* In our service-by-service evaluations, in certain circumstances we have determined that it is appropriate to license different market sizes. For example, for AWS in the 1.7 GHz and 2.1 GHz bands, the Commission licensed the bands using a range of geographic licensing areas in order to maintain maximum flexibility.[93] That band plan spreads licenses over various blocks of spectrum and uses EAs, REAGs, and a block with 734 licenses based on RSAs/MSAs. The Commission noted the competing needs of parties that sought large and small areas, as well as a combination of large and small geographic licensing areas, and found that there was sufficient spectrum to meet the competing need for both large and small areas.[94] The Commission determined that using a varied selection of areas will foster service to rural areas and promote the policy goal of disseminating licenses among a wide variety of applicants.[95] The Commission stated further that these smaller service areas "provide entry opportunities for smaller carriers, new entrants, and rural telephone companies."[96] Assignment of a variety of licenses will also provide flexibility in service offerings, for example, where the use of MSAs and RSAs in conjunction with other sized license areas may allow licensees to focus on consumers that require localized use without the need for roaming service.[97] Further, some comments on the *Rural NPRM* state that providing a combination of license sizes, together with the availability of secondary markets and partitioning and disaggregation rules, will permit parties to react to new technologies and service offerings.[98] In future proceedings, where we determine the size of service areas on a service-by-service basis, we will consider licensing the spectrum over a range of various sized geographic areas, including smaller service areas such as MSAs/RSAs, where consistent with the record in that proceeding and with other factors that may be relevant to the spectrum.

2. Re-licensing vs. Market-Based Mechanisms

32. *Background*. In an effort to increase access to assigned spectrum, the Commission sought comment on when, and under what circumstances, it should apply re-licensing provisions to prospective spectrum designations.[99] The Commission did not propose to change the licensing provisions for current wireless services, but rather chose to evaluate whether it should use re-licensing as a means to increase access to spectrum, and thus service, especially in rural areas and whether, in the event of such re-licensing, there are particular construction standards, such as "complete forfeiture" or "keep what you use" that are most effective in promoting access and service in rural areas.[100]

33. The Commission explained that one reason it adopted its *Secondary Markets Report and*

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[93] *See AWS Report and Order*, 18 FCC Rcd at 25175-77 ¶¶ 35-39.

[94] *Id.* at 25175 ¶ 35.

[95] *Id.*

[96] *Id.* at 25177 ¶ 39.

[97] *Lower 700 MHz Report and Order*, 17 FCC Rcd at 1061-62 ¶ 96.

[98] *See* CTIA Comments at 11 & n. 24.

[99] *Rural NPRM*, 18 FCC Rcd at 20811-17 ¶¶ 13-30.

[100] *Id.* at 20816-17 ¶¶ 24-26.

Order was to enhance economic opportunities and access for the provision of communications services in rural areas.[101] In that proceeding, the Commission took important first steps to facilitate significantly broader access to valuable spectrum resources. These flexible policies extended the Commission's reliance on the marketplace to expand the scope of available wireless services and devices, with the intent of promoting efficient and dynamic use of spectrum resource for the benefit of consumers throughout the country, including those in rural areas. The Commission also sought further comment on various ways in which it could enhance opportunities for spectrum access, efficiency, and innovation by removing unnecessary regulatory barriers and implementing more market-oriented policies that would facilitate moving spectrum to its highest valued uses.[102]

34. Following the policies adopted in the secondary markets proceeding, the Commission sought comment in the *Rural NPRM* on different mechanisms that could potentially be used to reclaim spectrum and increase access by others, including the cellular "keep what you use" approach and the PCS "complete forfeiture" approach. Currently, the process for reclaiming unused licensed spectrum differs across services.[103] Under the cellular "keep what you use" approach, initial licensees must construct facilities five years from license grant and begin providing service within a predefined geographic service area, after which licensees relinquish their spectrum usage rights to all "unserved areas." For the majority of other geographically licensed services, including PCS, licensees are afforded exclusive rights and a renewal expectancy for the entire authorized area once performance requirements are met, regardless of whether service is provided over the entire authorized area. Failure to meet applicable benchmarks results in forfeiture of the entire license, including the rights to operate any facilities already constructed under the authorization.[104]

35. The Commission explained that once spectrum has been reclaimed there are different approaches to re-licensing that spectrum for use by others. Under the cellular "keep what you use" approach, the unconstructed portions of a market become available for site-based licensing to other parties via the cellular "unserved area" licensing process. In the alternative, the Commission explained that it could create expanded "overlay" rights to unused spectrum, whereby usage rights are auctioned to

[101] *Id.* at 20811-12 ¶ 14.

[102] *Secondary Markets Report and Order*, 18 FCC Rcd at 20687-719 ¶¶ 213-323. *See also*, Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, WT Docket No. 00-230, *Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking*, FCC 04-167 (rel. Sept. 2, 2004) (*Secondary Markets Second Report and Order*, *Secondary Markets Order on Reconsideration*, and *Secondary Markets Second Further Notice*, respectively).

[103] For instance, site-based private land mobile radio licensees generally are given one year to construct particular sites. 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. *See Rural NPRM*, 18 FCC Rcd at 20812 ¶ 15.

[104] 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. 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. *See id*. at 20812-13 ¶ 16.

new licensees.[105] Comment was also sought on alternative mechanisms such as government defined easements to promote access to spectrum in rural areas.[106]

36. To assess how these potential re-licensing mechanisms would work in the context of the Commission's market-oriented policies based on flexible use of spectrum and substantial service performance requirements, the Commission inquired generally as to what constitutes use of spectrum by a licensee.[107] In this context, it sought comment on whether and how to provide a clear definition of "use" for all parties to support policies for access to "unused" spectrum. If a definition of "use" was to be adopted, the Commission explained that licensees that construct facilities or lease their spectrum must understand how use is construed in terms of construction requirements, re-licensing, and other policies that may affect them so that they will know what rights they will retain in the event they do not use their spectrum.

37. *Discussion*. We decline to adopt specific re-licensing rules for future spectrum allocations at this time. We believe our recently-adopted secondary market-based mechanisms should be afforded a greater opportunity to provide access to spectrum in a more efficient manner. After considering the record established in this proceeding,[108] we agree generally with the majority of commenters who support additional time for the development of secondary market mechanisms to move "unused" spectrum from licensees to other entities who place a higher value on use of the spectrum.[109] Because our secondary markets policies are relatively new and the benefits from their implementation have yet to be fully realized, we decline to adopt re-licensing rules for future spectrum allocations at this time.

38. This approach will allow us to examine alternative approaches while we assess the efficacy of our secondary markets initiatives and underlying policies in rural areas. We believe that the flexibility that results from a simplified set of licensing rules gives licensees freedom to determine the choice of technologies and services the market demands and ultimately leads to more efficient spectrum use. Over the last decade, a large percentage of spectrum has been allocated under policies that emphasize flexible use. As in the past, numerous commenters in this proceeding cite the benefits of

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[105] To address issues related to the incumbent licensees in these bands, the Commission explained that it could adopt various policies, including mandatory relocation of incumbents to other bands, grandfathering incumbents in the existing band, or providing incentives for band-clearing. It noted that overlays with relocation of incumbents were used in broadband PCS, while grandfathering of incumbents was used in services such as paging and SMR. *Id.* at 20813 ¶ 17.

[106] *Id.* at 20817 ¶ 30.

[107] *Id.* at 20814-16 ¶¶ 19-23.

[108] *See, e.g.*, Nextel Communications Comments at 15, Southern LINC Reply Comments at 12; *see also* AT&T Comments at 8; CTIA Comments at 8; Cingular Comments at 7-8; Dobson Comments at 10, 15; Nextel Communications Reply Comments at 13; Sprint Reply Comments at 25; T-Mobile Reply Comments at 4; Western Wireless Reply Comments at 12.

[109] Despite concerns that leasing may not facilitate access in rural areas, *see* OPASTCO/RTG Reply Comments at 5, our licensing databases indicate that we are beginning to see leasing activity in the secondary market and we believe that secondary market arrangements should be afforded an opportunity to develop before concluding that these policies are insufficient or comparable to the "Commission's failed partitioning and disaggregation rules." *Id*.

applying such policies to spectrum allocations where licensing rules rely on market-based mechanisms.[110] These flexible allocation policies underlie our goal of creating an efficient secondary market that can move spectrum to its highest valued end use. Our steps to facilitate spectrum leasing in the secondary market, along with many other measures to encourage more efficient use of spectrum, should facilitate greater access to spectrum by better ensuring that licensees face significant opportunity costs when deciding either to use spectrum for themselves or to lease it to others.

39. In addition, we will continue to examine various alternatives for creating incentives to increase the number and/or level of wireless providers and services in rural areas. In particular, we recognize that, after the initial license term, it may be appropriate in some instances to revert to re-licensing along the lines of some of the proposals received so that another carrier has an opportunity to provide wireless services to such areas. In addition, we are exploring approaches that may be more transparent and better aligned with market-based mechanisms than proposals whose implementation might constrain the flexible use policies underlying our secondary market-based initiatives.[111] We will continue to consider the potential use of re-licensing standards (*e.g.,* "keep what you use") in our *Further Notice*, as well as in the context of future service-specific rulemakings.[112]

40. In the *Rural NPRM*, as part of the Commission's consideration of re-licensing versus market-based mechanisms for increasing licensed access to "exclusive use" spectrum, the Commission also sought comment on whether it should consider at this time a more general application of alternative mechanisms for new licensed services, such as government-defined spectrum easements.[113] Given our current efforts to facilitate the development of secondary markets in spectrum usage rights in such

[110] Nextel Communications Reply at 10 (Commission should trust the markets and not micromanage by mandating "forced access"). Market forces help ensure that licensees use their spectrum efficiently and allocate their financial resources wisely. Several commenters caution that replacing market-based policies with regulatory burdens may subject carriers to performance requirements that are not fiscally sound or economically sustainable. *See* AT&T Comments at 7, CTIA Comments at 6, Cingular Comments at 4, Southern LINC Comments at 9, Nextel Partners Comments at 17-19, Southern LINC Reply at 6-7.

[111] Because the economics of providing service can be significantly different in rural areas as compared to urban areas, our market-based policy acknowledges that market characteristics, especially demographics, will affect the optimal provision of service in rural areas. For example, in the *Rural NPRM*, the Commission stated that it sought to facilitate provision of service in rural areas while also accounting for "market realities." *Rural NPRM*, 18 FCC Rcd at 20807 ¶ 7. It also stated that its "policy to let market forces determine the number of firms operating in a given geographic area, subject to limits on spectrum availability and aggregation . . . allows firms to operate at a competitive and efficient scale of operation." *Id.* at 20807 ¶ 6.

[112] As an alternative to "keep what you use," some commenters support the future use of the PCS "complete forfeiture" model. *See, e.g.*, CTIA Comments at 9, Southern LINC Reply Comments at 12.

[113] *See Rural NPRM*, 18 FCC Rcd at 20817 ¶ 30. As used in the *Spectrum Policy Task Force (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 20817 n. 67 (citing Spectrum Policy Task Force Report, ET Docket No. 02-135 at 55, 58 (rel. Nov. 2002) (*SPTF Report*).

spectrum,[114] we believe that we should continue to take steps to facilitate spectrum leasing in secondary markets, and that we should evaluate other access mechanisms in the context of specific service rulemakings. Less than a year has elapsed since our spectrum leasing rules went into effect – a short period of time for an efficient secondary market to develop and for its impact to be seen. As such, any broad evaluation and comparison of secondary markets with the other access mechanisms described in the *Rural NPRM* for new licenses is premature. We note that commenting parties opposed the general imposition of mandatory spectrum easements, many contending that secondary markets have not yet had time to develop.[115] We will, however, continue to evaluate the possible future use of easements in the *Further Notice*.

41. Because we are not adopting any re-licensing policies at this time, we need not define "use" of spectrum.[116] As explained above, we generally believe that by maintaining our flexible, relatively undefined use policy for geographic-area licensees as applicable, we can increase efficient access to and use of spectrum under our secondary markets initiatives that will permit spectrum (and access) to flow to those particular uses that consumers most demand. We note, however, that the definition of "use" will be revisited, should we conclude that re-licensing policies should be adopted as a result of our *Further Notice*.[117] We make clear, however, 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,

[114] In its *Secondary Markets Report and Order*, the Commission took various first steps toward facilitating development of secondary markets in spectrum usage rights. *See Secondary Markets Report and Order*, 18 FCC Rcd at 20607-08 ¶¶ 1-3. Recently, the Commission adopted additional reforms to its rules and procedures to facilitate secondary market transactions. *See Secondary Markets Second Report and Order* at ¶¶ 1-115. In addition, we note that the *SPTF Report* recommended that the Commission consider alternative mechanisms, such as government-defined easements, after there has been sufficient time to consider the effectiveness of this approach. *See SPTF Report* at 67.

[115] *See, e.g.,* AT&T Comments at 8, CTIA Comments at 8, Cingular Comments at 7-8, Dobson Comments at 10, 15, Nextel Communications Reply Comments at 13, Sprint Reply Comments at 25, T-Mobile Reply Comments at 4, Western Wireless Reply Comments at 12. At least one commenter, however, noted that permissive easements would be appropriate. *See* Nextel Communications Reply Comments at 5 (stating that a flexible spectrum policy would permit, but not require, licensees to allow operation of unlicensed devices on their networks).

[116] As a result, it follows that we also are not establishing any specific usage baselines for individual services above which licensees must reach in order to minimally comply with our substantial service policies. *See Rural NPRM* at ¶ 22; *see also* Southern LINC Comments at 5, RCA Comments at 6, Blooston Reply Comments at 3. As we explain below, *see infra* Section III.D.1., however, we are amending our rules to permit certain geographic-area licensees to provide substantial service as a means of complying with their existing construction requirements, along with appropriate rural "safe harbors" to increase certainty and alleviate concerns that the substantial service requirement is overly vague. *See also Rural NPRM*, 18 FCC Rcd at 20813-14 ¶ 18 n.58 (retaining "current bench marks for geographic-area licensees but . . . [adding] a substantial service option to provide such licensees with greater flexibility in meeting their construction requirements"). Accordingly, we disagree with commenters supporting strict reporting guidelines and will continue to rely on current rules that in many cases permit licensees to determine the showings necessary to report their construction. *See e.g.,* OPASTCO/RTG Comments at 6. To the extent that our rules defining protected service areas vary by service, *see Rural NPRM*, 18 FCC Rcd at 20815-16 ¶ 23, we intend to consider harmonizing these regulations across services in a future rulemaking.

[117] *See infra* Section IV.C.2.

will be construed as "used" for the purposes of performance criteria and construction requirements.[118] Further, as we note in our discussion regarding infrastructure sharing arrangements, to the extent that licensees are sharing spectrum usage rights with third parties under spectrum leasing arrangements, such arrangements will be subject to the policies, rules, and procedures set forth in the *Secondary Markets* proceeding.[119] Thus, to the extent that parties enter into spectrum leasing arrangements pursuant to the *Secondary Markets Report and Order,* the applicable policies, rules, and procedures relating to performance, build-out, and discontinuance of service will apply.[120] Finally, consistent with the majority of comments,[121] we also find it premature to establish a data base of available "white space" in rural areas or increase the use of spectrum "audits."[122]

C. Facilitating Access to Capital

42. In order to construct facilities and provide Americans living or traveling in rural areas with important, innovative and advanced services – including such services as broadband, E911, and medical telemetry – wireless licensees must have adequate access to capital resources. We recognize that capital formation issues may be particularly relevant for would-be rural service providers, who may have fewer consumers among whom to spread the costs of providing service. Although we have existing measures to provide funding for deployment in rural areas, such as the Universal Service Fund, we

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[118] This is consistent with the Commission's decision in its secondary markets proceeding. *See Secondary Markets Report and Order*, 18 FCC Rcd at 20655, ¶¶ 114-115. We note that merely leasing spectrum, where the lessee does not fully meet the licensee's performance requirements, would not be considered "use" under this decision. *See, e.g*., RCA Comments at 6. We find the record to be insufficient to declare a policy of regulatory flexibility for system construction extension requests arising from the failure of an unrelated lessee to live up to its contractual obligation. *See* Blooston Reply Comments at 4.

[119] *See infra* Section III.D.3.

[120] *See Secondary Markets Report and Order*, 18 FCC Rcd at 20655 ¶¶ 114-5. RCA and NTCH request that the Commission treat spectrum that is involved in infrastructure sharing arrangements as "in use" for purposes of performance requirements and not subject such spectrum to forfeiture or re-licensing. *See* RCA Comments at 14, NTCH Comments at 5-7. NTCH's proposal contemplates situations including the pooling of frequencies for multiple users to use a large spectrum block, citing 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 MHz Bands ITFS/MDS proceeding, Docket No. 03-66. *See* NTCH Comments at 6. As we state above, licensees and third parties may rely on the policies, rules, and procedures in the *Secondary Markets* proceeding to the extent that licensees are sharing spectrum usage rights with third parties under spectrum leasing arrangements. We further note that other procedures may be available to licensees and other parties that enter into arrangements that directly include the use of licensed spectrum, including the filing of applications pursuant to Section 310(d) seeking full or partial assignments of licenses. *See infra* Section III.D.3.

[121] *See* Blooston Comments at 8-9, CTIA Comments at 7-9 (claiming that the Commission's limited audit resources would be better utilized finding available spectrum in congested areas, rather than in rural areas where spectrum is generally available), Cingular Comments at 5 n.15, Dobson Comments at 14, 17, Nextel Communications Reply Comments at 9, 10 n. 18 (asserting that audits coupled with a take-back program, if appropriate anywhere, would appear to be better suited for use in non-rural markets), Western Wireless Reply Comments at 12. In contrast, ITA supports additional construction and operational status audits, and the development of a "white space" database. *See* ITA Reply Comments at 7-8.

[122] *See supra* note 116 (noting our intent to harmonize regulations across services in a future rulemaking).

recognize that there are additional steps that we can take to facilitate access to capital. In the following sections, we discuss funding resources available through RUS and outline the ways in which we are working together with RUS to promote rural deployment. We also examine and modify our policies governing security interests in FCC licenses. As discussed below, we believe that relaxing our policies to permit licensees to grant RUS a security interest in FCC licenses, conditioned upon the prior approval of any assignment or transfer of control of the license, will permit licensees to take full advantage of the collateral value of their spectrum rights and reduce the risks of lending. We also examine our cellular cross-interest rule and transition to case-by-case review of cellular cross-interests in RSAs. We believe that these actions will facilitate investment and financing opportunities for licensees seeking to provide service in rural areas.

1. Rural Utilities Service (RUS) Loan Programs

43. RUS, through its 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;[123] (3) distance learning and telemedicine loans and grants; (4) weather radio grants; (5) local TV loan guarantees; and (6) digital translator grants. For fiscal year 2004, no less than $2.211 billion in loans is available for the Rural Broadband Access Loan and Loan Guarantee Program, with $2.051 billion for direct cost-of-money loans, $80 million for direct 4 percent loans, and $80 million for loan guarantees.[124]

44. In order to encourage greater access and deployment of wireless services throughout rural America, the Commission's WTB has partnered with RUS to sponsor the "Federal Rural Wireless Outreach Initiative" (FCC/RUS Outreach Partnership).[125] The FCC/RUS Outreach Partnership was announced on July 2, 2003.[126] 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.[127]

45. The *Rural NPRM* sought comment on what, if any, further regulatory or policy changes should be made to complement RUS's Telecommunications Program, and any other method of securing

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[123] RUS implemented the Rural Broadband Access Loan and Loan Guarantee Program in fiscal year 2003. The broadband loan program provides loans and loan guarantees for the construction, improvement and acquisition of facilities and equipment for broadband service in eligible rural communities. 7 C.F.R. § 1738.10(a).

[124] *See* Rural Broadband Access Loans and Loan Guarantees Program, *Notice of Funds Availability*, 69 Fed. Reg. 16231 (Mar. 29, 2004). The funding levels for the 4 percent direct loans and the loan guarantees is derived from the budget authority carried over from prior years' mandatory funding.

[125] *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*).

[126] For an overview of the FCC/RUS Outreach Partnership Kick-Off Event, *see* <http://wireless.fcc.gov/outreach/ruralinitiative/event20030702.html>.

[127] *See Federal Rural Wireless Outreach Initiative News Release.*

financing for rural build out and operations.[128] The Commission requested comment on 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.[129] The Commission noted that an important part of accomplishing this goal is through the promotion of federal government financing programs. The *Rural NPRM* requested comment on how the Commission can assist in making the RUS loan programs more effective.[130] The Commission sought 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.[131]

46. *Discussion*. We believe that the FCC/RUS Outreach Partnership continues to be a useful means of encouraging greater access and deployment of wireless services throughout rural America. Indeed, commenters indicated general support for the FCC/RUS Outreach Partnership as well as the expansion of the initiative to other federal agencies as well as non-governmental entities. While there was support for our rural wireless initiative in general, however, certain commenters expressed concern over RUS loan program rules and policies that they argue are overly burdensome.[132] Commenters request the Commission's assistance in making RUS loan programs more effective, and urged the Commission to adopt policies that will help facilitate access to capital in order to spur rural deployment. For example, Nextel Partners suggested that the Commission as well as other agencies develop a range of grant and loan programs to assist carriers in the provision of mobile wireless services to rural areas.[133] With respect to RUS loan program rules, we note that certain RUS policies are statutorily mandated. To the extent that we can adopt rules or policies that will facilitate the use of RUS loan programs, however, we will do so. For example, as we set out below, we are modifying our policy with respect to the grant of security interests in FCC licenses, which we believe will enable more prospective borrowers to qualify for RUS loans. We will continue to work with RUS and other federal agencies to research and identify rural community wireless telecommunications needs and strive to create program efficiencies that might assist with exploring options to meet those needs. Further, we will continue to work with RUS to develop rural outreach programs, materials and workshops, which provide technical and economic information on telecommunication technologies and funding options. We are pleased to note that commenters have expressed interest in taking part in the FCC/RUS Outreach Partnership.[134] We look forward to future

[128] *Rural NPRM*, 18 FCC Rcd at 20839 ¶ 77.

[129] *Id.*

[130] *Id.*

[131] *Id.*

[132] *See, e.g.,* CTIA Comments at 14-15 (RUS application rules and practices are unnecessarily bureaucratic and, in some cases, clearly favor incumbent rural wireline providers at the expense of new wireless entrants), Nextel Partners Comments at 9-10 (there is a focus on wireline rather than wireless issues, legislative changes should be implemented to allow for a range of grants and loans to wireless carriers for the provision of a wide array of narrowband as well as broadband mobile wireless services), OPASTCO/RTG Comments at 12, Western Wireless Reply Comments at 6 (incumbency protections in the RUS program should be eliminated).

[133] Nextel Partners Comments at 10.

[134] For example, NRTC indicated interest in assisting the Commission and RUS through the FCC/RUS Outreach Partnership, and ITA offered to facilitate information sharing among the private land mobile community from the

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opportunities to work with these parties as part of the FCC/RUS Outreach Partnership and encourage other entities to participate in our ongoing efforts to promote rural wireless deployment.

2. Conditional Security Interests to RUS

47. *Background*. As we noted in the *Rural NPRM*, the Commission's policies with respect to commercial transactions involving FCC licenses have evolved over time.[135] As the Commission has gained experience in regulating wireless licensees and as the wireless marketplace has developed, the Commission's policies with respect to control and capital formation issues have matured. Particularly in the last decade, the Commission has modified its policies to address evolving licensee and consumer needs, while concurrently taking appropriate measures to safeguard its regulatory authority vis-à-vis private licensees and to ensure compliance with its statutory responsibilities. Central to the evolution of these market-oriented policies is the Commission's understanding that, in order for wireless licensees to construct facilities and deploy innovative services to all Americans, wireless licensees must have sufficient access to capital.

48. Although the Commission has increasingly embraced market-based transactions, recognizing the marketplace enables licensees to put spectrum to its highest and best uses, this has not always been the case. As a historical matter, the Commission initially was restrictive in its policies towards market-oriented transactions. For example, the Commission prohibited the sale of bare licenses, basing its position on its interpretation of Sections 301 and 304 of the Communications Act.[136] The Commission stated that "Section 301 and 304 provide, *inter alia*, that licenses issued by the Commission convey no property interest," and that "[t]o allow a permit to be transferred in a situation in which the station seller obtains a profit, prior to the time that programs tests have commenced, would appear to violate this prohibition."[137] The Commission subsequently changed its interpretation of these statutory provisions, however, and has approved the for-profit sale of unbuilt licenses and construction permits for terrestrial wireless, broadcasting and satellite services. In the context of the sale of an authorization of an unbuilt cellular telephone facility, the Commission held that "the plain language of Sections 301 and 304 of the Act does not address the sale of authorizations for stations, whether built or unbuilt, for-profit or not for-profit," but "[r]ather . . . congressional concerns that the Federal Government retain ultimate control over radio frequencies, as against any rights, especially property rights, that might be asserted by licensees who are permitted to use the frequencies."[138] The Commission went on to conclude that the for-

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RUS program or from the FCC/RUS Outreach Partnership. *See* ITA Reply Comments at 10; NRTC Comments at 7.

[135] *Rural NPRM*, 18 FCC Rcd at 20840 ¶ 79.

[136] *See* Revision and Update of Part 22 of the Public Mobile Services Rules, 95 FCC 2d 769, 800-01 n. 31 (1983), on reconsideration, 101 FCC 2d 799 (1985), on further reconsideration, 2 FCC Rcd 1798 (1987); Amendment of Section 73.3597 of the Commission's Rules, *Report and Order*, 52 Rad. Reg. 2d (P&F) 1081, 1089 (1982), on reconsideration, 9 FCC 2d 971(1985).

[137] Amendment of Section 73.3597 of the Commission's Rules, *Notice of Proposed Rule Making*, 47 Fed. Reg. 985, 987 (1982).

[138] Application of Bill Welch, *Memorandum Opinion and Order*, 3 FCC Rcd 6502, 6503 ¶ 10 (1988) (*Bill Welch*). See also 1998 Biennial Regulatory Review - Streamlining of Mass Media Applications, Rules, and Processes,

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profit sale of "whatever rights a permittee has in its license" to a private party, subject to prior Commission approval, would be permissible under these statutory provisions.[139] In 1991, the Commission received a Petition for Declaratory Ruling regarding the grant of security interests in the broadcasting context,[140] and in 1992, the Commission initiated a proceeding in the broadcast context, seeking comment on whether we could improve access to capital by allowing licensees to grant security interests to creditors.[141] In 1994, the Commission found that a "security interest in the proceeds of the sale of a license does not violate Commission policy."[142]

49. Over time, the Commission's policies for all spectrum-based services have evolved to expressly permit 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.[143] Notably, the Commission itself has taken an exclusive security interest in licenses subject to the auction installment payment program and a senior security interest in the proceeds of a sale of an auctioned license. In such circumstances, and subject to the requirements and protections of the security agreements that bind the participants in the installment payment program, the Commission has allowed licensees to provide their lenders a subordinated security interest in the proceeds of a license sale.[144] Furthermore, the Commission continues to develop and evaluate its policies regarding security interests and control of spectrum, in order to ensure that these policies afford licensees sufficient flexibility consistent with the Communications Act to develop and deploy innovative technology and keep pace with ever-changing consumer needs. In its *Secondary Markets Policy Statement*, the Commission considered ways in which licensees may be able to maximize their efficient use of spectrum

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Report and Order, MM Docket No. 98-43, 13 FCC Rcd 23056, 23070 ¶ 30 (1998) ("We affirm the holding in Bill Welch that there is no per se statutory proscription against the for-profit sales of unbuilt stations."); Amendment of the Commission's Space Station Licensing Rules and Policies, *First Report and Order*, IB Docket No. 02-34, 18 FCC Rcd 10760, 10842-43 ¶¶ 217-19 (2003).

[139] *Bill Welch*, 3 FCC Rcd at 6503 ¶ 11.

[140] *See* 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).

[141] 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 ¶¶ 18-23 (1992) (*Broadcast Capital Formation Notice*).

[142] 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*).

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

[144] *See* 47 C.F.R. § 1.2110(g)(3) (requiring execution of promissory note and security agreement as a condition of participation in the installment payment program).

by leveraging "the value of their retained spectrum usage rights to increase access to capital," and indicated its intent to examine Commission policies prohibiting security and reversionary interests in licenses.[145] The Commission noted that it had not yet taken a position on whether its policy towards prohibiting a licensee to give a security interest in the license itself "is statutorily mandated or solely dictated by regulatory policy."[146] In the *Secondary Markets Report and Order*, the Commission found that licensees could enter into certain types of leasing transactions that are not deemed transfers of *de facto* control under Section 310(d) of the Act without prior Commission approval, provided licensees continued to exercise effective working control over the spectrum they lease. The Commission indicated that it was updating its policy for interpreting *de facto* control in the context of spectrum leasing, in order "to reflect more recent evolutionary developments in the Commission's spectrum policies, technological advances, and marketplace trends."[147]

50. In the *Rural NPRM*, the Commission continued its examination of its security interest policies as a means of facilitating access to capital, consistent with its authority under the Communications Act. Specifically, the Commission sought comment on whether permitting licensees to grant security interests in their licenses to RUS would result in lower costs of and greater access to capital. The Commission noted that it would review and require prior Commission approval of an assignment to RUS, in accordance with the Commission's transfer and assignment policies, *before* RUS could assume control of a license. The Commission also sought comment on whether modifying our policy to permit RUS to take a security interest in FCC licenses is a natural outgrowth of Commission and judicial developments, 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. The Commission asked whether a licensee could grant RUS a security interest in an FCC license without compromising the Commission's obligation to maintain control of spectrum in the public interest and completely fulfill its applicable mandates under the Communications Act of 1934, as amended.[148] The Commission sought comment on what the consequences of such a policy shift might be, including what, if any, difference from the perspective of RUS, a third-party lender, or the licensee, there would be on a relaxation of the current security interest policies in the circumstances described above. Finally, the Commission sought comment on a concern that had been raised in the broadcasting context, regarding the independence of broadcast stations and about the ability of creditors to have substantial influence over a borrower station.[149] The Commission asked 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.

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[145] Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets, *Policy Statement*, 14 FCC Rcd 24178, 24187-88 (2000) (*Secondary Markets Policy Statement*).

[146] *Id.* at ¶ 23 n. 35.

[147] *Secondary Markets Report and Order*, 18 FCC Rcd at 20610 ¶ 10.

[148] *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.

[149] *See Broadcast Capital Formation Notice*, 7 FCC Rcd at 2658-59 ¶ 23 (1992).

51. *Discussion*. After careful review of the record, as well as the judicial and regulatory developments of the past decade, we believe that it is appropriate to adjust our policy with respect to the grant of security interests in FCC licenses. Of the comments we received regarding this issue, all but one was in favor of allowing RUS to take a security interest in FCC licenses.[150] As RUS states, "[a]llowing RUS to obtain a security interest in an FCC license will greatly improve loan security and will facilitate the agency's roles in fulfilling the President's goal for the universal deployment of broadband service . . . .."[151] We agree. We therefore modify our policy and permit commercial and private wireless, terrestrial-based licensees to grant security interests in their FCC licenses to RUS, conditioned upon the Commission's prior approval of any assignment or transfer of *de jure* or *de facto* control. A licensee therefore may grant RUS a security interest in its FCC license, provided that the Commission approves the transaction, pursuant to its authority under Section 310(d) of the Communications Act, *before* the secured party can exercise its right to foreclose on the license. We limit this policy change to wireless, terrestrial-based licensees that are within the scope of this proceeding.[152] Further, any security interest granted to RUS must 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 license to the secured party or other person or entity. We also note that, in the case of a licensee operating under the installment payment program, the Commission will retain its exclusive, senior secured position with respect to the license. The Commission also will retain its senior secured position with respect to the proceeds of the sale of such license. Accordingly, we clarify that RUS may not obtain a security interest in an FCC license in instances where the FCC itself is a secured creditor, but may obtain a subordinated interest in the proceeds subject to the requirements of the licensee's installment payment obligations (*e.g.*, those set forth in the security agreement between the licensee and the FCC).

52. We believe that relaxing our security interest policy to permit licensees to grant RUS a conditional security interest in their FCC licenses will greatly enhance the value of a licensee's available collateral by facilitating RUS's ability (as a secured party) to keep the licensees' assets together as a package. As RUS points out, "an operation is much more valuable if there is the ability to sell the operation as a whole instead of liquidating the individual assets in the event of default."[153] Similarly, Blooston notes that "[a]dding the license to the collateral pie will likely reduce the risks of lending, as RUS would be able to keep all of the required elements of a wireless project together as a package."[154] We agree with these assessments and are unpersuaded by RCA's implication that a licensee can maximize the value of its collateral without the license.[155] While we acknowledge that it may be possible for a

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[150] RCA filed comments opposing this proposal. *See* RCA Comments at 12-13.

[151] RUS *Ex Parte* at 1 (*ex parte* filing received May 5, 2004).

[152] *See supra* note 3.

[153] RUS *Ex Parte* at 1. RUS also observes that by keeping the spectrum together with the assets, service to the public may remain uninterrupted during any foreclosure or bankruptcy proceedings, as well as during any restructuring arrangements. *Id.* at 2.

[154] Blooston Comments at 23.

[155] *See, e.g.*, RCA Comments at 13 (contending that "[t]here is no inherent value in the bare license, only in the proceeds of a license sale and lenders already hold the tools necessary to protect their interests and obtain those proceeds"). We also perceive little merit in RCA's argument that "RUS should have no interest in the license *per*

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licensee – primarily through careful corporate structuring – to cobble together a set of interests that it can offer to a lender as security that approximates a security package containing the license, we believe that rural licensees will be much better served if they can approach RUS for financing without having to incur the potentially substantial transactional and other administrative costs that might be necessary to create such a package.

53. The record supports our conclusion that a relaxation of our security interest policy with respect to RUS may measurably increase the financing opportunities of licensees serving the rural population of the United States. As RUS indicates, the possibility of obtaining a security interest in a license may enable RUS to approve some loans that might otherwise be rejected because the applicant cannot produce sufficient collateral.[156] RUS states that "[i]n order to reasonably secure [a] lien, RUS would need either a lien on the licenses or some other asset," and that "[i]n many cases, the loan process is complicated and delayed because of the need to negotiate some other form of collateral when the borrower cannot pledge the licenses as security."[157] RUS states that "without the right to secure an interest in the license granted by the FCC, RUS may have to reject applications for financial assistance that were on the cusp, given that the going-concern value of the borrower's company would have to be lowered in its financial analysis."[158] Blooston also notes that "[h]aving the option to pledge a security interest would lower transactions costs between the lender and borrower, as the borrower will garner greater access to capital, and the RUS could possibly have greater access to secondary loan markets."[159] We disagree with RCA's contention that permitting RUS to obtain a security interest in an FCC license would not enhance RUS financing opportunities while making the RUS lending process more onerous. Based on the record, including the comments of RUS, we believe that relaxing our security interest policy will do the opposite: by permitting RUS to take a conditional security interest in FCC licenses, we can help make the RUS loan process less burdensome and enhance RUS loan opportunities.

54. Our decision to relax the current restrictions on security interests reflects the Commission's increased reliance on market-oriented policies to facilitate and encourage competition. At the same time, limiting this initiative to RUS, as was proposed in the *Rural NPRM*, avoids any suggestion that the Commission's recognition of a third party property interest in an FCC license itself conveys any type of ownership interest prohibited by the Communications Act. Although this relaxation of our security interest policy marks the first time that the Commission has recognized such an interest, the third party involved (RUS) is a federal governmental agency. Thus, we do not believe that anyone – licensees, their lenders, or the courts – would mistakenly construe our action as a retreat from the principle of the Communications Act that the spectrum itself is a public resource and cannot be "owned" or deemed private property. This principle is stated most explicitly in Sections 301 and 304 of the Act. Section 301

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se or in becoming the licensee." *Id*. This argument misses the point: the goal of relaxing the security interest policy in the manner described herein is not to encourage RUS to become a licensee, but to facilitate RUS's ability to lend a sufficient amount of funds to rural licensees, in order to better serve the rural population of our country.

[156] RUS *Ex Parte* at 1; *see also* RUS *Ex Parte* Appendix at 2.

[157] RUS *Ex Parte* at 1.

[158] RUS *Ex Parte* Appendix at 2.

[159] Blooston Comments at 23.

provides for the control of the United States over "all the channels of radio transmission" and for "the use of such channels, but not the ownership thereof, by persons for limited periods of time, under licenses granted by Federal authority."[160] Section 301 also states that "no such license shall be construed to create any right, beyond the terms, conditions, and periods of the license."[161] Section 304 provides that the Commission cannot grant any station license until "the applicant thereof shall have waived any claim to the use of . . . the electromagnetic spectrum as against the regulatory power of the United States."[162] Furthermore, pursuant to Section 310(d), the Commission must review and approve license assignments and transfers of control, assess and confirm the basic qualifications of assignees and transferees, and, more generally, determine whether the transaction in question will serve the public interest, convenience and necessity.[163]

55. In view of the limitations of such provisions as Sections 301, 304 and 310(d), it is clear that the Communications Act prohibits a licensee from "owning" the spectrum it uses, and that the Commission cannot grant, with a license, any such ownership interests. At the same time, however, we recognize that a licensee holds certain "spectrum usage rights," as defined within the terms, conditions, and period of the FCC license at the time of issuance.[164] The Commission has used the security interest prohibition as one bright line to mark off the point at which a licensee's spectrum usage rights end and the government's control of spectrum begins. By permitting RUS – but only RUS – to take a conditional security interest in an FCC license, we maintain the heart of this bright line: *i.e.*, a prohibition on anyone other than the federal government holding a property interest in something as closely associated with spectrum as an FCC license. RUS (like the FCC) is an agency of the United States with a particular mandate from Congress. We believe that permitting it to obtain a security interest in an FCC license will further its mandate and is fully consistent with the view of spectrum as a public resource. Moreover, by conditioning any assignment or transfer of *de facto* or *de jure* control of the license on prior Commission approval pursuant to Section 310(d), we ensure that the Commission retains ultimate control over the spectrum. Thus, the FCC's approval must be obtained before RUS can foreclose on a security interest it may hold in an FCC license or before RUS or any other entity may otherwise obtain control of the license or licensee. As Blooston notes, this prior approval will "satisf[y] [our] Congressional mandate, while at the same time encouraging capital formation in rural areas."[165]

56. We recognize that one could argue that a grant of a security interest in an FCC license does not convey any ownership of spectrum, but rather ownership of the licensee's private spectrum usage rights associated with the FCC license.[166] However, after carefully considering whether this

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[160] 47 U.S.C. § 301.

[161] *Id*.

[162] 47 U.S.C. § 304.

[163] *See* 47 U.S.C. § 310(d).

[164] *See Secondary Markets Policy Statement,* 14 FCC Rcd at 24187 ¶ 22.

[165] Blooston Comments at 23.

[166] *Cf. Bill Welch,* 3 FCC Rcd at 6503 ¶ 11 (finding that Sections 301 and 304 of the Act "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").

argument would support extending the relaxation of our security interest policy to non-United States lenders, we have decided to limit our action to RUS, as stated in the *Rural NPRM*. Thus, we will maintain a bright line prohibition against private (non-government) lenders taking a security interest in an FCC license.

57. As an additional matter, we believe that relaxing our policy to permit the grant of conditional security interests in FCC licenses to RUS is unlikely to result in RUS exercising inappropriate influence over the licensee. We are in agreement with Blooston, which notes that "it is very unlikely that RUS would have an inappropriate influence over the licensee."[167] As noted earlier, licensees may grant security interests in the proceeds of the sale of their licenses, as well as in their assets and stock. We have received no evidence, and we have no reason to suspect, that RUS has used any of these types of transactions, already permitted under our rules and policies, to exercise inappropriate influence over any FCC licensee. In light of these circumstances, we do not believe that permitting a licensee to grant RUS a conditional security interest in the license itself will increase the likelihood of such inappropriate influence.

58. We note that some commenters express concern that modifying our policy to permit RUS to obtain a security interest could impede its ability to obtain financing from other lenders. For example, RCA claims that this policy shift "could inadvertently cause private loans to become so completely subordinated to RUS loans that private capital resources are diminished as a result."[168] Although Nextel supports security interests generally, Nextel states that "RUS should not require such a security interest as a minimum threshold requirement to its loan programs, but only as one of several alternative options to secure the loan obligation."[169] Nextel notes that "[t]his would allow the carrier flexibility in structuring its financing without deterring other, private lenders whose perceived ability to secure their loans might be adversely affected by RUS's priority as a creditor in the license itself."[170] As Blooston states, however, "[p]roviding licensees with the ability to offer their license as collateral would create an opportunity, not a requirement," and "the wireless provider, as in all loan decisions, will initially determine whether the business risks outweigh the benefits of using its license for collateral."[171] Licensees have the option of obtaining financing through RUS; in the event they find RUS's terms unsuitable, they may elect to work with private lenders. Licensees are not required to provide RUS with a conditional security interest, although this modification of our policy permits them to do so, at their option.

3. Cellular Cross-Interest Rule

59. *Background*. To facilitate additional access to capital by cellular carriers in rural areas, the Commission sought comment regarding whether the prohibition against cellular cross-interests in all RSAs remains in the public interest. As set forth in Section 22.942 of the Commission's rules, the prohibition substantially limits the ability of parties to have interests in cellular carriers on different

[167] *See id.* at 24.

[168] RCA Comments at 13.

[169] Nextel Partners Comments at 11-12.

[170] *Id.*

[171] Blooston Comments at 24.

channel blocks in the same rural geographic area.[172] To the extent licensees on different channel blocks have any degree of overlap between their respective cellular geographic service areas (CGSAs) in an RSA,[173] Section 22.942 prohibits any entity from having a direct or indirect ownership interest of more than five percent in one such licensee when it has an attributable interest in the other licensee.[174] An attributable interest is defined generally to include an ownership interest of 20 percent or more or any controlling interest.[175] 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.[176]

60. The Commission consolidated into the instant proceeding two petitions that seek reconsideration of the decision in the December 2001 *Spectrum Cap Sunset Order*,[177] which, on the basis of the state of competition in CMRS markets, sunset the CMRS spectrum cap rule in all markets[178] and eliminated the cellular cross-interest rule in MSAs because cellular carriers in urban areas no longer enjoyed first-mover, competitive advantages.[179] In March 2002,[180] 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 portion of the *Spectrum Cap Sunset Order* that retained the cellular cross-interest rule in RSAs.[181] While the Commission left the cross-interest rule in place in RSAs, it indicated in the

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[172] 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 Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules, CC Docket No. 90-6, *First Report and Order and Memorandum Opinion and Order on Reconsideration,* 6 FCC Rcd 6185, 6228-29 ¶¶ 103-06 (1991) (*Cellular First Report and Order*).

[173] 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).

[174] 47 C.F.R. § 22.942(a).

[175] *Id.* § 22.942(d)(1), (2). Other rules for determining attributable interests are set forth elsewhere in Section 22.942(d). *See id.* §§ 22.942(d)(3)-(9).

[176] *Id.* § 22.942(b).

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

[178] *Id.* at 22669 ¶ 1.

[179] *Id*. at 22707 ¶ 84.

[180] *See* Petitions for Reconsideration of Action in Rulemaking Proceeding, *Public Notice*, Report No. 2540 (Mar. 15, 2002).

[181] Cingular Petition for Reconsideration, WT Docket No. 01-14 (Feb. 13, 2002) (Cingular Petition); Dobson/Western/RCC Petition for Reconsideration, WT Docket No. 01-14 (Feb. 13, 2002) (Dobson/Western/RCC Petition). In addition to incorporating submissions from these parties into the instant

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Spectrum Cap Sunset Order that it would consider waiver requests and reassess the need for the rule at a future date.[182]

61. In the *Rural NPRM*, the Commission made clear that it sought to balance its efforts to remove unnecessary regulatory barriers to financing and investment of cellular service in rural areas with the need to safeguard competition in RSAs. As an initial matter, it sought comment on a tentative conclusion to retain the current cellular cross-interest rule in RSAs with three or fewer CMRS competitors.[183] Assuming the Commission were to decide to retain a number-based rule, the *NPRM* also sought comment on how to define a "competitor" under such a proposal, whether a "competitor" might be any CMRS provider with significant geographic overlap with the cellular licensee,[184] and whether a transition period was necessary to sunset the rule for those RSAs with four or more competitors.[185]

62. In the alternative, the Commission sought comment on a range of other options for modifying or eliminating the current rule in a way that promotes investment in rural areas while retaining adequate competitive safeguards. For example, the Commission sought comment on whether to eliminate the prohibition for all RSAs where the ownership interest being obtained 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).[186] It sought comment on the extent to which the waiver option has deterred or prevented acquisition of capital in rural markets.[187] Although a specific waiver process has existed to address this barrier to investment in rural areas,[188] the Commission noted that the transactions costs and regulatory uncertainty surrounding any waiver procedure may deter some beneficial investment in these areas.[189] Finally, the Commission sought comment on the option of extending case-by-case review, as

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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*, 18 FCC Rcd 4243 app. IV at 4316 (2003), the Commission incorporated the comments of parties seeking elimination of the cellular cross-interest rule in the context of its 2002 biennial regulatory review. *See generally* 2002 Biennial Regulatory Review, *Report*, 18 FCC Rcd 4726 (2003).

[182] *Spectrum Cap Sunset Order*, 16 FCC Rcd at 22708-09 ¶¶ 88, 90.

[183] *See Rural NPRM*, 18 FCC Rcd at 20847 ¶ 95.

[184] We used "significant overlap" in the context of applying the CMRS spectrum cap rule and asked whether a similar concept could be used in the context of the cellular cross-interest rule. *See* 47 C.F.R. § 20.6(c); *Rural NPRM*, 18 FCC Rcd 20848 ¶ 97.

[185] *Rural NPRM*, 18 FCC Rcd at 20848 ¶ 97.

[186] In this context, it observed that cellular licensees in MSAs are free to procure financing that involves ownership interests that fall below the threshold that triggers Commission review, while cellular licensees in all RSAs are not so permitted. *Id*. at ¶ 98.

[187] *Id*. at 20848-49 ¶ 98.

[188] *See Spectrum Cap Sunset Order*, 16 FCC Rcd at 22709 ¶ 90.

[189] The Bureau did grant a request for waiver of the cellular cross-interest rule to allow CenturyTel Wireless to acquire a 14 percent non-controlling limited partnership interest in Lafayette MSA LP. *See* CenturyTel Wireless,

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established in the *Spectrum Cap Sunset Order,* to promote investment and reduce the possibility of impeding transactions that are actually in the public interest.[190] The Commission recognized the important 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, but it inquired whether the public interest may be better served by the benefits of pure case-by-case review.[191]

63. *Discussion*. Based on our review of certain arguments raised on reconsideration and in the comments regarding the advantages of case-by-case review, as well as developments since the release of the *Spectrum Cap Sunset Order* in 2001, we find that reliance on a uniform case-by-case review process for aggregations of spectrum and cellular cross interests in RSAs is currently the better approach as compared to prophylactic limits. We believe that continued application of the cellular cross-interest rule in RSAs may impede market forces that could drive financing and development of new services in rural and underserved areas. Accordingly, we find that it is in public interest to apply a more flexible approach in reviewing cellular competition in rural areas and, as a result, we will extend our Section 310(d) case-by-case review to all cellular markets.

64. We therefore eliminate the cellular cross-interest rule in RSAs and will utilize our case-by-case approach to review transactions where a level of cellular cross interests arises to a substantial transfer or assignment under Section 310(d) of the Act.[192] In addition, if a party with a controlling or otherwise attributable interest in one cellular licensee[193] within an RSA obtains a non-controlling interest of more than 10 percent in the other cellular licensee in an overlapping CGSA, we will require the licensee to notify the Commission within 30 days of the date of consummation of the transaction by filing updated ownership information (using an FCC Form 602) reflecting the specific level of investment. This notification requirement will sunset at the earlier of: (1) five years after the release of this item, or (2) at the cellular licensee's specific renewal deadline.[194] By employing this approach to maintain scrutiny over those cross interests that pose a particular risk to competition in the near term, we conclude that we have struck the proper balance between promoting investment and protecting consumers against potential competitive harms in rural areas.

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Inc. and Century Tel, Inc., *Memorandum Opinion and Order*, 18 FCC Rcd 1260 (WTB 2003). The WTB 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.

[190] *See Rural NPRM*, 18 FCC Rcd at 20849 ¶ 99.

[191] *Id*.

[192] 47 U.S.C. § 310(d).

[193] An attributable interest will be defined generally to include an ownership interest of 20 percent or more or any controlling interest.

[194] Although Dobson and other commenters state that a transition period before using pure case-by-case review is unnecessary, *see* Dobson Comments at 12-13, *see also* RCA Comments at 14 (indicating that a sunset period is unnecessary), we adopt a sunset period for the notification requirement, in order to provide an additional period of time for competition to develop.

65. Although the Commission last determined that the level of CMRS economic competition was not meaningful enough to warrant complete elimination of the cellular cross-interest rule pursuant to Section 11 of the Act,[195] it did not fully consider in its *Spectrum Cap Sunset Order* whether a move to case-by-case review for cross interests in RSAs would be in the public interest under the broader scope of its 2000 biennial review of spectrum aggregations limits.[196] To perform meaningful and timely review of spectrum aggregation transactions without the CMRS spectrum cap rule, the Commission explained that it needed time to develop effective guidelines for this process, as well as to ensure that sufficient resources were devoted to the task.[197] In contrast, because the concerns underlying the original purpose of the cross-interest rule had been achieved in MSAs, the Commission was able to immediately eliminate the rule in that context without having to consider to any great extent the rule's necessity as compared to other, less burdensome tools.[198] When the Commission subsequently determined that market conditions in rural areas had not changed sufficiently such that it should eliminate the cellular cross-interest rule in RSAs pursuant to Section 11 of the Act, it concluded its reexamination of the rule and did not evaluate whether it would nevertheless be in the public interest to extend the advantages of flexible case-by-case review to aggregation and cross interests of cellular spectrum in rural areas.[199]

66. Notwithstanding Section 11 of the Communications Act and the Commission's past findings regarding the level of economic competition in rural markets,[200] we decide on reconsideration of our *Spectrum Cap Sunset Order* and based on the comments filed in response to the *Rural NPRM* that it is in the public interest to eliminate the cellular cross-interest rule. Instead, parties will be permitted to file under our case-by-case review process for substantial cross interests in all cellular spectrum and report to the Commission a certain level of cellular cross interests in rural areas that do not arise to an assignment or transfer of control. Such a change in approach, supported by adequate resources and procedures and facilitated by collection of sufficient industry information along with appropriate enforcement mechanisms, is currently the better approach for evaluating whether proposed cross interests reflect opportunities for increased financing and new services or indicate potential risks of anticompetitive market conditions. The Commission indicated that its 2000 biennial review would consider whether other

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[195] *See Spectrum Cap Sunset Order*, 16 FCC Rcd at 22708-09 ¶¶ 88-89.

[196] *See id.*

[197] *See id*. at 22696-97 ¶ 57.

[198] *See id.* at 22680-81 ¶ 29.

[199] Because the Commission had not had an opportunity to develop effective procedures or ensure that sufficient resources were available, it did not extend its review beyond Section 11 of the Act to consider whether other factors beyond the impact of competition had made it appropriate to repeal the cellular cross-interest rule in RSAs. *See id.* at 22708 ¶ 88. We disagree with Cingular's claim that applying the cellular cross-interest rule in RSAs is not "'well tailored to the harm that it seeks to prevent.'" Cingular Reply to Opposition to Petition for Reconsideration, WT Docket 01-14, at 7 (Apr. 18, 2002) (quoting *Spectrum Cap Sunset Order*, 16 FCC Rcd at 22709 ¶ 90). Without resources, procedures, industry information collection, and appropriate enforcement mechanisms, applying the cross-interest rule (with provisions for waiver) in RSAs was the least restrictive and most efficient means at that time to regulate cellular competition in rural areas.

[200] *See supra* note 1. Although economic conditions seem to be changing, we need not make any determinations here. *See infra* ¶ 72.

factors beyond the impact of competition made the cross interest rule appropriate for modification,[201] and in this context,[202] we find they do.[203]

67. Although we recognize the safeguard that the cellular cross-interest rule has provided against the possibility of significant additional consolidation of control over cellular spectrum in rural areas and the attendant serious anticompetitive effects,[204] we find that the public interest is better served by the benefits of case-by-case review with its greater degree of flexibility to reach the appropriate decision in each case, reduced likelihood of prohibiting beneficial transactions or levels of investment both in urban and rural areas, and ability to account for the particular attributes of a transaction or market. The greater regulatory flexibility offered by this change in tools for review outweighs any "guarantees" to the competitive nature of cellular competition in rural areas ensured by the current cross-interest rule,[205] as that rule may inadvertently discourage transactions and cross interests that could be found to be in the public interest.

68. We believe that no cross interest or transaction should be presumptively prohibited in RSAs and that we should consider such proposals under an approach that is consistent with the same case-by-case analysis that is employed in all other CMRS contexts.[206] The majority of commenters to the

[201] *See Spectrum Cap Sunset Order*, 16 FCC Rcd at 22708-09 ¶ 88-90.

[202] We also note the broad context of the Commission's inquiry in the *Rural NPRM* that purposely went beyond Section 11 of the Act to consider such factors.

[203] Sprint PCS argues the decision to retain the cellular cross-interest rule in RSAs was justified because it was shown that rural areas are in fact different urban markets. *See* Sprint PCS Opposition to Petition for Reconsideration, WT Docket No. 01-14 (Apr. 5, 2002) (Sprint PCS Opposition). If the Commission was limited to awaiting the development of meaningful economic competition under Section 11 of the Act before it could consider whether other tools for review are more appropriate, it may result that application of the cellular cross-interest rule in RSAs could be justified indefinitely. The Commission acknowledged in the *Spectrum Cap Sunset Order* that the underlying economics appear to make it unlikely that competition in RSAs will evolve in the near term to rival that in MSAs. *Spectrum Cap Sunset Order*, 16 FCC Rcd at 22691 ¶ 43; *see also id*. at 22680 ¶ 28 ("In rural markets . . . demographic and geographic conditions generally appear to render additional large-scale entry economically difficult to support.").

[204] Although economic theory dictates that there is not a static threshold by which a reduction in competitors results in anticompetitive harm, a consolidation in a local cellular market from duopoly to monopoly status provides consumers with less choice and potentially less benefits from competition. The likelihood of the Commission approving a cellular consolidation between two providers in such conditions remains small. The concerns over rural roaming services that Sprint PCS presents simply presuppose that the Commission would affirmatively grant the merger of two cellular carriers and permit a monopoly of cellular roaming services in rural areas. *See* Sprint PCS Opposition at 7-8. Moreover, the Commission indicated in the *Spectrum Cap Sunset Order* that it disagrees with commenters who believe that prophylactic rules should be retained to further opportunities for roaming arrangements. *Spectrum Cap Sunset Order*, 16 FCC Rcd at 22694 ¶ 51 (explaining that case-by-case review allows the flexibility to consider any such concerns raised with respect to specific applications).

[205] *See Spectrum Cap Sunset Order*, 16 FCC Rcd at 22679 ¶ 26. ("In adopting the cellular cross-interest rule, the Commission acted '[i]n order to *guarantee* the competitive nature of the cellular industry and to foster the development of competing systems.'") (emphasis added) (quoting *Cellular First Report and Order*, 6 FCC Rcd at 6628 ¶ 104.).

[206] *See, e.g.,* Cingular Petition at 5-6, CTIA Comments at 2, Verizon Wireless Reply Comments at 2.

Rural NPRM supported elimination of the cellular cross-interest rule,[207] either in its entirety or in RSAs with more than three competitors.[208] We agree with Dobson and other commenters that indicated that removal of the cellular cross-interest rule would promote efficient spectrum transactions, and would allow the market to function properly.[209]

69. In the *Spectrum Cap Sunset Order*, the Commission gave much consideration to the availability of less burdensome case-by-case review before it decided that the CMRS spectrum cap rule was no longer necessary in the public interest.[210] Given the level of competitive market forces and the benefits of flexible case-by-case review, it determined that it had the means to sunset the CMRS spectrum cap rule in all markets, RSAs as well as MSAs. The Commission decided to retain the cellular cross-interest rule in RSAs based on reasoning that the likelihood of approving a cellular consolidation between two providers in a given market was small and that it would be more efficient and less costly for the Commission to maintain a prophylactic rule and to entertain waiver requests for the small subset of transactions in RSAs where competition was more robust.[211] In review, given advancements in our case-by-case processing procedures and resources since December 2001, we believe that we can repeal the rule to better encourage transactions and levels of financing that are in the public interest while maintaining much of the protection afforded by the cellular cross-interest rule. We agree with commenters that the current waiver approach may interfere with investment in rural areas by discouraging certain financing in the RSA portions of a regional market but not in the MSA portions.[212] Our approach in essence relaxes the permitted threshold to 49.9 percent, consistent in part with the position of U.S. Cellular Corp. (USCC).[213] However, for the reasons explained here, we disagree with USCC's argument that there is no conceivable situation where the public interest could be served by considering such transactions in RSAs.[214] Our decision here is to change tools for review to a more precise standard, and we make no

[207] *See* AT&T Wireless Comments at 10, CTIA comments at 12-13, Cingular Comments at 5-6, Dobson Comments at 10-12, OPASTCO/RTG Comments at 14, Arctic Slope Reply Comments at 1-2, AT&T Wireless Reply Comments at 10, Western Wireless Reply Comments at 7, OPASTCO/RTG Reply Comments at 9.

[208] *See, e.g.,* Dobson Comments at 12. After further consideration, we believe that a number-based rule defined by notions of "competitor" would be too imprecise and inflexible in a dynamic marketplace where, *e.g.*, spectrum can be leased and infrastructure can be shared.

[209] *See* AT&T Wireless Comments at 10, CTIA Comments at 12-13, Cingular Comments at 5-6, Dobson Comments at 10-12, OPASTCO/RTG Comments at 14, Arctic Slope Reply Comments at 1-2, AT&T Wireless Reply Comments at 10, Western Wireless Reply Comments at 7, OPASTCO/RTG Reply Comments at 9.

[210] *See, e.g., Spectrum Cap Sunset Order*, 16 FCC Rcd at 22695-96 ¶ 54 ("Although we decide today that the spectrum cap rule is no longer necessary in the public interest, we must still achieve the objectives that the spectrum cap was intended to promote. We believe that these objectives can now be better achieved in the context of secondary market transactions through case-by-case review, properly performed.").

[211] *Cf. id*. at 22696 ¶ 56.

[212] *See, e.g.,* CTIA Comments at 13, Arctic Slope Reply Comments at 2, OPASTCO/RTG Comments at 14. One commenter stated that the Commission should waive application of the cross-interest rule for entities owned and controlled by Alaska Native Corporations or Indian tribes. *See* Council Tree Comments at 3, 7-10.

[213] USCC Comments at 4.

[214] *Id*. at 5.

determination that such proposed transactions are any more likely to be found to be in the public interest.

70. Case-specific review, along with information resources and enforcement mechanisms,[215] is a more targeted process to examine the actual competitive positions involved in a particular transaction or level of cross interests and ensure that acquisitions of and cross interests in spectrum do not have anticompetitive effects that render them contrary to the public interest.[216] As the Commission indicated in the *Spectrum Cap Sunset Order* in the context of the CMRS spectrum cap rule, we can rely on case-by-case review of CMRS spectrum aggregation (including cross interests of cellular spectrum in rural areas) to fulfill our statutory mandates to promote competition, ensure diversity of license holdings, and manage the spectrum resource in the public interest.[217] We have been increasing the resources available to review spectrum aggregation transactions and developing internal procedures for review of concentration of CMRS spectrum in general, and cross interests of cellular spectrum in rural areas in particular. While it at first places greater resource demands on parties and the Commission, over time, these actions will provide parties, including small businesses, with legal precedent and a reasonable degree of certainty and transparency regarding cross interests of cellular spectrum in rural areas and should minimize the administrative costs of case-by-case review for all applicants and licensees, as well as Commission staff. In addition, we believe there may be an inequity that distorts the market in any area in which more than just the two cellular licensees hold spectrum and find that the better approach to safeguarding competition is to take account of the particular circumstances of each market through case-specific review.[218]

71. To review aggregations or cross interests of cellular spectrum in rural areas, we eliminate Section 22.942 of the Commission's rules such that applicants and parties will only be required to obtain prior Commission approval for transactions subject to Section 310(d) of the Act. Although we are imposing a reporting requirement to collect ownership information on certain levels of interests that do not trigger Section 310(d) review, we have adopted reporting thresholds that reflect a comparatively higher 10 percent level of permitted cross interest by a party with a controlling interest in a given cellular licensee. Under Section 22.942, a party with a controlling interest in one of the cellular licensees may only have a 5 percent direct or indirect ownership interest in the other licensee in that CGSA.[219] Under the new reporting standard, we will allow a party with a controlling or otherwise attributable interest in one of the cellular licensees to have a non-controlling or otherwise non-attributable direct or indirect ownership of up to and including 10 percent in the other cellular licensee in overlapping CGSAs without

[215] During our case-by-case review of any cellular consolidation that occurs within rural areas, we will collect information as necessary to exercise our authority to not only grant or deny applications and/or modify instruments of authorization, but to enforce sanctions in cases of misconduct where we find evidence of collusion or other anticompetitive practices.

[216] 47 U.S.C. § 310(d). Specifically, Section 310(d) of the Communications Act requires us not to approve any "transfer, assignment, or disposal of [a] permit or license, [or attendant rights]" unless we find that "the public interest, convenience, and necessity might be served" thereby. *Id*.

[217] *See Spectrum Cap Sunset Order*, 16 FCC Rcd at 22696 ¶ 55 (citing 47 U.S.C. §§ 301, 303, 309(j), 310(d)).

[218] In the RSA markets that have been covered by the cellular cross-interest rule, for example, the rule prohibits the two cellular licensees from merging without filing a waiver, but does not prevent one cellular licensee from merging with a PCS licensee.

[219] 47 C.F.R. § 22.942.

notification.[220] We have not been able to determine conclusively that such cross interests pose a significant threat to competition, and this new 10 percent threshold will afford petitioners and commenters some relief from restrictions on financing in the RSA portions of a regional market.[221] Moreover, it harmonizes the reporting threshold with our FCC Form 602 ownership reporting requirements imposed currently on all licensees.

72. We do not make any determination here on the extent to which cellular carriers may continue to hold a dominant market share in rural areas or whether a consolidation of cellular licenses in RSAs would likely result in a significant reduction in competition.[222] We note, however, that a concentration of interests between the two cellular licensees in rural areas would more likely result in a significant reduction in competition than an aggregation of additional CMRS spectrum by such licensees. In addition, we note that different risks to competition are present depending on whether a proposed cross interest would be held by a telecommunications carrier or by a third-party bank or other source of financing. By reviewing substantial aggregations of cellular cross-interests on a case-by-case basis, as discussed above, we retain the flexibility to evaluate individual transactions on their own merits and account for these different factors in determining whether approval of the transaction will serve the public interest under section 310(d).

D. Increasing Licensee Flexibility

1. Performance Requirements

73. *Background*. Over the past decade, the Commission has shifted away from site-based licensing for wireless licensees and has adopted more flexible, geographic-area based allocations that provide licensees with greater freedom to provide different types of services. In making this shift, the Commission also has adopted performance benchmarks that increase licensees' flexibility to offer a variety of services, including service that may not require ubiquitous geographic coverage. As a general matter, geographic-area licensees are not required to construct their entire geographic area in order to

[220] We will require a party with a controlling interest in one cellular licensee in a CGSA to apply for prior Commission approval of a controlling interest, no matter how small, in the other licensee in that market. A party that has non-controlling or otherwise non-attributable direct or indirect ownership interest of up to 20 percent in both licensees in the same CGSA will not be required to report ownership information to the Commission.

[221] We agree with Dobson/Western/RCC that investment in rural areas should not be presumptively prohibited by unnecessarily restricting financing in the RSA portions of a regional market and that these benefits outweigh the costs. *See* Dobson/Western/RCC Petition at 7-10.

[222] *See Spectrum Cap Sunset Order*, 16 FCC Rcd at 22708-09 ¶ 89. The Commission determined that, based on the information available, the only markets with meaningful economic competition under Section 11 of the Act were those in MSAs where cellular carriers no longer possess market power. Because the objectives of the cross-interest rule had been achieved in MSAs, the Commission repealed the cellular cross-interest rule in that context. Without a more comprehensive showing that competition in rural areas was meaningful, however, the Commission was unable to conclude that repeal of the cellular cross-interest rule in RSAs was appropriate, because the cellular providers in those areas seemed to continue to enjoy first-mover advantages and to dominate the marketplace. In the *Spectrum Cap Sunset Order*, the Commission described fewer choices in terms of providers, pricing plans, and service offerings that consumers in the majority of RSAs have over consumers in MSAs. Based on the record in that proceeding, the Commission found that rural markets have significantly less competition than urban markets due to population density and economics. *See id.* at 22684-85 ¶ 34.

retain their authorizations. Instead, depending upon the specific service, the Commission's rules may require coverage of a certain percentage of the licensed area's population or a certain percentage of the licensed area's geographic area. For many, but not all services,[223] the Commission has adopted a flexible "substantial service" construction standard that allows licensees that are providing a beneficial use of the spectrum to retain their authorizations without satisfying a prescribed population- or geographic-based construction requirement.[224] The substantial service standard 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,[225] the factors that the Commission will consider when determining if a licensee has met the standard vary among services.[226] Once a licensee satisfies its construction requirement during its initial license term, the Commission's rules currently do not require that the licensee satisfy additional construction requirements during subsequent renewal terms other than the standards necessary to achieve a renewal expectancy.[227]

74. In the *Rural NPRM*, the Commission proposed modifications to our construction requirements to promote licensee flexibility and the build-out of rural areas. First, the Commission proposed to adopt a "substantial service" construction benchmark for all wireless geographic area licensees that are subject to build-out requirements but that did not have the option of meeting those requirements by providing substantial service.[228] Specifically, the Commission proposed to amend its regulations to extend the substantial service construction benchmark to the following licensees: 30 MHz

[223] 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 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.

[224] 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).

[225] Substantial service generally has been defined as service that is sound, favorable, and substantially above a level of mediocre service that would barely warrant renewal. *See, e.g.,* 47 C.F.R. §§ 22.503(k)(3), 27.14, 90.685(b), 95.831, 101.527(a), 101.1011(a).

[226] 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, PR Docket No. 89-553, *Second Report and Order*, 10 FCC Rcd 6884, 6898-99 ¶ 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, PR Docket No. 89-522, *Third Report and Order* and *Fifth Notice of Proposed Rulemaking*, 12 FCC Rcd 10943, 11017-18 ¶ 158 (1998).

[227] As the Commission noted in the *Rural NPRM*, licensees must file applications for renewal of their authorizations and must comply with any applicable renewal requirements. *See Rural NPRM*, 18 FCC Rcd at 20825 ¶ 43 n. 93. See also 47 C.F.R. § 1.949.

[228] *Id.* at 20820-23 ¶¶ 35-39.

broadband PCS licensees; 800 MHz SMR licensees (blocks A, B, and C); certain 220 MHz licensees;[229] LMS licensees; Multipoint Distribution Service and Instructional Television Fixed Service (MDS/ITFS) licensees; and 700 MHz public safety licensees.[230] The Commission observed that construction benchmarks that mandated population- or geographic-specific coverage might hinder licensees from serving niche or less populated areas, and might unintentionally discourage construction in rural areas.[231] Second, the Commission asked whether we should adopt geographic-based construction requirements for private and commercial terrestrial wireless services that are licensed on a geographic area basis and that do not have a geographic-based requirement.[232] The Commission noted that a geographic benchmark would provide licensees who did not intend to focus construction efforts on population centers with an alternative.[233] Third, the Commission asked whether we should adopt substantial service "safe harbors" that are tailored to providing coverage in rural areas, and proposed safe harbors for mobile as well as fixed services.[234] Finally, the Commission also asked 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.[235]

75. *Discussion*. In large part, we adopt the proposal, as set forth in the *Rural NPRM*, to extend the substantial service construction benchmark to all wireless services that are licensed on a geographic area basis. Specifically, we amend our regulations to provide a substantial service construction benchmark for the following licensees: 30 MHz broadband PCS licensees; 800 MHz SMR licensees (blocks A, B, and C); certain 220 MHz licensees;[236] LMS licensees; and 700 MHz public safety licensees. These licensees now have the option of satisfying their construction requirements by providing substantial service or by complying with other service-specific construction benchmarks already available to them under the Commission's rules. We decline to take any action with respect to the MDS/ITFS and

[229] We do not include 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. *See* 47 C.F.R. § 90.769(b).

[230] In the *Rural NPRM*, the Commission noted that current construction requirements require 700 MHz public safety licensees to provide "substantial service," but that this requirement is premised upon the provision of substantial service to a certain percentage of their licensed population at five and 10 years. *See Rural NPRM*, 18 FCC Rcd at 20820-21 ¶ 35 n. 79 (citing 47 C.F.R. § 90.529(b).). Because this "substantial service" requirement is not a flexible benchmark, the Commission included 700 MHz public safety spectrum within the scope of this proceeding. *See id.*

[231] *Rural NPRM*, 18 FCC Rcd at 20821 ¶ 36.

[232] *Id.* at 20823-24 ¶ 40.

[233] *Id*.

[234] *Id.* at 20824-25 ¶¶ 41-42.

[235] *Id.* at 20825-26 ¶¶ 44-46.

[236] We exclude EA and regional 220 MHz licensees offering fixed services or who have at least one incumbent, co-channel Phase I licensee in their markets. We also exclude Phase II nationwide 220 MHz licensees offering fixed services. *See infra* n.230.

the 71-76 GHz, 81-86 GHz and 92-95 GHz (70/80/90 GHz) bands, because construction rules for these bands recently have been or will be addressed in service-specific proceedings.[237]

76. Based on the record before us, we believe that modifying our rules to permit these additional licensees to satisfy their construction requirements by providing substantial service will increase their flexibility to develop rural-focused business plans and deploy spectrum-based services in more sparsely populated areas without being bound to concrete population or geographic coverage requirements.[238] As the Commission noted in the *Rural NPRM*, particularly in cases where a licensee has a population-based construction requirement, licensees have both an economic and practical incentive to achieve compliance with the Commission's build-out obligation by providing service to urban areas.[239]

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[237] Although the Commission sought comment regarding adopting a substantial service benchmark for MDS/ITFS licensees in the *Rural NPRM*, we have released a service-specific *Further Notice of Proposed Rule Making* seeking to develop more of a record on this issue. We will make a determination with respect to MDS/ITFS in that proceeding. *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 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, WT Docket No. 03-66, *et al.*, *Report and Order and Further Notice of Proposed Rulemaking*, FCC 04-135 (rel. July 29, 2004). With respect to 70/80/90 GHz, the Commission elected to issue non-exclusive nationwide licenses conditioned upon site and path-specific coordination. *See* Allocations and Service Rules for the 71-76 GHz, 81-86 GHz, and 92-95 GHz Bands, *Report and Order*, 18 FCC Rcd 23318, 23337-43 ¶¶ 43-60 (2003) (*70/80/90 GHz Report and Order*). Consistent with its decision not to issue exclusive licenses for geographic areas, the Commission did not adopt any area-wide substantial service requirements, deciding instead to require licensees to construct individual links within 12 months after registering them. *Id*. at 23349 ¶ 80.

[238] *See also* Blooston Comments at 16, CTIA Comments at 5, Cingular Comments at 4 n. 11, NRTC Comments at 3-5, Southern LINC Comments at 7, RCA Comments at 8 (but stating that a substantial service requirement should be accompanied by the condition that any areas that remain unserved by a date certain will be returned to the Commission for re-licensing), WCA Comments at 7, Blooston Reply Comments at 7, Southern LINC Reply Comments at 4-6, Sprint Reply Comments at 21-24, WCA Reply Comments at 2, 5, Western Wireless Reply Comments at 9. We note that CTIA, among others, requests clarification that lessees, on behalf of their lessors, may satisfy construction requirements for the licensed spectrum at issue. *See* CTIA Comments at 4-5. The Commission squarely addressed this issue in the *Secondary Markets Report and Order*, stating that licensees using spectrum manager leasing arrangements or long-term *de facto* transfer leasing arrangements may rely upon the activities of their spectrum lessees for purposes of complying with the build-out requirements, but that licensees using short-term spectrum leasing arrangements may not be counted for the purposes of the build-out rules. *See Secondary Markets Report and Order*, 18 FCC Rcd at 20655, 20667, 20676 ¶¶ 114-115, 146, 177; *see also* 47 C.F.R. §§ 1.9020(d)(5) (governing spectrum manager leasing arrangements), 1.9030(d)(5) (governing long-term *de facto* transfer leasing arrangements), 1.9035(d)(3) (governing short-term *de facto* transfer leasing arrangements). Accordingly, provided the leasing arrangement at issue satisfies the conditions and requirements set forth in the *Secondary Markets Report and Order*, a lessee may satisfy the construction obligations on behalf of the licensee. We note, however, that the construction requirements remain a condition of the license and, to the extent a licensee relies upon the activities of its lessee and the lessee fails to engage in those activities, we will enforce the applicable performance or build-out requirements against the licensee, consistent with our existing rules. *See Secondary Markets Report and Order*, 18 FCC Rcd at 20655, 20667 ¶¶ 115, 146.

[239] *See Rural NPRM*, 18 FCC Rcd at 20821 ¶ 36.

Further, current population-specific benchmarks may have the unintended consequence of encouraging several licensees within a particular market to provide coverage to the same populous areas. In order to satisfy its construction obligations and safeguard its license, even a late entrant who is the fourth or fifth competitor in a particular area initially may choose to duplicate existing carriers' footprints while other, more sparsely populated areas may be without such competition or even service at all. With the additional flexibility afforded by a substantial service option, however, licensees will be free to develop construction plans that tailor the deployment of services to needs that are otherwise unmet, such as the provision of service to rural or niche markets. As Southern LINC explains "[w]hile a substantial service alternative, by itself, does not guarantee that all licensees will serve rural areas, the additional flexibility of this alternative undoubtedly improves the likelihood of rural deployment" and "provide[s] licensees with the opportunity to target unserved rural areas."[240] Moreover, providing these licensees with the option of satisfying their construction requirements by providing substantial service in their licensed areas will increase parity among geographic area licensees.[241] This action promotes more equal regulatory footing with respect to construction obligations.

77. We disagree with those commenters who urge the adoption of a substantial service standard only for those licensees with "small geographic territories."[242] Our intent in providing licensees with a substantial service option is not to mandate, but to encourage and facilitate construction in less populated areas by providing licensees with sufficient flexibility to develop unique business plans that do not require ubiquitous coverage or coverage of densely populated areas. In keeping with our market-oriented policies, we do not propose to require licensees to deploy services where their market studies or other analyses indicate that service would be economically unsustainable. NTCA states that a large licensee "may provide 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."[243] We acknowledge that a licensee might satisfy its construction obligation by providing service to areas where population is densely concentrated; this would be particularly true if we were to agree with NTCA and refuse to allow licensees with large licensed areas to provide substantial service. By limiting the substantial service option to licensees of smaller geographic areas only, we believe that NTCA's suggestion effectively encourages the very thing NTCA seeks to deter: focused coverage of populated areas instead of more rural areas. As we stated earlier, the adoption of the substantial service standard provides licensees with the flexibility to provide coverage to other, less populated areas and still satisfy its coverage requirement without necessarily focusing on more urban population centers.

78. We also decline at this time to follow the recommendations of OPASTCO and RTG, that we "abandon" our substantial service performance benchmark in favor of "stricter, more specific build-out obligations, and a 'keep what you use' approach similar to the 'unserved area' licensing regime

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[240] Southern LINC Reply Comments at 6.

[241] As Southern LINC pointed out, "EA licensees in Channel Blocks A, B, and C, of the 800 MHz SMR band do not currently have a substantial service alternative, even though the FCC adopted this alternative for licensees in Channel Blocks D through V as well as several comparable CMRS services." *See* Southern LINC Comments at 8. *See also* CTIA Comments at 5, Sprint Reply Comments at 23 (noting that extending the substantial service construction alternative to all geographic area wireless licensees would promote regulatory parity).

[242] *See* Blooston Comments at 17, NTCA Comments at 10-11, Blooston Reply Comments at 8-9.

[243] NTCA Comments at 11.

established for cellular service.[244] OPASTCO and RTG argue that a "keep what you use" approach will provide licensees with an incentive to provide service to rural areas or otherwise provide access to others who are willing to do so.[245] As demonstrated by our trend towards licensing services on a geographic-area basis, we believe that licensees can provide a meaningful and socially beneficial service without providing ubiquitous service and that providing licensees with sufficient flexibility to respond to market fluctuations will promote the public interest. However, we recognize that, for example because they can be used sequentially, market-based mechanisms and re-licensing approaches (such as "keep what you use") are not necessarily mutually exclusive. Accordingly, our *Further Notice* will continue this discussion of the appropriate re-licensing, and construction obligations for current and future licensees who hold licenses beyond their first term.

79. As an additional matter, we adopt safe harbors for providing substantial service to rural areas. As we state earlier in Section III.A, we adopt a default definition of "rural area" as a county with a population density of 100 persons per square mile or less, based upon the most recent Census data. We apply this definition for purposes of these rural-focused substantial service safe harbors. In light of the fact that the geographic area licenses are comprised of counties, we believe it is sensible and administratively efficient to adopt safe harbors for geographic area licenses that also are based upon counties. With respect to mobile wireless services, a licensee will be deemed to have met the substantial service requirement if it provides coverage to at least 75 percent of the geographic area of at least 20 percent of the "rural areas" within its licensed area. With respect to fixed wireless services, the substantial service requirement is met if a licensee constructs at least one end of a permanent link in at least 20 percent of the number of "rural areas" within its licensed area. Licensees may satisfy these construction requirements through lease agreements, provided these arrangements satisfy the conditions set forth in the *Secondary Markets Report and Order*.[246] As we stated in the *Rural NPRM*, the use of a population density of 100 persons or fewer per square mile 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."[247] We believe that this population density-based definition provides a workable and reasonable point of differentiation between rural and non-rural areas, as we noted earlier in Section III.A.

80. We believe it is beneficial to adopt these safe harbors because they provide licensees with concrete examples of how they can provide substantial service through specific types of deployment in rural areas, thereby increasing certainty and alleviating concerns that the substantial service requirement

[244] *See* OPASTCO/RTG Joint Comments at 4.

[245] *See id*. at 5; *see also* NTCA Comments at 10 (arguing that licensees of large service areas should be subject to a "keep what you use" approach).

[246] *See Secondary Markets Report and Order*, 18 FCC Rcd at 20655, 20667, 20676 ¶¶ 114-115, 146, 177; *see also* 47 C.F.R. §§ 1.9020(d)(5) (governing spectrum manager leasing arrangements), 1.9030(d)(5) (governing long-term *de facto* transfer leasing arrangements), 1.9035(d)(3) (governing short-term *de facto* transfer leasing arrangements).

[247] *Eighth Competition Report*, 18 FCC Rcd at 14836 ¶ 114.

is overly vague.[248] We emphasize, however, that these safe harbors do not constitute the only means by which a licensee may provide substantial service. A licensee is therefore free to meet the substantial service test by satisfying one of the safe harbors or providing some alternative coverage to its licensed area, depending upon the individual needs of their consumers or their own unique business plans. We also note that the *Rural NPRM* provided licensees with additional guidance by setting forth a list of factors that we will consider in the context of determining whether a licensee is providing substantial service to rural areas. We affirm that we will consider these factors in evaluating substantial service showings. Specifically, we will look at 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.[249] While this list is not intended to be exhaustive or exclusive, we believe it illustrates the sorts of material factors we will consider in any rural substantial service analysis. By adopting substantial service "safe harbors," as well as by providing examples of the sorts of factors we will consider in evaluating substantial service showings, we believe we satisfactorily balance the competing interests of maximizing licensee flexibility while providing some measure of certainty.

81. We decline at this time to introduce a "very rural area" safe harbor[250] or modify our safe harbors to include a population component. We note that several commenters asked that we include a population component to make the safe harbor more meaningful for licensees whose licensed areas include counties with large land areas.[251] These commenters argue that in such circumstances, it may be easier for a licensee to satisfy population requirements instead of the substantial service safe harbor.[252] As we stated above, the safe harbors are not intended to be the only means of providing substantial service. We will take into consideration if a licensee is serving a "very rural area" or a very large geographic area.

82. We also decline to adopt a geographic-based benchmark for all wireless geographic area services that are subject to construction requirements but that otherwise do not have a geographic-specific construction requirement.[253] Only one commenter, Southern LINC, addressed this issue. We note that although Southern LINC supports adoption of a such a geographic-area based requirement, stating that "the geographic-based requirement would give licensees serving only rural/underserved areas another

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[248] OPASTCO and RTG state that the "substantial service" standard is "vague and nearly unenforceable" and that "[t]he vagueness of the current 'substantial service' standard will most likely inhibit the deployment of wireless service to rural areas." *See* OPASTCO/RTG Joint Comments at 5.

[249] *See Rural NPRM*, 18 FCC Rcd at 20822-23 ¶ 38.

[250] *See* Blooston Reply Comments at 8 (suggesting adoption of a "very rural area" safe harbor for licensed areas with a population density of less than 10 persons per square mile).

[251] *See* Dobson Comments at 16, Western Wireless Comments at 9-10.

[252] *See id.*

[253] We note that there was some support in the record for this proposal. Southern LINC Comments at 7. As noted above, we believe that licensees will have the freedom to explore these different business strategies in the context of a substantial service construction option.

way to meet the construction obligation of the licensed area as a whole,"[254] we believe that licensees who wish to provide coverage to a particular geographic portion of their licensed area have the flexibility to do so pursuant to the "substantial service" standard. We conclude, based upon the record in this proceeding, that there is no demonstrated need to modify our regulations in this regard.

83. We also decline to adopt performance requirements for renewed licenses at this time. A large number of commenters oppose the imposition of such requirements. Many indicate that the Commission should not impose any new construction requirements beyond the initial license term.[255] These commenters argue, *inter alia*, that such requirements would disturb licensees' business plans, upset market valuations of licenses, and impose unnecessary and uneconomic construction requirements on licensees who otherwise have appropriate incentives to deploy services where it makes economic sense to do so. Southern LINC states that many licensees "expended vast sums of money at auction with the reasonable expectation that they would retain their licenses after satisfying the applicable performance requirements during the initial license term."[256] While we recognize the concerns of existing licensees regarding future construction requirements, we believe that re-licensing approaches such as "keep what you use" and market-based mechanisms are not necessarily mutually exclusive. While we do not make any such changes at this time, we initiate a *Further Notice* to continue our discussion of various re-licensing approaches and the merits, if any, of construction requirements for current and future licensees holding licensees beyond their first term.

84. We note that although we refrain from adopting renewal term performance requirements at this time, we will continue to examine the state of competition in rural areas and will revisit this decision in the event we observe that licensees cease deploying new services in rural areas and/or that secondary markets are not facilitating sufficient access to spectrum for would-be service rural service providers. We emphasize that, contrary to Sprint's assertions, the Commission retains the right to modify the terms and conditions of FCC licenses.[257] Among other claims, Sprint argues that modifying license renewal rules "cannot be justified under [the] statutory standard" of doing something in the public interest, convenience, and necessity,[258] that "[a] significant change to the renewability of a license purchased at auction would . . . constitute a taking under the Fifth Amendment,"[259] and that "[a] subsequent Commission decision that PCS carriers will lose some or all of their licenses during the renewal period if they do not satisfy new, additional build-out requirements or do not serve certain areas would constitute a major breach of the license contract."[260] The Commission's licensing system has never provided any vested right to specific license terms. Rather, it is well established that the Commission

[254] Southern LINC Comments at 7.

[255] *See, e.g.*, AT&T Comments at 6-7, CTIA Comments at 6, Cingular Comments at 4, Dobson Comments at 14, 17, Nextel Partners Comments at 18, Southern LINC Comments at 8-9, Blooston Reply at 9, Nextel Partners Reply at 4, Southern LINC Reply at 7, Sprint Reply at 10-14.

[256] Southern LINC Comments at 9.

[257] *See* Sprint Reply Comments at 15-21.

[258] *Id.* at 15.

[259] *Id.* at 20.

[260] *Id.* at 18.

always retains the power to alter the terms of existing licenses by rule making.[261] Further, at the time Congress introduced auctions into the licensing process, it made clear that this mechanism for assigning licenses was not intended to change the Commission's basic regulatory role or otherwise provide additional rights to auction-winning licensees.[262] Thus, no auction bidder could have assumed that it was buying a license containing terms that the Commission could not modify.

2. Increasing Power Limits for Certain Services

85. *Background.* In the *Rural NPRM*, the Commission observed that "[i]ncreasing 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," and that "[o]ne way to increase the range of radio systems is by increasing power levels."[263] The Commission accordingly sought comment regarding whether we should modify our regulations governing power limits for operations in rural areas, as a means of encouraging service to these areas. Specifically, the Commission asked whether current power limits should be increased for stations located in rural areas and licensed under Parts 22, 24, 27, 80, 87, 90, and 101 of our rules.[264] The Commission also sought comment regarding the implementation of higher power limits, such as how to define "rural area" for purposes of increased power limits and whether, in the case of base/mobile systems, both the base and mobile stations must be located within a rural area.[265] The Commission further acknowledged that there may be certain challenges in implementing increased power levels in rural areas and sought comment on how increased power might increase the potential for harmful interference to neighboring systems or otherwise limit the number of paths in a given area.[266]

86. *Discussion.* Based on the record in this proceeding, we believe that, in principle, increasing power limits in rural areas can benefit consumers in rural areas by reducing the costs of infrastructure and otherwise making the provision of spectrum-based services to rural areas more economic. When we balance this potential benefit, however, against the potential costs of harmful interference, we recognize that we must act carefully to ensure that increased power limits do not cause harmful interference for other licensees. After reviewing the record and evaluating the technical and operational rules for the various services at issue in this proceeding, we conclude that increasing cellular, PCS, and AWS power limits may provide measurable benefits without creating harmful interference for co-channel or adjacent licensees. As we discuss in the following paragraphs, we find that the current

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[261] *See, e.g., United States v. Storer Broadcasting*, 351 U.S. 192, 205 (1956); *Committee for Effective Cellular Rules v. FCC*, 53 F.3d 1309, 1319-20 (D.C. Cir. 1995).

[262] *See* 47 U.S.C. §§ 309(j)(6)(C) (stating that nothing in the auction statute or use of auctions shall "diminish the authority of the Commission under the other provisions of th[e Communications] Act to regulate or reclaim spectrum licenses"); 309(j)(6)(D) (stating that nothing in the auction statute or use of auctions shall "be construed to convey any rights, including any expectation of renewal of a license, that differs from the rights that apply to other licenses within the same service that were not issued pursuant to this subsection").

[263] *Rural NPRM*, 18 FCC Rcd at 20829-30 ¶ 52.

[264] *Id.* at 20831 ¶ 56.

[265] *Id.* at 20831-32 ¶ 57.

[266] *Id.* at 20831 ¶ 55.

cellular, PCS, and AWS technical and coordination rules (with some modifications) will be sufficient to ensure that licensees are able to utilize increased power levels at certain base stations without causing harmful interference.

87. ***Cellular***. We amend our regulations governing the Cellular Radiotelephone Service and authorize increased power limits for cellular base stations that either: (1) are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census; or (2) extend coverage into cellular unserved areas, as those areas are defined in Section 22.949 of the Commission's rules.[267] Specifically, we amend section 22.913(a) of our rules to provide that the Effective Radiated Power (ERP) of such base transmitters must not exceed 1000 Watts.[268] This power increase doubles permissible ERP for selected cellular base stations; prior to this amendment, section 22.913(a) provided that the ERP of base transmitters and cellular repeaters must not exceed 500 Watts.[269] We recognize that a "one size fits all" approach to spectrum management is unlikely to yield optimal spectral efficiency and that, particularly in areas where there is less congestion or where other unique factors are present, it is appropriate to amend our operating parameters to afford licensees greater flexibility. As the Spectrum Policy Task Force noted, "spectrum policy must evolve towards more flexible and market-oriented regulatory models," in order "[t]o increase opportunities for technologically innovative and economically efficient spectrum use."[270] Our action today is consistent with the recommendations of the Spectrum Policy Task Force, which advised that the Commission explore ways of promoting spectrum access and flexibility in rural areas, and stated that the Commission's interference and other technical rules should "afford spectrum users the flexibility to operate at higher power in less congested areas, which are typically rural, so long as such higher power operations do not cause interference and do not receive additional interference protection."[271]

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[267] 47 C.F.R. § 22.949. "Unserved area" is defined as a geographic area that is not within the CGSA of any cellular system authorized to transmit on that channel block. The CGSA is the geographic area served by a cellular system, within which that system is entitled to protection. *See id.*

[268] Note that we are not increasing power limits for cellular base stations that are located in counties with population densities that are greater than 100 persons per square mile, *unless* those base stations are providing coverage to otherwise unserved areas. If a cellular base station is not located in a county with a population density of 100 persons or fewer per square mile, or providing service to an unserved area, the ERP of the cellular base station must not exceed 500 Watts.

[269] 47 C.F.R. § 22.913(a). We note that, to the extent that a power increase results in cellular coverage that extends beyond the licensee's protected CGSA, this additional coverage area does *not* automatically become part of the licensee's CGSA. Cellular carriers must continue to comply with our regulations regarding cellular unserved areas. Cellular carriers may extend coverage into adjacent unserved areas without prior Commission approval, provided that the extension is less than 50 square miles and the Commission is notified of any such extension. Further, any such extension is on a secondary basis only and does not become a part of the licensee's CGSA unless the licensee files a major modification application. *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. 01-08, *Order on Reconsideration*, 19 FCC Rcd 3239, 3256-57 ¶ 41 (2004).

[270] *SPTF Report* at 3.

[271] *Id.* at 59.

88. We believe that this amendment of our regulations governing cellular power limits will promote coverage to rural areas by making it more economical to provide service to these areas. As a result of this power increase, cellular licensees may be able to extend their coverage area and use fewer base stations, thereby lowering their infrastructure costs. As commenters such as OPASTCO/RTG noted, "[r]elaxed limits for licensed operations will provide much-needed relief to rural operators by substantially reducing the costs associated with construction of such systems."[272] We estimate that increasing authorized base station power limits to 1,000 Watts ERP may increase the distance to the licensee's Service Area Boundary (SAB) by as much as 12.5 percent and may increase overall coverage area by as much as 26.6 percent.[273] Consequently, we estimate that, as a result of this power increase, licensees may require up to 21 percent fewer cell sites to provide the same coverage with 1,000 Watts ERP as previously provided with 500 Watts ERP.

89. We limit this power increase to cellular base stations that are located in rural areas or that are providing coverage to unserved areas. We define "rural areas" for purposes of increased power limits as counties with a population density of 100 persons per square mile or less. Specifically, permitting power increases in areas where the population density is 100 persons or less captures much of the geographic area where service is not provided by both the A- and B-block cellular carriers (or, in some instances, by either cellular carrier). After conducting an analysis of current cellular licenses in the United States, we have determined that there are 625 counties that have some area that is not covered by the license of an A-block and/or B-block cellular provider. Of these 625 counties, 577 of these counties have a population density of 100 persons per square mile or less.[274] As an additional matter, in order to promote cellular coverage to areas that lack cellular service but otherwise are not captured by this definition of "rural area," we amend our rules to permit carriers to use higher power at base stations located in counties with a greater population density, provided those base stations are providing coverage to unserved areas, as defined by our rules.[275] We also limit this power increase to cellular base stations more than 72 kilometers (45 miles) from the Mexican and Canadian borders, consistent with our current

[272] OPASTCO/RTG Comments at 6-7; *see also* Blooston Comments at 18 (generally supporting increased power levels and stating that "[a] major consideration in any rural system design is cost"); *see also* Ericsson Reply at 6 (stating that increased power limits "would improve service and coverage areas without requiring as many base stations, thus improving economic feasibility of such systems"); *see also* National Rural Telecommunication Comments at 6 (stating that "increasing the range of radio systems through increased power levels is one means of making it more economical to provide spectrum-based radio services in rural areas"); *see also* RCA Comments at 9.

[273] These calculations are based on our standard formula for determining the distance from a cell transmitting antenna to the SAB, as set forth in section 22.911(a) of our rules. *See* 47 C.F.R. § 22.911(a).

[274] We note that, of these 577 counties, 536 are located within RSAs. We adopt a definition of "rural area" based on population density, rather than adopting an alternative definition such as RSAs, because this population density-based definition captures a greater percentage of the area where consumers do not have coverage by the A- and/or B-block cellular provider.

[275] *See* 47 C.F.R. § 22.99. As we state earlier, cellular carriers must continue to comply with our unserved area rules. *See supra* ¶ 89. An extension into adjacent unserved areas is permitted without prior Commission approval, provided the Commission is notified and the extension is less than 50 square miles. These extensions are on a secondary basis. A licensee must file a major modification application if it would like to incorporate this new area into its CGSA.

agreements with those countries.[276]

90. We note that commenters expressed concern that higher power limits might result in harmful interference to other licensees.[277] Some commenters urged the Commission to conduct interference studies[278] or otherwise "further investigate the possibility of increasing power levels in rural areas, in a manner that responsibly addresses any potential interference concerns."[279] Further, some commenters urged the Commission to refrain from increasing power limits due to the potential for harmful interference or other detrimental effects on other services.[280] We have carefully considered the concerns raised by commenters and believe that this limited amendment of our cellular rules will increase licensee flexibility without increasing the likelihood of harmful interference. Our regulations governing the provision of cellular service already contain specific safeguards that are designed to minimize the likelihood of harmful interference by clearly defining protected service areas for each cell site, and requiring licensee coordination near system boundaries. We find that applying these same requirements to higher power base stations will minimize the potential for harmful interference. Specifically, the Service Area Boundary (SAB) of each cellular base station is defined by a formula based on antenna height and transmitter power, and the formula's underlying assumptions are still valid for power levels up to 1000 Watts.[281] Using the existing formula, the SAB distance for a particular base station will increase as the power level increases. However, because the rules prevent a base station SAB from overlapping other licensees' CGSAs, such power increases will only be permitted so long as they do not infringe upon other licensees' systems.[282] One example of how increased power may be utilized under these restrictions is where a licensee seeks to extend service into currently unserved areas. Because the areas are unserved by other carriers, the SAB increase will not overlap any other licensee's CGSA. Another example could be where a carrier wishes to improve service quality by increase signal levels within their own CGSA. In other words, the SAB increase for the particular base station would be completely within the licensee's CGSA, and therefore would not infringe upon other licensees' CGSAs.

91. As an additional safeguard, the Commission's rules currently provide that licensees must coordinate channel usage at each transmitter location within 75 miles of any transmitter locations authorized to other licensees or proposed by tentative selectees or other applicants.[283] This requirement

[276] 47 C.F.R. §§ 22.955 and 22.957.

[277] *See* ITA Reply Comments at 9; *see also* Western Wireless Reply Comments at 11; *see also* Nextel Partners Reply Comments at 14 (stating that limits on power levels should not be relaxed in rural areas, due to interference issues).

[278] ITA Reply Comments at 9.

[279] CTIA Comments at 10.

[280] For example, Nextel Partners stated that "[h]igher power limits result in greater potential interference, less potential for re-use of spectrum in adjacent or nearby areas, and, for higher-powered handsets, systematic problems that may arise when such handsets are transported to an urban environment." *See* Nextel Partners Comments at 19.

[281] 47 C.F.R. § 22.911(a).

[282] *Id.* § 22.911(d).

[283] *See id.* § 22.907(a). Licensees are not obligated to coordinate with other mutually exclusive applicants. *Id.*

recognizes that the SAB/CGSA overlap restriction described above permits licensees to provide service quality signal levels up to the edge of another licensee's system boundary. While this approach facilitates seamless coverage for consumers, it requires careful coordination among neighboring licensees in order to avoid interference. For years licensees have been coordinating system frequency plans with one another in order to ensure high levels of service quality and seamless roaming along system boundaries. Going forward, we believe this coordination requirement will perform equally well in coordinating high power operations.

92. Our decision here to authorize higher power levels for cellular licensees, subject to certain safeguards to protect other cellular services does not diminish in any way the obligations we impose today on cellular licensees in the *800 MHz Order* to protect public safety and other non-cellular operations in the adjacent 800 MHz band from interference.[284] As explained in detail in that Order, we adopt a specific standard defining "unacceptable interference" to such operations in that band and require other licensees, including cellular licensees, to immediately take all steps necessary, including the implementation of Enhanced Best Practices, to abate such interference.[285] Cellular licensees wishing to utilize the increased power levels authorized in this Order can do so only to the extent that they also remain in compliance with their *800 MHz Order* obligations.

93. Several commenters stated that increased power limits would not necessarily facilitate increased coverage due to handset limitations or other technical constraints.[286] The Commission acknowledged this concern in the *Rural NPRM*, stating that "increasing the base station power level may not improve the communications range unless the mobile unit [or handset] is capable of returning a signal to the base station antenna."[287] Although increasing the power of the handset might address this issue by increasing the mobile unit's ability to "talk" to the base station, several commenters indicated that increasing handset power would be problematic, in light of the fact that a handset is likely to be used in urban as well as rural areas and might introduce interference concerns if used in an urban setting.[288] We agree with these commenters and find that there is no need to increase handset power limits at this time. We do not believe that increasing handset power is necessary, however, in order for cellular licensees to benefit from increased power limits. First, nearly all cellular phones on the market today operate at power levels well under the maximum permitted under our rules, which suggests that our regulations

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[284] Improving Public Safety Communications in the 800 MHz Band Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket No. 02-55, *Report and Order, Fourth Report and Order, Memorandum Opinion and Order, and Order,* FCC 04-168 (rel. August 6, 2004) (*800 MHz Report and Order*). Public safety receivers operate in the 806-824 MHz and 851-869 MHz bands. We note that these bands are not, in their entirety, allocated for public safety use. Public safety systems have exclusive use of channels in the 821-824 MHz 866-869 MHz band segment and share channels with other services in the 809.75-816 MHz /854.75-861 MHz band segment. *See also* Improving Public Safety Communications in the 800 MHz Band; Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket No. 02-55, *Notice of Proposed Rulemaking*, 17 FCC Rcd 4873 (2002) (*800 MHz NPRM*).

[285] *See* generally *800 MHz Report & Order* at ¶¶ 19, 88-132.

[286] *See* Blooston Comments at 18; *see also* ITA Comments at 9; *see also* Western Wireless Reply Comments at 11.

[287] *Rural NPRM*, 18 FCC Rcd at 20830 ¶ 52.

[288] *See* Nextel Partners Reply Comments at 14; *see also* CTIA Comments at 9.

already permit sufficient handset power. Today's handsets generally utilize low power in order to comply with our RF safety rules and to extend battery life. Second, cellular licensees may overcome handset constraints by employing an external means of boosting the handset's signal, or by adding amplifiers at the base station to boost the received signal. For example, a cellular carrier may use an external amplifier or otherwise use a tower top amplifier at the base station. In any case, cellular technology continues to develop and we expect that technical limitations may diminish over time as technology evolves. Further, our action affords licensees with additional flexibility to take advantage of new technological advancements without being unduly constrained by Commission requirements.

94. In addition, we note that some wireless carriers are considering the use of directional antennas to improve network performance,[289] and that such antennas have the potential to help improve communications in rural areas by achieving higher gain, mitigating the effects of multipath, improving frequency bandwidth performance, and providing better directional control over emissions.[290] As such, directional handset antennas would provide improved reception quality at the cellular tower receiver, significant improvement of voice quality near the edge of a cell, potentially larger cell sites with fewer base stations, and lower power consumption in handsets, improving battery life.[291] Although handsets that employ directional antennas may need to be slightly reoriented when used in certain locations, techniques such as antenna diversity are being considered to combat large-scale fading effects caused by shadowing from large obstacles (*e.g.*, buildings or other terrain features).[292] Because directional handset antennas have the potential to significantly increase the strength of signals transmitted from handsets, as well as provide efficiency benefits both to the wireless network and to battery life, there are several benefits that could be gained from their increased use in handsets.[293] Importantly, directional handset antennas, coupled with an increase in base stations' transmitted power, have the potential to significantly improve wireless communications in many rural areas.

95. ***Broadband PCS***. Similar to our treatment of cellular above, we will provide for

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[289] Some carriers are considering deploying directional phone and base stations antennas in so-called "diversity schemes" in order to improve wireless system performance and reduce the number of base stations needed. *See* D. McDonough, Jr., "Building a Better Wireless Antenna," *Wireless News Factor,* June 5, 2002 (visited June 9, 2004) <http://www.skycross.com/WNF_06052002.asp>. *See also* C. Beckman, "Development Trends in Antennas for Mobile Phones," Portable 2001 Conference, February 13-15, 2001, San Jose, CA (visited June 9, 2004) http://www.s3.kth.se/signal/edu/seminar/01/Portable2000.pdf>; J. H. Winters, "Smart Antennas for Wireless Systems," *IEEE Personal Communications,* February 1998 at 23-27; F. Viquez, "Smart Antenna Deployment in Next-Generation Wireless Systems" (visited June 9, 2003) <http://www.base-earth.com/march-april2002/allied.html>.

[290] *See Rural NPRM*, 18 FCC Rcd at 20829-30 ¶ 52.

[291] *See* F.M. Caimi, Ph.D., Senior Scientist, "MLA Antennas – Physically Small, Electrically Large," Skycross, Inc., 2003 (visited June 9, 2004) <http://www.skycross.com/MLA_antenna.asp>.

[292] *See* A.J. Paulraj, D. Gesbert, C. Papadias, "Smart Antennas for Mobile Communications," *Paulraj, Gesbert, Papadias Encyclopedia for Electrical Engineering*, John Wiley Publishing Co., 2000, available at <http://heim.ifi.uio.no/~gesbert/papers/encyclopedia_chapter.pdf> (visited Mar. 5, 2003).

[293] Of course, manufacturers would still need to comply with the RF safety rules contained in Part 2 of the Commission's rules. *See* 47 C.F.R. Part 2, Subpart J, of the Commission's rules.

increased power limits for broadband PCS.[294] Specifically, we increase power levels by 100 percent for broadband PCS base stations located in rural areas, in parity with the cellular power levels adopted in this proceeding. We note that broadband PCS power levels are tied to antenna heights, so that the authorized power for a given broadband PCS base station would vary, depending upon the accompanying antenna height.[295] For example, a base station with an antenna with a height above average terrain (HAAT) of 300 meters or less may operate at a maximum of 1640 watts peak equivalent isotropically radiated power (EIRP). Thus, for base stations of 300 meters or less in rural areas, we will allow an increase from 1640 to 3280 watts EIRP.

96. As with the modification of our cellular regulations, we believe that this modification of our PCS regulations will allow licensees to increase their coverage while using fewer base stations, thereby reducing the costs of providing service to rural areas. We estimate that permitting broadband PCS licensees to increase their power by 100 percent will increase the distance from the base station to the edge of their coverage area by 17 percent and will increase the overall coverage area by 36 percent.[296] As a result, we estimate that a broadband PCS licensee using increased power will require 27 percent fewer sites in order to provide the same coverage provided using current power limits.

97. We find that the current market-boundary signal strength limit, in conjunction with a coordination requirement, will minimize the potential for harmful interference among licensees. Currently, broadband PCS licensees cannot exceed a signal strength of 47 dBμV/m at their geographic market-boundary unless neighboring licensees agree to a higher level.[297] This means that, regardless of the location, height, or power level of broadband PCS base stations, the signal level at the market-boundary may not exceed this maximum level without mutual agreement. Therefore, we find that permitting a 100 percent increase in power levels at broadband PCS base stations will not increase the potential for harmful interference beyond what exists today. At the same time, we note that the 47 dBμV/m limit is a "service quality" signal level that promotes coverage up to the edge of the market boundary, and seamless roaming across market boundaries in certain instances. In other words, although there is no formal coordination requirement, neighboring licensees must as a practical matter coordinate frequency plans and site locations along market boundaries in order to avoid interference. As a

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[294] *See* 47 C.F.R. § 24.232.

[295] We are revising Section 24.232 to provide 100 percent power increases as a function of height as follows: for antennas of 300 feet increase from 1640 to 3280 watts, for antennas of 500 feet increase from 1070 to 2140 watts, for antennas of 1,000 feet increase from 490 to 980 watts, for antennas of 1500 feet increase from 270 to 540 watts, and for antennas of 2,000 feet increase from 160 to 320 watts.

[296] We based these calculations on a theoretical system placed in rural, western Kansas. We utilized the Okumura-Hata propagation model assuming a 1900 MHz PCS base transmitter, flat terrain, average height AMSL of 230 m, open clutter, omni-directional antennas (9 dBd gain), antenna centerline (all sites) of 60 m AGL, mobile height of 3m, received signal level of –102 dBm, and mobile power of 0.8 watts EIRP. The Okumura-Hata propagation model makes use of numerous correction factors, including adjustments for the degree of urbanization, terrain slope and roughness, receiver location relative to nearby hills and valleys, general street orientation in the service area, and localized obstructions. *See* Okumura, Y., E. Ohmori, T. Kawano, and K. Fukuda, "Field strength and its variability in VHF and UHF land-mobile radio service," *Rev. Elec. Com. Lab.* 16 at 825-73 (Sep./Oct. 1968)) *and* M. Hata, "Empirical formula for propagation loss in land mobile radio services," *IEEE Trans. Veh. Techol.,* vol 29, pp. 317-325, Aug. 1980.

[297] 47 C.F.R. § 24.236.

cautionary measure, we will require that licensees using higher power levels coordinate operations with all licensees within 75 miles of the relevant base station. This requirement will supplement the existing signal strength limit and underscore our intention that licensees must coordinate spectrum usage along common boundaries. We note that this power increase applies only to broadband PCS base stations, and not to mobile units.[298] For the reasons stated above for the 800 MHz cellular service, we find that there is not reason to increase mobile power levels at this time.

98. We also note that the Commission is taking steps to address interference concerns more generally and that these additional measures might protect other licensees from harmful interference.[299] We are optimistic that these initiatives might effectively address interference concerns in a flexible manner and alleviate the need to impose detailed, service-specific coordination requirements.

99. Finally, as we did with 800 MHz cellular, we limit this power increase to broadband PCS base stations located in counties with population densities of less than 100 persons per square mile and those located more than 75 miles from the Mexican and Canadian borders. As stated above, we find that a majority of areas likely to be unserved or underserved are located in such counties. Further, because our existing agreements with Mexico and Canada are based on the prior maximum power limits, we retain those limits for border areas.[300]

100. ***AWS***. In the *AWS Report and Order*, the Commission adopted the PCS power limit of 1640 watt EIRP for AWS base stations. The Commission noted, however, that the *Rural NPRM* had proposed an increase in the power limit for PCS operations in rural areas and indicated that, in the event we adopted higher power limits for PCS services, we would "explore the possibility of similar power

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[298] We retain the current 2 watts EIRP limit for broadband PCS mobile and portable units. *See* 47 C.F.R. § 24.232(b).

[299] *See* Interference Immunity Performance Specifications For Radio Receivers, ET Docket No. 03-65, Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, MM Docket No. 00-39, *Notice of Inquiry,* 18 FCC Rcd 6039 (2003) (*Receiver Performance NOI*) (a proceeding that considers incorporation of receiver interference immunity performance specifications in its spectrum policy). In the *Receiver Performance NOI*, the Commission stated that, "[i]n many cases, the effects of RF interference can be mitigated or eliminated through attention to receiver hardware design and signal processing software." *Id.* at 6042 ¶ 10. In addition, the Commission also recently initiated a proceeding that seeks comment on a potential new way to assess interference among different services, called "interference temperature." *See* Establishment of an Interference Temperature Metric to Quantify and Manage Interference and to Expand Available Unlicensed Operation in Certain Fixed, Mobile And Satellite Frequency Bands, ET Docket No. 03-237, *Notice of Inquiry and Notice of Proposed Rulemaking*, 18 FCC Rcd 25309 (2003). As the Commission noted in that proceeding, "[t]his new approach could provide radio service licensees with greater certainty regarding the maximum permissible interference, and greater protections against harmful interference that could be present in the frequency bands in which they operate." *Id*. at 25310 ¶ 1.

[300] Interim Sharing Arrangement Concerning the Use of the 1850 to 1990 MHz Band for Personal Communications Services along the United States and Canadian Border, Nov. 14, 1994, Industry Canada-Federal Communications Commission, 4.2 (agreeing to require coordination of all PCS systems within 120 km (75 miles) of border), http://www.fcc.gov/ib/sand/agree/files/can-nb/pcs-bb.pdf ; Protocol Concerning the Use of the Band 1850-1990 MHz for Personal Communications Services along the United States and Mexican Border, 4.2(agreeing to require coordination of all PCS systems located within 72 km (45 miles) of the border), http://www.fcc.gov/ib/sand/agree/files/mex-nb/pcs1850e.pdf.

increases for AWS."[301] Thus, similar to our treatment of cellular and broadband PCS above, we will provide for increased power limits for AWS. Specifically, we increase power levels for AWS base stations located in rural areas by 100 percent, or up to 3280 watts EIRP in parity with the cellular and broadband PCS power levels adopted in this proceeding.

101. As with the modification of our cellular and broadband PCS regulations, we believe that this modification of our AWS regulations will allow licensees to increase their coverage while using fewer base stations, thereby reducing the costs of providing service to rural areas. We estimate that increasing authorized base station power limits to 3280 Watts EIRP may increase the distance to the licensee's edge of coverage by as much as 17 percent and may increase overall coverage area by as much as 36 percent.[302] Consequently, we estimate that, as a result of this power increase, licensees may require up to 27 percent fewer cell sites to provide the same coverage with 3,280 Watts EIRP as previously provided with 1640 Watts EIRP. We estimate that permitting AWS licensees to increase their power by 100 percent will increase the distance from the base station to the edge of their coverage area in an amount similar to broadband PCS, thereby requiring fewer sites in order to provide the same coverage provided using current power limits. As with broadband PCS, we find that the current market-boundary signal strength limit[303], in conjunction with a coordination requirement, will minimize the potential for harmful interference among AWS licensees, and licensees in neighboring bands.[304] Therefore, as a cautionary measure, we will require that licensees using higher power levels coordinate operations with all affected licensees within 75 miles of the relevant base station and with certain satellite entities.[305] As with broadband PCS, this requirement will supplement the existing signal strength limit and underscore our intention that licensees must coordinate spectrum usage along common boundaries. We note that this power increase applies only to AWS base stations, and not to mobile units. For the reasons stated above for the 800 MHz cellular service, we find that there is not reason to increase mobile power levels at this time. Finally, as we did with broadband PCS, we limit this power increase to AWS base stations located in counties with population densities of less than 100 persons per square mile. As stated above, we find that a majority of areas likely to be unserved or underserved are located in such counties.

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[301] Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, *Report and Order*, 18 FCC Rcd 25162, 25202 ¶ 102 n. 265 (2003) (*AWS Report and Order*).

[302] *See supra* note 297.

[303] 47 C.F.R. § 27.55.

[304] AWS base stations will transmit in the 2110-2155 MHz band, which currently contains Part 101 fixed, point-to-point microwave and Part 21 MDS operations. Furthermore, the spectrum below the 2110-2155 MHz band contains various satellite services, as well as Broadcast Auxiliary Service (BAS), which is licensed under Part 74 of our rules, and Cable Television Relay Service (CARS) operations, which is licensed under Part 78 of our rules. The spectrum above the AWS frequencies, the 2155-2160 MHz band, contains Part 21 MDS operations.

[305] At present, AWS licensees already must coordinate with nearby, incumbent co-channel and adjacent channel Part 101 and MDS licensees. Due to concern about the possibility of both out-of-band emission (OOBE) and receiver overload interference from AWS base stations to BAS and CARS operations, the Commission also has decided that AWS licensees must coordinate their operations with affected BAS and CARS licensees. In addition to these existing coordination requirements, higher power AWS operations must also be coordinated with adjacent channel AWS licensees, Part 21 MDS licensees operating above 2155 MHz, as well as all Government and non-Government satellite entities operating in the 2025-2110 MHz band.

102. ***Other Radio Services.*** At this time we will not adopt increased power levels in other radio services. We note that several commenters opposed increases in power limits or otherwise expressed concern with respect to changes to specific service rules. For example, XM Radio Inc. asked the Commission "to refrain from taking any action . . . to increase the power limits of 2.3 GHz [Wireless Communications Services] facilities,"[306] noting that no commenter has expressly supported a power increase for these facilities and that "no entity has made a showing that authorizing an increase in the power of 2.3 GHz WCS facilities in rural areas will not cause harmful interference to [Satellite Digital Audio Radio Service] repeaters."[307] Similarly, HNS expressed concern with respect to increasing power for those terrestrial wireless services that share spectrum with satellite operations.[308] We note that many bands are shared by fixed terrestrial and satellite operations on a coordinated basis and allowing increased power for existing operations could foil the coordinated sharing situation.[309] In light of the fact that we did not receive supporting comments by those who would stand to benefit from such power increases, we decline to modify power levels for: (1) 2.3 GHz WCS facilities; or (2) licensed terrestrial services that operate in frequency bands that are shared by satellite services.

103. We also decline MDS America's request that the Commission adopt higher power limits and increased operating parameters for the Multichannel Video Distribution and Data Service (MVDDS).[310] First, the Commission expressly excluded MVDDS stations licensed under Part 101 from the scope of its power limits inquiry, noting that the Commission recently increased power levels for all MVDDS stations in a separate proceeding.[311] Second, we agree with commenters that MDS America's request constitutes a late-filed petition for reconsideration of this prior Commission action.[312] Furthermore, we decline to take any action with respect to unlicensed services in this proceeding. We will incorporate comments addressing power limits for unlicensed services into the record of the Cognitive Radio NPRM and will respond to these comments in the context of that proceeding.[313]

104. In conclusion, we decline to adopt increased power limits for any of the other radio services for which we sought comment in the *Rural NPRM*, due to lack of support in the record. We note,

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[306] XM Reply Comments at 3.

[307] *Id.* at 2.

[308] *See* HNS Reply Comments at 3-5.

[309] At the same time, we believe that new fixed terrestrial operations may be able to be coordinated into a rural area with increased power, if necessary, without impacting existing satellite operations.

[310] *See* MDS America Comments at 2-8.

[311] *See Rural NPRM*, 18 FCC Rcd at 20831 n. 119 (citing 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)).

[312] *See* DIRECTV Reply Comments at 3, Skybridge Reply Comments at 2.

[313] *See Cognitive Radio NPRM* at ¶¶ 36-47.

however, that licensees in these services may file a request for waiver of these power limits. We will entertain waiver requests on a case-by-case basis. Any such waiver request should demonstrate how a waiver of our power limits will promote the public interest. In addition, licensees seeking to obtain a waiver of our power limits must adequately address any potential interference concerns that may arise as a result of such increased power.

3. Infrastructure Sharing

105. *Background.* The *Rural NPRM* sought comment on whether clarifying the Commission's policy on infrastructure sharing may promote service in rural markets.[314] The Commission also stated that certain carriers in the United States have entered into sharing arrangements,[315] and sought comment on the extent to which infrastructure sharing would promote service in rural areas and on the costs and benefits associated with such arrangements in the context of competition.[316] Infrastructure sharing offers the potential for wireless service providers to share facilities and other infrastructure in order to provide spectrum-based services on a more cost-effective basis, including service to rural areas.[317] A key objective underlying such arrangements is the possible reduction in costs of capital construction in rural areas,[318] and the creation of opportunities for enhanced and expanded coverage.[319] A number of infrastructure sharing arrangements have been entered into in the United States, and some of the parties to such transactions have claimed that these lead to lower costs associated with expanded geographic coverage.[320] Generally, because there are fewer providers in rural areas than in more populated areas, infrastructure sharing may permit more providers to operate in rural areas and thus encourage more competitors to enter those markets.[321]

106. As noted in the *Rural NPRM*, infrastructure sharing includes sharing of infrastructure-related equipment, including antennas, towers, and network elements such as switches and nodes.[322] Commission rules and policies, including our environmental rules,[323] have enabled the sharing of towers and other antenna support structures for the provision of spectrum based services by multiple service

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[314] *See Rural NPRM*, 18 FCC Rcd at 20849-53 ¶¶ 100-08.

[315] *Id.* at 20849-50 ¶ 101.

[316] *Id.* at 20851 ¶¶ 106-107

[317] *See id.* at 20849 ¶ 100.

[318] *Id.*; RCA Comments at 14, NTCH Comments at 2-3, CTIA Comments at 15, Western Wireless Reply Comments at 10. *See also* T-Mobile Reply Comments at 3 (commenting on potential cost efficiency).

[319] *Cf.* CTIA Comments at 15-16, RCA Comments at 14.

[320] *See Rural NPRM*, 18 FCC Rcd at 20849-50 ¶ 101 (citing *Eighth Competition Report*, 18 FCC Rcd at 14808 ¶ 46) (identifying AT&T Wireless/Sprint agreement to cooperate in the construction of new wireless towers).

[321] *See Rural NPRM*, 18 FCC Rcd at 20850-51 ¶ 104.

[322] *Id*. at 20849 ¶ 100.

[323] *See* 47 CFR § 1.1306 n. 1 (providing that "[t]he use of existing buildings, towers or corridors is an environmentally desirable alternative to the construction of new facilities and is encouraged.").

providers. Moreover, the Commission has both facilitated and encouraged the collocation of antennas on existing towers.[324] Existing operators have taken advantage of these policies to enter into tower sharing arrangements.[325] Indeed, some companies have made a business of constructing and maintaining towers on which multiple licensees can locate their transmitters and receivers.[326]

107. In addition to these infrastructure sharing arrangements, parties may also be able to expand or improve service to rural areas through spectrum leasing arrangements – whereby licensees in effect share the use of their licensed spectrum with spectrum lessees – under the policies, rules, and procedures established in the *Secondary Markets* proceeding.[327] In the *Secondary Markets Report and Order*, the Commission established policies and rules to enable spectrum users in most wireless radio services to gain access to licensed spectrum by entering into different types of spectrum leasing arrangements with licensees, and streamlined its approval procedures for license assignments and transfers of control.[328] Also, in the companion *Secondary Markets Second Report and Order,* we clarify that spectrum leasing parties may enter into a variety of dynamic leasing arrangements in which licensees and spectrum lessees share the use of the same licensed spectrum.[329]

108. Depending on their structure, infrastructure sharing arrangements may raise transfer of control considerations under Section 310(d) of the Communications Act, as amended.[330] Under that statute, prior Commission approval is required to transfer control of or assign licenses (or parts of licenses, where permitted) to third parties. For many licensees in the wireless radio services, the Commission has interpreted Section 310(d) *de facto* control requirements pursuant to its *Intermountain Microwave* decision,[331] which focuses on whether the licensee, as opposed to an unlicensed third party,

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[324] *See* Nationwide Programmatic Agreement for the Collocation of Wireless Antennas, executed by the FCC, the National Conference of State Historic Preservation Officers, and the Advisory Counsel for Historic Preservation (Mar. 16, 2001), published at 66 Fed. Reg. 17554 (Apr. 2, 2001) (*Antenna Collocation Programmatic Agreement*) (stating that "the FCC encourages collocation of antennas where technically and economically feasible, in order to reduce the need for new tower construction.").

[325] *See Eighth Competition Report*, 18 FCC Rcd at 14808 ¶ 46 (identifying AT&T Wireless/Sprint agreement to cooperate in the construction of new wireless towers); *Rural NPRM*, 18 FCC Rcd at 20849-50 ¶ 101.

[326] *See, e.g.*, "Crown Castle International, Products & Services, Towers & Rooftops," < http://www.crowncastle.com/services/sites/rooftop.shtml> (tower builder discussing benefits from building one structure or site that can be shared by multiple users); "American Tower Corporation, Services," http://www.americantower.com/mainweb/colocation.asp> (tower builder stating that collocation is available through leasing for carriers faced with increased capital costs and the need for speedy access to markets). In addition, antenna structure owners are ultimately responsible for compliance with the Commission's rules regarding antenna structure registration, painting and lighting of the structures. See 47 C.F.R. §§ 17.2(c), 17.4, 17.6.

[327] *See generally Secondary Markets Report and Order,* 18 FCC Rcd at 20604.

[328] *See id.* at 20607-85 ¶¶ 1-203.

[329] *See Secondary Markets Second Report and Order* at ¶¶ 10-84.

[330] 47 U.S.C. § 310(d).

[331] *Intermountain Microwave*, 12 FCC 2d 559 (1963).

exercises close working control over different aspects of the operation of the station facilities that use the spectrum. Specifically, the Commission applied six factors for determining who has *de facto* control by examining whether a licensee: (1) has unfettered use of all station facilities and equipment; (2) controls daily operations; (3) determines and carries out the policy decisions (including preparation and filing of applications with the Commission); (4) is in charge of employment, supervision and dismissal of personnel operating the facilities; (5) is in charge of the payment of financial obligations, including expenses arising out of operations; and (6) receives the monies and profits from the operation of the facilities.[332] Under *Intermountain Microwave*, the Commission has interpreted Section 310(d) *de facto* control to require that the licensees exercise close working control of both the actual facilities/equipment operating the radiofrequency (RF) energy and the policy decisions, *e.g.*, business decisions, regarding use of the spectrum.

109. In its *Secondary Markets Report and Order*, the Commission determined that, in the context of spectrum leasing, it would replace the *Intermountain Microwave* standard with a more flexible standard for determining whether there has been a transfer of *de facto* control under Section 310(d). Under the new *de facto* control standard adopted in that proceeding, we no longer require that, when leasing spectrum, licensees exercise close working control over station facilities, determine the services that are provided, or set the policies affecting the station(s) operating with the spectrum licensed to them under their authorizations.[333] Instead, the Commission determined that licensees in applicable wireless services may lease spectrum usage rights to spectrum lessees, without the need for prior Commission approval, so long as the licensee continues to exercise effective working control over the use of the spectrum it leases.[334]

110. The *Rural NPRM* stated that, where infrastructure sharing arrangements do not involve a transfer of control of licensed spectrum usage rights under Section 310(d), Commission review is not required, but that infrastructure sharing arrangements that involve a transfer of control under Section 310(d) require Commission review.[335] The Commission noted that in the *Secondary Markets* proceeding it has streamlined the transfer of control and assignment process, and sought comment in the *Rural NPRM* on whether other steps may be taken that could further streamline this process.[336] Comment was sought on the factors to consider in evaluating infrastructure sharing arrangements that require Section 310(d) approval in order to effectively balance competition among providers and expanded coverage in rural areas.[337]

111. A number of comments generally support infrastructure sharing,[338] and state that costs are

[332] *Id.* at 559-60.

[333] *Secondary Markets Report and Order*, 18 FCC Rcd at 20635 ¶ 64.

[334] *Id*. at 20635-36 ¶ 65. We also require that the Commission be notified of the spectrum leasing arrangement and the identity of the spectrum lessee. *Id.* at 20659-60 ¶124.

[335] *Rural NPRM,* 18 FCC Rcd at 20850 ¶ 102.

[336] *Id.* at 20851 ¶ 105.

[337] *Id.* at 20851 ¶ 107.

[338] *See* RCA Comments at 14, NTCH Comments at 2, Ericsson Reply Comments at 2, CTIA Comments at 15, USCC Comments at 2, 8, T-Mobile Reply Comments at 3, OPASTCO/RTG Comments at 13, Cingular at 6.

reduced and access may be improved as a result of such sharing arrangements.[339] Some commenters ask us to clarify that infrastructure sharing arrangements will not be reviewed using the *de facto* control standard as interpreted by the Commission in *Intermountain Microwave* for purposes of determining whether there would be a transfer of control under Section 310(d).[340] Instead, comments request that we apply the revised *de facto* control standard for spectrum leasing established in *Secondary Markets* to determine whether there has been a transfer of control under Section 310(d) for infrastructure sharing.[341] Nextel, however, states that the Commission's current rules and policies do not impede the formation or implementation of infrastructure sharing arrangements and that no change to the Commission's current approach is necessary.[342]

112. *Discussion*. We believe that infrastructure sharing offers the potential for benefits to both providers and consumers. Infrastructure sharing should be encouraged because of the potential for savings in capital costs for construction of facilities necessary to deploy wireless services, and for the improved or enhanced coverage in rural and other areas that otherwise may not be economical for providers to offer without some form of sharing. As we observed in the *Rural NPRM*, infrastructure sharing arrangements have been considered in both the United States and in Europe, with apparently favorable results.[343] The actions we take today seek to further encourage beneficial infrastructure sharing arrangements.

113. We determine in this *Report and Order* that a revised *de facto* control standard, different from the *de facto* control standard under *Intermountain Microwave*, should be extended to infrastructure sharing arrangements that only involve the sharing of facilities such as physical structures and equipment. Specifically, the revised *de facto* control standard for spectrum leasing in *Secondary Markets* shall apply for interpreting whether a licensee retains *de facto* control for purposes of Section 310(d) when it is engaged in an infrastructure sharing arrangement. We believe that this policy will encourage the development of arrangements that potentially reduce costs for providers and improve coverage in rural areas. We note, however, that to the extent that licensees are sharing spectrum usage rights with third parties under spectrum leasing arrangements, such arrangements will be subject to the policies, rules, and

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[339] *See* RCA Comments at 14, NTCH Comments at 2, Cingular Comments at 6, CTIA Comments at 15. *See also* T-Mobile Reply Comments at 3.

[340] *See* Ericsson Reply Comments at 4 (commenting with respect to "shared" networks); Nextel Partners Reply Comments at 7.

[341] Ericsson Reply Comments at 4, Cingular Comments at 6, USCC Comments at 9, AT&T Reply Comments at 11.

[342] Nextel Communications Reply Comments at 11.

[343] In the *Rural NPRM*, the Commission identified certain arrangements between various providers in the United States, including agreements to use each other's infrastructure in different geographic areas, build a network along highways in the Western and Midwestern United States, and cooperate in the building and maintaining of new wireless towers. *See Rural NPRM*, 18 FCC Rcd at 20849-50 ¶ 101. The Commission also observed that there were preliminary conclusions in Europe to view favorably certain sharing arrangements for the provision of 3G services which should allow for faster rollout and greater coverage, particularly in remote and rural areas. *Id.* at 20850 ¶ 103.

procedures set forth in the Commission's *Secondary Markets* proceeding in WT Docket No. 00-230.[344]

114. The Commission stated in the *Secondary Markets Report and Order* that revision of the *de facto* transfer of control test "may be warranted as the public's interests and needs change and the nature of a service evolves."[345] The Commission further stated that "continuing to focus on one type of control (*e.g.*, control over facilities) may no longer constitute the best way to further the complex and sometimes competing public interest goals of today."[346] The "sea change" that has taken place in the regulatory and technological environment for wireless services was addressed by the Commission, which identified some of the actions it has taken to promote innovative policies that seek to increase communications capacity and efficiency of spectrum use, and to make spectrum available for new uses and users.[347] Against this backdrop, comments to the *Rural NPRM* state that small regional operators often face significant financial barriers to constructing wireless networks, and that smaller communities may not be able to support a multiple number of carriers.[348] Comments confirm the benefits that may result from infrastructure sharing. For example, RCA states that sharing "should be permitted as a means to minimize capital costs among cooperating carriers and to provide service to more consumers in rural areas."[349] NTCH acknowledges that the population in many rural markets cannot sustain the number of carriers that serve in major markets, and that sharing may be a means of eliminating some capital costs.[350] CTIA states that infrastructure sharing can "play a powerful role in improving both wireless deployment and competition by reducing the costs of capital construction in rural areas."[351]

115. There have been significant changes in the communications industry since the *Intermountain Microwave de facto* standard was established over 40 years ago, including the rise of new technologies for the industry and the Commission's increasing efforts to afford quick and effective means for parties to adapt to markets and to the needs of consumers. Under these circumstances, we no longer believe that it is necessary to continue to require that a licensee exercise immediate direct control over every facility that may be operating in connection with the provision of services using its spectrum. Accordingly, we will apply the more flexible *de facto* control standard set forth in the *Secondary Markets*

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[344] In addition to the provisions made available through the Commission's actions in that proceeding, licensees and other parties seeking to enter into sharing arrangements that directly include the use of spectrum licensed by the Commission are free to avail themselves of other procedures to the extent appropriate, including the filing of applications pursuant to Section 310(d) seeking full or partial assignments of licenses.

[345] *Secondary Markets Report and Order*, 18 FCC Rcd at 20631 ¶ 55.

[346] *Id.*

[347] *Id.* at 20632 ¶ 57 (discussing Commission adoption of policies to provide increased flexibility for licensees to respond quickly and effectively to evolving needs, technologies, and market developments).

[348] *See* Ericsson Reply Comments at 2, NTCH Comments at 2.

[349] RCA Comments at 14.

[350] NTCH Comments at 2-3.

[351] CTIA Comments at 15; *see also* Cingular Comments at 6 (commenting that sharing may entice carriers to extend service to rural areas where they may not otherwise deploy), USCC Comments at 8 (stating that sharing potentially could help minimize capital expenditures and maximize coverage to customers' benefit).

Report and Order when interpreting whether a licensee (or spectrum lessee) retains *de facto* control for purposes of Section 310(d) when it is engaged in an infrastructure sharing arrangement involving facilities only.[352] Under this standard, the licensee (or spectrum lessee) remains responsible for ensuring compliance with the Communications Act and all applicable policies and rules. This responsibility includes maintaining reasonable operational oversight with respect to any activities relating to the infrastructure sharing arrangement so as to ensure that the operator of the facilities complies with all applicable technical and service rules, including safety guidelines relating to radiofrequency radiation. In addition, the licensee must retain responsibility for meeting all applicable frequency coordination obligations and resolving interference-related matters, and must retain the right to inspect the facility operations and to terminate the infrastructure sharing arrangement to ensure compliance.

116. The Commission retains the ability to investigate and terminate any infrastructure sharing arrangement to the extent it determines that the arrangement constitutes an unauthorized transfer of *de facto* control under our new standard.

117. Our elimination of the *Intermountain Microwave de facto* control standard with respect to infrastructure sharing arrangements generally, however, in no way affects the application of our rules to determine eligibility for designated entity and entrepreneur licensee status. A designated entity or entrepreneur licensee will be permitted to enter into an infrastructure sharing arrangement, without application of our unjust enrichment rules and transfer restrictions, only so long as the arrangement does not result in another entity's becoming a controlling interest or affiliate of the licensee, such that the licensee would no longer meet our eligibility requirements for designated entity or entrepreneur benefits. For these determinations, our existing attribution rules, including our definitions of controlling interest and affiliation (which incorporate the *Intermountain Microwave* principles of *de facto* control),[353] will continue to control.[354] However, in determinations involving infrastructure sharing arrangements, our attribution rules will be applied in the same manner in which, as we clarified in the *Secondary Markets Report and Order*, they are to be applied in determinations involving spectrum manager leasing arrangements.[355] We expect each designated entity or entrepreneur licensee contemplating entering into an infrastructure sharing arrangement to analyze in advance whether such an arrangement would adversely affect the licensee's ongoing eligibility for size-based benefits.[356]

118. The assessment of potential competitive effects of transactions, whether they are transfers of control, license assignments, or infrastructure sharing arrangements, remains an important element of our policies to promote facilities-based competition and guard against the harmful effects of

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[352] But see *infra* our discussion regarding infrastructure sharing arrangements involving one or more entrepreneur or designated entity licensees.

[353] *See* Amendment of Part 1 of the Commission's rules – Competitive Bidding Procedures, WT Docket No. 97-82, *Order on Reconsideration of the Third Report and Order, Fifth Report and Order, and Fourth Further Notice of Proposed Rule Making*, 15 FCC Rcd 15,293, 15,324 ¶ 61 (2000).

[354] *See* 47 C.F.R. § 1.2110.

[355] *See Secondary Markets Report and Order* at ¶¶ 78-79.

[356] Of course, we retain the right to conduct such an analysis on our own should we have any concerns about the continuing eligibility of a licensee for designated entity or entrepreneur benefits.

anticompetitive conduct.[357] We believe that our encouragement of infrastructure sharing arrangements as potentially effective means to promote the provision of spectrum based services to rural areas is consistent with our consideration of competitive effects and potential competitive harm. Providers and consumers may be in a position to benefit from the potential for lower capital costs for facilities and improved coverage.

119. ITA expresses concern that interference issues similar to those that have been raised in other proceedings may result from infrastructure sharing arrangements, particularly with respect to the potential for interference that may result from the collocation of antennas.[358] Licensees that are parties to infrastructure sharing arrangements will be responsible for resolving all interference-related matters that may result from such arrangements in a manner consistent with the Commission's interference-based service rules. Our notification requirement that we adopt here also helps us to ensure that licensees and non-licensee parties to an arrangement are complying with our interference and non-interference related policies and rules.

120. *Potential Barriers to Infrastructure Sharing.* A number of comments request that the Commission act to remove impediments to infrastructure sharing at the state and local level, particularly as they relate to tower siting.[359] The Commission is asked to form a national policy that would seek to remove these barriers and establish direction for state and local authorities to establish clear and consistent siting policies.[360] Some comments ask generally that the Commission preempt state and local regulations that block the deployment of services in rural areas.[361]

121. Section 332(c)(7) of the Act preserves state and local authority over zoning and land use decisions for personal wireless service facilities, but also limits that authority.[362] The limitations include that state or local governments may not unreasonably discriminate among providers of functionally equivalent services, and may not regulate in a manner that prohibits or has the effect of prohibiting the provision of personal wireless services.[363] A state or local government also must act on applications within a reasonable period of time, and must make any denial of an application in writing supported by substantial evidence in a written record.[364] The statute also preempts state and local decisions to regulate

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[357] *Id.* at 20656 ¶ 116.

[358] ITA Comments at 9-10.

[359] *See* CTIA Reply Comments at 15-16, AT&T Reply Comments at 10-11, Western Wireless Reply Comments at 10-11. *See also* T-Mobile Reply Comments at 3-4.

[360] *See* CTIA Reply Comments at 15, AT&T Reply Comments at 10-11, Western Wireless Reply Comments at 11. See also Dobson Comments at 13 (asserting that Commission should establish a "best practices" guide for municipalities for local zoning use).

[361] *See* CTIA Reply Comments at 16, AT&T Reply Comments at 10-11.

[362] 47 U.S.C. § 332(c)(7)(A). "Personal wireless service facilities" are facilities used to provide "personal wireless services" which are commercial mobile service, unlicensed wireless services, and common carrier wireless exchange access services. *See id.* § 332(c)(7)(C)(i), (ii).

[363] *Id*. § 332(c)(7)(B).

[364] *Id*. §332(c)(7)(B)(ii), (iii).

the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency (RF) emissions to the extent the facilities comply with the Commission's RF rules.[365]

122. We encourage state and local authorities, when considering requests to deploy wireless facilities and when establishing facilities siting policies, to consider the impacts of their decisions on the availability of competitive wireless service. As commenters have noted, some localities have imposed tower siting requirements that make both initial construction and subsequent sharing of facilities difficult.[366] We believe that state and local governments should consider measures that would reduce regulatory burdens for those projects that are least likely to implicate local land use concerns, while retaining reasonable review processes for proposals that are more likely to have significant effects. In this regard, the Commission and its former Local and State Government Advisory Committee (LSGAC) have provided guidance to state and local authorities to assist them in devising efficient procedures for verifying that antenna facilities comply with the Commission's RF exposure guidelines.[367] We will consider offering similar guidance in the future in response to specific needs.

123. With respect to preemption, as discussed above, Section 332(c)(7) generally preserves local authority over land use decisions, and limits the Commission's authority in this area.[368] In appropriate cases, the Commission or its Bureaus have considered petitions alleging that particular regulations impinge on areas within the Commission's exclusive jurisdiction.[369] We will continue to address such issues in the future where supported by law.

124. Finally, we note that we have taken action to improve our own rules and procedures respecting other tower siting issues, including those relating to our environmental review, in order to facilitate the timely deployment of wireless services. We will continue to consider further improvements in the future where necessary.

4. Rural Radiotelephone Service/Basic Exchange Telecommunications Radio Service

125. *Background*. In the *NPRM*, the Commission sought comment on several issues related to the current use and demand for service in the Rural Radiotelephone Service (RRS) and the Basic Exchange Telecommunications Radio Service (BETRS).[370] Additionally, the Commission sought

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[365] *Id*. § 332(c)(7)(B)(iv).

[366] *See* CTIA Comments at 16, Dobson Comments at 13.

[367] *See* A Local Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance (June 2, 2000), < http://wireless.fcc.gov/siting/FCC_LSGAC_RF_Guide.pdf>.

[368] *Cf.* 47 U.S.C. § 332(c)(7)(B)(v) (providing that courts have exclusive jurisdiction over most complaints under Section 332(c)(7)(B)).

[369] *Cf.* Petition for Declaratory Ruling filed by Cingular Wireless LLC that Provisions of the Anne Arundel County Zoning Ordinance are Preempted as Impermissible Regulation of Radio Frequency Interference Reserved Exclusively to the Federal Communications Commission, *Memorandum Opinion and Order*, 18 FCC Rcd 13126 (WTB 2003)(preemption relating to radio frequency interference (RFI)), *app. for review pending*.

[370] *See Rural NPRM*, 18 FCC Rcd at 20853-54 ¶¶ 111-114.

comment on whether its current rules and policies for RRS and BETRS are limiting factors towards a more expansive use of these services.[371] As indicated in the *NPRM*, RRS was established to provide, in most instances, basic telephone service to subscribers in locations deemed so remote that traditional wireline service or service by other means is not feasible.[372] BETRS is a digital counterpart to the traditional, analog RRS, and can be characterized as more spectrally efficient than RRS, provides private calling, and has a much lower call blocking rate than RRS.[373] All RRS and BETRS authorizations are issued on a secondary, non-interfering basis.

126. Specifically, in the *NPRM*, the Commission sought comment on the current level of demand for RRS and BETRS and noted that according to its licensing records, a relatively low number of licenses have been issued for the spectrum.[374] In addition, the Commission sought comment on the demand for basic communications services, other than wireline, and inquired about how the demand is being met if it is not through the use of RRS and BETRS spectrum.[375] Furthermore, the Commission sought comment on whether access to RRS and BETRS spectrum is an impediment to the provision of these services, if a demand exists.[376]

127. With respect to current policies and rules, the Commission sought comment on the proposal to remove the eligibility restriction for BETRS that restricts the issuance of a license to only those entities that receive state approval to provide a basic exchange telephone service.[377] The Commission also sought comment on whether expanding the secondary status of RRS and BETRS to other spectrum bands would facilitate and encourage construction in rural areas.[378] Finally, the Commission sought comment on whether additional spectrum, issued on a primary basis, is needed at this time for RRS and BETRS.[379]

128. *Discussion*. We conclude that it is appropriate to remove the eligibility restrictions contained within Section 22.702 of our rules regarding state approval prior to the issuance of a BETRS license. Although no comments were received regarding this specific proposal, we believe the removal of this restriction is in the public interest. As it stands now, a potential BETRS licensee must demonstrate that it has received state approval to provide basic exchange telephone service prior to applying for a BETRS license.[380] We believe by eliminating this restriction, a potential regulatory barrier is removed

[371] *Id.* at 20854-55 ¶ 115.

[372] *Id.* at 20852 ¶ 109.

[373] *Id*.

[374] *Id.* at 20853 ¶ 112.

[375] *Id.* at 20854 ¶ 113.

[376] *Id.* at 20854 ¶ 114.

[377] *Id.* at 20854-55 ¶ 115. *See* 47 C.F.R. § 22.702.

[378] *Rural NPRM*, 18 FCC Rcd at 20854-55 ¶ 115.

[379] *Id*.

[380] 47 C.F.R. § 22.702.

and the process for gaining access to BETRS spectrum is simplified and expedited. For example, under this approach, a carrier could seek approval from a state and the Commission at the same time, shortening deployment time. Nonetheless, we retain the current requirement that a BETRS station must be constructed within 12 months of the issuance of a license, therefore minimizing the potential for warehousing spectrum in those instances where a BETRS licensee does not receive state approval, where required, to provide basic exchange telephone service.[381]

129. As for the remaining issues raised in the *NPRM* concerning RRS and BETRS, we received very limited comment.[382] CTIA indicates that it supports efforts to survey RRS and BETRS users to determine the effectiveness of those services, and if it is shown that the spectrum is not being efficiently utilized, the Commission should reallocate the current RRS and BETRS spectrum to more efficient and commercially viable uses.[383] While we fully support efficient utilization and deployment of RRS and BETRS, we find it unnecessary to survey users at this time. Specifically, the current allocation for RRS and BETRS is secondary to the Paging Radiotelephone (paging) service and the Specialized Mobile Radio (SMR) service, which have both been auctioned and licenses issued on a geographic basis. Thus, even if RRS and BETRS licensees were found not operating, the spectrum would remain allocated to the paging and SMR services. Further, given the lack of support in the comments for a primary allocation of RRS and BETRS or the expansion of the secondary use of RRS and BETRS to other spectrum, we decline to take action on such proposals.

IV. FURTHER NOTICE OF PROPOSED RULE MAKING

A. Introduction

130. The widespread provision of communications services is not only one of the Commission's primary public policy objectives, but also one of its statutory mandates. The Commission has as its primary mission 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."[384] In addition, the Omnibus Budget Reconciliation Act of 1993 added Section 309(j) to the Communications Act, which requires the Commission to promote various objectives in designing a system of competitive bidding.[385] A number of these objectives focus on the provision of spectrum-based services to rural areas, such as encouraging the development and rapid deployment of new technologies, products, and services for the benefit of the public, "including those residing in rural

[381] *See id*. § 22.713.

[382] *See* CTIA Comments at 17, Nextel Partners Comments at 20-21. Nextel Partners indicates, generally, that the Commission should find economic means to provide the target populations of RRS and BETRS subscribers with up-to-date mobile wireless services. We believe Nextel Partners comments lack sufficient detail and are beyond the scope of the *Rural NPRM*.

[383] *See* CTIA Comments at 17.

[384] 47 U.S.C. § 151.

[385] Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, § 6002, 107 Stat. 312, 387-397 (codified at 47 U.S.C. § 309(j) (1993)).

areas."[386] In addition to the rural service objectives mandated by Section 309(j), Congress directed the Commission to pursue other broader public interest goals. Specifically, Section 309(j)(3) requires the Commission to promote efficient and intensive use of the spectrum, encourage economic opportunity and competition, and recover for the public a portion of the value of the public spectrum.[387] Given these statutory obligations, the Commission's spectrum policy goals include facilitating the efficient use of spectrum, as well as fostering competition, and rapid, widespread service consistent with the goals of the Communications Act.[388]

131. As noted in the *Report and Order*, our current policies and rules generally facilitate rural development of wireless services where it is economic to do so.[389] The competitive bidding process and related performance and other requirements for successful bidders, including existing substantial service and flexible use policies, encourage licensees to make productive and innovative use of spectrum. In addition, our secondary market mechanisms provide on-going opportunities for new entrants to gain access to spectrum from those licensees as market conditions change, thereby ensuring that spectrum moves to its highest valued uses over time. We believe that, insofar as they have economic incentives to do so, new wireless service providers will choose to enter rural markets and existing rural service providers will extend their presence further into the rural areas where they operate.

132. As we acknowledge in the *Report and Order*, however, there may be circumstances in which our market-oriented policies are insufficient to foster access to spectrum and deployment of service in rural areas.[390] In such cases, we will continue to consider the adoption of appropriate performance requirements, along with other means, for both existing and future licenses to further encourage the provision of wireless service to rural areas.[391] Accordingly, in this *Further Notice*, we build on the record accumulated in response to the *Rural NPRM* and we seek comment on the appropriate mechanisms to further ensure that spectrum ultimately continues to be put to its highest valued use. In particular, we seek additional comment on the effectiveness of our partitioning, disaggregation, spectrum leasing and other market-based policies and rules in making wireless services available to more rural areas. We also seek comment on our potential use of "keep-what-you-use" re-licensing mechanisms, renewal term substantial service requirements, as well as other alternatives to move unused or underused spectrum to those who may be able to use it more intensively. We also seek comment on the economic impacts of employing such approaches and whether different services may benefit from different approaches to expanded spectrum access.

133. As noted above, service to rural areas may be delayed because entities that are otherwise willing and able to deploy service lack access to spectrum. The increasing use of unlicensed wireless technologies and applications in rural areas suggests that operators will deploy service if there is

[386] 47 U.S.C. § 309(j)(3)(A).

[387] *Id.* § 309(j)(3)(B)-(D).

[388] 47 U.S.C. §§ 151, 309(j).

[389] *See supra* ¶¶ 37-39.

[390] *See supra* ¶¶ 39-41.

[391] *See supra* ¶ 39.

availability of or access to spectrum with which to do so.[392] Accordingly, we undertake this further inquiry to assess alternative methods that will ensure that spectrum rights flow to those who are willing and able to put spectrum to use in rural areas.

134. In this *Further Notice*, we seek to explore whether changing our method for enforcing performance requirements or adding renewal term performance requirements could have a beneficial impact on the deployment of wireless service to rural areas. In this regard, this section examines how the licensing of wireless services has evolved from a "keep what you use" standard to a "complete forfeiture" approach. The following paragraphs provide an overview of the development of licensing models and performance standards, while also providing the Commission's rationale behind these policy shifts.

B. Background

135. *Site-by-site Construction.* Initially, the Commission licensed mobile and fixed wireless services on a site-by-site and frequency-by-frequency basis.[393] Licensees were authorized to operate a station only at a specific location, using a specific frequency or frequencies. Some examples of this type of licensing approach include one or more base stations with mobile units in the vicinity, or a fixed communications path between two points.[394] With this type of site-specific licensing, the Commission adopted a "keep what you use" performance requirement, meaning that at the end of a licensee's construction period, any unconstructed areas or frequencies came back under Commission control for re-licensing on a first-come, first served (often pre-coordinated) site-by-site basis. In this regard, the Commission sought to ensure timely use of spectrum and "to ensure that the channels which we make available to eligibles are put in 'use' and not put in 'storage.'"[395]

136. For example, the Commission's original rules governing 800 MHz SMR were designed to license dispatch radio systems on a transmitter-by-transmitter basis in local markets.[396] The

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[392] For example, in an annual survey of its members, the National Telecommunications Cooperative Association (NTCA) found that, in four years the percentage of rural telcos offering broadband to their customer base jumped to 92 percent with 22 percent of those providers using unlicensed wireless (along with other technologies) to reach their customers. *See* NTCA 2004 Broadband/Internet Availability Survey Report (June 2004). *See also* comments submitted in the Federal Communications Commission's 2004 Wireless Broadband Forum, held May 19, 2004, citing the use of unlicensed wireless in rural communities: Kevin Werback, New America Foundation and Public Knowledge, "The Coming Age of Unlicensed Wireless Radio Revolution"; Patrick Leary, Alvarion, Inc., "Rural U.S. Examples of Wireless Broadband Deployments."

[393] *See, e.g.*, An Inquiry Relative to the Future Use of the Frequency Band 806-960 MHz and Amendment of Parts 2, 18, 21, 73, 74, 89, 91 and 93 of the Rules Relative to Operations in the Land Mobile Service Between 806-960 MHz, Docket No. 18262, *Memorandum Opinion and Ord*er, 51 FCC 2d 945 ¶ 128 (1975) (*806-960 MHz MO&O*).

[394] For example, a typical site-based use is dispatch service. Dispatch services allow two-way, real-time, voice communications between fixed units and mobile units, *e.g.*, between a taxicab dispatch office and a taxi, or between two or more mobile units, such as between a car and a truck.

[395] *806-960 MHz MO&O,* 51 FCC 2d at ¶ 128.

[396] Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, PR Docket No. 93-144, *First Report and Order*, *Eighth Report and Order* and *Second Further Notice of Proposed Rulemaking*, 11 FCC Rcd 1463, 1474 ¶ 4 (1995) (*SMR Report and Order*).

Commission typically gave an 800 MHz SMR licensee up to 12 months after the grant of a license to construct and begin operation of its facilities, meaning that each licensed site and frequency had to be up and running within one year.[397] At the end of that time period, licensed areas and frequencies that were unconstructed reverted back to the Commission for re-licensing.[398]

137. *Hybrid Licensing*. As technology evolved, mobile wireless providers sought to expand their reach and to provide service over a wide area. Two different approaches of "wide-area" licensing developed in response to increasing demand for new services: the SMR model and the cellular model. While these approaches permitted SMR and cellular carriers to operate within a wide-area footprint, the Commission's site-specific licensing rules and "keep what you use" policy still applied.

138. For example, responding to growing demand for mobile telephony and limited capacity, SMR licensees sought to operate technically innovative, wide-area systems. Because of the complexity and expense of building these systems, however, licensees were frequently unable to provision service within the 8 to 12 month time frame required by Commission rules.[399] Beginning in 1991, the Commission granted waivers and extended implementation authority to many SMR licensees, giving them authority to expand the geographic scope of their services and combine large numbers of channels in order to provide service intended to compete with cellular.[400] Applicants who were granted waivers or extended implementation authority received additional time to construct the licensed spectrum. However, applicants still had to apply for each site individually and in the event the licensee did not construct and operate the frequencies within the extended time period, the unused spectrum came back under Commission control for re-licensing.

139. In contrast, wide-area licensing for the cellular radiotelephone service followed a different path. In establishing commercial licensing of cellular in 1981, the Commission recognized the need to define cellular service areas while also providing authorized cellular operators with the freedom they needed to adapt their systems in the face of growing and changing demand.[401] The Commission established a regulatory structure centered around cellular geographic service areas (CGSAs) that would be defined by license applicants themselves as the areas within a market that they intended to serve. An applicant was required to serve at least 75 percent of its CGSA.[402] The Commission soon after added an

[397] Construction periods for such licensees were originally 8 months in duration. Construction periods were extended to a uniform 12-month period for all commercial mobile radio service licensees in August 1994. Implementation of Sections 3(n) and 332 of the Communications Act, PR Docket No. 89-553, *Third Report and Order*, 9 FCC Rcd 7988, 8074 ¶ 177 (1994).

[398] Amendment of Part 90 of the Commission's Rules Governing Extended Implementation Periods, PR Docket No. 92-210, *Report and Order*, 8 FCC Rcd 3975 ¶ 2 (1993) (*Extended Implementation Report and Order*).

[399] Amendment of Part 90 of the Commission's Rules Governing Extended Implementation Periods, PR Docket No. 92-210, *Notice of Proposed Rule Making*, 7 FCC Rcd 6587 ¶ 3 (1992) (*Extended Implementation NPRM*).

[400] *See*, *e.g.*, Fleet Call, Inc., *Memorandum Opinion and Order*, 6 FCC Rcd 1533, reconsideration dismissed, 6 FCC Rcd 6989 (1991). *See* also *Extended Implementation Report and Order*, 8 FCC Rcd at 3975-76 ¶ 6.

[401] An Inquiry Into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems; and Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems, CC Docket No. 79-318, *Report and Order*, 86 FCC 2d 469 ¶ 96 (1981) (*Cellular Report and Order*).

[402] *Id.* at ¶ 97.

additional rule, requiring applicants to define their CGSAs to cover at least 75 percent of the population or area of the corresponding MSA[403] or RSA.[404] Carriers operating in MSAs were required to place their cellular stations into operation within 36 months of the initial license grant,[405] while operators in RSAs had 18 months to construct.[406] In addition, the Commission afforded licensees a five-year "fill-in" period in which a licensee could apply to expand the boundaries of its CGSA within the MSA/RSA without the worry of competing interests from another applicant.[407]

140. As the popularity of cellular service began to grow, the Commission determined that it was not in the public interest to allow a cellular licensee to protect unserved territory for an unlimited period of time simply because the territory was part of its CGSA.[408] The Commission, therefore, imposed a "keep-what-you-use" regime on all cellular licenses, and established rules and procedures for accepting applications to operate new cellular systems in areas still unserved at the expiration of the incumbent's five-year "fill-in" period.[409] In addition, the Commission adopted rules determining the size of CGSAs by a mathematical formula and redefined the boundaries authorized for existing cellular systems to more closely mirror the areas of actual construction and coverage so that potential licensees for the cellular unserved areas would have a clearer picture of which areas were available.[410] At the end of the five year "fill-in" period, any unused spectrum reverted back to the Commission for re-licensing. New licenses authorized as a result of the unserved area licensing rules are licensed on a site-specific basis, and licensees are required to complete construction and provide service to the public within one year of the initial authorization grant.[411]

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[403] Amendment of the Commission's Rules To Allow the Selection from Among Mutually Exclusive Competing Cellular Applications Using Random Selection or Lotteries Instead of Comparative Hearings, CC Docket No. 83-1096, *Report and Order*, 98 FCC 2d 175 ¶ 67 (1984).

[404] Amendment of the Commission's Rules for Rural Cellular Radio Service, CC Docket No. 85-388, *First Report and Order*, 60 Rad. Reg. 2d (P & F) 1029 ¶ 28 (1986) (*Rural Cellular Report and Order*).

[405] *Cellular Report and Order*, 86 FCC 2d 469, App. C.

[406] *Rural Cellular Report and Order*, 60 Rad. Reg. 2d at ¶ 28.

[407] Amendment of the Commission's Rules for Rural Cellular Service, CC Docket No. 85-388, *Order on Reconsideration of Second Report and Order*, 4 FCC Rcd 5377 ¶ 15 (1989).

[408] Amendment of Part 22 of the Commission's Rules to Provide for Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules, CC Docket No. 90-6, *Notice of Proposed Rule Making*, 5 FCC Rcd 1044 ¶ 24 (1990) (*Unserved Area NPRM*).

[409] Amendment of Part 22 of the Commission's Rules to Provide for Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules, CC Docket No. 90-6, *First Report and Order* and *Memorandum Opinion and Order on Reconsideration*, 6 FCC Rcd 6185 ¶¶ 18-22 (1991) (*Unserved Area Report and Order*).

[410] Amendment of Part 22 of the Commission's Rules to Provide for Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules, CC Docket No. 90-6, *Second Report and Order*, 7 FCC Rcd 2449 ¶¶ 8-12 (1992) (*Unserved Area Second Report and Order*).

[411] *Unserved Area Report and Order*, 6 FCC Rcd at ¶ 93.

141. *Geographic Area-based Approach.* While the hybrid licensing models did help to expand wireless service, problems remained.[412] For example, even with waivers and grants of extended implementation authority developed in the hybrid licensing model, the SMR licensing process remained cumbersome because of the requirement that SMR sites and frequencies be licensed individually.[413] The Commission noted specifically that "site-by-site licensing deprives licensees of flexibility to move transmitter sites throughout a defined service area without seeking [the Commission's] prior approval."[414] In order to provide wireless licensees with needed flexibility, therefore, the Commission adopted a system of geographic-area licensing with minimum coverage requirements based on population or geography.[415] At the same time, the Commission transitioned from the "keep what you use" licensing policy to a "complete forfeiture" approach, which made licenses subject to automatic cancellation for failure to meet interim coverage requirements at specified benchmarks.[416] Failure to meet applicable performance benchmarks would result in complete loss of the license, even in areas where construction had already been completed.[417]

142. The Commission first applied geographic area licensing and a "complete forfeiture" performance standard when it established the narrowband and broadband PCS services. In order to permit the widest possible range of mobile communications, the Commission put in place technical standards that would permit significant flexibility in both the design and implementation of PCS systems as well as geographic- and population-based construction benchmarks that would ensure that licensees built out their systems or face forfeiture of their licenses.[418] The Commission concluded that these and other changes to its licensing approach would encourage diversity of technologies and speed deployment of service.[419] In addition, in 2000, the Commission adopted "substantial service" as an alternative

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[412] *SMR Report and Order*, 11 FCC Rcd at 1474 ¶ 4.

[413] *Id.*

[414] *Id.*

[415] *See*, *e.g.*, Amendment of the Commission's Rules to Establish New Narrowband Personal Communications Services, GEN Docket No. 90-314, ET Docket No. 92-100, *Memorandum Opinion and Order*, 9 FCC Rcd 1309, 1314 (1994) (*Narrowband PCS MO&O*).

[416] *See, e.g.,* 47 C.F.R. § 90.685(d).

[417] *See, e.g., id.*

[418] The Commission's rules require that 30 MHz broadband PCS licensees must provide service sufficient to cover one-third of the market's population within five years of license grant and two-thirds of the population of the market within ten years. 47 C.F.R. § 24.203(a). Ten and 15 MHz broadband PCS licensees must provide service sufficient to cover one-third of the population or provide substantial service within 5 years of license grant. 47 C.F.R. § 24.203(b). Narrowband PCS providers may elect geographic-based, population-based or substantial service benchmarks in order to satisfy their construction obligations. *See* 47 C.F.R. § 24.103.

[419] *See* Amendment of the Commission's Rules to Establish New Personal Communications Services, GEN Docket No. 90-314, *Second Report and Order*, 8 FCC Rcd 7700, 7753-54 ¶¶ 132-134. The Commission concluded that, in addition to flexible technical and coverage rules, both large and small market sizes would promote the swift implementation and deployment of PCS service as well as increase competition and promote diversity in the provision of such services. *See* Amendment of the Commission's Rules to Establish New Narrowband Personal Communications Services, GEN Docket No. 90-314, ET Docket No. 92-100, *First Report and Order*, 8 FCC Rcd 7162, 7167 ¶ 27 (1993) (*Narrowband PCS Report and Order*).

construction requirement for PCS licensees.[420] As noted, under the "complete forfeiture" approach, failure to meet these benchmarks results in automatic cancellation or non-renewal of the entire PCS license, including the rights to operate from any facilities already constructed under the authorization.[421]

143. The Commission also applied geographic area licensing to existing services, such as SMR. The Commission sought to institute policies that would afford wide-area SMR system licensees opportunities to bid on new licenses that offered the same flexibility as cellular and PCS licenses in terms of facility location, design, construction, and modification.[422] Therefore, the Commission designated the upper 200 channels of 800 MHz SMR spectrum for geographic-area licensing based on EAs, and overlayed geographic markets over existing site-based systems.[423] The Commission granted licensees the authority to construct base stations at any available site and on any available channel within their spectrum blocks so long as previously existing site-based facilities are provided appropriate interference protection.[424] Using the "complete forfeiture" approach, the Commission also instituted minimum coverage and channel use requirements at three- and five-year benchmarks.[425] Two years later, in 1997, the Commission adopted geographic-area licensing with EA service areas for the lower 230 800 MHz channels as well, stating that "geographic area licensing remains the most efficient and logical licensing approach for the majority of licensees in the band."[426] The Commission adopted construction requirements similar to the upper channels, but eliminated the channel usage requirement and also adopted an alternative plan whereby licensees in the lower 230 channels can satisfy coverage obligations by providing substantial service within five years of license.[427]

144. In recent years, the Commission has continued to embrace geographic area licensing[428]

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[420] Amendment of the Commission's Rules to Establish New Personal Communications Services, Narrowband PCS, GEN Docket No. 90-314, ET Docket No. 92-100, *Second Report and Order* and *Second Further Notice of Proposed Rule Making*, 15 FCC Rcd 10456, 10469 ¶ 24 (2000).

[421] 47 C.F.R. § 24.203.

[422] *SMR Report and Order*, 11 FCC Rcd at 1496-97 ¶ 49.

[423] *Id.* at 1483-85 ¶¶ 23-25. Geographic area licenses were overlayed unto existing site-based facilities. Geographic area licensees are required to provide protection to any site-based licensee within their markets.

[424] *Id.* at 1498 ¶ 52.

[425] The Commission adopted 10-year license terms and five-year construction periods for EA licenses, which require licensees to (1) demonstrate coverage of one-third of the population within their EA and demonstrate use of 50 percent of the channels within their spectrum block within three years of the initial license grants; and (2) demonstrate coverage of two-thirds of the EA population by the end of the five-year construction period. *See* 47 C.F.R. §§ 90.685(b), (c).

[426] Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, PR Docket No. 93-144, *Second Report and Order*, 12 FCC Rcd 19079, 19088-89 ¶¶ 12, 15 (1997) (*SMR Second Report and Order*).

[427] *Id.* at 19094-95 ¶ 34.

[428] *See e.g.* Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), GN Docket No. 01-74, *Report and Order*, 17 FCC Rcd 1022 (2002) (Lower 700 MHz).

and moved towards the adoption of more flexible construction requirements, such as substantial service. This shift has occurred in order to provide flexibility for licensees seeking to provide a variety of services with their spectrum, not all of which require pervasive geographic coverage, as well as to accommodate licenses encompassing very large service areas as opposed to smaller site-based licenses. In keeping with its goal of flexibility for licensees, the Commission has also adopted substantial service as the sole standard, or as an alternate standard, for many services.[429] For example, LMDS, 39 GHz and 24 GHz microwave services all have the sole construction requirement of providing substantial service by the end of the initial license term.[430] As discussed earlier in Section III.D.1, the Commission's increasing movement towards substantial service as an alternative means of meeting construction requirements has been met with mixed reactions. While some commenters see extending substantial service to all wireless services as a way to promote regulatory parity,[431] others, such as OPASTCO/RTG, believe the vagueness of the substantial service standard will likely inhibit deployment of wireless services to rural areas.[432] Based on this difference of opinion between commenters, we seek further comment in the paragraphs below as to the appropriate performance standards to apply.

145. We note that regardless of the type of requirement, our current performance requirements apply only during the initial term. As noted, once a licensee renews its license, no additional performance requirements are imposed in subsequent terms other than the standard necessary in order to achieve a renewal expectancy.[433] In the case of renewals, if an incumbent files an appropriate and timely application and neither the public nor the Commission objects, the license will typically be renewed for another term. However, if another party objects or files a competing application, a licensee must demonstrate that it is entitled to a renewal expectancy.[434] A renewal applicant involved in a comparative renewal proceeding will acquire a renewal expectancy if the applicant provides sufficient evidence that the applicant has provided substantial service during its license term, and that the applicant has substantially complied with the Communications Act, as well as with all applicable Commission rules and policies.[435] As a general matter, if a renewal applicant satisfies these requirements, the applicant will be

[429] "Substantial service" generally means service that is sound, favorable, and substantially above a level of mediocre service that would barely warrant renewal. *See e.g.* 47 C.F.R. §§ 22.503(k)(3), 27.14, 90.685(b), 95.381, 101.527(a), 101.1011(a).

[430] 47 C.F.R. §§ 101.17, 101.527, 101.1011.

[431] *See* CTIA Comments at 5, Sprint Reply Comments at 23.

[432] OPASTCO/RTG Comments at 4-5.

[433] *See* 47 C.F.R. § 1.949.

[434] *See e.g.* 47 C.F.R. §§ 22.935(a), 22.940(a)(2). At a minimum, this showing must include (a) a description of the licensee's current service in terms of geographic coverage and population served as well as the system's ability to accommodate roamers; (b) an explanation of the licensee's record of expansion, including a timetable for any planned construction of new cell sites; (c) a description of the licensee's investment in its cellular system; and (d) copies of any Commission orders finding the licensee to have violated the Communications Act or any Commission rule or policy. *See* Section 22.940(a)(2)(i)-(iv).

[435] *See e.g.* 47 C.F.R. §§ 22.940(a)(1)(i) and (ii), 24.16, 27.14(b). If there are additional requirements applicable to the specific service, the incumbent must comply with those requirements prior to, or in connection with, its application for renewal. Section 1.949(a).

granted a renewal expectancy and other competing applications will be dismissed.

C. Discussion

1. Existing Market-Based Models.

146. The Commission's rules and policies provide interested parties with several market-based vehicles for obtaining access to licensed spectrum through the secondary market. First, an interested party may obtain a license through the assignment and transfer of control process, pursuant to Commission review and approval under Section 310(d) of the Communications Act.[436] Furthermore, by utilizing the partitioning and disaggregation process,[437] parties need not buy a license "as is" – instead, parties may obtain licenses for a particular subset of frequencies and carve out certain geographic areas that satisfy their unique needs, while the original licensee retains the remaining frequencies and geographic areas. Second, parties may utilize the spectrum leasing process – further enabled under the Commission's secondary markets proceeding – to engage in short- and long-term leases.[438] Based upon the record developed in response to the *Rural NPRM*, we are hopeful that these measures will provide effective means of providing access to spectrum through the secondary market. As discussed below, however, it appears that there are ways in which these mechanisms nevertheless may not satisfy the needs of some parties; in the following paragraph, we identify some of the key concerns with these mechanisms, as reflected in the record, and seek additional comment on the efficacy of these procedures in providing access to spectrum in rural areas.

147. As an initial matter, we observe that the record reflects some disagreement with respect to the effectiveness of our partitioning and disaggregation policies in providing access to spectrum in rural areas. On the one hand, the record provides information on partitioning and disaggregation transactions that suggest these policies are working. AT&T Wireless, for example, states that "the Commission's partitioning and disaggregation policies have helped foster rural wireless deployment by enabling wireless carriers to concentrate their efforts where they can be most efficient."[439] AT&T Wireless indicates that it has "entered into more than a dozen agreements that involved the sale of more than 100 separate market areas or portions of market areas," and that many of these transactions "involved small and rural carriers" such as Highland Cellular, Inc., RCC Minnesota, Inc., and Union Telephone Company.[440] According to AT&T Wireless, "the vast majority of markets transferred were rural and suburban counties, rural service areas, and sparsely populated areas in more than twenty states."[441] On the other hand, the record also shows that some rural carriers may not be receiving the benefits of

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[436] *See* 47 U.S.C. § 310(d).

[437] For a list of wireless services for which partitioning and disaggregation is permitted, and for the service-specific rule sections governing partitioning and disaggregation, *see supra* note 20.

[438] *See Secondary Markets Report and Order* and *Secondary Markets Further Notice*.

[439] AT&T Wireless Comments at 5. *See also* Nextel Partners Comments at 20 (indicating that, "[w]ith regard to the 800 MHz SMR service, Nextel Partners has benefited from the applicable EA license partitioning rules, pursuant to which Nextel Partners has obtained partitioned EA licenses").

[440] AT&T Wireless Comments at 4.

[441] *Id.*

partitioning and disaggregation. In their joint comments, OPASTCO and RTG (OPASTCO/RTG) indicate that their "members have been repeatedly rebuffed in their attempts to entice license holders for various services to partition their license areas or disaggregate their spectrum."[442] According to OPASTCO/RTG, the problems with partitioning and disaggregation are multi-fold: (1) the Commission's rules do not provide licensees with an incentive "to 'carve out' portions of their license areas for rural carriers"; (2) "the administrative costs of entering into and managing the partitioning/disaggregation process outweigh the realized financial gains"; (3) and licensees wish "to retain the entire geographic area when they go to sell the system as a whole in the future," because "[l]icensees perceive that unpartitioned licenses will have a higher resale value."[443] Blooston echoes these concerns, stating that "large national and regional carriers that control licenses for most of the spectrum are not willing or able to devote the time and resources necessary to negotiate and implement arrangements on the scale desired by rural telephone companies."[444]

148. In order to identify the specific nature and extent to which our partitioning and disaggregation rules are working, we seek additional comment on specific partitioning and disaggregation transactions, as well as the negotiations process. We seek to develop a more comprehensive understanding of the ways in which this process may be insufficient to promote access to spectrum. For example, although Blooston indicates that large carriers may be reluctant to engage in smaller-scale transactions, such as those that involve less than one million "pops,"[445] AT&T Wireless expressly states that "[i]t has never placed" a threshold of one million pops on such deals and notes that it is "about to close a few spectrum transactions in which the total number of potential customers is very small."[446] AT&T Wireless further states that it has three pending sales involving "approximately 56,000 POPs spread across six counties[,]292,000 POPs across 13 counties[,] and 250,000 POPs across 15 counties," and that a wholly owned subsidiary of AT&T Wireless recently partitioned an "undefined area" in Jefferson Parrish, Louisiana, with a population of just 1533.[447] Given the conflicting record regarding the ability of carriers to engage in smaller-scale partitioning and disaggregation transactions, we believe that additional information, particularly specific transaction data such as that provided by AT&T Wireless, will facilitate our greater understanding of the benefits and shortfalls of our partitioning and disaggregation policies in fostering access to spectrum in rural areas. We also seek comment on how these policies may work in coordination with potential re-licensing mechanisms such as "keep what you use," as discussed in greater detail below in section IV.C.2. We note that certain commenters proposed various incentives for licensees to engage in partitioning and disaggregation, including the provision of bidding credits for auction winners that commit to partitioning portions of their licenses to rural

[442] OPASTCO/RTG Comments at 10-11.

[443] *Id.*

[444] Blooston Comments at 11. *See also* UTStarcom Comments at 8-9 (indicating that large carriers "will not relinquish spectrum easily – or even reasonably," and that such carriers "either flatly refuse to partition or lease portions of their spectrum, demand exorbitant compensation, or require other unreasonable terms, none of which serve the public good").

[445] Blooston Comments at 11.

[446] AT&T Wireless Reply Comments at 7.

[447] *Id.* at 7-8.

carriers,[448] monetary credits towards a future spectrum auction in exchange for the return of unused spectrum,[449] and credits towards licensees' construction obligations.[450] We ask for comment on these proposals and also seek comment on additional incentives that are likely to encourage partitioning and disaggregation in rural areas.

149. In addition to the partitioning and disaggregation process, the Commission's rules also facilitate access to spectrum on the secondary market through spectrum leasing. Because our rules further enabling spectrum leasing went into effect on January 24, 2004, we are not yet in a position to evaluate the effectiveness of spectrum leasing in providing access to spectrum in rural areas. Nevertheless, we are encouraged by the record that interested parties will take advantage of our spectrum leasing rules to obtain access to previously "unused" spectrum and provide innovative and new service offerings to the public. Indeed, based upon preliminary information regarding proposed spectrum leasing transactions, we are optimistic that our spectrum leasing rules are affording many new opportunities for access to spectrum, including spectrum in rural areas. During the period from February 2004 through July 2004, the Commission received 64 spectrum leasing filings. Of these filings, 37 are *de facto* transfer leases and 27 are spectrum manager leases. Most filings involve broadband PCS, 39 GHZ (point-to-point microwave), paging, and SMR spectrum. In addition, these filings include spectrum in counties that constitute "rural areas," based upon our default definition for "rural area." Given this preliminary data, we have some basis to believe that existing, market-based incentives are encouraging parties to engage in spectrum leasing arrangements.

150. While the record in response to the *Rural NPRM* indicates that many commenters are optimistic that our spectrum leasing will promote the deployment of wireless services to rural areas and therefore urge the Commission to "wait and see" how secondary markets develop prior to taking any regulatory action to encourage spectrum access,[451] others indicate concern that this market-based mechanism will be an insufficient means of providing spectrum access. For example, OPASTCO/RTG suggest that the spectrum leasing rules will suffer from the same problems as partitioning and disaggregation: "the decision to enter into a spectrum lease with a rural company remains exclusively with the licensee," and if the licensee "determine[s] that the cost of negotiating and executing a spectrum lease with a rural carrier will not yield an acceptable return during the term of such a lease, as most licensees have determined in the partitioning and disaggregation realm, it is unlikely that a lease will ever materialize."[452] OPASTCO/RTG further state that "as is the case with partitioning and disaggregation, the current spectrum leasing rules provide little incentive for large licensees to effectuate leases with rural companies because construction of wireless systems in rural areas is usually unnecessary to help larger

[448] *See* Blooston Comments at 12-14. *See also* AT&T Wireless Comments at 10 (recommending the provision of "reverse discounts" to carriers that partition portions of their licensed areas to rural carriers). *But see* Nextel Partners Reply Comments at 8-9 (indicating that it is unfair to favor one class of carrier over another, such as providing financial incentives only for certain lease agreements with a rural telephone company or its subsidiary).

[449] AT&T Wireless Comments at 10.

[450] *See* Blooston Comments at 14 (suggesting that the Commission reduce the build-out requirements for licensees that partition a portion of their license to a rural carrier). *See also* AT&T Wireless Reply Comments at 12 (stating that these credits "would make such transactions more attractive to large carriers").

[451] *See supra* Section III.B.2. ¶¶ 37-41.

[452] OPASTCO/RTG Reply Comments at 5.

licensees meet their 'substantial service' build-out requirements."[453] Blooston also notes that, while "spectrum leases may prove to be a valuable tool in facilitating access to unused rural spectrum," there will be "a number of situations" where "carriers will need the certainty and permanence of licensee status that can only be provided by a true partitioning arrangement before a rural telco board of directors or other financing source will approve the expenditure of substantial resources on the construction and operation of a telecommunications system."[454] Accordingly, we seek additional comment on how spectrum leasing is addressing concerns about access to spectrum, particularly from those who have entered into, or are contemplating, such transactions. In particular, we seek comment regarding situations where parties' need for spectrum have been accommodated by spectrum leasing as well as situations where those needs may not have been satisfied by the availability of such leasing.

2. "Keep What You Use" Re-licensing Measures

151. Based upon the record developed in this proceeding, as well as available data on partitioning and disaggregation transactions and preliminary information on spectrum leasing agreements, we believe that our current policies and regulations are working to promote access to "unused" spectrum. Nevertheless, the record also suggests that, for a variety of reasons, there may be instances where these market-based policies may not be adequate to promote access to spectrum in rural areas.[455] As we have already indicated, the rapid provision of broadband and other wireless services to rural areas is of critical importance in accomplishing our statutory and public policy objectives. Accordingly, if we determine that our current policies are insufficient to increase access to spectrum, we may take additional measures to ensure that unused spectrum moves into the hands of those who stand ready and willing to deploy wireless voice and data services to rural Americans.

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[453] *Id. See also* Blooston Comments at 10-11 (stating that although "the spectrum leasing policies and rules adopted in the *Secondary Markets Order* represent important first steps to facilitate broader access to unused spectrum resources," "the existing regulatory scheme for wireless services does not give licensees an adequate incentive to participate in the secondary market, and may not go far enough to ensure the optimally efficient use of spectrum in rural areas").

[454] Blooston Comments at 11.

[455] According to the *Eighth Competition Report*, 270 million people, or 95 percent of the total U.S. population, have three or more different operators (cellular, PCS, and/or SMR) offering mobile telephone service in the counties in which they live. *Eighth Competition Report*, 18 FCC Rcd at 14823 ¶ 84. In contrast, these same counties make up only 52 percent of the total land area of the United States, reflecting the nation's uneven population distribution. *Id.* In other words, there are two or fewer mobile telephony providers (typically cellular carriers) offering service in 48 percent of the country's total land area. The *Eighth Competition Report* notes that, while the newer broadband PCS and digital SMR carriers have "less complete networks," the original cellular licensees have extensive networks providing nearly complete coverage of the continental United States. *Id.* at 14823 ¶ 83. By some estimates, cellular service is available in zip codes in which roughly 99 percent of the U.S. population lives. *Id.* at 14823 n. 286. Given the successful deployment of cellular systems, we continue to examine *infra* whether the potential use of a "keep what you use" approach similar to that found in our cellular unserved licensing rules will help speed the rural deployment of other services, such as PCS and digital SMR networks, which historically have been subject to a "complete forfeiture" approach. In evaluating these different approaches, however, we also recognize that, while cellular service has had over 20 years to mature, the geographic area and "complete forfeiture" model of licensing has had little more than half that time to develop, and it is too early to tell if the geographic market-based licensing approach will lead to similar deployment.

152. Based upon the record received in response to the *Rural NPRM*, commenters indicate that extending the "keep what you use" to additional wireless services may provide a variety of benefits. As NTCA explains, adopting a "keep what you use" approach "frees up spectrum for other potential users."[456] Likewise, Blooston states that "a modified version of the cellular 'fill in' rule" will "give rural interests an opportunity to serve portions of a larger license that remain unserved after a reasonable period of time has passed."[457] For those services that otherwise would be subject to a "complete forfeiture" approach,[458] a "keep what you use" approach might also have the benefit of allowing future licensees in those services to keep certain portions of their licenses rather than forfeiting the entire license for failure to satisfy certain benchmarks.[459]

153. We also recognize, however, that adopting a "keep what you use" approach may yield certain unintended and potentially detrimental consequences, as asserted by a number of commenters.[460] As an initial matter, commenters suggest that adopting a "keep what you use" approach may not actually result in additional rural deployment, because, if it is economically beneficial for a carrier to deploy services in a particular area, they have sufficient incentive to do so without regulatory intervention. As Nextel Partners explains, "wireless carriers have every incentive to expand their rural service as soon as economically feasible," as well as "to obtain any available value from 'unused' portions of spectrum, assuming that secondary market transactions are cost-efficient and not subject to undue regulation."[461] Similarly, AT&T Wireless states that carriers will deploy services where "[t]here is no reason to believe that, if the Commission were to adopt rules forcing larger carriers to relinquish spectrum or sell it at low prices to other entities if they do not build quickly enough, the new licensees would be any more able to serve the area rapidly if the economics do not support the costs of building out and providing service there."[462] Second, commenters caution that adopting a "keep what you use" approach may upset the valuation of spectrum licenses and chill investment in wireless services.[463] Third, such an approach might result in uneconomic construction, in an attempt to "save" licensed area. According to Sprint, requiring

[456] NTCA Comments at 9.

[457] Blooston Comments at 15.

[458] *See supra* Sections III.B.2 and *infra* IV.C.4 for discussions of the "complete forfeiture" approach to enforcement of our construction regulations.

[459] *See* RCA *Ex Parte* Comments, Attachment at 2.

[460] We note that this discussion is intended to be representative (but not exhaustive) of the types of concerns raised by commenters in this proceeding.

[461] Nextel Partners Reply Comments at 10.

[462] AT&T Wireless Reply Comments at 6. *See also* Sprint Reply Comments at 12-13 (stating that arguments by rural cellular incumbents that PCS licensees are "'[d]riven solely by profit'" and "that large PCS licensees in particular 'lack the motivation to serve rural communities'" is "at best disingenuous," because all carriers "are driven by profit") (quoting NTCA Comments at 4, 7).

[463] *See* Nextel Communications Reply Comments at 8-9 (stating that "[t]he Commission should consider carefully whether what it is trying to achieve is realistic and be sure that any new policies do not unwittingly erode the necessary investor confidence so critical to continued licensed service deployment in rural markets" and that "[t]he 'use it or lose it' model of taking back spectrum does not convince licensees or investors that the licensee has a reasonable period of time and opportunity to 'protect' unserved areas from encroachment by third parties").

licensees to "use it or lose it" may force carriers "to make the Hobson's choice of making uneconomic investments or forfeiting their licenses in rural areas (even though entry may be justified in the future)."[464] Nextel Partners urges the Commission to refrain from adopting any rules "that might result in the forfeiture of spectrum by a licensee that has *already met* initially established Commission construction benchmarks," indicating that this policy shift "would not only be patently unfair, but might well have the untoward effect of compelling wireless carriers to revise their business plans radically to build out portions of their territories in a manner that is uneconomic and out of step with marketplace demand."[465] Fourth, adopting the "keep what you use" approach may result in numerous administrative and legal costs, including the costs of initially assessing whether the spectrum is being "used," reclaiming the subject spectrum and resolving "any controversy or litigation that may arise as a result," engaging in the re-licensing process, and "waiting to see whether the new licensees actually provide the desired wireless service to the indicated rural territory."[466] Finally, carriers express concern that adopting a "keep what you use" approach may "strip[ ] a licensee of legitimate business opportunities, such as the ability to lease excess spectrum in the secondary market."[467]

154. Given the potential benefits and drawbacks of the "keep what you use" approach, we intend to continue to examine carefully the potential use of this mechanism to increase access to spectrum in this proceeding as well as in future service-specific proceedings. In the *Rural NPRM*, the Commission limited its inquiry regarding spectrum re-licensing and adoption of the "keep what you use" approach to future spectrum allocations only.[468] In this *Further Notice*, however, we extend our inquiry to include all licensed terrestrial wireless services that are within the scope of this proceeding, as well as future spectrum allocations. Accordingly, we see comment on the benefits, if any, of extending the "keep what you use" approach. We ask whether the potential benefits of the "keep what you use" approach, in terms of increasing access to spectrum in rural areas, are likely to outweigh the potential costs. In this regard, commenters are asked to discuss the likelihood that such an approach will in fact cause uneconomic construction. We note that, to the extent that any construction requirement will cause a licensee to deploy facilities in a manner in which it may not otherwise have in the absence of such a rule, any build-out obligation could to some extent be said to cause uneconomic investment or construction. Accordingly, we seek comment on whether a "keep what you use" approach will cause undue disruption or whether it should more appropriately be viewed as one of many factors to be considered by a licensee in determining whether or not to deploy facilities in a given area.

155. We also seek comment on the impact of such a re-licensing approach on secondary markets. Because licensees may wish to recoup some financial benefit from their unused spectrum, rather than simply allowing it to revert to the Commission, a "keep what you use" approach would seem to encourage licensees to engage in more partitioning, disaggregation, and spectrum licensing arrangements.

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[464] Sprint Reply Comments at 12.

[465] Nextel Partners Reply Comments at 4-5.

[466] *Id.* at 7-8.

[467] Blooston Comments at 10. We note that although Blooston discusses the potential drawbacks to "keep what you use" in the context of its applicability to smaller licensed areas, we believe that these drawbacks may apply to larger areas as well. We further note that, in the event we adopt a "keep what you use" re-licensing approach, we are unlikely to introduce regulatory disparity and differentiate between large and small licensed areas.

[468] *See Rural NPRM*, 18 FCC Rcd at 20816 ¶ 25.

For these reasons, adoption of a "keep what you use" approach might well complement our existing market-based policies. On the other hand, we note that certain commenters, such as Nextel Partners and AT&T Wireless, caution that a "keep what you use" approach to spectrum re-licensing "could eliminate long range benefits from the Commission's positive steps taken to foster development of a secondary market in spectrum."[469] We seek clarification on the potential impact of a "keep what you use" approach on our secondary market policies.

156. We acknowledge that any "keep what you use" approach would necessitate certain important administrative determinations, such as identifying what constitutes "use" for particular services and requiring licensees to demonstrate sufficient "use." However, we do not intend to set out a comprehensive definition of spectrum "use" in this proceeding. Should we adopt a "keep what you use" approach, we will examine the definition of "use" and other administrative issues in future service-specific proceedings.[470]

3. Renewal Term Substantial Service Requirements.

157. We also seek comment on whether we should strengthen the application of substantial service performance requirements after initial license terms as a means of encouraging access to spectrum and provision of service in rural areas. The *Report and Order* provided most geographic area licensees with the option of satisfying a substantial service standard if they did not already have such an option.[471] As discussed in Section III.D.1, the unique characteristics and considerations inherent in constructing within rural areas may make it impractical for licensees with population-based build-out requirements to construct in such areas. We believe that enabling licensees to fulfill their construction obligations by providing substantial service affords them the flexibility to deploy facilities in sparsely populated areas that otherwise may not be served. Indeed, the record in this proceeding supports our belief that the substantial service requirement enhances licensee ability to bring service to rural areas. A number of commenters agree that the use of substantial service standards for all geographic area wireless licensees should be extended,[472] with one commenter arguing that our population- or geographic-based build-out requirements are no longer necessary because of changes in the market, and contending that firms already

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[469] *See* Nextel Partners Comments at 18, AT&T Wireless Reply Comments at 6.

[470] We note that we have competing concerns associated with adopting a definition of "use" for flexible allocations. At present, many licensees have the flexibility to offer a range of services using their spectrum. Given the broad range of innovative services that are likely, imposing strict usage definitions that would apply over the license term may be neither practical nor desirable as a means of promoting rapid deployment of new services, including broadband applications. Without knowing the specific type of service or services to be provided, it is difficult to devise specific usage definitions. Further, given the undeveloped nature of equipment and the technical requirements to prevent interference, we are concerned that strict usage definitions might have the effect of discouraging the development of spectrally efficient equipment and applications. In any event, given these factors, we believe that determining an appropriate definition of "use" is better left to service-specific proceedings.

[471] *See supra* at ¶¶ 75-78.

[472] *See* Blooston Comments at 16, CTIA Comments at 5, Cingular Comments at 4 n. 11, NRTC Comments at 3-5, Southern LINC Comments at 7, RCA Comments at 8, WCA Comments at 7, Blooston Reply Comments at 7, Southern LINC Reply Comments at 4-6, Sprint Reply Comments at 21-24, WCA Reply Comments at 2, 5, Western Wireless Reply Comments at 9.

in the market are more likely to acquire spectrum in order to provide niche services, rather than to duplicate the existing services provided by others.[473]

158. We therefore seek comment on the viability of more rigorous substantial service construction requirements for licenses beyond their initial license terms. Given our interest in ensuring that spectrum is available to those who actively seek to deploy facilities, we ask if such a measure would promote access to spectrum and expanded service in sparsely populated areas. We also ask how best to structure any new substantial service requirements for use in renewal license terms that will expand coverage in rural areas. For example, should we require the provision of additional coverage beyond that which is sufficient to satisfy the existing substantial service standard during the initial license term? In other words, is it reasonable to expect a carrier to expand its coverage over time and therefore impose an increasing substantial service requirement? If so, we ask commenters to explain how best to formulate such standards to provide both existing and prospective licensees with flexibility to develop or revise their long-term business plans and build-out strategies but also with sufficient clarity for them to understand what needs to be accomplished and by what date. In addition, we ask commenters to describe any safe harbor provisions that would facilitate compliance or explain why the adoption of a safe harbor for that particular standard would not be appropriate. In addition, given our desire to encourage the deployment of service in rural areas, should we require licensees to demonstrate that some percentage of the rural population of its licensed areas is being covered in order to satisfy its substantial service showing whether or not a competing application is filed against a renewal application? Recognizing the reservations of some to the imposition of performance requirements during renewal license terms,[474] we also seek comment on any disadvantages that might accrue if we were to strengthen substantial service performance after initial terms.

4. Other Alternatives

159. We ask commenters to identify any other methods we might adopt to make unused spectrum available to those better positioned to deploy service in the event our market-based policies fail to do so. For example, as stated earlier, although we believe it is premature at this time to adopt the use of easements, we will continue to consider the potential impact of easements on the incentives of all parties to ensure the highest and best use of the band. Comments in this proceeding provided mixed views on such use. One commenter generally supports such easements provided they permit, but do not

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[473] *See* Sprint Reply Comments at 23-24 (contending that that continued use of population- or geographic-based build-out requirements could undermine the public interest).

[474] *See supra* at ¶ 83. Further, T-Mobile opposes any new performance or other build-out requirements for incumbent licensees. According to T-Mobile, such requirements would fundamentally undermine the integrity of the auction process, but would also work to alter existing build-out plans to the disadvantage of rural consumers by forcing carriers to deploy resources in economically unsound ways. *See* T-Mobile Reply Comments at 4. Cingular adds that the imposition of additional build-out or other performance obligations would wreak havoc on business plans and could drive a number of smaller carriers out of the market. It argues that the Commission would be setting dangerous precedent that build-out obligations are fluid, which would in turn inhibit capital formation in CMRS markets. *See* Cingular Comments at 8. We also recognize some commenters oppose or are skeptical of any further application of substantial service requirements. They claim there is no evidence such requirements facilitate the deployment of wireless services in rural and unserved areas, and they conclude that entities will continue to make build-out decisions based on whether it is economic for them to construct regardless of the availability of a substantial service option. *See* OPASTCO/RTG Comments at 4-5, Dobson Comments at 14, 16, Nextel Partners Comments at 17.

require, licensees to allow the operation of unlicensed devices on their networks.[475] However, others submit that such easements or underlays for the provision of unlicensed services should not be permitted because they believe that unlicensed overlays will interfere with the Commission's secondary market policies,[476] would create uncertainty regarding a licensee's spectrum rights,[477] as well as raise interference concerns.[478] We, nevertheless, remain interested in the role that easements or other authorized secondary uses could play in providing incentives for the development by third parties of new devices and services that will increase access to spectrum, such as software-defined radios and other frequency-agile devices in frequency bands that are otherwise currently restricted to exclusive license holders.[479] Such ability to take advantage of unused portions of licensed spectrum could lead to the development of more equipment at lower costs, a key barrier to entry in rural areas. Nonetheless, we also seek to afford license holders as much reliability in their spectrum usage rights as practicable. In light of the objections of some to the possible use of easements,[480] we ask commenters to clarify their objections and, where possible, provide examples of potential adverse consequences. Should we choose to use such easements, we ask, first, how they could be structured to increase spectrum access and service coverage while also addressing the concerns raised in the comments. Second, after what time period should we allow entities to employ such easements, *e.g.*, immediately after renewal if a certain standard was not met during the initial term, or at some other point?

160. Finally, because we recognize that different wireless services may benefit from different approaches to spectrum access, we ask commenters to identify the specific services to which their proposed approaches should apply and whether there are any services that should be excluded. For example, how should the re-licensing methodologies available for mobile wireless services be different than those for fixed services? Should different approaches be applied to different geographic markets, *i.e.* is it appropriate to apply the same re-licensing method for a nationwide license as well as a MTA-based license?

V. PROCEDURAL MATTERS

A. Final Regulatory Flexibility Analysis

161. The Final Regulatory Flexibility Analysis for this *Report and Order,* as required by Section 604 of the Regulatory Flexibility Act of 1980, 5 U.S.C. § 604, is set forth in Appendix B.

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[475] *See* Nextel Communications Reply Comments at 5.

[476] *See* Cingular Comments at 8.

[477] *See* AT&T Reply Comments at 12, Western Wireless Reply Comments at 12.

[478] See AT&T Comments at 8, Cingular Comments at 8-9, n. 30, CTIA Comments at 8, Dobson Comments at 15, Nextel Communications Reply Comments at 5.

[479] For instance, to increase access to spectrum, we continue to examine the possible benefits of modifying our Part 15 rules on a band-by-band basis for currently assigned spectrum to increase access to spectrum. As one example, in our Cognitive Radio proceeding, we are exploring, *inter alia*, possible changes to our rules that would allow certain unlicensed operations in bands in those areas where spectrum occupancy is low, such as in rural areas. *See Cognitive Radio NRPM* at ¶ 36.

[480] *See, e.g., supra* ¶ 40.

B. Final Paperwork Reduction Act of 1995 Analysis.

162. This document contains new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new or modified information collection requirements contained in this proceeding. In addition, we note that pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4), we previously sought specific comment on how the Commission might "further reduce the information collection burden for small business concerns with fewer than 25 employees." Written comments by the public on the proposed information collections are due sixty days after the date of publication in the Federal Register. Written comments must be submitted by the OMB on the proposed information collections on or before sixty days after the date of publication in the Federal Register. In addition to filing comments with the Secretary, a copy of any comments on the information collections contained herein should be submitted to Judy Boley Herman, Federal Communications Commission, Room 1-C804, 445 12th Street, S.W., Washington, D.C. 20554, or via the Internet to Judith-B.Herman@fcc.gov, and to Kristy LaLonde, OMB Desk Officer, Room 10234, New Executive Office Building, 725 17th Street, N.W., Washington, D.C. 20503, or via the Internet to Kristy_LaLonde@omb.eop.

163. In addition, we note that pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4), we previously sought specific comment on how the Commission might "further reduce the information collection burden for small business concerns with fewer than 25 employees." In this present document, we have assessed the effects of the policy changes contained in this *Report and Order* in terms of the information collection burdens they might impose on small business concerns. We find the following:

164. Cellular cross-interest rule. The *Report and Order* eliminates the remaining components of the cellular cross-interest rule that currently apply only in RSAs and transitions to case-by-case review for cellular transactions. The Commission believes that modification of the rule is necessary to better encourage more transactions and levels of financing that are in the public interest while still maintaining much of the protection afforded by the cellular cross-interest rule. The *Report and Order* agreed with commenters that the approach limiting cross-interests in RSAs, as well as the proposal to eliminate the rule only in counties with more than three competitors, may interfere with investment in rural areas by discouraging certain financing in the RSA portions of a regional market but not in the MSA portions. The Commission believes that elimination of the cellular cross-interest rule will provide greater flexibility to all carriers, including small entities. In order to maintain scrutiny over those cross interests that pose a particular risk to competition in the near term, we impose a reporting requirement in cases in which a licensee with a controlling or otherwise attributable interest in one cellular licensee within an RSA obtains a non-controlling interest of more than 10 percent in the other cellular licensee in an overlapping CGSA. The licensee must notify the Commission within 30 days of the date of consummation of the transaction by filing updated ownership information (using an FCC Form 602) reflecting the specific level of investment. This notification requirement will sunset at the earlier of: (1) five years after the release of this item, or (2) at the cellular licensee's specific renewal deadline. Although this rule change does impose an information collection on all cellular licensees, including those that can be characterized as small business concerns, the Commission believes that the reporting requirement is necessary in order to review any transactions that may pose a risk to competition.

165. The Commission will send a copy of this *Report & Order* in a report to be sent to Congress and the General Accounting Office pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A).

C. Initial Regulatory Flexibility Analysis

166. 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 Further Notice of Proposed Rulemaking. The IRFA is set forth in Appendix C. 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 *Further 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).

D. Initial Paperwork Reduction Act of 1995 Analysis

167. This Further Notice of Proposed Rulemaking does not contain either a proposed or a modified information collection. Accordingly, we need not seek comment on the impact of this Further Notice on information collections, pursuant to the Paperwork Reduction Act of 1995.

E. *Ex Parte* Rules – Permit-But-Disclose Proceeding

168. This is a permit-but-disclose notice and comment rule making proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in Commission rules.[481]

F. Comment Dates

169. Pursuant to sections 1.415 and 1.419 of the Commission's rules,[482] interested parties may file comments on or before **[30 days from date of publication in the *Federal Register*]** and reply comments on or before **[60 days from date of publication in the *Federal Register*]**. Comments and reply comments should be filed in WT Docket Nos. 02-381, 01-14, 03-202. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies.[483]

170. 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. If multiple docket or rulemaking numbers appear in the caption of this proceeding, however, commenters must transmit one electronic copy of the comments to each docket or rulemaking number referenced in the caption. In completing the transmittal screen, commenters should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get 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." A sample form and directions will be sent in reply. Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number

[481] 47 C.F.R. §§ 1.1202, 1.1203, 1.1206.

[482] 47 C.F.R. §§ 1.415, 1.419.

[483] *See* Electronic Filing of Documents in Rulemaking Proceedings, *Order*, 13 FCC Rcd 11322, 11326 (1998).

appears in the caption of this proceeding, commenters must submit two additional copies for each additional docket or rulemaking number.

171. Parties that 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, Best Copy and Printing, 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. One copy of all comments should also be sent to the Commission's contractor, Natek, Inc., 445 12th Street, S.W., Suite CY-B402, Washington, D.C. 20554. In addition, parties who choose to file by paper should provide a courtesy copy of each filing to Allen A. Barna, Mobility Division, Wireless Telecommunications Bureau, 445 12th Street, SW, Portals I, Room 6324, Washington, DC 20554 or by email to allen.barna@fcc.gov.

172. 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 Natek, Inc., 445 12th Street, SW, Washington, D.C. 20554. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

173. Copies of all filings will be available for public inspection and copying during regular business hours at the FCC Reference Information Center, Room CY-A257, at Portals II, 445 12th St., S.W., Washington, D.C. 20554, and will be placed on the Commission's Internet site. Copies of comments and reply comments will be available through the Commission's contractor, Natek, Inc., 445 12th St., S.W., Room CY-B402, Washington, D.C. 20554, www.bcpiweb.com, 1-800-378-3160.

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, 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 12th Street, SW Washington, DC 20554

174. Parties who choose to file by paper should also submit their comments on diskette. These diskettes, plus one paper copy, should be submitted to: Milton Price, Mobility Division, Wireless Telecommunications Bureau, Federal Communications Commission, at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002. Such a submission should be on a 3.5-inch diskette formatted in an IBM compatible format using Word or compatible software. The diskette should be accompanied by a cover letter and should be submitted in "read only" mode. The diskette should be clearly labeled with the commenter's name, proceeding (including the docket numbers, WT Docket Nos. 02-381, 01-14, 03-202, type of pleading (comment or reply comment), date of submission, and the name of the electronic file on the diskette. The label should also include the following phrase "Disk Copy - Not an Original." Each

diskette should contain only one party's pleadings, preferably in a single electronic file. In addition, commenters must send diskette copies to the Commission's copy contractor, 445 12th Street, S.W., Room CY-B402, Washington, D.C. 20554 (*see* alternative addresses above for delivery by hand or messenger).

175. 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, 445 12th Street S.W., CY-B402, Washington, D.C. 20554 (see alternative addresses above for delivery by hand or messenger).

176. 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) 418-2555, or via e-mail to Brian.Millin@fcc.gov. This *Report and Order and Further Notice of Proposed Rulemaking* can also be downloaded in Microsoft Word and ASCII formats at http://www.fcc.gov/wtb.

VI. ORDERING CLAUSES

177. 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 REPORT AND ORDER is hereby ADOPTED.

178. IT IS FURTHER 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 FURTHER NOTICE OF PROPOSED RULEMAKING is ADOPTED.

179. IT IS FURTHER ORDERED that the Petition for Reconsideration filed by Cingular Wireless LLC, in WT Docket No. 01-14 on February 13, 2002, and the Petition for Reconsideration filed by Dobson Communications Corp./ Western Wireless Corp./Rural Cellular Corp. in WT Docket No. 01-14 on February 13, 2002 ARE GRANTED, to the extent described above.

180. IT IS FURTHER ORDERED that the rule sections set forth in Appendix A are adopted, effective sixty days from the date of publication in the *Federal Register*.

181. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of the REPORT AND ORDER and FURTHER NOTICE OF PROPOSED RULE MAKING, including the Regulatory Flexibility Analyses, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

RULE CHANGES

Part 1 of Title 47 of the Code of Federal Regulations is amended as follows:

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

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

2. Section 1.919 is amended by redesignating paragraphs (c), (d), and (e) as paragraphs (d), (e), and (f), and by adding paragraph (c) to read as follows:

§ 1.919 Ownership Information.

(a) * * *

(b) * * *

(c) Reporting of Cellular Cross-Ownership Interests.

(1) A cellular licensee of one channel block in a cellular geographic service area (CGSA) must report current ownership information if the licensee, a party that owns a controlling or otherwise attributable interest in the licensee, or a party that actually controls the licensee, obtains a direct or indirect ownership interest of more than 10 percent in a cellular licensee, a party that owns a controlling or otherwise attributable interest in a cellular licensee, or a party that actually controls a cellular licensee, for the other channel block in an overlapping CGSA, if the overlap is located in whole or in part in a Rural Service Area (RSA), as defined in § 22.909 of this chapter. The ownership information must be filed on a FCC Form 602 within 30 days of the date of consummation of the transaction and reflect the specific levels of investment.

(2) For the purposes of paragraph (c) of this section, the following definitions and other provisions shall apply:

(i) Non-controlling interests. A direct or indirect non-attributable interest in both systems is excluded from the reporting requirement set out in paragraph (c)(1) of this section.

(ii) Ownership attribution. For purposes of paragraph (c) of this section, ownership and other interests in cellular licensees will be attributed to their holders pursuant to the following criteria:

(A) Controlling interest shall be attributable. Controlling interest means majority voting equity ownership, any general partnership interest, or any means of actual working control (including negative control) over the operation of the licensee, in whatever manner exercised.

(B) Partnership and other ownership interests and any stock interest amounting to 20 percent or more of the equity, or outstanding stock, or outstanding voting stock of a cellular licensee shall be attributed.

(C) Non-voting stock shall be attributed as an interest in the issuing entity if in excess of the amounts set forth in paragraph (c)(2)(ii)(B) of this section.

(D) Debt and instruments such as warrants, convertible debentures, options, or other interests (except non-voting stock) with rights of conversion to voting interests shall not be attributed unless and until converted.

(E) Limited partnership interests shall be attributed to limited partners and shall be calculated according to both the percentage of equity paid in and the percentage of distribution of profits and losses.

(F) Officers and directors of a cellular licensee shall be considered to have an attributable interest in the entity with which they are so associated. The officers and directors of an entity that controls a cellular licensee shall be considered to have an attributable interest in the cellular licensee.

(G) Ownership interests that are held indirectly by any party through one or more intervening corporations will be determined by successive multiplication of the ownership percentages for each link in the vertical ownership chain and application of the relevant attribution benchmark to the resulting product, except that if the ownership percentage for an interest in any link in the chain exceeds 50 percent or represents actual control, it shall be treated as if it were a 100 percent interest. (For example, if A owns 20 percent of B, and B owns 40 percent of licensee C, then A's interest in licensee C would be 8 percent. If A owns 20 percent of B, and B owns 51 percent of licensee C, then A's interest in licensee C would be 20 percent because B's ownership of C exceeds 50 percent.)

(H) Any person who manages the operations of a cellular licensee pursuant to a management agreement shall be considered to have an attributable interest in such licensee if such person, or its affiliate, has authority to make decisions or otherwise engage in practices or activities that determine, or significantly influence,

(1) The nature or types of services offered by such licensee;

(2) The terms upon which such services are offered; or

(3) The prices charged for such services.

(I) Any licensee, or its affiliate, who enters into a joint marketing arrangements with a cellular licensee, or its affiliate, shall be considered to have an attributable interest, if such licensee or affiliate has authority to make decisions or otherwise engage in practices or activities that determine, or significantly influence:

(1) The nature or types of services offered by such licensee;

(2) The terms upon which such services are offered; or

(3) The prices charged for such services.

(3) Sunset Provisions. This notification requirement will sunset at the earlier of:

(A) Five years after [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE **FEDERAL REGISTER**], or

(B) At the cellular licensee's specific deadline for renewal.

(d) * * *

(e) * * *

(f) * * *

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

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

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

4. 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.

5. Section 22.913 is amended by revising paragraph (a) to read as follows:

§ 22.913 Effective radiated power limits.

* * * * *

(a) Maximum ERP. In general, the effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts except as described below. The effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 1000 Watts for those systems operating in areas more than 72 km (45 miles) from international borders that (1) are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census; or (2) extend coverage into cellular unserved areas, as those areas are defined in Section 22.949 of the Commission's rules. The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

* * * * *

6. Section 22.942 is removed.

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

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

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

8. Section 24.203 is amended by revising paragraph (a) 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. Licensees may, in the alternative, provide substantial service to their licensed area within the appropriate five- and ten-year benchmarks. 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.

* * * * *

9. Section 24.232 is revised to read as follows:

§ 24.232 Power and antenna height limits.

(a) Base stations are limited to 1640 watts peak equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT, except as described in paragraph (b) below. *See* Sec. 24.53 for HAAT calculation method. Base station antenna heights may exceed 300 meters with a corresponding reduction in power; *see* Table 1 of this section. In no case may the peak output power of a base station transmitter exceed 100 watts. The service area boundary limit and microwave protection criteria specified in Sec. 24.236 and Sec. 24.237 apply.

Table 1--Reduced Power for Base Station Antenna Heights Over 300 Meters

HAAT in meters	Maximum EIRP watts
≤300	1640
≤500	1070
≤1000	490
≤1500	270
≤2000	160

(b) Base stations that are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census, are limited to 3280 watts peak equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT; *See* Sec. 24.53 for HAAT calculation method. Base station antenna heights may exceed 300 meters with a corresponding reduction in power; *see* Table 2 of this section. In no case may the peak output power of a base station transmitter exceed 200 watts. The service area boundary limit and microwave protection criteria specified in Sec. 24.236 and Sec. 24.237 apply. Operation under this paragraph must be coordinated in advance with all PCS licensees within 120 kilometers (75 miles) of the base station and is limited to base stations located more than 120 kilometers (75 miles) from the Canadian border and more than 75 kilometers (45 miles) from the Mexican border.

Table 2--Reduced Power for Base Station Antenna Heights Over 300 Meters

HAAT in meters	Maximum EIRP watts
≤300	3280

≤500	2140
≤1000	980
≤1500	540
≤2000	320

(c) Mobile/portable stations are limited to 2 watts EIRP peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

(d) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

10. Section 24.237 is amended by revising paragraph (d) as follows:

§ 24.237 Interference protection

(a) * * *

(b) * * *

(c) * * *

(d) The licensee must perform an engineering analysis to assure that the proposed facilities will not cause interference to existing OFS stations within the coordination distance specified in Table 3 of a magnitude greater than that specified in the criteria set forth in paragraph (e) and (f) of this section, unless there is prior agreement with the affected OFS licensee. Interference calculations shall be based on the sum of the power received at the terminals of each microwave receiver from all of the applicant's current and proposed PCS operations.

Table 3.--Coordination Distances in Kilometers

	PCS Base Station Antenna HAAT in Meters												
EIRP(W)	**5**	**10**	**20**	**50**	**100**	**150**	**200**	**250**	**300**	**500**	**1000**	**1500**	**2000**
0.1	90	93	99	110	122	131	139	146	152	173	210	239	263
0.5	96	100	105	116	128	137	145	152	158	179	216	245	269
1	99	103	108	119	131	140	148	155	161	182	219	248	272
2	120	122	126	133	142	148	154	159	164	184	222	250	274
5	154	157	161	168	177	183	189	194	198	213	241	263	282
10	180	183	187	194	203	210	215	220	225	240	268	291	310
20	206	209	213	221	229	236	242	247	251	267	296	318	337
50	241	244	248	255	264	271	277	282	287	302	331	354	374
100	267	270	274	282	291	297	303	308	313	329	358	382	401
200	293	296	300	308	317	324	330	335	340	356	386	409	436
500	328	331	335	343	352	359	365	370	375	391	421	440	
1000	354	357	361	369	378	385	391	397	402	418			
1200	361	364	368	376	385	392	398	404	409	425			
1640	372	375	379	388	397	404	410	416	421	437			

2400	384	387	391	399	408	415	423	427	431				
3280	396	399	403	412	419	427	435	439	446				

* * * * *

Part 27 of Title 47 of the Code of Federal Regulations is amended as follows:

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

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

12. Section 27.50 is amended by revising paragraph (d) to read as follows:

§ 27.50 Power and antenna height limits.

(a) * * *

(b) * * *

(c) * * *

(d) The following power and antenna height requirements apply to stations transmitting in the 1710-1755 MHz and 2110-2155 MHz bands:

(1) The power of each fixed or base station transmitting in the 2110-2155 MHz band and located in any county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, is limited to a peak equivalent isotropically radiated power (EIRP) of 3280 watts and a peak transmitter output power of 200 watts. The power of each fixed or base station transmitting in the 2110-2155 MHz band from any other location is limited to a peak EIRP of 1640 watts and a peak transmitter output power of 100 watts. A licensee operating a base or fixed station utilizing a power of more than 1640 watts EIRP must coordinate such operations in advance with all Government and non-Government satellite entities in the 2025-2110 MHz band. Operations above 1640 watts EIRP must also be coordinated in advance with the following licensees within 120 kilometers (75 miles) of the base or fixed station: all Multipoint Distribution Service (MDS) licensees authorized under Part 21 in the 2155-2160 MHz band and all AWS licensees in the 2110-2155 MHz band.

(2) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band are limited to a peak EIRP of 1 watt. Fixed stations operating in this band are limited to a maximum antenna height of 10 meters above ground, and mobile and portable stations must employ a means for limiting power to the minimum necessary for successful communications.

* * * * *

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

13. 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).

14. Section 90.155 is amended by revising paragraph (d) to read as follows:

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

(a) * * *

(b) * * *

(c) * * *

(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. Licensees may, in the alternative, provide substantial service to their licensed area within the appropriate five- and ten-year benchmarks. 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).

* * * * *

15. Section 90.685 is amended by revising paragraph (b) to read as follows:

§ 90.685 Authorization, construction and implementation of EA licenses.

(a) * * *

(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. EA-based licensees may, in the alternative, 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."

* * * * *

16. 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. Licensees may, in the alternative, provide substantial service to their licensed areas at the appropriate 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) 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.

17. 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. Licensees may, in the alternative, provide substantial service to their licensed areas at the appropriate 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.

APPENDIX B

FINAL REGULATORY FLEXIBILITY ANALYSIS

As required by the Regulatory Flexibility Act (RFA),[484] an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rulemaking* in WT Docket Nos. 02-381, 01-14, and 03-202, released October 6, 2003 (*Rural NPRM*).[485] The Commission sought written public comment on the proposals in the *Rural NPRM*, including comment on the IRFA. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.[486]

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

This *Report and Order* adopts several measures, as indicated below, intended to increase the ability of wireless service providers to use licensed spectrum resources flexibly and efficiently to offer a variety of services in a cost-effective manner. The Commission takes steps to promote access to spectrum and facilitate capital formation for entities seeking to serve rural areas or improve service in rural areas.[487] We expect that these decisions will facilitate the deployment of new and advanced wireless services, including broadband services, and thereby foster much-needed economic development.

Definition of "rural area". This *Report and Order* establishes the presumption that, unless otherwise specified in the context of specific policies or regulations governing wireless communications services, counties with a population density of 100 persons or less per square mile constitute "rural areas" for purposes of the Commission's wireless spectrum policies.

Size of geographic service areas and re-licensing issues. The *Report and Order* examines Commission policies affecting access to spectrum and the provision of service in rural areas. In particular, the Commission considers its policies governing the licensing of spectrum, both with respect to initial licensing through the competitive bidding process, as well as subsequent re-licensing after an authorization is returned to the Commission. Specifically, the *Report and Order* affirms that the Commission will continue to establish licensing areas on a service-by-service (or band-by-band) basis as appropriate, based upon the flexibility that such an approach provides and our past experience in determining the initial size of service areas. The Commission also reaffirms that when developing rules for licensing individual services in the future, it will consider using smaller service areas in some spectrum blocks to encourage deployment in rural areas for the service in question.

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[484] *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).

[485] 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, *Notice of Proposed Rulemaking*, 16 FCC Rcd 11169 (2001) (*Rural NPRM*).

[486] *See* 5 U.S.C. § 604.

[487] This *Report and Order* takes action affecting the provision of commercial and private terrestrial wireless services. While the policies and regulations discussed herein are targeted to promote wireless services in rural areas, we note that certain of our actions will likely have broader application to non-rural areas as well.

Cellular cross-interest rule and conditional security interests to RUS. The Commission also takes the following steps to facilitate increased access to capital for rural licensees. The *Report and Order* eliminates the remaining components of the cellular cross-interest rule that currently apply only in Rural Service Area (RSA) markets and transitions to case-by-case review for cellular transactions, while closely examining those that present a significant likelihood of substantial competitive harm in a market.[488] The Commission also revises the policies governing security interests in wireless licenses by permitting licensees, at their discretion, to grant such interests to the Department of Agriculture's Rural Utilities Service (RUS).

Increase of power limits for certain services. The *Report and Order* amends the Commission's regulations to increase permissible power levels for base stations in certain wireless services that are located in rural areas or that provide coverage to otherwise unserved areas.[489] In doing so, the Commission anticipates that coverage of such areas will be more economical, as licensees may provide increased coverage of rural areas using fewer base stations and less associated infrastructure. The Commission believes these actions will increase licensee flexibility and permit more cost-effective coverage of rural areas.

Substantial service construction requirement. The Commission also amends its regulations to permit certain geographic-area licensees to provide substantial service as a means of complying with their construction requirements, thus countering existing disincentives to build out less densely populated areas.[490]

Infrastructure sharing. Finally, the *Report and Order* concludes that the revised *de facto* control standard for spectrum leasing adopted in the Commission's *Secondary Markets* proceeding generally shall apply for interpreting whether a licensee retains *de facto* control for purposes of Section 310(d) of the Communications Act when it is engaged in an infrastructure sharing arrangement.[491]

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

We received no comments in response to the IRFA. However, as described in section E. below, we have nonetheless considered potential significant economic impacts of our actions on small entities.

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 proposed rules, if adopted.[492] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small

[488] *See supra* ¶¶ 63-72.

[489] *See supra* ¶¶ 86-104.

[490] *See supra* ¶¶ 75-84.

[491] *See supra* ¶¶ 112-124.

[492] 5 U.S.C. § 603(b)(3).

organization," and "small governmental jurisdiction."[493] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[494] 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).[495]

Cellular Licensees. The SBA has developed a small business size standard for small businesses in the category "Cellular and Other Wireless Telecommunications."[496] Under that SBA category, a business is small if it has 1,500 or fewer employees.[497] 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.[498] Therefore, even if all 12 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.[499] According to the Census Bureau data for 1997, only 12 firms out of a total of 1,238 such firms that operated for the entire year, had 1,000 or more employees.[500] 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.

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[493] *Id.* § 601(6).

[494] *Id.* § 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."

[495] 15 U.S.C. § 632.

[496] 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 517212.

[497] *Id*.

[498] 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). The Census Bureau will be issuing 2002 Economic Census data relating to telecommunications entities in late 2004.

[499] 13 C.F.R. § 121.201, NAICS code 517212.

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

220 MHz Radio Service – Phase II Licensees. The 220 MHz service has both Phase I and Phase II licenses. The Phase II 220 MHz service is subject to spectrum auctions. In the *220 MHz Third Report and Order*, we adopted a small business size standard for defining "small" and "very small" businesses for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[501] 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.[502] 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.[503] The SBA has approved these small size standards.[504] Auctions of Phase II licenses commenced on September 15, 1998, and closed on October 22, 1998.[505] 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.[506] 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.[507] 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.[508]

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.[509] 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.[510] 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.[511] Additionally, the lower 700

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[501] 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).

[502] *Id.* at 11068 ¶ 291.

[503] *Id.*

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

[505] *See generally* "220 MHz Service Auction Closes," *Public Notice*, 14 FCC Rcd 605 (WTB 1998).

[506] *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).

[507] *See* "Phase II 220 MHz Service Spectrum Auction Closes," *Public Notice*, 14 FCC Rcd 11218 (WTB 1999).

[508] *See* "Multi-Radio Service Auction Closes," *Public Notice*, 17 FCC Rcd 1446 (WTB 2002).

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

[510] *Id.* at 1087-88 ¶ 172.

[511] *Id.*

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 million for the preceding three years.[512] The SBA has approved these small size standards.[513] An auction of 740 licenses (one license in each of the 734 MSAs/RSAs and one license in each of the six 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.[514] 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.[515] 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.[516]

Upper 700 MHz Band Licenses. The Commission released a *Report and Order* authorizing service in the upper 700 MHz band.[517] This auction, previously scheduled for January 13, 2003, has been postponed.[518]

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.[519] 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.[520] The SBA has approved this definition.[521] An auction of Metropolitan Economic Area (MEA) licenses commenced on

[512] *Id.* at 1088 ¶ 173.

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

[514] *See* "Lower 700 MHz Band Auction Closes," *Public Notice*, 17 FCC Rcd 17272 (WTB 2002).

[515] *See* "Lower 700 MHz Band Auction Closes," *Public Notice*, 18 FCC Rcd 11873 (WTB 2003).

[516] *Id*.

[517] 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).

[518] *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).

[519] 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).

[520] *Paging Second Report and Order*, 12 FCC Rcd at 2811 ¶ 179.

[521] *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.

February 24, 2000, and closed on March 2, 2000. Of the 2,499 licenses auctioned, 985 were sold.[522] Fifty-seven companies claiming small business status won 440 licenses.[523] An auction of Metropolitan Economic Area (MEA) and EA licenses commenced on October 30, 2001, and closed on December 5, 2001. Of the 15,514 licenses auctioned, 5,323 were sold.[524] One-hundred thirty-two 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.[525] 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.[526] Of these, we estimate that 589 are small, under the SBA-approved small business size standard.[527] 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.[528] 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.[529] These small business size standards, in the context of broadband PCS auctions, have been approved by the SBA.[530] 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

[522] *See* "929 and 931 MHz Paging Auction Closes," *Public Notice*, 15 FCC Rcd 4858 (WTB 2000).

[523] *See id*.

[524] *See* "Lower and Upper Paging Band Auction Closes," *Public Notice*, 16 FCC Rcd 21821 (WTB 2002).

[525] *See* "Lower and Upper Paging Bands Auction Closes," *Public Notice*, 18 FCC Rcd 11154 (WTB 2003).

[526] *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).

[527] 13 C.F.R. § 121.201, NAICS code 517211.

[528] *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).

[529] *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.

[530] *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.

approximately 40 percent of the 1,479 licenses for Blocks D, E, and F.[531] On March 23, 1999, the Commission reauctioned 155 C, D, E, and F Block licenses; there were 113 small business winning bidders.[532]

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.[533] Through these auctions, the Commission awarded a total of 41 licenses, 11 of which were obtained by four small businesses.[534] 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*.[535] 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.[536] 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.[537] The SBA has approved these small business size standards.[538] A third auction commenced on October 3, 2001 and closed on October 16, 2001. Here, five bidders won 317 (MTA and nationwide) licenses.[539] Three of these claimed status as a small or very small entity and won 311 licenses. A fourth auction commenced on September 24, 2003 and closed on September 29, 2003. Here, four bidders 48 licenses. Four of these claimed status as a very small entity and won 48 licenses.[540] Finally, a fifth auction commenced on September 24, 2003 and closed on September 25, 2003. Here, one bidder won five licenses.[541] That bidder claimed status as a very small

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

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

[533] 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).

[534] *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).

[535] 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).

[536] *Id*.

[537] *Id*.

[538] *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.

[539] *See* "Narrowband PCS Auction Closes," *Public Notice*, 16 FCC Rcd 18663 (WTB 2001).

[540] *See* "Narrowband PCS Spectrum Auction Closes," *Public Notice*, 18 FCC Rcd 19751 (WTB 2003).

entity.

Specialized Mobile Radio (SMR). The Commission awards "small entity" bidding credits in auctions for 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.[542] 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.[543] The SBA has approved these small business size standards for the 900 MHz Service.[544] 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.[545] 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.[546]

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

(Continued from previous page)

[541] *See* "Regional Narrowband PCS Spectrum Auction Closes," *Public Notice*, 18 FCC Rcd 19689 (WTB 2003).

[542] 47 C.F.R. § 90.814(b)(1).

[543] *Id*.

[544] *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.

[545] *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).

[546] *See* "Multi-Radio Service Auction Closes," *Public Notice*, 17 FCC Rcd 1446 (WTB 2002).

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.[547] The Commission does not require PLMR licensees to disclose information about number of employees, so the Commission does not have information that could be used to determine how many PLMR licensees constitute small entities under this definition. Moreover, because PLMR licensees generally are not in the business of providing cellular or other wireless telecommunications services but instead use the licensed facilities in support of other business activities, we are not certain that the Cellular and Other Wireless Telecommunications category is appropriate for determining how many PLMR licensees are small entities for this analysis. Rather, it may be more appropriate to assess PLMR licensees under the standards applied to the particular industry subsector to which the licensee belongs.[548]

The Commission's 1994 Annual Report on PLMRs[549] 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,[550] private-operational fixed,[551] and broadcast auxiliary radio services.[552] 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

[547] *See* 13 C.F.R. § 121.201, NAICS code 517212.

[548] *See generally* 13 C.F.R. § 121.201.

[549] Federal Communications Commission, 60th Annual Report, Fiscal Year 1994, at ¶ 116.

[550] 47 C.F.R. §§ 101 *et seq.* (formerly, part 21 of the Commission's Rules).

[551] 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.

[552] 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.

1,500 persons.[553] 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 million for each of the three preceding years.[554] The SBA has approved these definitions.[555] 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.[556] "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.[557] The SBA has approved these definitions.[558] 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

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[553] 13 C.F.R. § 121.201, NAICS code 517212.

[554] 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).

[555] *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.

[556] *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).

[557] *Id*.

[558] *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.

the three previous calendar years.[559] 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.[560] These regulations defining "small entity" in the context of LMDS auctions have been approved by the SBA.[561] There were 93 winning bidders that qualified as small entities in the LMDS auctions. A total of 93 small and very small business bidders won approximately 277 A Block licenses and 387 B Block licenses. On March 27, 1999, the Commission re-auctioned 161 licenses; there were 32 small and very small business winning bidders that won 119 licenses.

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).[562] 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.[563] 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.[564] 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.[565] The SBA has approved of these definitions.[566] 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.

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[559] *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).

[560] *Id*.

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

[562] *See* "Interactive Video and Data Service (IVDS) Applications Accepted for Filing," *Public Notice*, 9 FCC Rcd 6227 (1994).

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

[564] 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).

[565] *Id*.

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

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.[567] 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.[568] These definitions have been approved by the SBA.[569] An auction for LMS licenses commenced on February 23, 1999, and closed on March 5, 1999. Of the 528 licenses auctioned, 289 licenses were sold to four small businesses. We cannot accurately predict the number of remaining licenses that could be awarded to small entities in future LMS auctions.

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.[570] 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.[571] There are approximately 10 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.[572] 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

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[567] 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.

[568] *Id.*; *see also* 47 C.F.R. § 90.1103.

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

[570] 13 C.F.R. § 121.201, NAICS code 517212.

[571] *Id.*

[572] *Id*.

entity that has average gross revenues of less than $15 million in the three previous calendar years.[573] "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.[574] The SBA has approved of these definitions.[575] 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.[576] Seven winning bidders claimed status as small or very small businesses and won 611 licenses.

With respect to the second category, which consists of entities that use, or seek to use, MAS spectrum to accommodate their own internal communications needs, we note that MAS serves an essential role in a range of industrial, safety, business, and land transportation activities. MAS radios are used by companies of all sizes, operating in virtually all U.S. business categories, and by all types of public safety entities. For the majority of private internal users, the definitions developed by the SBA would be more appropriate. The applicable definition of small entity in this instance appears to be the "Cellular and Other Wireless Telecommunications" definition under the SBA rules. This definition provides that a small entity is any entity employing no more than 1,500 persons.[577] 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.[578] 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.[579] This information notwithstanding, we believe that there are only two licensees in the 24 GHz band that were relocated from the 18 GHz

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

[574] *Id*.

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

[576] *See* "Multiple Address Systems Spectrum Auction Closes," *Public Notice*, 16 FCC Rcd 21011 (2001).

[577] *See* 13 C.F.R. § 121.201, NAICS code 517212.

[578] *See id.*

[579] *1992 Census, Series UC-92-S-1* at *Firm Size* 1-123.

band: Teligent[580] 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.[581] "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.[582] The SBA has approved these definitions.[583] 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.[584] 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 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.[585]

In addition, the SBA has developed a small business size standard for Cable and Other Program Distribution,[586] which includes all such companies generating $12.5 million or less in annual receipts.[587]

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[580] 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.

[581] 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).

[582] *24 GHz Report and Order*, 15 FCC Rcd at 16967 ¶ 77; *see also* 47 C.F.R. § 101.538(a)(1).

[583] *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.

[584] 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).

[585] Public Notice, "700 MHz Guard Band Auction Closes," DA 01-478 (rel. Feb. 22, 2001).

[586] 13 C.F.R. § 121.201, NAICS code 517510.

[587] *Id.*

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.[588] 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.[589] 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 *Rural NPRM.*

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

With respect to the cellular cross-interest rule, in the event that a party with a controlling or otherwise attributable interest in one cellular licensee within an RSA obtains a non-controlling interest of more than 10 percent in the other cellular carrier, the Commission will require that the cellular licensee file a notification with the Commission that will include updated ownership information (FCC Form 602) to reflect this investment. This notification requirement will sunset at the earlier of: (1) five years after the release of this item, or (2) at the cellular licensee's specific renewal deadline.

E. Steps Taken To Minimize Significant Economic Impact On Small Entities, And Significant Alternatives Considered

The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[590]

The *Report and Order* adopts several measures intended to increase the ability of wireless service providers to use licensed spectrum resources flexibly and efficiently to offer a variety of services in a cost-effective manner. The Commission also takes steps to promote access to spectrum and facilitate capital formation for entities, including small entities, seeking to serve rural areas or improve service in rural areas.[591] As explained *infra,* the actions set forth in this *Order* are consistent with the RFA. Given that many carriers serving or seeking to serve rural areas may be considered small entities for FRFA purposes, the steps taken in the *Report and Order* will aid such entities.

Definition of "rural area". The *Report and Order* establishes a baseline definition of "rural area" that includes those counties (or the equivalent) with a population density of 100 persons or less per square mile. While some commenters supported alternative plans such as defining "rural areas" as any area

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

[589] *Id*.

[590] *See* 5 U.S.C. § 603(c)(1)-(c)(4).

[591] This *Report and Order* takes action affecting the provision of commercial and private terrestrial wireless services. While the policies and regulations discussed herein are targeted to promote wireless services in rural areas, we note that certain of our action will likely have broader application to non-rural areas as well.

within an RSA or refraining from adopting new definitions at all, the Commission rejected these alternatives because it believes its county- and population-based definition provides an appropriate practical guideline for carriers, including carriers qualifying as small entities, that serve or seek to serve rural areas. The Commission believes the "100 persons or less" definition best serves the Commission's goals both in ease of the definition's administration and its foundation in widely available population data. Further, by treating the designation not as a uniform definition but rather as a presumption that will apply only to Commission proceedings for which the term "rural area" has not been expressly defined, the Commission can maintain continuity and avoid confusion with respect to definitions of "rural" already in existence for specific policies.

Size of geographic service areas. The *Report and Order* concludes that maintaining the flexibility to establish geographic areas on a service-by-service basis and promoting the use of a variety of service areas, including small areas such as MSAs/RSAs, are in the public interest. Some commenters made an alternative proposal that the Commission should mandate that small markets such as RSAs are available in every future auction in order to ensure that small carriers are able to acquire licenses at auction. The Commission also received a variety of suggestions from commenters on the appropriate size of geographic areas, ranging from a belief that all licenses should be based on MSAs/RSAs to the recommendation of even smaller areas based on counties. The Commission rejects those alternatives, concluding that service area size should not be determined by a bright-line rule as commenters suggested but rather on service-by-service basis so that the Commission can evaluate all factors relevant to the types of spectrum being licensed.

When determining the scope of geographic licenses, the Commission generally considers a number of factors, including the size for each area or areas that will be licensed; the amount of spectrum to be available under each license and whether there should be paired spectrum blocks available for auction. The Commission has designated various sizes of geographic service areas, including smaller market sizes, in order to encourage participation in spectrum auctions and to facilitate deployment of wireless services.[592] The Commission's service-specific approach ensures flexibility while providing an opportunity for spectrum to be made available over small areas such as MSAs or RSAs depending on the record and other considerations relevant to the specific spectrum. This in turn increases the likelihood of service to rural markets by all carriers, including small entities.

Re-licensing issues. In the *Report and Order*, the Commission concludes that because secondary markets rules and policies are aimed at improving access to spectrum in an efficient manner for all carriers, including small entities, the Commission would not revise any of its specific re-licensing policies at this time. Before reaching this conclusion, the Commission sought comment on when, and under what circumstances, the Commission should apply re-licensing provisions to prospective spectrum designations in order to evaluate mechanisms that it could employ in the future that would potentially increase service by making spectrum available to those seeking to serve a given area, particularly if the area is rural in nature. The Commission sought comment on a number of different re-licensing mechanisms that could result in increased access to spectrum, including a "keep what you use" approach, a "complete forfeiture" approach, and geographic overlays.[593] In reaching its decision, the Commission fully considered but rejected, at this time, the "keep what you use" re-licensing approach in the context of future band

[592] *See e.g., Lower 700 MHz Report and Order*, 17 FCC Rcd at 1058-62 ¶¶ 89-96 (adopting a combination of large regional areas and small geographic areas based on record).

[593] *See supra* ¶¶ 32-36.

designations. The Commission indicated that, after being given time to mature and take effect, if the secondary markets rules and policies do not provide sufficient incentives to increase spectrum access in rural areas, the Commission would support future consideration of "keep what you use" approaches in the context of specific service rulemakings for new licensed services.

Cellular cross-interest rule. The *Report and Order* eliminates the remaining components of the cellular cross-interest rule that currently apply only in RSAs and transitions to case-by-case review for cellular transactions. To facilitate additional access to capital by cellular carriers in rural areas, the Commission, before adopting this new rule, sought comment regarding whether the prohibition against cellular cross-interests in all RSAs remains in the public interest and whether the current cross-interest rule should be retained in RSAs with three or fewer CMRS competitors. Alternatively, the Commission sought comment on whether to eliminate the prohibition for all RSAs where the ownership interest being obtained 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). The Commission, however, rejected these alternatives and found that elimination of the cellular cross-interest rule and reliance on a uniform case-by-case review process for all aggregations of spectrum and potentially anticompetitive cellular cross-interests in RSAs is currently the better approach as compared to the old, prophylactic limits. The Commission believes that modification of the rule is necessary to better encourage more transactions and levels of financing that are in the public interest while still maintaining much of the protection afforded by the cellular cross-interest rule. The *Report and Order* agreed with commenters that the approach limiting cross-interests in RSAs, as well as the proposal to eliminate the rule only in counties with more than three competitors, may interfere with investment in rural areas by discouraging certain financing in the RSA portions of a regional market but not in the MSA portions. The Commission believes that elimination of the cellular cross-interest rule will provide greater flexibility to all carriers, including small entities.

Conditional security interests to RUS. In this *Report and Order*, the Commission relaxes its security interest policy to permit commercial and private wireless, terrestrial-based licensees to grant RUS a conditional security interest in their FCC licenses.[594] The Commission believes this action will significantly increase the financing opportunities for all licensees, including those classified as small entities, by increasing the value of their available collateral. Although one commenter suggested in the alternative that permitting RUS to obtain a security interest in an FCC license would make the RUS lending process more onerous, the Commission rejected this idea and believes that its new policy will enhance RUS loan opportunities. The Commission believes that allowing FCC licenses to be used as collateral will serve the public interest by facilitating licensees' access to capital. In doing so, the policy will provide increased flexibility for all licensees, including small entities, seeking to expand into rural areas.

Increase of power limits for certain services. The Commission amends its regulations to increase cellular, PCS, and AWS power limits in rural areas as a means of encouraging service to these areas. In doing so, the Commission evaluated the technical and operations rules for the various services at issue and found that increasing power limits may provide measurable benefits without creating harmful interference. Although it considered and alternative proposal to adopt such flexibility for other services in addition to cellular, PCS, and AWS, the Commission rejected this alternative due to lack of support in the record. However, licensees in other services may file a request for waiver of service-specific power

[594] *See id*. at ¶¶ 51-58.

limits.

Substantial service construction requirement. The Commission amends its regulations to provide a substantial service construction benchmark[595] for the following licensees: 30 MHz broadband PCS licensees; 800 MHz SMR licensees (blocks A, B, and C); certain 220 MHz licensees; LMS licensees; and 700 MHz public safety licensees. These licensees now have the option of satisfying their construction requirements by providing substantial service or by complying with other service-specific construction benchmarks already available to them under the Commission's rules.[596] As part of the amendments and in order to provide licensees with guidance, the Commission adopts safe harbors for providing substantial service to rural areas: A licensee will be deemed to have met the substantial service requirement if it provides coverage to at least 75 percent of the geographic area of at least 20 percent of the "rural areas" within its licensed area. With respect to fixed wireless services, the substantial service requirement is met if a licensee constructs at least one end of a permanent link in at least 20 percent of the number of "rural areas" within its licensed area.

The Commission implements this rule change in order to increase licensees' flexibility to develop rural-focused business plans and to allow all licensees, including small entities, to deploy spectrum-based services in more sparsely populated areas without being bound to concrete population or geographic coverage requirements. Certain commenters urged the adoption of a substantial service standard only for those licensees with "small geographic territories." The Commission rejected this alternative, stating that it would only result in focused coverage of populated areas instead of more rural areas. The Commission also rejected proposals for a "very rural area" safe harbor or to modify safe harbors to include a population component. The Commission noted that several commenters proposed as an alternative that a population component be included to make the safe harbor more meaningful for licensees whose licensed areas include counties with large land areas. These commenters argued that in such circumstances, it may be easier for a licensee to satisfy population requirements instead of the substantial service safe harbor. The Commission, in rejecting these alternatives, stated that the safe harbors are not intended to be the only means of providing substantial service, and that it will take into consideration a situation in which a licensee is serving a "very rural area" or a very large geographic area.

Infrastructure sharing. In this *Report and Order*, the Commission adopts a more flexible *de facto* control standard when interpreting whether a licensee (or spectrum lessee) retains *de facto* control for purposes of Section 310(d) when engaging in an infrastructure sharing arrangement involving facilities only. Although the *Secondary Markets Report and Order* initially set out this policy for the purposes of spectrum sharing only, the Commission believes that extending this policy to infrastructure sharing arrangements will provide the potential for savings in both capital costs for the construction of facilities and for improved coverage in rural areas. The Commission noted that most commenters supported the adoption of this more flexible standard, which they believe will help to alleviate the significant financial barriers small regional entities face when constructing wireless networks. Some commenters, on the other hand, stated their concern with the potential for interference that may result from the collocation of antennas. In rejecting this concern as needless, the Commission pointed out that all parties to infrastructure sharing arrangements, including small entities, must continue to comply with the Commission's interference and non-interference related rules and policies.

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[595] *See id*. at ¶¶ 75-84.

[596] *See* i*d.* at ¶ 75.

F. Report to Congress

The Commission will send a copy of the *Report and Order*, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.[597] In addition, the Commission will send a copy of the *Report and Order*, including the FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Report and Order* and the FRFA (or summaries thereof) will also be published in the Federal Register.[598]

[597] *See* 5 U.S.C. § 801(a)(1)(A).

[598] *See* 5 U.S.C. § 604(b)

APPENDIX C

INITIAL REGULATORY FLEXIBILITY ANALYSIS

As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[599] 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 *Further Notice of Proposed Rulemaking* (*Further Notice*). 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 *Further Notice* provided in paragraph 183 of the item. The Commission will send a copy of the *Further Notice*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).[600] In addition, the *Further Notice* and IRFA (or summaries thereof) will be published in the Federal Register.[601]

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

In the *Further Notice*, the Commission seeks to expand upon the record received in response to the *Notice of Proposed Rulemaking* in WT Dockets 02-381, 01-14, and 03-202, with respect to additional measures that the Commission can take in order to promote the further expansion of spectrum-based services into rural areas. As the Commission observed in the *Report and Order*, there may be circumstances in which our market-oriented policies lack the ability to foster access to spectrum and deployment of wireless service in rural areas.[602] In situations such as these, therefore, it may be appropriate to impose renewal-term performance requirements for both existing and future licenses in order to continue to encourage the provisioning of wireless service to rural areas.[603] Based on these observations, the *Further Notice* seeks comment in the following areas.

First, the Commission seeks comment on the appropriate mechanism to further ensure that spectrum continues to be put to its highest valued use. Specifically, the *Further Notice* seeks additional comment concerning the effectiveness of the Commission's partitioning, disaggregation, and secondary markets rules as well as other market-based policies and rules in making wireless services available in more rural areas.[604]

Second, the Commission also seeks comment on the potential use of "keep what you use" relicensing mechanisms,[605] renewal term substantial service requirements,[606] and other alternatives such

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[599] *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).

[600] *See* 5 U.S.C. § 603(a).

[601] *See* 5 U.S.C. § 603(a).

[602] *See supra* ¶¶ 39-41.

[603] *See supra* ¶ 39.

[604] *See supra* ¶¶ 146-151.

[605] *See supra* ¶¶ 152-158.

as easements[607] to move unused or underused spectrum to those carriers who may be able to use it more intensively. At the same time, the Commission seeks comment on the economic impact of employing the above approaches and whether there are different services that may benefit from a different approach to expanded spectrum access.

B. Legal Basis.

The Commission tentatively concludes that it has 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).

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.[608] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[609] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[610] 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).[611]

Cellular Licensees. The SBA has developed a small business size standard for small businesses in the category "Cellular and Other Wireless Telecommunications."[612] Under that SBA category, a business is small if it has 1,500 or fewer employees.[613] 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

(Continued from previous page)

[606] *See supra* ¶¶ 159-161.

[607] *See supra* ¶¶ 162-163.

[608] 5 U.S.C. § 604(a)(3).

[609] 5 U.S.C. § 601(6).

[610] 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."

[611] 15 U.S.C. § 632.

[612] 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 517212.

[613] *Id*.

or more employees.[614] Therefore, even if all 12 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.[615] According to the Census Bureau data for 1997, only 12 firms out of a total of 1,238 such firms that operated for the entire year, had 1,000 or more employees.[616] 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 payments.[617] 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.[618] 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.[619] The SBA has approved these small size standards.[620] Auctions of Phase II licenses commenced on September 15, 1998, and closed on October 22, 1998.[621] 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

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[614] 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). The Census Bureau will be issuing 2002 Economic Census data relating to telecommunications entities in late 2004.

[615] 13 C.F.R. § 121.201, NAICS code 517212.

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

[617] 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).

[618] *Id.* at 11068 ¶ 291.

[619] *Id.*

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

[621] *See generally* "220 MHz Service Auction Closes," *Public Notice*, 14 FCC Rcd 605 (WTB 1998).

auctioned, 693 were sold.[622] 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.[623] 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.[624]

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.[625] 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.[626] 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.[627] 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 million for the preceding three years.[628] The SBA has approved these small size standards.[629] An auction of 740 licenses (one license in each of the 734 MSAs/RSAs and one license in each of the six 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.[630] 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.[631] 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.[632]

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[622] *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).

[623] *See* "Phase II 220 MHz Service Spectrum Auction Closes," *Public Notice*, 14 FCC Rcd 11218 (WTB 1999).

[624] *See* "Multi-Radio Service Auction Closes," *Public Notice*, 17 FCC Rcd 1446 (WTB 2002).

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

[626] *Id.* at 1087-88 ¶ 172.

[627] *Id.*

[628] *Id.* at 1088 ¶ 173.

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

[630] *See* "Lower 700 MHz Band Auction Closes," *Public Notice*, 17 FCC Rcd 17272 (WTB 2002).

[631] *See* "Lower 700 MHz Band Auction Closes," *Public Notice*, 18 FCC Rcd 11873 (WTB 2003).

[632] *Id*.

Upper 700 MHz Band Licenses. The Commission released a *Report and Order* authorizing service in the upper 700 MHz band.[633] This auction, previously scheduled for January 13, 2003, has been postponed.[634]

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.[635] 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.[636] The SBA has approved this definition.[637] 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.[638] Fifty-seven companies claiming small business status won 440 licenses.[639] An auction of Metropolitan Economic Area (MEA) and EA licenses commenced on October 30, 2001, and closed on December 5, 2001. Of the 15,514 licenses auctioned, 5,323 were sold.[640] One-hundred thirty-two 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.[641] 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.[642] Of these, we estimate that 589 are small, under the SBA-approved small business size standard.[643] We estimate that the majority of private and common carrier paging providers would qualify

[633] 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).

[634] *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).

[635] 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).

[636] *Paging Second Report and Order*, 12 FCC Rcd at 2811 ¶ 179.

[637] *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.

[638] *See* "929 and 931 MHz Paging Auction Closes," *Public Notice*, 15 FCC Rcd 4858 (WTB 2000).

[639] *See id*.

[640] *See* "Lower and Upper Paging Band Auction Closes," *Public Notice*, 16 FCC Rcd 21821 (WTB 2002).

[641] *See* "Lower and Upper Paging Bands Auction Closes," *Public Notice*, 18 FCC Rcd 11154 (WTB 2003).

[642] *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).

[643] 13 C.F.R. § 121.201, NAICS code 517211.

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.[644] 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.[645] These small business size standards, in the context of broadband PCS auctions, have been approved by the SBA.[646] 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.[647] On March 23, 1999, the Commission reauctioned 155 C, D, E, and F Block licenses; there were 113 small business winning bidders.[648]

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.[649] Through these auctions, the Commission awarded a total of 41 licenses, 11 of which were obtained by four small businesses.[650] 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*

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[644] *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).

[645] *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.

[646] *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.

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

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

[649] 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).

[650] *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).

and Order.[651] 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.[652] 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.[653] The SBA has approved these small business size standards.[654] A third auction commenced on October 3, 2001 and closed on October 16, 2001. Here, five bidders won 317 (MTA and nationwide) licenses.[655] Three of these claimed status as a small or very small entity and won 311 licenses. A fourth auction commenced on September 24, 2003 and closed on September 29, 2003. Here, four bidders 48 licenses. Four of these claimed status as a very small entity and won 48 licenses.[656] Finally, a fifth auction commenced on September 24, 2003 and closed on September 25, 2003. Here, one bidder won five licenses.[657] That bidder claimed status as a very small entity.

Specialized Mobile Radio (SMR). The Commission awards "small entity" bidding credits in auctions for 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.[658] 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.[659] The SBA has approved these small business size standards for the 900 MHz Service.[660] 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

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[651] 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).

[652] *Id*.

[653] *Id*.

[654] *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.

[655] *See* "Narrowband PCS Auction Closes," *Public Notice*, 16 FCC Rcd 18663 (WTB 2001).

[656] *See* "Narrowband PCS Spectrum Auction Closes," *Public Notice*, 18 FCC Rcd 19751 (WTB 2003).

[657] *See* "Regional Narrowband PCS Spectrum Auction Closes," *Public Notice*, 18 FCC Rcd 19689 (WTB 2003).

[658] 47 C.F.R. § 90.814(b)(1).

[659] *Id*.

[660] *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.

licenses for the upper 200 channels in the 800 MHz SMR band.[661] 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.[662]

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.[663] The Commission does not require PLMR licensees to disclose information about number of employees, so the Commission does not have information that could be used to determine how many PLMR licensees constitute small entities under this definition. Moreover, because PLMR licensees generally are not in the business of providing cellular or other wireless telecommunications services but instead use the licensed facilities in support of other business activities, we are not certain that the Cellular and Other Wireless Telecommunications category is appropriate for determining how many PLMR licensees are small entities for this analysis. Rather, it may be more appropriate to assess PLMR licensees under the standards applied to the particular industry subsector to which the licensee belongs.[664]

The Commission's 1994 Annual Report on PLMRs[665] indicates that at the end of fiscal year 1994, there

[661] *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).

[662] *See* "Multi-Radio Service Auction Closes," *Public Notice*, 17 FCC Rcd 1446 (WTB 2002).

[663] *See* 13 C.F.R. § 121.201, NAICS code 517212.

[664] *See generally* 13 C.F.R. § 121.201.

[665] Federal Communications Commission, 60th Annual Report, Fiscal Year 1994, at ¶ 116.

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,[666] private-operational fixed,[667] and broadcast auxiliary radio services.[668] 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.[669] 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 million for each of the three preceding years.[670] The SBA has approved these definitions.[671] 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

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[666] 47 C.F.R. §§ 101 *et seq.* (formerly, part 21 of the Commission's Rules).

[667] 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.

[668] 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.

[669] 13 C.F.R. § 121.201, NAICS code 517212.

[670] 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).

[671] *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.

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.[672] "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.[673] The SBA has approved these definitions.[674] 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.[675] 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.[676] These regulations defining "small entity" in the context of LMDS auctions have been approved by the SBA.[677] There were 93 winning bidders that qualified as small entities in the LMDS auctions. A total of 93 small and very small business bidders won approximately 277 A Block licenses and 387 B Block licenses. On March 27, 1999, the Commission re-auctioned 161 licenses; there were 32 small and very small business winning bidders that won 119 licenses.

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).[678] 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

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[672] *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).

[673] *Id*.

[674] *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.

[675] *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).

[676] *Id*.

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

[678] *See* "Interactive Video and Data Service (IVDS) Applications Accepted for Filing," *Public Notice*, 9 FCC Rcd 6227 (1994).

more than $2 million in annual profits each year for the previous two years.[679] 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.[680] 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.[681] The SBA has approved of these definitions.[682] 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.[683] 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.[684] These definitions have been approved by the SBA.[685] An auction for LMS licenses commenced on February 23, 1999, and closed on March 5, 1999. Of the 528 licenses auctioned, 289 licenses were sold to four small businesses. We cannot accurately predict the number of remaining licenses that could be awarded to small entities in future LMS auctions.

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.[686] 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.

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

[680] 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).

[681] *Id*.

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

[683] 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.

[684] *Id.*; *see also* 47 C.F.R. § 90.1103.

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

[686] 13 C.F.R. § 121.201, NAICS code 517212.

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.[687] There are approximately 10 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.[688] 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.[689] "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.[690] The SBA has approved of these definitions.[691] 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.[692] Seven winning bidders claimed status as small or very small businesses and won 611 licenses.

With respect to the second category, which consists of entities that use, or seek to use, MAS spectrum to accommodate their own internal communications needs, we note that MAS serves an essential role in a range of industrial, safety, business, and land transportation activities. MAS radios are used by companies of all sizes, operating in virtually all U.S. business categories, and by all types of public safety entities. For the majority of private internal users, the definitions developed by the SBA would be more appropriate. The applicable definition of small entity in this instance appears to be the "Cellular and

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[687] *Id.*

[688] *Id*.

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

[690] *Id*.

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

[692] *See* "Multiple Address Systems Spectrum Auction Closes," *Public Notice*, 16 FCC Rcd 21011 (2001).

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.[693] 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.[694] 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.[695] This information notwithstanding, we believe that there are only two licensees in the 24 GHz band that were relocated from the 18 GHz band: Teligent[696] 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.[697] "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.[698] The SBA has approved these definitions.[699] 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

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[693] *See* 13 C.F.R. § 121.201, NAICS code 517212.

[694] *See id.*

[695] *1992 Census, Series UC-92-S-1* at *Firm Size* 1-123.

[696] 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.

[697] 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).

[698] *24 GHz Report and Order*, 15 FCC Rcd at 16967 ¶ 77; *see also* 47 C.F.R. § 101.538(a)(1).

[699] *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.

for special provisions such as bidding credits and installment payments.[700] 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 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.[701]

In addition, the SBA has developed a small business size standard for Cable and Other Program Distribution,[702] which includes all such companies generating $12.5 million or less in annual receipts.[703] 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.[704] 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.[705] 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.*

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

The *Further Notice* does not propose any specific reporting, recordkeeping or compliance requirements. However, we seek comment on what, if any, requirements may arise as a result of our discussion in the *Further Notice*.

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

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

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[700] 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).

[701] Public Notice, "700 MHz Guard Band Auction Closes," DA 01-478 (rel. Feb. 22, 2001).

[702] 13 C.F.R. § 121.201, NAICS code 517510.

[703] *Id.*

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

[705] *Id*.

thereof, for small entities.[706]

As stated, this *Further Notice* seeks detailed comment on additional measures that the Commission can take in order to promote the further deployment of wireless services to rural and underserved areas. As a general matter, it is reasonable to conclude that targeted programs designed to encourage deployment of services in high cost or hard-to-serve rural areas could impose additional regulatory requirements on a substantial number of carriers, including small entities. Overall, however, the Commission believes that by creating further opportunities for carriers to serve rural areas, small entities could see a significant positive economic impact as a result of a new ability to deploy their services in smaller, rural areas to which their business plans may be better suited. A more specific discussion of the impact to small entities is detailed below.

In this *Further Notice*, the Commission seeks additional comment on the effectiveness of its current partitioning, disaggregation, and secondary markets spectrum leasing rules in the deployment of wireless service to rural areas. Specifically, the Commission seeks to develop a better understanding of the ways in which these rules may be insufficient to promote access to spectrum for all carriers, including small entities. For example, the Commission seeks comment on an alternative proposal initially suggested by a previous commenter, which would modify the current rules to provide bidding credits for auction winners that commit to partitioning portions of their licenses to rural carriers. This plan could impact all rural carriers, including small entities, by giving them greater access to spectrum. In addition, the Commission also requests comment on an alternative approach to the current spectrum leasing rules that would require carriers to take affirmative steps to enter into spectrum leasing arrangements, such as requiring them to report leasing requests made to them and the reasons the requests did not result in a lease. An alternative such as this could impact small entities by enabling them to enter smaller spectrum leasing arrangements for which they may be better suited.

The *Further Notice* also seeks comment on the potential use of "keep what you use" relicensing mechanisms as well as renewal term substantial service requirements in order to further encourage the provisioning of wireless service to rural areas. However, the Commission also seeks comment on the alternative raised by commenters that a "keep what you use" approach could potentially impede the efforts taken by the Commission with the secondary markets rules. In addition, the *Further Notice* requests comment on an alternative approach that would adopt a substantial service construction requirement for licenses that are beyond their initial terms. In this respect, the Commission asks whether such measures would promote access to spectrum in sparsely populated areas and thereby ease the way for carriers, including small entities, to serve rural and underserved areas.

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

None.

[706] 5 U.S.C. § 603 (c)(1)-(4).

APPENDIX D

LIST OF COMMENTING PARTIES
WT DOCKET NOS. 03-202, 02-381, 01-14

COMMENTS

AT&T Wireless Services, Inc. (AT&T Wireless)
Blanchard, Lewis
Blooston Law Firm (Blooston)
Cellular Telecommunications and Internet Association (CTIA)
Cingular Wireless LLC (Cingular)
Connell, Dan
Council Tree Communications, Inc. (Council Tree)
Dobson Communications Corporation (Dobson)
Fiene, Curtis L.
Histed, Edward
Holbrook, D.
Itron, Inc. (Itron)
Klang, Kirsten
MDS America, Incorporated (MDS America)
Millry Corporation (Millry)
National Rural Telecommunications Cooperative (NRTC)
National Telecommunications Cooperative Association (NTCA)
Nextel Partners, Inc. (Nextel Partners)
NTCH, Inc. (NTCH)
Organization for the Promotion and Advancement of Small Telecommunications Companies/Rural Telecommunications Group (OPASTCO/RTG)
Ploof, Randall
Rizzo, Ronald
Rural Cellular Association (RCA)
Schultz, Michael
Southern Communications Services, Inc. D/B/A Southern LINC (Southern LINC)
Thesen, Colleen
United States Cellular Corporation (USCC)
UTStarcom, Inc. (UTStarcom)
Watson, James
Wireless Communications Association International, Inc. (WCAI)

REPLY COMMENTS

American Mobile Telecommunications Association, Inc. (AMTA)
Arctic Slope Telephone Association Cooperative, Inc. (Arctic Slope)
AT&T Wireless Services, Inc. (AT&T Wireless)
Blooston Law Firm (Blooston)
DIRECTV, Inc. (DIRECTV)
Ericsson, Inc. (Ericsson)
Gleaton, Bill
Hughes Network Systems, Inc. (Hughes)
Industrial Telecommunications Association, Inc. (ITA)

Nextel Communications, Inc. (Nextel Communications)
Nextel Partners, Inc. (Nextel Partners)
Organization for the Promotion and Advancement of Small Telecommunications Companies/Rural Telecommunications Group (OPASTCO/RTG)
Skybridge L.L.C. (Skybridge)
Southern Communications Services, Inc. D/B/A Southern LINC (Southern LINC)
Sprint PCS L.P. d/b/a Sprint PCS (Sprint)
T-Mobile USA, Inc. (T-Mobile)
United States Cellular Corporation (USCC)
Western Wireless Corporation (Western Wireless)
Wireless Communications Association International, Inc. (WCAI)
XM Radio Inc. (XM Radio)

EX PARTES/LATE FILED

Andersen, Kent
Bruenning, Michael
Byrom, Liz
Cellular Telecommunications and Internet Association (CTIA)
Dobson Communications Corp. (Dobson)
Ericsson, Inc.
Gail, Gary
General Electric Capital Corporation
Knipe, Chris
Ledger, John H.
Nextel Partners, Inc. (Nextel Partners)
Nortel Networks (Nortel)
Nunez, Alexandra
Peede, Carl W.
Qualcomm, Inc.
Rural Cellular Association (RCA)
Rural Utilities Service
Starchild

PETITIONS FOR RECONSIDERATION – WT Docket No. 01-14

Cingular Wireless LLC (Cingular)
Dobson Communications Corp./ Western Wireless Corp./Rural Cellular Corp. (Dobson/Western/RCC)
Sprint PCS L.P. d/b/a Sprint PCS (Sprint)
Cellular Telecommunications & Internet Association (CTIA)
Verizon Wireless (Verizon)

YEAR 2002 BIENNIAL REGULATORY REVIEW COMMENTS – WT Docket 02-310

Dobson Communications Corp., Rural Cellular Corp. and Western Wireless Corp.
Cellular Telecommunications & Internet Association (CTIA)

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 (WT Docket No. 02-38); et al., Report and Order and Further Notice of Proposed Rulemaking.

Encouraging increased development and deployment of spectrum-based services to rural areas is vital to achieve the Commission's dual objectives of promoting increased facilities-based competition and providing ubiquitous, affordable broadband services to all Americans. Today's Agenda Meeting focuses on providing carriers sufficient incentives, financing opportunities, and access to spectrum to deploy inexpensive wireless services in rural areas.

I remain committed to facilitating wireless services to rural areas thereby enabling Americans, regardless of where they travel, reside, or conduct business, to communicate effectively. The importance of this objective becomes clear when one realizes that of the 3,200 counties in America, approximately 72 percent are rural and that 21 percent of all Americans reside in these rural counties. These Americans are entitled to the same benefits and choices as those residing in urban or populated areas. In recent visits to Tennessee and South Dakota, I saw first hand the transformative power that broadband communications access can have in rural America. Economic development, education, and health care can benefit when our rural communities get connected.

Today's Order adopts initiatives and policies aimed directly at facilitating access to capital and lowering regulatory and market barriers to spectrum and infrastructure in rural areas. Giving rural licensees the option of granting the Department of Agriculture's Rural Utilities Service a conditional security interest in their spectrum licenses will greatly enhance the licensees' financing opportunities. By eliminating the absolute bar against rural cellular cross-interests and transitioning to a case-by-case review of rural license transfers, the Commission can more effectively guard against anticompetitive transactions without prohibiting transactions that are in the public interest. This Order also relaxes build-out and emissions requirements for rural carriers, which will increase the flexibility of licensees to tailor spectrum-based services to the needs of their customers located in sparsely populated areas.

In an increasingly mobile world, Americans demand seamless and reliable wireless services. Through the adoption of this Order and our complementary actions in the *Secondary Markets* and *Unlicensed Devices* proceedings, we are bolstering this objective by enhancing licensees financing opportunities, streamlining secondary market transactions, and encouraging increased competition to advance the interests of rural America.

STATEMENT OF COMMISSIONER MICHAEL J. COPPS APPROVING IN PART, DISSENTING IN PART

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.

When I asked for this proceeding to be initiated a number of years ago, my hope was that the Commission could find a way to improve our efforts to promote wireless service in rural areas. Anyone who lives in rural America knows first hand that rural consumers have fewer choices of carriers, more holes in their coverage, and that there are still areas of our country that have no service at all. I hoped that this proceeding would begin a serious process of establishing a real strategy at the Commission for how to bring the power of wireless communications more fully to rural Americans. But I believe we come up short today.

There are things I support in this Order. On the positive side, we begin the process of giving carriers the authority to increase power in rural areas where interference will not be a problem. This will reduce the costs of serving these areas, and it's a good step that I applaud. We also state that we will continue our practice of deciding on the size of auctioned areas on a case-by-case basis, rather than auctioning everything on a nationwide basis. Having a mix of large and small areas is also good for rural America. I hope that these efforts will help rural consumers, but by themselves they are not going to get the job done.

So what is the FCC's plan to bring better service to rural America? First, we eliminate the rule that prohibits cellular carriers from merging. No rule will henceforth prevent carriers from merging even when there are only two competitors in the market and the merger would result in a monopoly for rural consumers. Last year we tentatively concluded that the cellular cross interest rule should remain in place where there are three or fewer competitors in a market. But the majority rejects this tentative conclusion, and eliminates the rule that protects the most vulnerable consumers. Instead we'll rely on unpredictable case-by-case review unguided by any written Commission standards at all. Unfortunately, that's the first part of the FCC's new plan to help rural wireless consumers.

Second, the FCC will maintain the rule that allows companies to meet their build out requirements by serving only urban markets and ignoring rural customers. Rural carriers have asked to improve the situation with a "use-it-or-lose-it" rule, where if a carrier fails to use its rural spectrum it is returned to the Commission after a period of years to be re-auctioned to someone who will use it. Sounds like a reasonable way to meet our obligations to rural America and to ensure that public spectrum is put to its highest and best use. But today the Commission refuses this request. Instead we push off use-it-or-lose-it into another interminable NPRM, and give national carriers the option, but no requirement, to meet existing rules by serving a percentage of rural counties instead of the cities in each market. How many carriers do you think will chose to build out rural areas ahead of lucrative cities without further incentive or rules under this new plan? Not many. Nonetheless, rejecting use-it-or-lose-it is the second part of the FCC's curious plan for rural America.

Third, we allow, for the first time, corporations to mortgage their spectrum licenses, essentially allowing them to use a public asset as collateral when seeking loans. I don't see how we can allow this

without violating the Communications Act and the intent of Congress. The marginal improvement in access to capital will be small, given that companies today can already grant security interests in stock and in the proceeds of a license sale. But 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 the NextWave disaster, 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. While limiting potential interest holders to our friends at the RUS arguably mitigates some policy concerns, it does not change the legal analysis, and it's just a short step from here for the Commission to parlay today's action into one allowing private banks to hold mortgages in public licenses. Despite the risks and the limited benefit, this is the third part of the FCC's new plan for helping rural America.

I think this item steers us in the wrong direction. We can talk the talk about helping rural America all we want. But someday we're going to have to walk the walk and get the job done. Today we trip.

STATEMENT OF
COMMISSIONER JONATHAN S. ADELSTEIN
APPROVING IN PART, DISSENTING IN PART

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

I believe that wireless solutions are essential for rural America. Since I have been at the FCC, I have heard from wireless ISPs and mobile wireless companies who are doing their best to provide the latest technologies to all Americans, no matter where they live. So I take very seriously their suggestions about how the FCC can push rural wireless deployment. I also am mindful of our obligations to ensure that consumers of wireless services in rural markets are not left behind. Spectrum is the lifeblood of so many of the new wireless services and innovations that can light up the hardest areas to serve.

With that in mind, I believe that our item today makes some good decisions, but also makes a number of bad ones. While I appreciate the attention to this issue, it is certainly not what I would have drafted to promote rural wireless deployment. Its over-reliance on market mechanisms flies in the face of the very market failures too often experienced in rural areas that our policies should be designed to address. It is far from clear that we really are taking the right steps to truly facilitate deployment of wireless services in rural areas.

In some ways, we get it right. I am pleased that for a number of wireless services, we have increased power levels for base stations located in rural areas. I know that this is an important issue for many operators in rural America, and I am very excited about the potential for this change in our rules to improve the reach of mobile wireless services.

I also support our decision to adopt a new "rural safe harbor" for our substantial service requirement. While the substantial service construction requirement may not be a perfect approach to ensuring that spectrum is put to use, I think the rural safe harbor will enable licensees to pursue rural build out strategies with the comfort of knowing what they need to do to satisfy our construction rules.

I am a supporter of secondary markets. But I would have preferred that we more aggressively embraced the complimentary role of market-based mechanisms and re-licensing approaches such as "keep what you use" in this item. I think we passed up here a real opportunity to tackle a number of significant barriers to spectrum access. I do, however, appreciate the item's conclusion that re-licensing and market-based mechanisms aren't necessarily mutually exclusive and that the two approaches can be complimentary in certain circumstances. I also appreciate the cooperation of my colleagues in adopting a Further Notice that continues to explore possible re-licensing approaches and construction obligations for current and future licensees who hold licenses beyond their first term. I think this will be an important dialogue, and I will continue to push for an approach that provides for re-licensing in the event that market-based mechanisms still result in unused spectrum. We cannot afford to let spectrum lay fallow in rural areas. It is not fair to Rural Americans for companies to buy large swaths of spectrum that cover their homes only to ignore them and build out exclusively in urban areas. If they do not plan to use the spectrum they acquired in rural areas, they should let someone else use it to serve rural consumers.

I recognize that there was support by a number of smaller carriers for a Commission determination to adopt RSA/MSAs for all future licensing. However, I believe that the Commission must retain flexibility in addressing license area sizes on a band by band basis. I want to make a personal commitment, though, to doing what I can to make sure we have a balanced approach in licensing that provides for small and

large license areas, just as I did in our recent Advanced Wireless Services proceeding.

I must dissent from two portions of today's item. First, I am perplexed how the majority's decision to eliminate the cellular cross-ownership rule promotes service in rural areas. I was willing to adopt our tentative conclusion from the NPRM to maintain the restriction, but only for RSAs that are served by three or fewer CMRS providers. While I recognize that such an approach may have posed some implementation difficulties, I do not believe those challenges were so insurmountable that they warrant complete elimination of the rule. Moreover, the majority has failed to provide any real compelling reason for eliminating the rule, instead basing the decision on a determination that the rule should be eliminated because we now have adequate resources and procedures in place to allow for case-by case review and somehow the need for flexibility outweighs any concerns about consolidation over cellular spectrum in markets where competitors would go from three to two or two to one. The item completely fails to address some of the concerns raised by previous Commissions that justified the rule in the first place, such as market conditions in rural areas and the fact that cellular carriers may still possess market power in those RSAs. I cannot see how it would ever make sense in rural areas with two wireless providers to let them merge, leaving consumers with only one monopoly choice. But this approach could let that happen.

Second, I also must dissent from the majority's decision to allow licensees to grant security interests in licenses to the Rural Utilities Service (RUS). This is a difficult decision for me, as I have been a strong supporter of RUS and its funding of broadband and wireless services in rural areas. I ultimately concluded, however, that our decision to allow a security interest to RUS, even as part of the Federal Government, raises significant statutory problems that are not outweighed by the real benefits that may arise. While it was the right decision to limit the ability to gain a security interest to a fellow government agency, since spectrum is a public resource, I am nevertheless concerned about the precedent of this decision. I do appreciate the efforts to limit the scope of the decision as greatly as possible.

Deployment of wireless services in Rural America raises a number of challenges. While we haven't entirely succeeded in addressing many of those challenges today, I look forward to the further notice and a full discussion there on what steps we can take to improving access to spectrum in these areas in the future.