DOCKET FILE COPY ORIGINAL

FCC MAIL ROOM

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

2000 NOV 30 P 3:47

In the Matter of	)	
	)	
Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets	)	WT Docket No. 00-230
	)	
	)	
	)	
	)	

RECEIVED

NOTICE OF PROPOSED RULEMAKING

Adopted: November 9, 2000 **Released:** November 27, 2000

By the Commission: Commissioners Ness, Furchtgott-Roth, and Tristani issuing separate statements.

Comment Date: [45 days after publication in the Federal Register]
Reply Comment Date: [30 days after comment date]

TABLE OF CONTENTS

Paragraph #

I. INTRODUCTION AND EXECUTIVE SUMMARY 1
II. BACKGROUND 5
III. PROPOSALS FOR ADVANCING SECONDARY MARKETS 10
A. Removing Barriers to Leasing of Spectrum Usage Rights 14
1. General Concept and Approach 15
2. Spectrum Leasing Proposal 24
a. Overview 24
b. Discussion 25
(i) Responsibility for compliance with Commission rules 27
(ii) Interference, frequency coordination, and other technical rules 35
(iii) Service rules 41
3. Other Licenses 63
a. "Shared use" Wireless Radio Services licenses 64
b. Satellite licenses 66
c. Mass Media licenses 69
4. The Commission's Requirements Relating to Transfer of Control 70
B. Increasing Flexibility in Technical Rules 83
C. Increasing Flexibility in Service Rules 89
D. Facilitating Availability of Information on Spectrum 98
IV. PROCEDURAL MATTERS 101
A. *Ex Parte* Rules – Permit-But-Disclose Proceeding 101

B. Initial Regulatory Flexibility Analysis 102
C. Initial Paperwork Reduction Act of 1995 Analysis 103
D. Comment Dates 104
V. ORDERING CLAUSES 107

APPENDIX: Initial Regulatory Flexibility Analysis

I. INTRODUCTION AND EXECUTIVE SUMMARY

1. In this Notice of Proposed Rulemaking (NPRM), we open a proceeding to examine a number of actions we might take to remove unnecessary regulatory barriers to the development of more robust secondary markets in radio spectrum usage rights. This NPRM represents the first step we are taking to implement the *Policy Statement* we are adopting concurrently, which sets forth our goals and principles in facilitating the development of these secondary markets.[1]

2. As explained in further detail in our *Policy Statement*, we believe that enabling the development of more robust secondary markets will help promote spectrum efficiency and full utilization of Commission-licensed spectrum and thereby make more spectrum available for the purposes for which it is needed. Radio spectrum is a limited resource, and there remains very little unallocated radio spectrum available for new uses or users. At the same time, radio spectrum may be used inefficiently by its current licensees or even lie fallow, especially in rural areas, limiting availability of valuable services to many. Over the last several years, the demand for spectrum has continued to grow as new and innovative wireless services are being made available to the American public. Our spectrum management responsibilities include promoting more efficient use of spectrum to serve the public interest, and we are concerned about the possibility that this national resource may not be put to its most efficient use in many cases. In particular, we would be concerned if our regulations and policies are in some fashion unnecessarily inhibiting the operation of market forces, which in other areas of the economy are powerful drivers of efficient resource allocation and utilization. Accordingly, we believe that by revising Commission policies and rules to help enable more effective secondary markets, we will expand the ability of wireless licensees to enter voluntary transactions to make all or part of their spectrum usage rights available for new uses.

3. Our NPRM seeks to further the three goals set out in the *Policy Statement*. First, we seek to remove, relax, or modify our rules and procedures to eliminate unnecessary impediments to the operation of secondary market processes.[2] In this NPRM, we set forth a number of proposals for reducing regulations that unnecessarily inhibit the development of secondary markets. We initially ask generally how best to clarify our rules, and revise them where necessary, to promote the wider use of the leasing of spectrum usage rights ("spectrum leasing"[3]), particularly in our Wireless Radio Services. We next focus on a specific proposal for furthering leasing in the context of a broad set of licenses in which spectrum leasing could most easily be implemented, namely those Wireless Radio Services in which licensees hold

---

[1] *See generally* Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets, *Policy Statement*, FCC 00-401 (adopted Nov. 9, 2000) (*Policy Statement*).

[2] *Policy Statement* at ¶ 17.

[3] As used throughout this NPRM, the term "spectrum leasing" refers to the leasing by Commission licensees of their spectrum usage rights to third parties.

"exclusive" authority to use the spectrum in their service areas.[4] We also inquire whether there are additional actions the Commission might take to improve the effectiveness of secondary markets in the context of other terrestrial wireless services, as well as satellite services. Finally, working within the statutory framework of the Communications Act, we undertake to remove impediments posed by our policies, such as our interpretation of Section 310(d)[5] transfer of control issues under the *Intermountain Microwave*[6] standard, that appear to inhibit unnecessarily the development of secondary markets through spectrum leasing and other market arrangements. In addition to our spectrum leasing proposals, we seek to find ways to increase flexibility in technical and service rules to further promote secondary markets.

4. Our second goal is to encourage advances in equipment that will facilitate use of available spectrum for a broad range of services.[7] Although we address many of our efforts in this regard in other proceedings, such as those on Software Defined Radio (SDR) and Ultra-Wideband technology,[8] we inquire here about ways in which the Commission might revise its rules to promote technical flexibility in a manner that might further enable the use of spectrum efficient technologies. Finally, our third goal is to encourage the development of mechanisms, such as information sources, that help enable markets to work better.[9] We also inquire about whether and how the Commission and the private sector could facilitate the availability of information on spectrum use that would further promote the development of secondary markets in radio spectrum usage rights.

II. BACKGROUND

5. The *Policy Statement* issued concurrently with this NPRM outlines the nature of the increased demands for spectrum and explains the need for effective secondary markets in radio spectrum usage rights. Also, the Commission earlier this year held a public forum on facilitating the development of these secondary markets.[10] At that meeting, we examined how the growing demand for the rights to use spectrum could be addressed, at least in part, by secondary markets, and explored ways in which our policies and rules might be clarified or revised to facilitate the development of these markets.[11] Participants in the forum contributed to our understanding of evolving trends in markets for the rights to

---

[4] By "exclusive" rights we mean, for the purposes of this NPRM, that the Commission's rules provide for mutual exclusivity in the event of competing applications in the same service.

[5] 47 U.S.C. § 310(d).

[6] *Intermountain Microwave*, 12 FCC 2d 559, 24 RR 983 (1963).

[7] *Policy Statement* at ¶ 17.

[8] *See* Inquiry Regarding Software Defined Radios, *Notice of Inquiry*, 15 FCC Rcd 5930 (2000); In the Matter of Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems, ET Docket No. 98-153, *Notice of Proposed Rulemaking*, FCC 00-163 (rel. May 11, 2000) (*Ultra-Wideband NPRM*).

[9] *Policy Statement* at ¶ 17.

[10] *See* "FCC Announces Agenda for Public Forum on Secondary Markets in Radio Spectrum," *Public Notice*, DA 00-1139 (rel. May 23, 2000); In the Matter of Secondary Market Forum (transcript of May 31, 2000 Public Forum on Secondary Markets) (available at <http://www.fcc.gov/oet/smsi>) (*Secondary Markets Public Forum Transcript*).

[11] *See generally Secondary Markets Public Forum Transcript.*

use spectrum, and the role secondary markets could play in addressing inefficiencies in these markets. In these contexts and in this NPRM, the concept of secondary markets generally refers to markets in which an entity may acquire licenses (either in whole or in part), or rights to use all or portions of the licensed spectrum, from Commission licensees. Primary markets for radio spectrum consist of Commission-conducted auctions and other mechanisms by which licensees obtain from the Commission authorization to use specified spectrum for certain purposes.

6. As the *Policy Statement* notes, in recent years rising demand has created a shortage of spectrum available for the deployment of both mobile and fixed wireless technologies and services in the United States. Increased demand for spectrum has been driven by the development of a wide variety of new wireless applications in the past two decades and by rapid growth in the demand for wireless communications services. Projections for the continued growth of mobile voice and increased growth in mobile data services alone imply that the demand for spectrum is poised to increase dramatically in the next few years. However, notwithstanding the introduction of more efficient digital technologies that increase the potential capacity of spectrum to provide communications services, there is a limited supply of unencumbered spectrum available to meet this rising demand. Moreover, new technology itself stimulates greater demand for spectrum as a result of new service offerings that are of higher quality and have richer features. For example, new broadband wireless technologies – mobile and fixed – have great potential but place additional pressure on current spectrum allocations.

7. In certain markets, spectrum is becoming increasingly congested and spectrum constraints are threatening to limit the growth of new services, particularly in the more densely populated urban areas where wireless carriers have tended to concentrate their initial build-out efforts.[12] Over time, we have recognized this problem and have attempted to address it through various regulatory initiatives aimed at increasing the supply of spectrum for various services or improving spectral and economic efficiencies in the use of radio spectrum.[13] We also recognize that less densely populated areas present a different problem, to the extent that in many such markets, particularly in rural areas, spectrum-based services are often not fully deployed and consumers are often underserved.[14] We believe that measures to enhance the effectiveness of secondary markets could help address this problem as well.

8. More intensive use of spectrum that is already licensed but is underutilized or inefficiently utilized has the potential to help alleviate imbalances between the supply and demand for spectrum in certain markets, address the problem of underserved rural areas, and, in general, ensure the efficient provision of existing and new wireless services to all markets. We have increasingly relied on flexible, market-oriented spectrum management policies, and our rules on partitioning and disaggregation already afford many wireless licensees the flexibility to transfer portions of their licensed spectrum usage rights to alternative users on a permanent basis. However, the existing licensing and regulatory regime for

---

[12] *Policy Statement* at ¶ 3.

[13] *See, e.g.*, Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them, PR Docket No. 92-235, *Report and Order*, 10 FCC Rcd 10076 (1995); *Memorandum Opinion and Order*, 11 FCC Rcd 17676 (1996); *Second Report and Order*, 12 FCC Rcd 14307 (1997); *Second Memorandum Opinion and Order*, 14 FCC Rcd 8642 (1999); *Third Memorandum Opinion and Order*, 14 FCC Rcd 10922 (1999); In the Matter of 1998 Biennial Review – 47 C.F.R. Part 90 – Private Land Mobile Radio Services, PR Docket No. 92-235, *Report and Order and Further Notice of Proposed Rule Making*, FCC 00-235 (rel. July 12, 2000) (*Biennial Review Part 90 Refarming Proceeding*).

[14] *See, e.g., Secondary Market Public Forum Transcript* at p. 26.

wireless services does not always give licensees the ability or the incentive to respond to opportunities for meeting the growing demand for existing and new wireless services, and may not be enough to ensure the optimally efficient use of spectrum. There are a wide variety of secondary market arrangements, such as spectrum leasing arrangements, that would not require licensees to transfer spectrum usage rights permanently in order to promote its efficient use. Certain arrangements by which licensees could make all or part of their spectrum usage rights available to other entities may be precluded by the Commission's rules. Other arrangements that are allowed may be costly to implement because, for example, of the need to obtain prior Commission approval. In still other cases, it is not clear whether the Commission's rules allow the arrangements to be implemented in all circumstances. From the standpoint of potential alternative users, these regulatory impediments to and uncertainties about secondary market arrangements create barriers to entry into the market for wireless services.

9. In addition, service rules may unduly restrict the use of spectrum in certain circumstances. Such rules may reduce efficiency not only by preventing licensees themselves from using the spectrum in more productive ways, but also by inhibiting licensees from transferring or leasing spectrum usage rights to users who value spectrum the most and could use it most productively. The restrictions on transferability resulting from these service rules also weaken licensees' incentives to migrate to less congested frequencies or to upgrade to more spectrum-efficient technologies. Although we do not in this NPRM propose to undertake a broad examination of our existing service rules, we do propose to explore whether there are circumstances in which additional flexibility might promote secondary markets without undermining public interest considerations.

III. PROPOSALS FOR ADVANCING SECONDARY MARKETS

10. The Communications Act provides the Commission broad licensing and spectrum management authority to adopt reasonable rules in the public interest.[15] The legislative mandate calls upon the Commission to play a dynamic, proactive, and forward-looking role in regulating communications services. In this proceeding on secondary markets, we focus our authority and responsibilities on wireless radio services, and how we can clarify and revise policies and rules in ways that best promote the public interest.

11. More robust secondary markets may address many of the problems we have identified in Section II, above, and in the *Policy Statement*. By providing market signals about the opportunity costs of using (or not using) spectrum, secondary markets create incentives for existing wireless licensees to transfer their rights to use spectrum to those who value the spectrum the most and can make the most productive use of it, to migrate to less congested frequencies, and to upgrade to more spectrum-efficient technologies. With better functioning secondary markets, existing providers and potential new entrants can gain access to some or all of the spectrum they may need to be able to provide new and innovative wireless services to the public.

12. As we discussed in the *Policy Statement*, we recognize that for secondary markets to operate effectively, licensees and spectrum users must have rights and responsibilities that clearly define and

[15] *See, e.g.*, 47 U.S.C. §§ 151, 160, 301, 303, 309, 310. For example, the Communications Act, as amended, requires us to regulate commerce in communications to "make available, so far as possible, to all people of the United States a rapid, efficient, Nation-wide, and world-wide wire and radio communication service ... ." *Id.* at § 151. Similarly, under § 303, the Commission has broad authority to prescribe the nature of wireless radio services rendered and to make such rules and regulations as may be necessary to carry out the provisions of the Communications Act to serve the public interest. *See* 47 U.S.C. § 303.

ensure their economic interests.[16] As noted above, a Commission license confers on the licensee certain spectrum usage rights.[17] We seek comment on how we could clarify the contours of these usage rights in ways that might facilitate the development of secondary markets.

13. In this NPRM, we outline a number of approaches to promoting more robust secondary markets in radio spectrum usage rights. First, we propose to promote wider use of "spectrum leasing"[18] throughout our wireless services, particularly our Wireless Radio Services.[19] In so doing, we examine whether Section 310(d) of the Communications Act, as amended (the "Act"), or the Commission's policies and rules, including its application of the *Intermountain Microwave* standard for interpreting *de facto* transfer of control of licenses, may unnecessarily impede the ability of licensees to enter such leasing arrangements. Second, we explore whether additional flexibility in our technical and service rules would further enhance the development of secondary markets. Finally, we request comment on whether, and if so how, the Commission should facilitate the development of secondary markets by making certain information on spectrum available to the public.

A. Removing Barriers to Leasing of Spectrum Usage Rights

14. We propose in this NPRM to clarify Commission policies and rules, and revise them where necessary, to establish that wireless licensees have the flexibility to lease all or portions of their assigned spectrum in a manner, and to the extent, that it is consistent with the public interest and the requirements of the Communications Act. In keeping with our secondary markets initiative and *Policy Statement*, discussed above, we believe that leasing of such rights will advance more efficient and innovative use of spectrum generally.

1. General Concept and Approach

15. Background. Under the Commission's current policies and rules, wireless licensees may

---

[16] *See Policy Statement* at ¶ 20.

[17] *See id.* at ¶¶ 20-22.

[18] As we note above, "spectrum leasing" refers to a licensee's leasing of a its spectrum usage rights, as granted under the Commission license, to third parties. The kinds of leasing arrangements encompassed by the term are set forth more fully in paragraph 21, below.

[19] "Wireless Radio Services" are defined in Section 1.907 of the Commission's rules. *See* 47 C.F.R. § 1.907. They include all radio services authorized in parts 13, 20, 22, 24, 26, 27, 74, 80, 87, 90, 95, 97, and 101 of Chapter 1 of Title 47 of the United States Code, which governs the Federal Communications Commission. *Id.* These services include: Personal Communications Service (PCS); Cellular Radiotelephone Service (Cellular); Public Mobile Services other than cellular (*i.e.*, Paging and Radiotelephone, Rural Radiotelephone, Offshore Radiotelephone, Air-Ground Radiotelephone); Specialized Mobile Radio Service (SMR); Wireless Communications Service (WCS); Local Multipoint Distribution Service (LMDS); Fixed Microwave Service; 700 MHz Service; 700 MHz Guard Band Service; 39 GHz Service; 24 GHz Service; 3650-3700 MHz Service; 218-219 MHz Service; and Private Land Mobile Radio Services (PLMR). However, as indicated below, we do not include in this proposal the radio and television broadcasting services under Part 74 of the Commission's rules. At this time we also are excluding Public Safety Radio, Amateur Radio, Personal Radio, and Maritime and Aviation Services from our proposal because of considerations unique to these particular services.

enter into a variety of arrangements with non-licensee third parties[20] without Commission approval. For instance, licensees have frequently entered into management agreements, joint marketing agreements, and resale agreements with third parties.[21] These and other arrangements enable licensees to make more efficient use of their spectrum and to develop more effective business plans that facilitate their ability to provide services to the public. In exercising its general spectrum management responsibilities,[22] the Commission has recognized that these types of flexible arrangements, when consistent with our policies and rules, serve the public interest.[23]

16. Leasing of capacity, another type of market-based arrangement, formally exists in a number of contexts. For example, the Commission for many years has allowed Instructional Television Fixed Service (ITFS) licensees to lease excess channel capacity to Multipoint Distribution Service (MDS) operators on a for-profit basis.[24] Fixed Satellite Service (FSS) licensees may lease part or all of their transponder capacity for any period of time to other parties.[25] Similar market-based mechanisms may be found in the private radio services as well. Private Land Mobile Radio Services (PLMRS) licensees may share the use of their facilities by permitting persons not licensed for a particular station to operate the station for their own purposes pursuant to the licensee's authorization.[26]

17. In several recent proceedings, we have also adopted or proposed the use of "band manager" licensing for radio services. Band managers are a class of licensees that are specifically authorized to lease their licensed spectrum usage rights for use by third parties through private, contractual agreements, without having to secure prior approval by the Commission. Earlier this year, in our *700 MHz Second Report and Order*, we adopted a form of band manager licensing for the first time in the 700 MHz Guard Band.[27] In that proceeding, we concluded that band manager licensing would be an

---

[20] By "non-licensee third parties," "non-licensees," "third parties," or "third party users" we refer to entities other than the licensee of the specific spectrum licensed. Such entities may include an unlicensed entity, an entity licensed in some other market and/or service, or an entity licensed within the same market and/or service.

[21] *See, e.g.*, In the Matter of Implementation of Sections 3(n) and 332 – Regulatory Treatment of Mobile Services, Gen. Docket No. 93-252, *Fourth Report and Order*, 9 FCC Rcd 7123, 7125-30 (1994) (*CMRS Fourth Report and Order*).

[22] *See, e.g.*, 47 U.S.C. §§ 151, 301, 303, 309, and 310.

[23] *See, e.g.*, *CMRS Fourth Report and Order*, 9 FCC Rcd at 7125-30.

[24] *See* 47 C.F.R. § 74.931(e) (ITFS rule) and 21.13(f) (MDS rule).

[25] *See Domestic Fixed-Satellite Transponder Sales*, 90 FCC 2d 1238, 1252 (1982), *aff'd sub nom. Wold Communications, Inc. v. FCC*, 735 F.2d 1465 (D.C. Cir. 1984), *modified*, Martin Marietta Communications Systems, 60 RR 2d 799 (1986) (*Domestic Fixed-Satellite Transponder Sales Order*); Amendment to the Commission's Regulations and Policies Covering Domestic Fixed Satellite and Separate International Satellite Systems, IB Docket No. 95-41, *Report and Order*, 11 FCC Rcd 2429 (1996) (*Domestic Fixed Satellite and Separate International Satellite Systems Report and Order*).

[26] Shared use of the frequencies may be on a non-profit, cost-shared, or for-profit private carrier basis. The licensee is responsible for ensuring that the authorized facility is used for purposes consistent with the requirements of our rules. *See* 47 C.F.R. § 90.179.

[27] *See* 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, *Second Report and Order*, 15 FCC Rcd 5299, 5321-28 (¶¶ 48-67), (continued....)

effective and efficient way to manage the Guard Band spectrum while minimizing the potential for harmful interference to adjacent public safety bands.[28] More recently, we have sought comment on the possibility of band manager licensing in the 3650-3700 MHz and 4.9 GHz bands and other spectrum bands reallocated from the federal government use.[29] Finally, in our *BBA Report and Order*, adopted on November 9, 2000, we endorse consideration of band manager licensing as an option for future licensing of private radio services.[30]

18. Discussion. We tentatively conclude that permitting wider use of spectrum leasing would promote the public interest by increasing the efficiency of spectrum use. By bringing market forces more heavily to bear and facilitating more robust secondary markets in spectrum usage rights, leasing should promote more efficient use of spectrum and allow more entities to gain access to spectrum so that it may be put to innovative uses. We here are requesting comment on how to provide enhanced opportunities for spectrum leasing in a manner that best serves our public interest goals.

19. Leasing relationships can be crafted to address any number of particularized short or long-term private or commercial needs. Subject to any applicable requirements, a spectrum leasing arrangement may apply to rights to use spectrum in the entire license area, for entire license term, and for all of the licensed frequencies, or the leasing arrangement may be more limited. We believe that allowing broader use of spectrum leasing would assist the Commission in fulfilling its statutory spectrum management responsibilities and obligations under the Communications Act. That is, we expect that spectrum leasing will foster more efficient use of spectrum, facilitate more rapid deployment of new spectrum-based services, and make more spectrum available for existing services that are spectrum-constrained, while ensuring that the needs of the public are served.[31] Leasing is a spectrum management approach that should provide entities greater flexibility to obtain access to the amount of spectrum that best suits their needs and the needs of the public, in terms not only of quantity and geographic area, but

---

5331-33 (¶¶ 74-80) (2000) (*700 MHz Second Report and Order*) (establishing "Guard Band Manager" licenses for the 700 MHz guard bands and adopting Subpart G of Part 27 of the Commission's rules and other rules governing Guard Band Manager licenses).

[28] *Id.* at 5311-16 (¶¶ 26-35).

[29] *See generally* 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, *Fifth Report*, 15 FCC Rcd 17660 (2000); 4.9 GHz Band Transferred from Federal Government Use, WT Docket No. 00-32, *First Report and Order and Second Notice of Proposed Rule Making*, FCC 00-363 (rel. Oct. 24, 2000) (*4.9 GHz First Report and Order*).

[30] In the Matter of Implementation of Sections 309(j) and 337 of the Communications Act of 1934, as Amended, WT Docket No. 99-87, *Report and Order and Further Notice of Proposed Rule Making*, FCC 00-403 at ¶¶ 35-50 (adopted Nov. 9, 2000) (*BBA Report and Order*). *See also* Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, WT Docket No. 99-87, *Notice of Proposed Rule Making*, FCC 99-52, 14 FCC Rcd 5206, 5247-49 (¶¶ 88-95) (1999). Although we specifically address band manager licensing in the context of private licenses, we also note that band manager licensing should be considered as an option for commercial services. *BBA Report and Order* at ¶ 35 n.94. Many types of band manager licenses could potentially be authorized, depending on the particular service involved. *See generally id.* at ¶¶ 46-50. Final determinations on its use will be made on a service-by-service basis. *Id.* at ¶ 35.

[31] *See* 47 U.S.C. § 309(j)(3).

also of duration.[32] To the extent spectrum leasing arrangements would not require prior Commission approval, leasing provides a more flexible means of achieving the goals the Commission has long endorsed with respect to partitioning and disaggregation, including the freeing up of spectrum for a myriad of uses and innovations by a variety of potential users.[33]

20. Under the general concept of spectrum leasing advanced in this NPRM, we propose to allow licensees greater flexibility, consistent with the public interest and statutory requirements, to subdivide and apportion the spectrum and to lease their rights to use it to various third party users – in any geographic or service area, in any quantity of frequency, and for any period of time during the term of their licenses – without having to secure prior Commission approval. This market-based mechanism may enable many different types of spectrum users to satisfy their particular spectrum needs without requiring them to acquire a license or go through the Commission's procedures for assigning or transferring control of a license, or a partial license through partitioning, disaggregation, or a partial assignment.[34] By reducing transactional costs for users, we expect spectrum leasing to facilitate more intensive and efficient use of spectrum in both underserved areas and more congested areas. In sum, we believe that the additional flexibility afforded by spectrum leasing could benefit all concerned, including the licensee, the potential spectrum user, and the public.

21. We recognize that spectrum leasing may encompass a continuum of arrangements, from the leasing of excess capacity on a licensee's system to the leasing of the rights to use all of the licensed spectrum itself.[35] In certain ways, spectrum leasing conceptually resembles a kind of temporary

---

[32] "Spectrum: The Space Odyssey," Remarks of William E. Kennard Before the Industrial Telecommunications Association, October 5, 2000 (available at <http: www.fcc.gov/commissioners/kennard/ speeches.html>). *See also* "Principles For Reallocation of Spectrum to Encourage the Development of Technologies for the Telecommunications New Millenium, 14 FCC Rcd 19868, 19,871-72 (¶12) (1999) (*Spectrum Reallocation Policy Statement*); William E. Kennard, *A New FCC for the 21st Century* (August 1999) (citing, as a key policy initiative, the exploration of innovative assignment mechanisms, such as band managers, that promote efficiency through market forces and enable users to easily aggregate and disaggregate spectrum for varied uses); Gregory L. Rosston & Jeffrey S. Steinberg, *Using Market-Based Spectrum Policy to Promote the Public Interest*, 50 Fed. Comm. L.J. 87, 101 (1997) ("Users should have the flexibility to determine both the amount of spectrum they occupy and the geographic area they serve.").

[33] *See, e.g.*, In the Matter of Geographic Partitioning and Spectrum Disaggregation by Commercial Radio Services Licensees, WT Docket No. 96-148, *Report and Order and Further Notice of Proposed Rulemaking*, 11 FCC Rcd 21831, 21843 (¶¶ 13-14) (1996) (*CMRS Partitioning and Disaggregation Order*); In the Matter of Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service ("WCS"), GN Docket No. 96-228, *Report and Order*, 12 FCC Rcd 10785, 10834 (¶ 92) (1997) (*Part 27 Report and Order*) (potential users include private, small companies, regional telcos, and large companies). With respect to many licenses in the Wireless Radio Services, Commission rules permit partitioning and/or disaggregation of parts of a license. *See CMRS Partitioning and Disaggregation Order*, 11 FCC Rcd at 21833 (¶ 1). Partitioning is the assignment of geographic portions of a license. *Id.* Disaggregation is the assignment of discrete portions of frequency or "blocks" of spectrum licensed to a licensee. *Id.*

[34] For some services, Commission rules permit partial assignment of licenses. *See* 47 C.F.R § 1.948. Partial assignment involves the assignment by site-by-site licensees of defined portions of area and frequencies.

[35] In the *BBA Report and Order*, we propose to consider, with respect to bands we allocate in the future, whether to permit a band manager in a particular service to act both as a spectrum broker that leases spectrum and as a user of its licensed spectrum. *BBA Report and Order* at ¶ 48.

partitioning, disaggregation, or partial assignment of a licensee's spectrum usage rights, without the complete and permanent transfer of control or assignment of the discrete leased portion of that spectrum license, and the full panoply of licensee responsibilities, to that particular lessee of spectrum usage rights ("spectrum lessee") for the remainder of the license term. As we have already noted above,[36] different types of spectrum leasing already are clearly authorized in some services. In many other services, however, uncertainty exists as to whether spectrum leasing arrangements are currently permitted under our rules, while in yet other services the rules are not sufficiently flexible to permit leasing. In this NPRM, we seek to clarify the kinds of spectrum leasing we will permit in the various wireless services.

22. We also seek comment on the potential role of band manager licensing as a vehicle for facilitating the leasing of the rights to use spectrum. In those instances to date in which we have adopted or proposed band manager licensing, we have envisioned band managers as a specifically designated class of licensees that engage in spectrum leasing as their core function. In the 700 MHz Guard Band, for example, because of the specific policy objectives we were seeking to implement for the band, we required that Guard Band Managers operate solely as spectrum brokers, prohibited them from using spectrum directly, and limited the amount of spectrum that they could lease to affiliated entities.[37] In many other wireless services, however, and particularly in commercial services, licensees typically operate in a market-driven environment and are subject to relatively few regulatory restrictions on their choice of technology or the type of service they may provide.[38] To facilitate leasing in such an environment, there may be less need to designate band managers as a specific "class" of licensees. Instead, the primary issue may be whether all licensees in such services should have the *option* to use some or all of their licensed spectrum in the same manner as a band manager, *i.e.*, to make spectrum available to third party users without the need for prior Commission approval, while retaining primary responsibility for compliance with the Commission's rules. Therefore, to the extent we adopt the general concepts of spectrum leasing discussed above, we seek comment on the degree to which band manager licensing is a necessary or appropriate vehicle to accomplish these objectives, and if so, in what services. Alternatively, to the extent that we conclude that we need not designate band managers as a specific licensee class, we seek comment on whether the rules we have applied to band manager leasing arrangements should be applied to leasing by licensees generally.

23. We invite comment on whether the general concept of spectrum leasing described in this section is appropriately defined, or whether it should be defined differently, more narrowly, or more broadly. We seek comment on the potential benefits of spectrum leasing. We also invite comment on what problems such an approach might raise. Are there parties, such as other licensees, spectrum users, and the public, that may not benefit from the wider use of spectrum leasing? We invite comment on the practical limits to various forms of such leasing. For instance, would potential spectrum lessees be willing to build out facilities if they would be leasing the rights to use spectrum for only a short period of time? Also, we request comment on whether, for the purposes of our general analysis, it matters whether the spectrum leasing involves leasing of excess capacity on a licensee's system or the leasing of the

---

[36] See discussion in text above, in paragraph 16.

[37] *See generally 700 MHz Second Report and Order*, 15 FCC Rcd at 5311-16 (¶¶ 26-35), 5325 (¶¶ 57-59).

[38] For example, PCS licensees may operate on a common carrier or private basis, may provide fixed or mobile service, and are not limited to use of a particular technical standard in their operations, provided that they comply with basic limitations on signal strength at their licensing area borders. *See* 47 C.F.R. § 24.3.

rights to the use of the licensee's raw spectrum. We also seek comment on how spectrum leasing fits within the Commission's overall spectrum management and licensing responsibilities under the Communications Act.[39] Finally, we invite comment on whether we should consider other types of arrangements that would meet similar goals.

2. Spectrum Leasing Proposal

a. Overview

24. We propose in this section of the NPRM to apply the general spectrum leasing model, described above, to licenses in the Wireless Radio Services[40] in which licensees hold "exclusive" authority to use the licensed spectrum in their service areas.[41] We focus first on this category of licenses because there appears to be significant interest in leasing in this context, and the implementation concerns are less complicated than in some other services. Our proposals for this group of licenses present a framework for how the spectrum leasing concept might apply with regard to licensing issues that affect these particular licenses. By focusing our proposal on this specific set of licenses, we take one major step towards facilitating secondary markets in radio spectrum usage rights. We also invite more general comment, below, on whether this spectrum leasing model should be extended to other sets of wireless licenses.[42]

b. Discussion

25. We propose to clarify and/or revise our policies and rules to permit most Wireless Radio Services licensees with exclusive rights[43] to use licensed spectrum in their service areas to lease all or portions of their licensed spectrum for use by non-licensees.[44] We propose that these licensees be

---

[39] *See, e.g.*, 47 U.S.C. §§ 1, 301, 302, 303, 309, and 310. In section III.A.4, below, we also seek specific comment on the application of Section 310(d) of the Communications Act, as amended, and the Commission's current policies and rules regarding transfer of control, to these types of arrangements with third parties.

[40] This set of licenses is defined above and set forth in Section 1.907 of the Commission's rules. *See* fn.19, *supra*; 47 C.F.R. § 1.907. We note, however, that we do not intend in this NPRM to revisit any rules relating to the license authorization governing "Guard Band Manager" licensees as set forth in our recent *700 MHz Second Report and Order*. Those licensees already have express authority to lease spectrum. *See generally 700 MHz Second Report and Order*, 15 FCC Rcd at 5312-13 (¶¶ 27-29).

[41] As we have already noted above, by "exclusive" rights we mean that the Commission's rules provide for mutual exclusivity in the event of competing applications in the same service.

[42] We note that a policy in favor of secondary markets is not intended to supplant our spectrum allocation process.

[43] As we noted in footnote 19, *supra*, and in Section III.A.3(c), *infra*, we do not include in this NPRM those set of Wireless Radio Services authorized under Part 74, which predominantly involve radio and television broadcasting services. Nor do we include licenses in the Public Safety, Amateur Radio, Personal Radio, or Maritime and Aviation Services. *See* fn.19, above.

[44] As discussed above, by "non-licensees" we refer to entities other than the licensee of the specific spectrum licensed, including an unlicensed entity, an entity licensed in some other market and/or service, or an entity licensed within the same market and/or service.

permitted to lease spectrum usage rights in any amount of spectrum and for any period during the term of the license, so long as the non-licensee spectrum users – the "spectrum lessees" – comply with the technical and non-technical service rule requirements as discussed below. We apply our proposal to these particular licenses chiefly because, compared with the other Wireless Radio Services (*i.e.*, those in which licensees "share" spectrum), exclusive licenses raise the fewest and least complicated concerns relating to interference, frequency coordination, and restricted use.[45] We invite comment on this approach. We propose to permit not only leasing by these licensees to non-licensees, but also further subleasing by spectrum lessees to other non-licensees. We invite comment on this approach as well.

26. In this section, we first discuss our core requirement under this proposal that the licensee must retain ultimate responsibility for ensuring that a spectrum lessee complies with the requirements of the Communications Act and the applicable technical and service rules. We next address in more detail how our spectrum leasing proposal would be implemented with respect to our interference, frequency coordination, and other technical rules. Finally, we address implementation of our proposal with respect to our service rules, including rules relating to "attribution."[46]

(i) Responsibility for compliance with Commission rules

27. Overview. As a core feature of our proposal on leasing of spectrum usage rights, we propose that the licensee retain ultimate responsibility for ensuring that the spectrum lessee complies with the Act and the Commission's applicable technical and service rules.

28. Discussion. In this subsection, we invite comment on policies and rules we might adopt, or actions we might take, to ensure that the licensee meets this core responsibility with regard to the use of licensed spectrum being leased. We note at the outset that any requirements we would impose would be designed to ensure that the licensee had the full authority and duty to take whatever actions necessary to ensure the spectrum lessee's compliance with the Act and the rules. We do not intend to propose any requirements that would unnecessarily interfere with the ability of licensees and spectrum lessees to structure appropriately flexible arrangements.

29. *Licensee's ultimate responsibility for ensuring compliance.* As indicated, under our proposal the licensee would remain ultimately responsible to the Commission for compliance with all of the obligations of the Communications Act and our rules. We propose that, in the event of licensee or lessee non-compliance, the Commission would hold the licensee directly responsible and may take any action against the licensee provided for under our rules. We seek comment on this proposal. We also ask for comment on whether there are circumstances in which the Commission should hold a spectrum lessee responsible for its non-compliance with the rules in addition to, or instead of, the licensee. We seek comment, too, on how the licensee would remain ultimately responsible in the context of subleasing.

30. We also invite comment on whether we should impose any additional requirements on the licensee to ensure that each of its spectrum lessees complies with all of the applicable interference, technical, and service rules (as those rules may be revised, in this proceeding, with respect to spectrum leasing). Should there, for instance, be any "due diligence" required on the part of the licensee to ensure

[45] Later in this NPRM, we inquire whether our spectrum leasing proposal should also be extended to those Wireless Radio Services licenses in which spectrum is shared.

[46] "Attribution" issues relating to ownership and eligibility arise with respect to a number of Wireless Radio Service licenses, as discussed more fully in Section III.A.2(b)(iii).

its lessees' compliance? Should the spectrum lessee have to certify to the licensee that it complies with all rules? Should the licensee be required in some way to verify its lessees' compliance with the applicable rules? If the lessee is not also being held responsible, are there any requirements we need to place on the lessor? Another approach to ensuring that the licensee and spectrum lessee(s) meet their respective responsibilities could be to require all spectrum leasing arrangements to include certain contractual provisions defining, at a minimum, basic rights, obligations, and responsibilities of the licensee and the spectrum lessee(s) with respect to the Commission.[47] For instance, the contract could provide that the spectrum lessee agrees to comply with all applicable Commission rules, including those that may be imposed at a later time, accept FCC oversight and enforcement consistent with the licensee's license, and cooperate fully with any investigation or inquiry conducted by either the Commission or the licensee.[48] We seek comment on whether we should require contractual provisions along these lines or whether other measures are adequate to ensure compliance with the Commission's rules. We also invite comment on all of these issues in the context of subleasing. To the extent we impose requirements on the lessees to ensure compliance with technical and service rules, should those or similar requirements be extended to sublessees? What would be the respective responsibilities of the licensee and the spectrum lessee/sublessor in the context of subleasing?

31. *Enforcement issues.* In authorizing wider use of spectrum leasing, the Commission must maintain its ability to exercise its duty to ensure compliance with the Act, our policies, and our rules, and to take action regarding violations when they occur. Because our leasing proposal relies on a licensee retaining ultimate responsibility for ensuring compliance by its spectrum lessees, we concluded that licensees should be held responsible for the operations of their spectrum lessees.[49] Nonetheless, under the spectrum leasing provisions proposed in this NPRM, we tentatively conclude that this action would not relieve spectrum lessees of their individual responsibilities to comply with the Act, our policies, and our rules.

---

[47] In authorizing spectrum leasing in the recent *700 MHz Second Report and Order*, we specifically required that all spectrum leasing agreements contain certain provisions detailing the nature of the spectrum leasing arrangement and applying all existing licensee obligations to the spectrum lessee. *See 700 MHz Second Report and Order*, 15 FCC Rcd at 5321-23 (¶¶ 46-50). As we recognized in our *BBA Report and Order*, because the rights and obligations of a band manager licensee might vary somewhat from service to service, the contractual requirements relating to a particular services might vary as well. *See BBA Report and Order* at ¶¶ 48-49.

[48] *See 700 MHz Second Report and Order*, 15 FCC Rcd at 5321-23 (¶¶ 48-50); *see also* 47 U.S.C. § 308(b). We also required that the contract provide the licensee the right to suspend or terminate the operation of the lessee's system, or have the ability to take other measures to resolve the interference until the situation can be remedied, if the licensee determines that there is an ongoing violation of the Commission's rules or that the lessee's system is causing harmful interference. *See 700 MHz Second Report and Order*, 15 FCC Rcd at 5322-23 (¶ 50). In addition, we required that spectrum leasing agreements stipulate that if the lessee refuses to comply with a suspension or termination order, the licensee will be free to use all legal means necessary to enforce the order. *Id.*

In addition to these provisions, mandatory contractual provisions might include: a requirement that if the licensee, or the Commission directly pursuant to its legal authority, tells the lessee or sublessee to reduce power or go off the air in response to an FCC enforcement concern, the lessee or sublessee must do so; and, that if the licensee's authority is revoked, cancelled, or modified, the lessee's or sublessee's rights are eliminated or modified to the same extent.

[49] *See* Section III.A.2(b)(i), above.

32. Under our leasing proposal, a lessee or sublessee would operate its mobile or fixed stations under the authority included in the Commission license issued to the licensee. Thus, if a lessee operates outside the parameters of the licensee's authorization, the licensee would be subject to license revocation or other enforcement action. In addition, we seek comment on also holding the lessee directly responsible for violations of the Act or our rules. We note that in the 700 MHz Guard Band proceeding, we required that the agreement between the Guard Band Manager and users of its spectrum provide that the spectrum user must accept Commission oversight and enforcement.[50] We believe that requiring a similar written acknowledgement may be appropriate in this situation and seek comment on whether to adopt such a provision. Moreover, we tentatively conclude that spectrum lessees are independently responsible for adhering to the Commission's rules and regulations and should be subject to sanctions for noncompliance, including forfeitures under Section 503, subject to certain distinct procedural safeguards.[51] We seek comment on this tentative conclusion.

33. In addition, it may be necessary for the Commission to be able to obtain relevant information not only about the licensee, but also about spectrum lessees and sublessees. In the *700 MHz Second Report and Order*, we required the licensee leasing spectrum usage rights to maintain its written agreements with spectrum lessees and keep them current and available upon request for inspection by the Commission and its representatives.[52] We seek comment on whether, under the proposal we set forth in this NPRM, we should place similar requirements upon licensees that lease their rights to use spectrum. We also seek comment on whether we should require lessees to maintain copies of spectrum leasing agreements and to keep them current and available upon request by Commission representatives. We request additional comment on other ways in which the Commission might effectively exercise its authority to ensure that when licensees and spectrum lessees enter into spectrum leasing arrangements, they comply with the Act, our policies, and our rules. Again, we seek comment on how these possible requirements would be implemented with regard to subleasing.

34. *Contractual disputes*. The spectrum leasing proposals in this NPRM, if adopted, may at times result in disputes between licensees and lessees regarding compliance with contractual terms. We tentatively conclude that such disputes should be resolved in the same manner that parties would resolve commercial disputes arising under contract, such as through the courts or some other means of dispute resolution (*e.g.*, arbitration panels or mediators). We seek comment on this tentative conclusion, and what role, if any, the Commission should have in resolving such disputes. For instance, we seek comment on whether, to the extent a licensee is unable or unwilling to resolve such disputes in a timely fashion, we should permit the aggrieved party to file a complaint with the Commission.[53]

---

[50] 47 C.F.R. § 27.602(e).

[51] *See* 47 U.S.C. § 503(b)(5).

[52] *700 MHz Second Report and Order*, 15 FCC Rcd at 5322-23 (¶50). As we have already noted above, in footnote 40, our spectrum leasing proposal would not alter the existing licensing scheme for "Guard Band Managers," as set forth in the *700 MHz Second Report and Order*.

[53] In our *700 MHz Second Report and Order* on Guard Band Managers, we allow such an aggrieved party to file a complaint with the Commission under these circumstances. *700 MHz Second Report and Order*, 15 FCC Rcd at 5323 (¶ 51).

(ii) Interference, frequency coordination, and other technical rules

35. Background. At the heart of the Commission's concerns and obligations relating to Wireless Radio Services licenses is the need to protect the public and licensees providing service to the public from interference caused by other authorized or unauthorized users of spectrum. For geographic area licenses, our interference rules require that licensees protect adjacent geographic area licensees along the border of the license areas. Our interference rules for cellular licensees similarly require that licensees protect adjacent cellular licensees from interference. Interference concerns involving geographic licensees that overlay site-by-site licensees are more complicated.[54] These overlay geographic licensees must not only protect adjacent geographic area licensees from interference, but also must protect incumbent site-by-site licensees from interference. Similarly, site-by-site licensees must protect adjacent licensees as well as the overlaying geographic licensees from interference. In addition, these overlay geographic and site-by-site licensees must comply with strict service-specific rules that require them to prevent harmful interference to co-channel or adjacent licensees, meet certain technical requirements, and meet emission mask standards that protect other licensees (*e.g.*, public safety).[55] For point-to-point licenses, our rules require licensees to coordinate frequencies with other existing licensees.

36. Discussion. Under our proposal, the licensee retains ultimate responsibility to ensure that the spectrum lessee complies with all of the interference, frequency coordination, and other technical rules applicable to the licensed spectrum being leased.

37. *Interference and frequency coordination.* We tentatively conclude that the licensee would be responsible for ensuring that all spectrum lessees comply with the interference rules applicable to the license. We seek comment on how this requirement would work in practice. For instance, we seek comment about the extent to which the licensee must directly be involved in overseeing the lessee's compliance. Should the lessee instead of the licensee be permitted to resolve interference and frequency coordination matters with other licensees (*e.g.*, co-channel coordination), in the same or adjacent markets or service areas? In a similar vein, should lessees have the authority to "consent" to service extensions or short-spacing agreements by adjacent licensees?[56] We invite comment on these interference-related issues and the nature of the licensee's oversight of the spectrum lessee's activities. How would the licensee exercise this responsibility in the context of subleasing? We also seek comment on what role, if any, the Commission should play with respect to these interference-related issues.

38. As mentioned above, interference issues are more complicated in the context of site-by-site

---

[54] In recent years, the Commission has been transitioning from site-by-site licensing to geographic area licensing in many services by auctioning overlay geographic area authorizations. Under these overlay licensing schemes, incumbent site-by-site licensees are prevented from expanding their systems beyond their existing interference contours into the surrounding geographic area license. *See generally* Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, Implementation of Sections 3(n) and 322 of the Communications Act – Regulatory Treatment of Mobile Services, GN Docket No 93-252, Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, *First Report and Order, Eighth Report and Order and Second Further Notice of Proposed Rulemaking*, 11 FCC Rcd 1463 (1995). Overlay licenses are found in the following services: 800 MHz SMR, Paging and Radio Telephone Service, 39 GHz Service, and 24 GHz Service.

[55] 47 C.F.R. § 90.210.

[56] *See* 47 C.F.R. § 22.912 (consent); 47 C.F.R. § 90.621(b)(4) (short-spacing).

licenses. We seek specific comment describing how site-by-site licensees and lessees will continue to meet the existing service-specific interference and technical rules under spectrum leasing arrangements. We also recognize that many small-business commercial site-by-site licensees (*e.g.*, Specialized Mobile Radio (SMR) or paging) could utilize leasing to combine or pool their systems and create larger and more flexible wide-area systems. We seek comment regarding specific rules that the Commission would need to relax to allow these and other spectrum leasing arrangements.

39. We also seek comment on spectrum leasing in the context of point-to-point licenses. We note it may not be possible to lease the use of spectrum with respect to point-to-point spectrum used for private, internal communication licensed under Part 101 of the Commission's rules. Point-to-point links cannot be divided and leased without breaking the end-to-end link (*e.g.*, a pipeline control and monitoring system). Point-to-point licensees may, however, have "excess capacity" available for leasing on a private or common carrier basis. We thus seek comment on any clarifications that would be necessary to facilitate the ability of point-to-point licensees to lease capacity.

40. *Other technical rules.* Similarly, we also tentatively conclude that the spectrum lessee would be required to comply with all other technical rules applicable to the licensed spectrum. Examples of these rules include equipment requirements (*e.g.*, tower height and power output), equipment authorizations, emission mask requirements, radio frequency (RF) safety standards, and spectral efficiency standards.[57] As would be true of the licensee, the spectrum lessee may, however, modify stations without prior Commission approval, as permitted by the applicable rules for the licensed service.[58] In cases in which individual Commission review is required, the licensee would be required to file the application and obtain appropriate approvals or authorizations. We realize, however, that a licensee might bear a significant administrative burden under this proposal if it chose to lease a substantial portion of its licensed spectrum. Therefore, we also invite comment on possible variations to this approach, including whether the spectrum lessee should be more directly responsible for compliance with the rules. We seek comment on what costs and benefits are associated with allowing lessees or sublessees to be responsible for routine, day-to-day interactions with the Commission. We seek comment on the appropriate role for lessees and sublessees. For example, could the lessee assume the responsibility for filing applications for fill-in sites or modifications to existing facilities where required under the rules?

(iii) Service rules

41. Background. A variety of non-technical service rules apply to licenses in the Wireless Radio Services, depending on the particular service involved. For instance, qualification and eligibility rules apply to all licenses, though some are more restrictive than others. For many licenses, a set of "attribution" rules have evolved that are used to determine not only which entities might be eligible to become licensees, but which entities might have forms of control pertaining to a licensee. For some Commercial Mobile Radio Services (CMRS) licenses, our rules place certain aggregation limits on the amount of spectrum that entities may hold in a particular geographic area. There generally are construction or substantial service requirements applicable to each service. For some licenses assigned by competitive bidding, our rules make bidding credits of different amounts available to small

[57] *See, e.g.*, 47 C.F.R. § 90.210.

[58] *See* 47 C.F.R. § 1.929.

businesses.[59] Depending on the regulatory status of licensees, the Communications Act and our rules place differing regulatory requirements on the licensee. Many services are restricted to a particular regulatory classification, such as common carrier or private, while in other services the licensee has the option of choosing its regulatory status. Each service has its own set of rules necessitating certain reporting and filing requirements. Finally, all of the licenses are for a term of years, subject to renewal so long as applicable conditions are met.

42. Discussion. In this NPRM, we seek comment on the extent to which the existing service rules applicable to licensees should apply to spectrum lessees as well. In considering these issues, we seek to assess what measures can be taken to facilitate leasing, while at the same time ensuring that our approach does not invite circumvention of the underlying purposes of our service rules.

43. In the discussion that follows, we set forth and seek to examine a continuum of possible approaches to this issue. At one end of the continuum, one proposal would be to make all service rules that are applicable to the licensee applicable to the lessee as well. We examine and clarify how such a proposal might be implemented, and seek comment. We recognize, however, that strict adherence to such a proposal might unnecessarily impede the development of many kinds of spectrum leasing arrangements that would serve the public interest. Thus, at the other end of the continuum, we also set forth and seek comment on proposals under which spectrum lessees would not be subject to the same service rules as licensees. There may well be contexts in which such an approach would be justified, especially in the case of short term spectrum capacity leases. Ultimately, we seek to develop a record regarding how our service rules should be crafted in the context of spectrum leasing in order to facilitate secondary markets without circumventing the underlying purposes of the rules.

44. *Qualification, eligibility and use restrictions.* As indicated above, one possible proposal would be to apply the qualification and eligibility rules applicable to the licensee of any particular service to the entity seeking to lease the licensed spectrum.[60] Under such a proposal, licensees would be responsible for ensuring that the same rules that restrict their qualification or their eligibility would restrict the respective qualification or eligibility of entities seeking to enter into spectrum leasing arrangements. We also seek comment on a different proposal, under which we would not require lessees to meet the same qualifications as that of the licensee. In what circumstances would such requirements not be necessary, without undermining the underlying purposes) of the particular service rule? Are there any implementation considerations we should take into account in this context?

45. To the extent we determine that the qualification and eligibility rules should apply to lessees, we seek comment on how this approach could be implemented. Should, for example, the licensee be required to certify that each spectrum lessee would meet the applicable qualification and eligibility criteria? Should there be any "due diligence" requirements placed on the licensee for determining whether a potential spectrum lessee would meet the qualification requirements and eligibility restrictions under the applicable service rules? We have allowed licensees and/or foreign entities seeking to acquire or become licensees the opportunity to seek declaratory rulings regarding application of the foreign ownership restrictions. Should we afford the same opportunity to spectrum lessees, and if so, how would

[59] *See, e.g.*, 47 C.F.R. §§ 1.2110; 24.709.

[60] These include foreign ownership restrictions pursuant to Section 310 of the Communications Act and the Commission's rules. 47 U.S.C. § 310.

we implement this under this approach? Finally, how would this approach be implemented with regard to subleasing?

46. A number of eligibility and use restrictions also apply in the context of private and commercial services. For example, eligibility in the Private Land Mobile Radio Services (PLMRS) is limited to those entities using radio spectrum for particular purpose(s) designated in the service rules, *i.e.*, Public Safety and Business-Industrial/Land Transportation entities.[61] In addition, licensees in certain PLMRS bands are limited to non-commercial use of the spectrum, *i.e.*, licensees may use spectrum on a private internal use basis, but may not offer wireless service on a commercial basis to others. In other cases, international treaty obligations restrict the uses to which certain spectrum may be put (*e.g.*, paging). If we applied these use restrictions to spectrum lessees as we apply them to licensees, leasing would be restricted only to entities that would themselves be eligible to obtain a license in the same service. Similarly, lessees would be subject to the same restrictions on use of spectrum that apply to the licensees of that spectrum. We seek comment on such a proposal. Is such an approach sufficiently flexible to allow application of secondary market principles, including spectrum leasing, to services that have certain types of use restrictions? We also seek comment on alternative approaches we might take. For example, in private services that require licensees to use spectrum on a non-commercial basis, such use restrictions would arguably preclude a licensee from engaging in commercial spectrum leasing, even to other entities that intend to use the spectrum for non-commercial purposes. We seek comment on whether we should allow leasing under these circumstances, and what restrictions, if any, should apply. We also seek comment on an alternative proposal, in which we would not apply these eligibility and use restrictions to lessees in this context. In what circumstances should these restrictions not apply?

47. In addition, we note that certain PCS C- and F-block licenses are restricted to businesses that qualify as "entrepreneurs" under our service rules.[62] Under those rules, the "entrepreneur" licensee is prohibited from transferring the license to non-entrepreneurs for a period of five years,[63] or in some cases until that licensee can establish that it has satisfied the first set of performance requirements.[64] Under a proposal that would apply rules to the lessee that are applicable to the licensee, spectrum leasing for these "entrepreneur" licensees would be restricted to other "entrepreneur" entities. We seek comment on such a proposal. We also seek comment on alternative proposals. Do these restrictions on "entrepreneurs" make sense in the context of spectrum leasing? For instance, should "entrepreneur" licensees be restricted to leasing to other "entrepreneur" entities if only excess capacity is being leased? To the extent any proposals are advanced, we request that commenters explain how such proposals

---

[61] *See, e.g.*, 47 C.F.R. § 90.35. While commercial radio providers offer communications services as their end product, private land mobile wireless licensees use radio as a tool to enhance the safety and/or efficiency of their non-communications businesses. This difference is the foundation of the different regulatory treatments afforded to private, as opposed to commercial, wireless services.

[62] We note that we recently revised our rules to allow, in some instances, entities other than "entrepreneurs" to bid for and obtain certain C- and F-block licenses. *See* Amendment of the Commission's Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licensees, WT Docket No. 97-82, *Sixth Report and Order and Order on Reconsideration*, FCC 00-313 (rel. Aug. 29, 2000) (*Sixth Report and Order*). The eligibility restriction discussed above would not apply to licensees that do not quality as "entrepreneurs." *Id.* at ¶¶ 17-29.

[63] *See* 47 C.F.R. § 24.839(d).

[64] *See Sixth Report and Order* at ¶¶ 49-51.

would be consistent with the underlying purpose of those policies and rules. Finally, we request comment on how any proposal would work in the context of subleasing.

48. *Attribution rules.* For many licenses, we have established various attribution rules that affect which entities might be licensees as well as what other interests entities may have in licenses that raise issues under various Commission policies and rules. For instance, we rely on attribution rules to determine whether applicants for auctioned licenses are eligible for bidding credits or may elect to pay under an installment payment plan (which concern other service rules, discussed further below).[65] We also rely on attribution rules to determine whether spectrum is attributable under the CMRS spectrum cap rule (also discussed below). One possible approach to addressing these service rules in the leasing context would be to require the attribution rules applicable to a licensee to be applied to a spectrum lessee as if that lessee were the licensee. We seek comment on this approach. We also seek comment on alternative proposals with regard to our attribution rules in the context of spectrum leasing. In what circumstances should we not apply our attribution rules to lessees? Why would such circumstances not circumvent the underlying purposes of our rules? To the extent we determine that attribution rules should apply to lessees, we also seek comment on how best to ensure that licensees and lessees comply with those rules. Should, for instance, licensees and/or lessees have to certify that they comply with the applicable attribution rules, and if so, to whom must they certify?[66] Are there any additional compliance concerns raised with regard to subleasing?

49. *Aggregation limits.* With regard to the aggregation limit or "spectrum cap" that applies to some licenses, one approach would be to apply that aggregation limit to any of the licensed spectrum leased.[67] Under this approach, if an entity leases any licensed spectrum that falls under the CMRS spectrum cap rule,[68] the amount of spectrum leased is attributable under current rules both to the licensee and to the spectrum lessee for the purpose of determining compliance with the cap.[69] We seek comment on such a proposal. We also request comment on possible alternative proposals, including not applying the CMRS spectrum cap to spectrum leasing. In what instances does spectrum leasing not raise concerns about market concentration that the CMRS spectrum cap seeks to address? For instance, to the extent a licensee only leases its system's excess capacity to a lessee, should the leased spectrum be attributable to the lessee in the same manner as it would be to a lessee that leases the right to use the licensed spectrum? Should spectrum not be attributable in cases in which a lessee leases licensed spectrum only for a short period of time in order to temporarily address spectrum constraints as it moves to implement more spectrum-efficient technologies? If so, what period of time would constitute a short-term lease that should not be attributable to the lessee? Are there other circumstances under which

---

[65] *See generally* 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 Notice of Proposed Rule Making*, FCC 00-274 (rel. Aug. 24, 2000) (*Part 1 Fifth Report and Order*).

[66] Under our rules, we require that entities applying to the Commission to obtain licenses must certify that they would be in compliance with the applicable attribution rules.

[67] *See, e.g.*, 47 C.F.R. § 20.6 (CMRS spectrum aggregation limit).

[68] *See id.*

[69] We note that we are commencing, later this year, our biennial review of the CMRS spectrum cap, in which we will determine whether to retain, modify, or eliminate the cap. To the extent that we determine to modify or eliminate the CMRS spectrum cap following that review, the requirements with respect to spectrum lessees will also be modified or eliminated.

leased spectrum should not be attributable to the lessee for purposes of the cap? Should the leased spectrum no longer be attributable to the licensee for the duration of the lease? We request that those commenters proposing any alternative approach should explain how that alternative would not raise market concentration concerns that the CMRS spectrum cap seeks to address.

50. *Construction or substantial service requirements.* Because a spectrum lessee operates under the authority granted to the licensee, we propose to permit a licensee to rely on the activities of its lessee(s) when establishing that the licensee has met the applicable construction, substantial service, or similar requirements. For instance, if the construction requirements require that the licensee provide coverage of a certain number of square kilometers, or a percentage of geographic area or population,[70] then the activities of the licensee and its spectrum lessee(s), when considered together, must provide that amount of service. Similarly, if "substantial service" is required,[71] the licensee could establish that this requirement has been met by service that it and its spectrum lessees together are providing. By adding the flexibility to allow the applicable requirements to be met by consideration of both the licensee's and its lessee(s)' construction or services, this proposal enables build-out to be achieved in the most economic fashion and thus promotes more rapid build-out. In establishing that the applicable requirements have been met, the licensee would be required to submit adequate proof of the nature and extent of services provided by it and its lessee(s). In considering this proposal, we seek comment on whether a licensee should be able to rely on services provided by short-term lessee(s) for purposes of meeting its requirements. We also invite comment on any other proposal that we should consider regarding compliance with these requirements in the context of spectrum leasing.

51. We tentatively conclude that the construction or substantial service requirements should not include any specific reporting requirements pertaining to the leased spectrum other than any reporting that is done by the licensee to demonstrate its own compliance. We seek comment on this proposal, including alternative proposals such as to create an annual or other periodic reporting requirement whereby the licensee supplies us with basic information about the total number of spectrum lessees and the amount of spectrum being used by the lessees, the general nature of the lessee's spectrum use, and the length of duration of each lease agreement.[72] If so, should licensees also be required to indicate which of the spectrum lessees are affiliates? Should this information be made publicly available, and if so, would that help facilitate the development of secondary markets in this spectrum? In addition, should we require any reporting by spectrum lessees?

52. *Bidding credits, installment payments, and unjust enrichment.* Bidding credits for small businesses are often made available for particular auctioned licenses. In addition, installment payment plans were available with respect to licenses won in certain past auctions.

53. If we applied the existing rules to spectrum lessees, then if a licensee that received bidding credits or participates in an installment payment plan wishes to lease its rights to use portions of its licensed spectrum to an entity that would not meet the eligibility standards for a similar bidding credit,

---

[70] *See, e.g.*, 47 C.F.R § 203.

[71] *See, e.g.*, 47 C.F.R §§ 90.665; 90.685.

[72] We require this type of annual reporting requirement for the Guard Band Manager, and we will make it publicly available. *See 700 MHz Second Report and Order*, 15 FCC Rcd at 5333 (¶¶ 79-80).

we would require the licensee to reimburse the government for unjust enrichment.[73] We seek comment such an approach, and how it could be implemented. In particular, how would unjust enrichment be calculated and the government notified and reimbursed. Our partitioning and disaggregation rules may provide guidance to such an approach.[74] In general, those rules provide that the amount of reimbursement for unjust enrichment would be determined on a proportional basis, depending on the amount of spectrum associated with the transfer of control or assignment of license to the third party.[75] Under such an approach, if a licensee leases the right to use a geographic part of the licensed spectrum to an entity that would qualify for a smaller bidding credit (or no bidding credit), we would require the licensee to reimburse the government for the difference between the amount of the bidding credit obtained by the licensee and the bidding credit for which the lessee is eligible, calculated on a proportional basis based on the ratio of the population of the leased area compared to the overall population of the licensed area times the ratio of the duration of the lease compared to the term of the license.[76] Similarly, where a licensee leases the rights to use a portion of the licensed frequency to an entity that would qualify for a smaller bidding credit, the unjust enrichment to be paid to the government would be calculated based on the ratio of the amount of spectrum leased compared to the spectrum retained by the licensee, adjusted to reflect the proportional duration of the lease.[77] Likewise, we would require adjustment or payment of a pro rata share of the outstanding balance on an installment payment plan if a licensee paying in installments leases to an entity qualifying for a different or no installment payment plan. Under such an approach, is there a simpler way to ensure that the government would be reimbursed for unjust enrichment? We invite comment on this proposal. We request comment as well on how this approach could be implemented in the context of subleasing.

54. We also seek comment on a different proposal, in which lessees would not be required to pay unjust enrichment payments in leasing contexts. In which spectrum leasing arrangements should we not require any unjust enrichment payments? Would there be any reason to apply unjust enrichment payments with respect to short-term leases, such as leases for one year or less? Should we establish any "safe harbors" in which unjust enrichment payments should not be required? Should we require such payments if the licensee leases only excess capacity on its own facilities?

55. We also request comment on the effect that any proposal proffered would have on small businesses. Finally, we request that commenters making proposals, particularly proposals that would not require unjust enrichment repayments in the context of leasing, explain whether and how such a proposal would be consistent with our unjust enrichment rules or the underlying purposes of those rules.

56. *Regulatory status.* We also seek comment on how issues relating to a licensee's regulatory status should be applied with respect to spectrum lessees. We could require that spectrum lessees would be subject to the same rules regarding regulatory classification as the licensee, and would be required to meet the same regulatory requirements associated with its classification. For instance, in services such

---

[73] *See* 47 C.F.R. § 1.2111(d).

[74] *See, e.g., CMRS Partitioning and Disaggregation Order*, 11 FCC Rcd at 21851-55 (¶¶31-36), 21861-62 (¶¶ 51-55); *Part 27 Report and Order*, 12 FCC Rcd at 10838-39 (¶¶ 101-103).

[75] *See id.*

[76] *Id.*

[77] *Id.*

as cellular, our rules require licensees to provide service on a common carrier basis and to comply with the requirements of Title II of the Act. Thus, under this approach, an entity leasing spectrum usage rights from a cellular carrier would also be classified as a common carrier (just as cellular resellers are currently), and would be held to the requirements of Title II. We seek comment on such a proposal. We also seek comment on the implications of potentially applying Title II regulation to common carrier lessees, including, for instance, the requirement that service be provided on a nondiscriminatory basis,[78] that it be provided for those with disabilities,[79] and that a variety of other requirements, such as those relating to CALEA,[80] E911,[81] and universal service funds,[82] be met.

57. We also invite comment on a completely different approach. Should we determine that a licensee's regulatory status should not necessarily be applied to spectrum lessees? On what basis could we reach such a determination? Commenters proposing such an approach should explain whether the Commission would have statutory authority to take this course, and how that approach would not circumvent the underlying purposes of our rules.

58. We also seek comment on whether the requirements placed on the licensee should apply to lessees in cases where services are not limited to one regulatory classification. For example, in services such as PCS, Local Multipoint Distribution Service (LMDS), and 24 GHz, licensees have the flexibility to choose (and to subsequently change) their regulatory status, *e.g.*, whether to operate on a common carriers or non-common carrier basis. [83] In such services, should lessees have the same flexibility as licensees to choose their regulatory status? We seek comment on such an approach. We also seek comment on whether the regulatory status chosen by the licensee should affect the ability of the lessee to choose a different regulatory status.

59. To the extent we determine to apply a licensee's regulatory status to its spectrum lessees as well, we invite comment on the manner in which licensees and spectrum lessees should ensure compliance with requirements imposed by the applicable regulatory classification. Should there, for instance, be a requirement that licensees register lessees with the Commission so that it or other public agencies (*e.g.*, state police or FBI) can contact the lessee if needed?[84] We also seek comment on any other Title II issues that would affect leasing of spectrum and the regulatory status of the licensee.

60. *Periodic filings and other interactions with Commission.* As for the filing requirements not discussed above and the other required interactions with the Commission, we propose that the licensee

---

[78] Under Section 202 of the Act, non-discrimination requirements are placed upon common carriers. *See* 47 U.S.C. § 202. Violations of Section 202 are subject to enforcement under Section 208 of the Act. 47 U.S.C. § 208.

[79] 47 U.S.C. § 225.

[80] 47 U.S.C. § 229.

[81] 47 C.F.R. § 20.18.

[82] 47 U.S.C. § 254.

[83] *See* 47 C.F.R. § 101 *et seq.*

[84] We note that telecommunications carriers must file reports to comply with the Commission's universal service and Telecommunications Relay Service (TRS) requirements.

remain responsible for compliance. For instance, there are various service-specific rules requiring licensees to file applications to modify the parameters of their licenses when adding new facilities or frequencies, increasing operating power, changing emissions, or changing antenna characteristics. Licensees would also be responsible for notifying the Commission upon meeting construction benchmarks or requirements, where applicable. We propose that the licensee be responsible for ensuring the lessee's compliance with all of these rules and that the licensee be responsible for all necessary filings relating to the spectrum lessee's activities.[85]

61. We seek comment, however, on whether placing this regulatory burden directly on licensees may unnecessarily restrict their ability to lease spectrum usage rights. Commenters should specifically address how the leasing of spectrum usage rights in the secondary market may be hindered by requiring licensees, rather than lessees (or sublessees), to bear these administrative burdens. Further, we ask commenters to suggest alternative approaches that may better promote spectrum leasing.

62. *Renewal.* Finally, given that a spectrum lessee can have no greater rights than the licensee, no spectrum lease agreement may legally grant an absolute term beyond the term of the licensee's authorization. This restriction does not, however, prohibit a spectrum lessee from entering into a contingent agreement with the licensee providing for an option or right to renew the agreement if it is able to renew its authorization with the Commission.

3. Other Licenses

63. As noted above, in this NPRM our specific proposals focus on licenses in the Wireless Radio Services in which licensees have exclusive rights to use the licensed spectrum. We note, however, that there may be additional actions we could take relating to other licenses and services that would also promote more efficient use of spectrum and facilitate the development of secondary markets. We seek comment on whether we should clarify and/or revise policies and rules with respect to the following licenses in order further to promote the development of secondary markets in radio spectrum usage rights.

a. "Shared use" Wireless Radio Services licenses

64. Background. In the Wireless Radio Services, some licenses permit licensees to "share" spectrum. For example, some CMRS paging licensees operate on shared channels on the 929 MHz band. Also, a large number of incumbent licensees hold private licenses for non-commercial, internal communications systems on shared channels,[86] and the Commission continues to issue new shared channel licenses.[87]

65. Discussion. We invite comment on whether we should permit spectrum leasing by licensees

---

[85] We do not propose, however, to change the responsibility of antenna structure owners pursuant to Part 17 of our rules. The rules already require antenna structure owners (not licensees) to register certain antenna structures with the Commission prior to construction (*i.e.*, those more than 200 feet above ground or located near a public use airport).

[86] 47 C.F.R § 90.179.

[87] 47 C.F.R. § 90.35.

that share use of the same spectrum.[88] We believe there may be reasons to look at spectrum leasing differently in the context of shared spectrum. First, radio services in which licensees share the use of spectrum raise interference and frequency coordination issues that are more complex than for licensees that have exclusive rights to use their licensed spectrum. In addition, where licensees do not hold spectrum on an exclusive basis, other potential spectrum users are not precluded from obtaining their own licenses, provided that appropriate sharing arrangements can be reached. This may reduce the need for leasing as an alternative to facilitate efficient spectrum use. We therefore seek comment on whether allowing spectrum leasing is likely to have any practical applicability to shared spectrum. Assuming that we do allow some form of spectrum leasing on shared spectrum, we seek comment on how it would be implemented. In particular, we seek comment on how licensees and lessees would coordinate frequency use with neighboring licensees and lessees so as to avoid interference problems.

b. Satellite licenses

66. Background. The Commission has interpreted its rules for the Fixed Satellite Service (FSS)[89] in a manner that has fostered the development of a secondary market in space station capacity. Since 1981, the Commission has permitted satellites located in geostationary orbits and licensed as FSS satellites to lease or sell any or all of the transponders on the satellite to third parties.[90] Further, we have permitted licensees of satellite systems operating on a non-common carrier basis, such as most Big and Little Low-Earth Orbit (LEO) satellite systems, to offer capacity on their satellites to individual customers on individualized terms, ranging from short-term leases to sales.[91] Satellite licensees remain responsible for ensuring that the transponders operate in ways that do not create unacceptable interference outside of their authorized bandwidth. These licensees also remain responsible for ensuring that the satellites operate within the relevant power limits and in conformance with our international obligations and with International Telecommunications Union authorizations. However, within those limits, the satellite licensees may lease or sell one or all transponders on a satellite to any party they wish, and the leases may be of any time duration. Moreover, licensees are not obligated to obtain Commission approval for those leases nor inform the Commission of the parties to whom they have leased transponders.[92]

---

[88] As we have noted above, in footnote 19, Public Safety Radio, Amateur Radio, Personal Radio, and Maritime and Aviation Services are not included in our spectrum leasing proposal.

[89] *See generally* 47 C.F.R. Part 25.

[90] *See Domestic Fixed-Satellite Transponder Sales Order*; *Domestic Fixed Satellite and Separate International Satellite Systems Report and Order*.

[91] Big LEO satellite systems are defined and discussed in Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands, CC Docket No. 92-166, *Report and Order*, 9 FCC Rcd 5936, 5966-69 (¶¶ 71-9) (1994), *on recon.*, *Memorandum Opinion and Order*, 11 FCC Rcd 12861 (1996). For Little LEO satellite systems, see Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Non-Voice, Non-Geostationary Mobile-Satellite Service, CC Docket No. 92-76, *Report and Order*, 8 FCC Rcd 8450, 8456 (1993).

[92] It should be noted that the Commission's leasing precedent allows for leasing of transponder capacity on previously authorized satellites. It does not suggest that a licensee has the right to lease its assigned spectrum to another party that might wish to place its own satellite in the same orbital position.

67. In addition, the Commission has a very flexible policy with respect to the licensing of satellite earth stations. Earth stations may be licensed to the same party that receives the satellite license or to other parties who wish to obtain access to satellites and have an agreement to communicate with the satellite licensee. In both cases the licensee of the earth station is also free to lease capacity on the earth station for any period of time without prior Commission approval and without notifying the Commission after the fact, subject only to the terms of the earth station license concerning interference protection and spectrum coordination.

68. Discussion. In this NPRM, we request comment on whether any changes are needed with respect to the Commission's policy on transponder leases or sales. In particular, are there any changes that we should consider making that would make it even easier to develop a market in the use of transponders or in the leasing of rights to use satellite spectrum? More generally, we also request comment on any other proposals to bolster secondary markets in or otherwise improve the efficiency of the use of satellite spectrum. We also seek comment on whether any modifications to our earth station rules might be appropriate as a means of fostering a more efficient secondary market in earth station capacity. We request that commenters identify those specific policies and rules which may be impeding the further development of leasing or other cooperative relationships in existing services. We request comment on how such rules and policies might be changed to promote spectrum leasing or other secondary spectrum market mechanisms. Finally, we invite comment on whether we should entertain individual requests to waive technical and service rules to accommodate flexible use of licensed spectrum or leased spectrum usage rights.

c. Mass Media licenses

69. At this time, we are not exploring whether the Commission should revise any of its policies and rules within the mass media services to facilitate more robust secondary markets in the broadcast field.[93] We make this decision because of the unique obligations placed on broadcasters and the public interest considerations applicable in this context. We seek comment on this approach and, in particular, whether the Commission should address the mass media services in any subsequent rulemaking regarding these issues.

4. The Commission's Requirements Relating to Transfer of Control

70. Background. As we explore these spectrum leasing initiatives, we are mindful that there are statutory limitations on the kinds of arrangements which licensees may enter into with third parties without Commission approval. In particular, licensees may not enter into arrangements that would violate Section 310(d) of the Act,[94] which requires prior Commission approval to transfer control of or assign licenses (or parts of licenses, where permitted[95]) to third parties.[96] This section has been

---

[93] Specifically, our discussion in this NPRM does not apply to licenses granted for broadcast service pursuant to Parts 73 and 74 of the Commission's rules. *See also Policy Statement* at ¶ 10 and n.20.

[94] Section 310(d) of the Act provides: "No construction permit or station license, or any rights thereunder, shall be transferred, assigned, or disposed of in any manner, voluntarily or involuntarily, directly or indirectly, or by transfer of control of any corporation holding such permit or license, to any person except upon application to the Commission and upon finding by the Commission that the public interest, convenience, and necessity will be served thereby." 47 U.S.C. § 310(d).

[95] This would include the partitioning, disaggregation, or partial assignment of licenses.

interpreted such that approval must be sought not only for transfers of legal (*de jure*) control, but also for transfers of actual (*de facto*) control under the special circumstances presented.[97]

71. The manner in which Section 310(d) is implemented to determine what would constitute an unauthorized transfer of control varies depending on the nature of the license authorized. Congress intentionally left the definition of the word "control" out of the Act. In Congress' view, defining "control" would be "difficult to do ... without limiting the meaning of the term in an unfortunate manner."[98] Congress left the task of defining "control" to the Commission,[99] understanding that it would have to be defined within the context of the particular circumstances involved. As the Commission has noted:

> It has been stated many times that the [C]ommission is not bound by any exact formula in its determination of whether control of a ... licensee has been transferred in violation of Section 310[d]. ... The ascertainment of control in most instances must of necessity transcend formulas, for it involves an issue of fact which must be resolved by the special circumstances presented.[100]

Accordingly, the Commission has developed different criteria for different sets of licenses when determining whether such control has been transferred.[101]

72. For many of the Wireless Radio Services licenses, the Commission historically has interpreted Section 310(d) control requirements pursuant to its 1963 *Intermountain Microwave* decision,[102] which set forth the following six factors for determining whether a *de facto* transfer of

---

[96] *See Lorain Journal Co. v. FCC*, 351 F. 2d 824, 828-29 (D.C. Cir. 1965), *cert. den.*, 383 U.S. 967 (1966); *Telephone and Data Systems, Inc. v. FCC*, 19 F. 3d 42, 48 (D.C. Cir. 1994).

[97] *See Lorain Journal*, 351 F. 2d at 828-29 ("control" under Section 310(d) refers to both *de jure* and *de facto* control).

[98] H. R. Rep. No. 1850, 73rd Cong. 2d Sess. 4-5 (1934). *See also Stephen F. Sewell*, "Assignments and Transfers of Control of FCC Authorizations Under Section 310(d) of the Communications Act of 1934," 43 Fed. Com. L.J. 277, 295 (1991).

[99] *Sewell*, 43 Fed. Com. L.J. at 295.

[100] Application of Stereo Broadcasters, Inc., Docket No. 20590, *Memorandum Opinion and Order*, 55 FCC 2d 819, 821 (¶ 7) (1975), *modified*, 59 FCC 2d 1002 (1976); *see also* Applications of Southwest Texas Public Broadcasting Council for Renewal of Licenses, 85 FCC 2d 713, 715 (1981) ("there is no exact formula by which 'control' can be determined"). In a different context, that of determining whether the public interest would be served by granting a license application, the U.S. Supreme Court has recognized that the Commission has broad authority to interpret the requirements of the Communications Act. That Court stated that the public interest criterion was "to be interpreted by its context, by the nature of radio transmission and reception, [and] by the scope, character, and quality of [the] services." *National Broadcasting Co. v. FCC*, 319 U.S. 190, 216 (1943).

[101] *See, e.g., CMRS Fourth Report and Order*, 9 FCC Rcd at 7127 (¶ 20) ("We recognize that ... different criteria have been used to determine whether a private carrier or a common carrier has relinquished control of its facilities.").

[102] *See, e.g.*, Application of Ellis Thompson Corporation, CC Docket No. 94-136, *Summary Decision*, 10 FCC Rcd 12554, 12555 (¶ 9) (ALJ decision 1995) (*Ellis Thompson*); Applications of Brian L. O'Neill, (continued....)

control has occurred: (1) does the licensee have unfettered use of all facilities and equipment? (2) who controls daily operations? (3) who determines and carries out policy decisions, including preparing and filing applications with the Commission? (4) who is in charge of employment, supervision, and dismissal of personnel? (5) who is in charge of payment of financial obligations, including expenses arising out of operation? and (6) who receives monies and profits from the operations of the facilities?[103] For other sets of licenses, however, the Commission has determined to apply other criteria, depending on the Commission's particular concerns about licensee control with respect to those licenses. For example, with regard to private radio licenses, the Commission interprets Section 310(d) requirements relating to transfer of control on the basis of factors set forth in the *Motorola* decision, which are distinct from the six factors set forth in *Intermountain Microwave*.[104] Under the *Motorola* standard, the Commission focuses primarily on issues related to the licensee's supervision and its propriety interest in equipment.[105] Meanwhile, with respect to broadcast licenses, where public interest considerations differ because they turn largely on programming issues,[106] the Commission applies a three factor test when interpreting Section 310(d) transfer of control issues.[107] In that particular context, we examine factors relating to the licensee's control of programming, personnel, and financing.[108]

73. Discussion. We recognize that the types of leasing arrangements that we propose to allow in this NPRM potentially conflict with the six criteria that the Commission used to evaluate Section 310(d) control in the *Intermountain Microwave* decision. The *Intermountain Microwave* factors focus on

---

Memorandum Opinion and Order and Notice of Apparent Liability, 6 FCC Rcd 2572, 2574-76 (¶¶ 25-31) (1991) (*Brian O'Neill*). The Commission also applies the *Intermountain Microwave* standard when interpreting Section 310(d) requirements relating to satellite licenses. *See, e.g.*, Application of Volunteers in Technical Assistance, *Order and Authorization*, 11 FCC Rcd 1358, 1364-68 (¶¶ 19-30) (1995) (*VITA I*); Application of Volunteers in Technical Assistance, *Order*, 12 FCC Rcd 3094 (1997) (*VITA II*).

[103] *Intermountain Microwave*, 12 FCC 2d at 559-60.

[104] *See* Applications of Motorola, Inc. for 800 MHz Specialized Mobile Radio Trunked Systems, File Nos. 507505 et al., *Order* (issued July 30, 1985) (Private Radio Bureau) (*Motorola*); *see also* "Private Radio Bureau Reminds Licensees of Guidelines Concerning Operation of SMR Stations Under Management Contracts," *Public Notice*, 64 RR 2d 840 (Private Radio Bureau) (1988). We have specifically noted that the criteria relating to control issues set forth in *Motorola* differ from the six factors established in *Intermountain Microwave*. *See* Implementation of Sections 3(n) and 332 of the Communications Act, GN Docket No. 93-252, *Fourth Report and Order*, 9 FCC Rcd 7123, 7127 (¶ 20) (1994).

[105] *See Motorola* at ¶ 19.

[106] *See Cablecom General, Inc.*, 87 FCC 2d 784, 788-90 (1981) (Commission notes that broadcast licensees have a responsibility for the content of the information which they disseminate that radio services which serve as mere conduits or transmission links do not).

[107] *See, e.g.*, Application of WGPR, Inc. and CBS, Inc. For Assignment of License at WGPR-TV, *Memorandum Opinion and Order*, 10 FCC Rcd 8140, 8141 (1995) (*WGPR*) (test examines who controls the programming, personnel, and financing); Application of Choctaw Broadcasting Corporation and New South Communications, Inc. For Voluntary Assignment of the Construction Permit for Station KLIP (FM), *Memorandum Opinion and Order*, 12 FCC Rcd 8534 (1997).

[108] *See WGPR*, 10 FCC Rcd at 8241. As we have indicated above, in this NPRM we do not propose any revisions to our policies and rules concerning broadcasting licenses. *See* Section III.B.3(c), *supra*.

whether the licensee, as opposed to an unlicensed third party, controls the operation of the facilities that are the subject of the license.[109] In the leasing arrangements we propose here, however, a licensee could lease its facilities for use by a third party lessee, or could lease all or a portion of its spectrum usage rights, to enable a third party lessee to use the spectrum with facilities constructed and owned by the lessee. Thus, the *Intermountain Microwave* factors, if rigidly applied to these scenarios, could be construed to prohibit them as unauthorized transfers of control. Indeed, many commenters at our Public Forum on secondary markets indicated that they were reluctant to enter into leasing arrangements out of concern that they could be found to violate *Intermountain Microwave*.[110]

74. We tentatively conclude, however, that a set of criteria different from those set forth in *Intermountain Microwave* can and should be applied when interpreting whether the types of spectrum leasing arrangements discussed in this NPRM would involve an unauthorized transfer of control under Section 310(d). Although developed as an application of Section 310(d) requirements, none of the *Intermountain Microwave* factors are statutorily required, nor are we required to apply them in all situations.[111] As noted above, the Commission through the years has developed and applied different criteria to different sets of licenses for purposes of interpreting whether arrangements between licensees and third parties constitute a transfer of control.

75. In the context of the spectrum leasing arrangements discussed in this NPRM, we tentatively conclude that the *Intermountain Microwave* criteria do not provide the appropriate framework for analysis of control under Section 310(d). Even as we have continued to apply the *Intermountain Microwave* test since our original decision in 1963, we have recognized that it was necessary to evaluate the continued viability of the test in light of changing circumstances. In the 1994 proceeding on competitive bidding, for example, the Commission concluded that the *Intermountain Microwave* test remained "sufficiently flexible" to allow licensees to participate in day-to-day management while obtaining services from outside experts as well.[112] Similarly, the *Ellis Thompson* decision noted that the guidelines originally adopted in the context of a "mom-and-pop" microwave system had to be construed in light of the "current realities" of cellular telephony.[113]

76. As we consider the "current realities" of spectrum licensing today, however, we believe that

---

[109] *See Intermountain Microwave*, 12 FCC 2d at 559-60.

[110] *See generally Secondary Markets Public Forum Transcript* at pp. 40-41, 120-23.

[111] The Commission may limit or overturn the *Intermountain Microwave* standard by establishing a rational basis for doing so. *See Telephone and Data Systems*, 19 F.3d at 48-49.

[112] Implementation of Section 309(j) of the Communications Act-Competitive Bidding, PP Docket No. 99-253, *Fifth Memorandum Opinion and Order*, 10 FCC Rcd 403, 451 (¶ 85) (1994) (*Fifth Memorandum Opinion and Order*). *See also CMRS Fourth Report and Order*, 9 FCC Rcd at 7127 (¶ 20) (in 1994, Commission noted that it was continuing to adhere to the six factor *Intermountain Microwave* standard in various services precisely because it provided a "workable" standard in assessing control issues).

[113] *Ellis Thompson*, 10 FCC Rcd at 12555 (¶ 14). The same need for flexibility in interpreting Section 310(d) requirements was recognized when establishing a different set of factors, the *Motorola* factors, for private radio services. *See Motorola* at ¶ 18 (standard for determining *de facto* control under Section 310(d), which differs from the six factor test in *Intermountain Microwave*, was designed to allow "maximum flexibility" for licensees, consistent with the regulatory constraints imposed by the Communications Act, to enable licensees to operate in the "dynamic and developing marketplace").

it is no longer viable to analyze spectrum leasing arrangements through the lens of the *Intermountain Microwave* factors, even if we attempt to apply those factors "flexibly." In most wireless radio services, we now license spectrum very differently than in 1963, when the *Intermountain Microwave* criteria were first developed, or even than in the cellular era of a decade ago. Typically, licensees are now assigned blocks of spectrum over a geographic area, and our technical and service rules afford them substantial flexibility to decide what technology to use, where to build facilities, and what services to provide. In addition, particularly since we have begun auctions-based licensing, the manner in which licensees acquire and use spectrum is driven more by market forces than by technical or other regulatory specifications. As discussed above, we believe that spectrum leasing is an important complement to our flexible, market-based approach to licensing, and that it will provide a significant additional mechanism for promoting efficient spectrum use. In this context, we are concerned that application of the *Intermountain Microwave* criteria to leasing could impede efficient spectrum use, because these criteria focus narrowly on whether the licensee has control of particular operating facilities rather than on the broader issue of whether the licensee engaged in leasing has retained sufficient control over its licensed spectrum to ensure its efficient use and use that comports with our policies and rules. Moreover, the *Intermountain Microwave* criteria fail to take into account the potential contractual provisions, as discussed in this NPRM, that licensees could use to retain control of facilities and spectrum even when they are leasing them to third parties. Therefore, we tentatively conclude that we should not apply the *Intermountain Microwave* factors in the context of spectrum leasing. We seek comment on this tentative conclusion.

77. In our discussion of *Intermountain Microwave* in this NPRM, we neither address, nor propose to limit, the use of the *Intermountain Microwave* standard in contexts other than spectrum leasing as discussed above.[114] For instance, the *Intermountain Microwave* standard is applied when interpreting our spectrum aggregation and cellular cross-ownership rules.[115] These rules deal with "control" issues that are distinct from those in this NPRM. In particular, these rules are concerned with whether entities have a sufficient attributable interest in certain licenses to affect competition, even when such interests do not rise to the level of "control" under our precedent. Similarly, we have relied in part on *Intermountain Microwave* to determine *de facto* control for attribution purposes to determine eligibility for small business status under our competitive bidding rules[116] and eligibility for the PCS C- and F-Blocks.[117] These rules are intended to ensure that small entities are not controlled by larger entities that would not be eligible under our auction rules, and accordingly address concerns that are distinct from the secondary market issues we address here.

78. In lieu of *Intermountain Microwave*, we propose to develop a new standard for the purpose of interpreting Section 310(d) requirements relating to *de facto* control with respect to spectrum leasing

---

[114] Nor does the discussion in this section extend to control issues raised in the context of changes in the ownership of a license or licensee.

[115] *See generally CMRS Fourth Report and Order*, 9 FCC Rcd 7123.

[116] *See Part 1 Fifth Report and Order*; *Fifth Memorandum Opinion and Order*, 10 FCC Rcd 403.

[117] *See* Application of Leap Wireless for Authorization to Construct and Operate 36 Broadband PCS C-Block Operations, *Memorandum Opinion and Order*, 14 FCC Rcd 11827 (1999); *Sixth Report and Order* at ¶¶ 32-33.

arrangements and the licenses affected in this NPRM.[118] We seek to develop a standard that would permit greater flexibility to licensees to enter into spectrum leasing arrangements without the need for prior Commission approval. At the same time, we recognize that the leasing arrangements we propose here must include basic safeguards to prevent an unauthorized transfer of control under Section 310(d).

79. We seek comment on a specific proposal that, at a minimum, includes certain essential rights and obligations that licensees must retain as part of any lease agreement in order to ensure that licensees retain control for Section 310(d) purposes when entering into leasing arrangements. Specifically, we propose that a wireless licensee entering into a leasing arrangement must: (1) retain full responsibility for compliance with the Act and our rules with regard to any use of licensed spectrum by any lessee or sublessee; (2) certify that each spectrum lessee (or sublessee) meets all applicable eligibility requirements and complies with all applicable technical and service rules; (3) retain full authority to take all actions necessary in the event of noncompliance, including the right to suspend or terminate the lessee's operations if such operations do not comply with the Act or Commission rules.[119] We note that these requirements would be consistent with similar requirements that we imposed on Guard Band Managers in the *700 MHz Second Report and Order*.[120] We seek comment on these proposed requirements. Would such criteria be consistent with Section 310(d) requirements that licensees not transfer *de facto* control of their licenses without Commission approval? We also seek comment on the feasibility and benefits of these criteria and whether they would be sufficiently flexible to permit leasing arrangements that would achieve the goals expressed in this NPRM. Should these criteria vary depending on whether the leasing involves capacity leasing or the leasing of the rights to use raw spectrum? Should the criteria vary based on whether the lease is short or long term?

80. We also seek comment on whether holding licensees responsible for their lessees' compliance with the Act and our rules, as described above, is sufficient to ensure that the licensee retains control of the license for purposes of Section 310(d), or whether additional provisions are also needed to ensure that the licensee retains control. We seek comment on whether other standards incorporating such provisions, or taking a different approach, might be appropriate. For example, should we impose "due diligence" requirements on licensees to ensure their lessees' compliance, or require them to obtain certification from their lessees that the lessee is operating in compliance with Commission rules? Should there be other contractual requirements placed on the arrangements between licensees and their lessees to ensure that the licensee retains control for Section 310(d) purposes? To the extent commenters propose a different *de facto* control standard, we request that they discuss the benefits of such a standard, including how it would be consistent with Section 310(d) requirements.

81. To the extent that commenters believe instead that Section 310(d) requires licensees to obtain approval from the Commission in order to enter into some or all of the types of spectrum leasing arrangements proposed in this NPRM, we seek comment on whether the Commission could make a blanket determination that such transfers of control were in the public interest and would be

---

[118] Thus, we are proposing a new standard for the Wireless Radio Services licenses in our spectrum leasing proposal, including private wireless radio services. Accordingly, our new standard would replace the *Motorola* criteria in the context of spectrum leasing arrangements.

[119] The applicable rules and requirements would be those we ultimately determine should apply to spectrum lessees following our consideration of the issues on which we seek comment, above, in Section III.A.2(b).

[120] *See 700 MHz Second Report and Order*, 15 FCC Rcd at 5321-22 (¶¶ 48-51).

automatically granted, so long as the licensees complied with certain minimal requirements, as specified by the Commission. In other words, could the Commission, by policy or rule, determine that if licensees leased spectrum usage rights under the specific conditions set forth in this NPRM, those transfers should be deemed automatically approved because they would satisfy the requirement under Section 310(d) that the Commission find that the transfers are in the public interest? We have issued such blanket determinations in other instances.[121] We seek comment on this approach. As an alternative, we also seek comment on the possibility of using "short form" notification procedures, similar to those used for *pro forma* assignments and transfers of telecommunications licenses, to approve such transfers.[122]

82. Finally, to the extent that commenters believe that Section 310(d) requires licensees to obtain approval from the Commission in order to lease spectrum usage rights, or alternatively that the Commission could not issue a blanket determination automatically approving such agreements, we seek comment on whether forbearance from enforcement of Section 310(d), pursuant to Section 10 of the Act, is permitted and warranted for spectrum in use for those telecommunications services subject to forbearance.[123] Commenters should explain the bases on which the Commission could find, under the three-factor test set forth under Section 10, that forbearance would be appropriate.

B. Increasing Flexibility in Technical Rules

83. In the previous section, we set forth proposals that would facilitate leasing of wireless spectrum usage rights. With respect to our technical rules, we generally proposed to require the spectrum lessee to comply with the same technical rules with which the licensee would comply.[124] In other words, our proposal generally does not seek to revise existing technical rules for any particular service. In this section, we explore and seek comment on whether revisions to certain technical rules might further the development of more fluid secondary markets in the rights to use spectrum.[125]

84. Background. Among the Commission's core responsibilities is that of ensuring avoidance of harmful interference among spectrum users. The Commission's principal means of avoiding harmful

---

[121] *See, e.g.*, In the Matter of Amendment of Part 90 of the Commission's Rules to Eliminate Separate Licensing of End Users of Specialized Mobile Radio Systems, *Report and Order*, 7 FCC Rcd 5558 (¶ 1) (1992) (The Commission eliminated separate end user licensing and allowed end users to operate under the blanket license of the SMR base station licensee rather than holding separate licenses); In the Matter of Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5 – 30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25-25 GHz Frequency Bands for Broadcast Satellite-Service Use, *Report and Order*, FCC 00-212 (rel. June 22, 2000).

[122] *See* In the Matter of Federal Communications Bar Association's Petition for Forbearance from Section 310(d) of the Communications Act Regarding Non-Substantial Assignments of Wireless Licenses and Transfers of Control Involving Telecommunications Carriers, *Memorandum Opinion and Order*, 13 FCC Rcd 6293 (1998).

[123] 47 U.S.C. §160.

[124] *See generally* Section III.A.2(b)(ii), above.

[125] In this particular proceeding, we intend to consider only those proposals directly related to our goal of promoting secondary markets. Proposals of general applicability concerning revisions to technical rules will be addressed in separate proceedings, such as in our biennial review proceedings. *See, e.g., Biennial Review Part 90 Refarming Proceeding.*

interference among spectrum users is through the use of technical rules and requirements, which may apply to both Commission licensees and unlicensed users. We recognize, however, that over time many different types of technical requirements have been developed in various services. To the extent that any of these become outmoded, they may pose artificial and unnecessary barriers to spectrum leasing.

85. In general, we have moved in recent years in the direction of affording licensees greater technical flexibility while still protecting them from harmful interference. As a result of prior experience in the Cellular Service, for example, when we established broadband PCS we licensed the services on a strictly geographic basis, did not mandate a particular transmission protocol, did not require licensees to notify us of every facility, and placed signal strength limits at market boundaries to allow maximum flexibility in coordination along common borders.[126] In the Cellular Service, we eliminated the requirement to notify the Commission of fill-in cell sites.[127]

86. We have also revised our rules in ways that have facilitated the operation of secondary markets. By way of example, in MM Docket No. 97-217, we revised technical rules that permitted greater opportunities for ITFS licensees to lease capacity to commercial operators, thereby giving ITFS licensees more flexibility to achieve their educational objectives.[128] In order to subsidize their educational mission, ITFS entities may lease unused capacity on their licensed spectrum to MDS operators, subject to certain technical limitations and programming requirements.[129] As a result, ITFS and MDS entities typically operate in symbiotic relationships, with commercial MDS operators providing funding to ITFS licensees for their educational mission in exchange for the leasing of extra channel capacity needed to make commercial fixed wireless MDS/ITFS systems viable.[130] In that proceeding, we relaxed a number of technical requirements to allow ITFS and MDS licensees to transform their systems from one-way analog video distribution to the provision of new digital and two-way communications services while maintaining sufficient capacity to develop these advanced service offerings.[131] This transformation was facilitated by a series of technical rule changes that eliminated differences in the technical requirements between these two services and afforded MDS and ITFS licensees additional flexibility of use.[132] These rule changes have made the allowable uses of ITFS and

---

[126] 47 C.F.R. § 24.236.

[127] 47 C.F.R. § 22.165.

[128] *See* Amendment of Parts 1, 21 and 74 To Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions; Request for Declaratory Ruling on the Use of Digital Modulation by Multipoint Distribution Service and Instructional Television Fixed Service Stations, MM Docket No. 97-217, *Report and Order*, 13 FCC Rcd 19112 (1998) (*MDS/ITFS Two-Way Order*).

[129] *See MDS/ITFS Two-Way Order,* 13 FCC Rcd at 19114 (¶4).

[130] *See id.*

[131] *See id.* at 19113 (¶ 1).

[132] For example, prior to the start of this proceeding, the ITFS and MDS technical rules required facilities to operate within fixed 6 MHz-wide bandwidths and to suppress their signals at the edges of the 6 MHz channels to avoid potentially harmful out-of-band emissions. *See id.* at 19119-21 (¶¶ 19-21), 19123-27 (¶¶ 26-32). To permit licensees to engage in more flexible arrangements, we modified the technical rules to afford licensees flexibility to superchannelize and subchannelize their fixed 6 MHz-wide channels to form wider or narrower bandwidth channels. To allow for this, the Commission revised other technical standards, such as (continued....)

MDS spectrum more fungible, allowing MDS and ITFS licensees to trade spectrum usage rights more readily in the secondary markets. System operators may also operate more seamlessly across MDS and ITFS spectrum, paving the way for system upgrades that afford ITFS entities additional capacity. As a result, ITFS entities may enjoy greater opportunities to satisfy their educational needs.[133] These changes significantly enhanced the economic viability of both ITFS and MDS services, while making it possible for ITFS licensees to lease their spectrum usage rights to MDS operators in a two-way environment. Technical rule changes such as these may promote secondary markets by expanding the allowable uses of certain spectrum bands while making spectrum usage rights more fungible.

87. Discussion. We seek comment on whether there are technical requirements in spectrum-based services that unnecessarily deter the operation of secondary markets. As we observe in the *Policy Statement*, essential ingredients of fluid secondary markets include clearly defined technical rights and obligations, and harmonization of operating rules for similar services to promote the fungibility of spectrum usage rights. Where the potential uses of spectrum are fungible, or easily substitutable in a different frequency band or radio service, transactional costs of trading are lower and trading in spectrum rights may be facilitated. Put another way, where blocks of spectrum can be readily defined and grouped in a manner that spectrum users can easily understand, spectrum usage rights becomes more like a commodity and may be readily exchanged in a secondary market. Thus, we request comment on whether there are rules in specific services that might be revised to make spectrum usage rights in various bands more fungible.[134] If so, how might these rules be changed?

88. Consistent with the recent trend toward affording licensees increased flexibility in technical requirements in order to maximize their ability to put spectrum to its highest and most valued use, we request that commenters identify those specific technical rules which may be unnecessarily impeding the development of leasing or other cooperative relationships in existing services. We request comment on how such technical rules might be changed to promote spectrum leasing or other secondary spectrum market mechanisms without causing harmful interference. Commenters should cite to specific rules and provide appropriate technical showings of non-interference in support of any suggested rule revisions.[135]

---

emissions masks, so as only to require attenuation at the edges of the wider superchannels or narrower subchannels (rather than at the fixed channel edge, as had been required under the video-centric regulatory scheme). Thus, MDS and ITFS licensees may now both statically and dynamically select the bandwidths used in their fixed two-way systems in response to market demand. *See id.* at 19124 (¶ 27).

[133] *See* Amendment of Parts 1, 21 and 74 To Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions; Request for Declaratory Ruling on the Use of Digital Modulation by Multipoint Distribution Service and Instructional Television Fixed Service Stations, MM Docket No. 97-217, *Report and Order on Reconsideration*, 14 FCC Rcd 12764, 12766 (¶ 3) (1999).

[134] We observe that making the technical rules in various services or frequency bands more uniform may have an added benefit of leveling the competitive playing field among competing services. Commenters should recognize, however, that we intend to consider in this proceeding only those proposals directly related to the objective of promoting secondary markets in appropriate cases. Proposals of general applicability will be addressed in other separate rulemaking proceedings.

[135] Generally, parties seeking technical rule changes must provide sufficient technical showings that such proposals, if adopted, would not pose unacceptable threat of interference to other spectrum users. *See, e.g.*, Request for Declaratory Ruling on the Use of Digital Modulation by Multipoint Distribution Service and Instructional Television Fixed Service Stations, *Declaratory Ruling and Order*, 11 FCC Rcd 18839 (1996).

C. Increasing Flexibility in Service Rules

89. The spectrum leasing proposal outlined above, while proposing possible clarifications and revisions of service rules in the context of spectrum lessees, generally does not seek to revise existing service rules that apply to particular radio licensees.[136] In this section, we explore and seek comment on whether revisions to certain service rules applicable to licensees might further the development of secondary markets in spectrum usage rights.[137]

90. Background. Existing service rules often restrict the use of licensed frequencies to certain uses.[138] Many of these service rules, including use restrictions, serve important public interests. For example, the Commission adopted band manager licensing in the 700 MHz guard bands because Guard Band Managers were seen as a way to manage and minimize the potential for harmful interference to public safety operations in adjacent spectrum, while enabling parties to acquire spectrum more readily and with a minimum of Commission involvement.[139]

91. We also believe, however, that some service rules may unnecessarily restrict the operation of secondary markets. The Commission has addressed such restrictions in a number of cases, and has relaxed certain service rules to encourage efficient use of spectrum and permit smoother operation of secondary market mechanisms. One example may be found in our adoption of a new regulatory regime that freed MDS and ITFS licensees from offering only essentially multichannel video uses and allowed them to offer more flexible, two-way fixed broadband wireless applications.[140] As explained above, as part of this effort, the Commission has harmonized the technical rules for these two services, making spectrum usage rights in these bands more fungible. One rule change that made these spectrum usage rights more available for secondary market trading was to allow ITFS licensees to "swap" their rights to use particular channels with MDS licensees. In this way, ITFS and MDS licensees may aggregate contiguous bands of spectrum and lease the increased capacity to system operators to better meet their various educational and commercial objectives. In a similar vein, we permit television licensees to lease their vertical blanking intervals and visual signal telecommunications facilities to outside parties for ancillary data transmissions.[141] Similarly, we have just modified use restrictions in the 800 MHz SMR service rules to allow existing 800 MHz SMR licensees to enter into secondary market transactions that, subject to certain conditions, will allow for frequencies classified as Private Land Mobile Radio

---

136 *See generally* Section III.A.2(b)(iii), above.

137 Again, commenters should recognize that in this proceeding we intend to consider only those proposals directly related to our goal of promoting secondary markets. Proposals of general applicability concerning revisions to service rules will be addressed in separate proceedings.

138 *See, e.g.*, 47 C.F.R. § 91.79.

139 *See 700 MHz Second Report and Order*, 15 FCC Rcd at 5311-12 (¶ 26).

140 *See MDS/ITFS Two-Way Order*, 13 FCC Rcd at 19119-21 (¶¶ 19-21) (1998).

141 *See* 47 C.F.R. § 73.646(d). *See also* Digital Data Transmission Within the Video Portion of Television Broadcast Station Transmissions, *Report and Order*, 11 FCC Rcd 7799 (1996); "Commission Approves Microsoft Ancillary Data Transmission System," *News Release*, Report No. MM 96-18 (rel. Oct. 24, 1996).

spectrum to be used in CMRS operations.[142] In this way, licenses in these bands and the associated rights to use spectrum are more readily tradable in secondary markets.

92. Discussion. We seek comment on revisions that should be made to our service rules that could promote the development of secondary markets while also continuing to serve the public interest objectives upon which the service rules are based. We are particularly interested in steps that can be taken to harmonize our service rules so that spectrum usage rights may be an increasingly fungible commodity in secondary markets. These steps may include eliminating unnecessary requirements, reducing the number of service categories, and other changes that will allow spectrum to be put to use in ways that maximize its value. These changes not only enhance secondary markets in the rights to use spectrum, but may also allow existing licensees to introduce innovative and distinct services that may not be permissible under our existing rules.

93. Flexible use – that is, expanding the range of permissible uses within a particular service – may increase efficient use of spectrum in general and enhance the operation of secondary markets in the use of spectrum. The Commission observed in its November 1999 *Spectrum Policy Statement* that:

> Flexible allocations may result in more efficient spectrum markets. Flexibility can be permitted through the use of relaxed service rules, which would allow licensees greater freedom in determining the specific services to be offered. Another way to allow flexibility in use of the spectrum is to allow licensees to negotiate among themselves arrangements for avoiding interference rather than apply mandatory technical rules to control interference. A third possibility is to harmonize the rules for like services. Harmonization provides regulatory neutrality to help establish a level playing field across technologies and thereby foster more effective competition.[143]

The Commission has recognized that public interest considerations may favor flexible use, particularly in regard to new spectrum allocations. We have taken a number of steps to establish or update our rules to provide more flexibility and eliminate unnecessary burdens. For example, in the Cellular Service we now permit digital transmissions and exempt licensees from certain requirements imposed on analog operation, notability the analog compatibility standard.[144] Similarly, when we adopted the Part 24 rules for broadband PCS and the Part 27 rules for Wireless Communications Services, we did not narrowly dictate the types of services to be provided with the spectrum.[145] In the *CMRS Flex Report and Order*, we further clarified that CMRS providers could offer fixed services in addition to mobile services.[146] As we stated in adopting service rules for the 39 GHz service, "[i]t is in the public interest to afford [ ] licensees flexibility in the design of their systems to respond readily to consumer demand for their

---

[142] *See BBA Report and Order* at ¶¶ 109-19.

[143] *Spectrum Reallocation Policy Statement*, 14 FCC Rcd at 19870-71 (¶ 9).

[144] *See* 47 C.F.R. § 22.901.

[145] 47 C.F.R. Parts 24 and 27.

[146] Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Services, WT Docket No. 96-6, *First Report and Order and Further Notice of Proposed Rulemaking*, 11 FCC Rcd 8965 (1996).

services, thus allowing the marketplace to dictate the best uses for this band."[147]

94. The Commission has, however, recognized that increased flexibility may not be appropriate in all instances.[148] In particular, the Commission has observed that "a flexible approach would not be appropriate where a flexible allocation may interfere with important policy goals. ... A highly flexible approach to spectrum usage in all bands might [ ] delay the achievement of important operational goals ... ."[149] Flexible use allocations may also deter investment in communications services and systems, or technology development.[150]

95. We invite comment on specific service rules that might be revised to achieve more fluid secondary markets in spectrum usage rights. We encourage commenters to advance suggestions for changes to our service rules that may promote more flexible and efficient use of licensed spectrum either by licensees or through secondary market mechanisms. Specifically, we seek comment on whether the Commission should in some circumstances modify its various service rules to allow spectrum to be used for services other than that for which it was licensed.[151] Might licensees be permitted to lease the rights to use spectrum to third parties for non-interfering uses not contemplated by the Commission's rules, provided the licensee or lessee obtains appropriate regulatory approvals? Should we promote the fungibility of spectrum use across services in circumstances in which this approach would promote leasing or other secondary market trading? For example, can and should private wireless licensees be allowed to use or lease their spectrum usage rights for commercial use? Finally, should the Commission expand the use of area-wide licenses as a way to increase the scope and flexibility for trading in the secondary market? Commenters should identify specific rules and provide detailed information in support of any suggested rule revisions, and should address the impact of the change in light of the underlying purpose of the existing service rule.

96. In this context, we also seek specific comment on whether we should revise our policies and rules to allow for either license "swaps" or "cross-leasing" of spectrum usage rights by licensees for whom different eligibility or use restrictions apply. For example, should a CMRS carrier operating in the

---

[147] Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, ET Docket No. 95-183, *Report and Order and Second Notice of Proposed Rule Making*, 12 FCC Rcd 18600, 18633-34 (1997). In recent years, we have consistently embraced this pro-competitive principle when allocating spectrum for new services. *See, e.g.*, Rulemaking to Amend Parts 1, 2, 21 and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, CC Docket No. 92-297, *Second Report and Order*, 12 FCC Rcd 12545, 12637-38 (1997); *Part 27 Report and Order*, 12 FCC Rcd 10785; Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, ET Docket No. 94-32, *Report and Order*, 11 FCC Rcd 624, 633 (1995).

[148] *See Spectrum Reallocation Policy Statement*, 14 FCC Rcd at 19871 (¶ 11).

[149] *Id.*

[150] *See* 47 U.S.C. § 303(y)(2).

[151] We do not intend to suggest that users of technologies that currently operate on an unlicensed, non-interference basis would be required to obtain that licensee's consent. *See, e.g.*, In the Matter of Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems, ET Docket No. 98-153, *Notice of Proposed Rulemaking*, FCC 00-163 (rel. May 11, 2000).

800 MHz band and a Business and Industrial/Land Transportation (BI/LT) licensee operating in the 900 MHz band be permitted either to trade their licenses, in whole or in part, or to engage in simultaneous leasing of spectrum usage rights to each other? Should two PCS licensees, one of which is a C- or F-block "entrepreneur" but the other of which is not, be permitted to trade their licenses, in whole or in part, or to engage in simultaneous leasing of spectrum usage rights to each other?[152] If two licensees with attributable spectrum that would otherwise be counted against the CMRS spectrum cap were to cross-lease usage rights to the same amount of spectrum, should the leased spectrum be counted against them in addition to their licensed spectrum? In addition, are there circumstances in which we should forbear, under Section 10 of the Act, from requiring prior Commission approval under Section 310(d) of the Act to consummate a license "swap," such as when the licenses in question are for the same amount of licensed spectrum, same service, and same market area?

97. We also seek comment on whether the Commission might take steps to lower barriers which unnecessarily inhibit the development and introduction of new spectrum-efficient technologies. Currently, parties seeking to introduce more efficient uses into new spectrum bands must often undertake costly and time-consuming efforts to petition the Commission to initiate a rulemaking process. Similarly, licensees and others who propose to launch new technologies that do not comply with existing service or technical rules must seek rule waivers or declaratory rulings in order to achieve their objectives. In some cases, we have encouraged users to negotiate the introduction of alternative uses into licensed bands. This was the case in our recent *24 GHz Report and Order*, in which we adopted service rules for terrestrial fixed service licensees in the 24 GHz band.[153] There the Commission has sought to "encourage negotiations between parties regarding terms and conditions, consistent with our 24 GHz band rules, to allow a satellite operator to provide an uplink earth station service within a licensee's license area (such as through partitioning, disaggregation or a leasing arrangement)."[154] If the Commission were to make clear that licensees have certain rights to introduce non-interfering uses into their licensed bands, licensees would have greater incentives to engage in those uses or enter into leases or other arrangements with proponents of those new technologies. We note that the scope of the licensees' rights to enter into leases for other spectrum uses without Commission approval may be made dependent on such factors as whether the licensee has fulfilled its service rule obligations (such as the build out requirement), the nature of the underlying allocation, and/or the nature of other licensed

---

[152] We note that in WT Docket No. 96-148 the Commission denied Omnipoint's request to permit spectrum swaps on a very limited basis between entrepreneurs and non-entrepreneurs holding broadband Personal Communications Services (PCS) licenses. At that time, the Commission declined to permit such swaps in order to preserve the special provisions afforded PCS entrepreneur-block licensees, and because it found that the administrative burdens associated with tracking the swaps would outweigh the limited benefits to the public described by Omnipoint. *See CMRS Partitioning and Disaggregation Order*, 11 FCC Rcd 21831; Geographic Partitioning and Spectrum Disaggregation by Commercial Mobile Radio Service Licensees, WT Docket No. 96-148, *Memorandum Opinion and Order*, FCC 00-88 (rel. April 13, 2000).

[153] *See* Amendment to Parts 1, 2, 87, and 101 of the Commission's Rules to License Fixed Services at 24 GHz, WT Docket No. 99-237, *Report and Order*, FCC 00-272 (rel. Aug. 1, 2000) (*24 GHz Report and Order*). Terrestrial services and satellite services also share the 39 GHz band, and we have auctioned terrestrial service licenses in that band. *See* Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, *Report and Order and Second Notice of Proposed Rule Making*, 12 FCC Rcd 18600 (1997); "39 GHz Band Auction Closes," *Public Notice*, DA 00-1035 (rel. May 10, 2000).

[154] *24 GHz Report and Order* at ¶ 10. Any such satellite use would be required to satisfy applicable Part 25 licensing requirements. *Id.* at n. 38. *See also 4.9 GHz First Report and Order* at ¶¶ 3, 30.

operations in the band. Such an approach might eliminate unnecessary administrative litigation and cut down on the time currently required to introduce new technologies. We seek comment on this approach.

D. Facilitating Availability of Information on Spectrum

98. Background. Information on spectrum licensing is becoming increasingly accessible through Internet-based technology. We note that the Wireless Telecommunications Bureau's Universal Licensing System (ULS) provides a great deal of licensing information, and we continue to transition existing wireless services to this Web-based electronic database.[155] The International Bureau maintains a comprehensive database of space station, earth station, and other licensing information in its International Bureau Electronic Filing System. Similarly, the Mass Media Bureau has recently inaugurated its Broadband Licensing System, which allows for the electronic filing of MDS and ITFS applications, and the Consolidated Database System, which permits the electronic filing of broadcast radio and television application forms. While these various Internet-accessible databases provide a wealth of data on spectrum licenses and licensees, these data contain limited information on licensees' actual use of spectrum. This is particularly true as the Commission increasingly uses a deregulatory licensing approach and geographic licensing schemes, which together mean that licensees are required to report less information than in the past. Thus, parties cannot necessarily determine from these sources whether spectrum may be available for use on the secondary market.

99. Discussion. We believe that secondary markets in spectrum usage rights will operate more efficiently if adequate information on licensed spectrum that could potentially be available to secondary markets is readily accessible by entities interested in using such spectrum.[156] We also request comment on whether the Commission should have a greater a role in collecting and disseminating such information beyond the activities described above.

100. We tentatively conclude, however, that the private sector is better suited both to determine what types of information parties might demand, and to develop and maintain information on the licensed spectrum that might be available for use by third parties.[157] For example, band manager licensees will have incentives to disseminate this type of information in order to obtain third party spectrum users.[158] We seek comment on how the Commission can encourage the creation of private

---

[155] ULS is the interactive licensing database developed by the Wireless Telecommunications Bureau to consolidate and replace eleven existing licensing systems used to process application and grant licenses in the wireless services. ULS provides numerous benefits, including fast and easy electronic filing via the Internet, improved data accuracy through automated checking of applications, and enhanced electronic access to licensing information via the Internet. *See* <http://www/fcc.gov/wtb/uls>. License applications filed by Part 27 licensees must be filed electronically via ULS. These filings include initial applications, major modifications, construction notifications, transfers and assignments, and renewals.

[156] For an analysis of how the availability of more information promotes efficiency in the context of spectrum auctions, see *All About Auctions*, Federal Communications Commission, Revised Sept. 21, 1999, at 2. A copy may be found at <http://www.fcc.gov/wtb/auctions>.

[157] Both Chairman Kennard and commenters in the secondary markets forum held earlier this year have suggested the potential for a spectrum exchange as a facilitating mechanism. Enron has also drawn parallels between the concept of spectrum exchanges and existing bandwidth exchanges, which are designed to trade unused or "dark" fiber capacity.

[158] *See BBA Report & Order* at ¶ 47.

information clearinghouses on available spectrum. We also seek comment on whether any regulatory barriers exist that may have the unintended effect of hindering private parties from developing such information and contributing to fluid secondary markets in the use of licensed spectrum.

IV. PROCEDURAL MATTERS

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

101. 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. *See generally* 47 C.F.R. §§ 1.1202, 1.1203, and 1.1206.

B. Initial Regulatory Flexibility Analysis

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

C. Initial Paperwork Reduction Act of 1995 Analysis

103. This NPRM seeks comment on a proposed information collection. As part of the Commission's continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget (OMB) to take this opportunity to comment on the information collections contained in this NPRM, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. Public and agency comments are due at the same time as other comments on this NPRM and must have a separate heading designating them as responses to the Initial Paperwork Reduction Analysis (IPRA). OMB comments are due 60 days from date of publication of this NPRM in the Federal Register. Comments should address: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology. In addition to filing comments with the Secretary, a copy of any comments on the information collection(s) contained herein should be submitted to Judy Boley, Federal Communications Commission, Room 1-C804, 445 12th Street, S.W., Washington, D.C. 20554, or via the Internet to <jboley@fcc.gov> and to Edward Springer, OMB Desk Officer, Room 10236 NEOB, 725 17th Street, N.W., Washington, D.C. 20503, or via the Internet to <edward.springer@omb.eop.gov>.

D. Comment Dates

104. Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules,[159] interested parties may file comments on or before [45 days after publication in the Federal Register] and reply comments on or before [30 days after comment date]. Comments and reply comments should be filed in WT Docket No. 00-230. All relevant and timely comments will be considered by the Commission before final action is taken in this proceeding. To file formally in this proceeding, interested parties must file an original and four copies of all comments, reply comments, and supporting comments. If interested parties want each Commissioner to receive a personal copy of their comments, they must file an original plus nine copies. Interested parties should send comments and reply comments to the Office of the Secretary, Federal Communications Commission, Room TW-A325, 445 Twelfth Street, S.W., Washington, D.C. 20554, with a copy to Paul Murray, Commercial Wireless Division, Wireless Telecommunications Bureau, Room 4B-442, 445 Twelfth Street, S.W., Washington, D.C. 20554, and to Donald Johnson, Commercial Wireless Division, Wireless Telecommunications Bureau, Room 4A-332, 445 Twelfth Street, S.W., Washington, D.C. 20554.

105. Comments may also be filed using the Commission's Electronic Comment Filing System (ECFS).[160] Comments filed through the ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet E-Mail. To obtain filing instructions for E-Mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message: "get form <your E-Mail address>." A sample form and directions will be sent in reply.

106. Comments and reply comments will be available for public inspection during regular business hours at the FCC Reference Center, Room CY-A257, at the Federal Communications Commission, 445 Twelfth Street, S.W., Washington, D.C. 20554. Copies of comments and reply comments are available through the Commission's duplicating contractor: International Transcription Service, Inc. (ITS, Inc.), 1231 20th Street, N.W., Washington, D.C. 20037, (202) 857-3800.

V. ORDERING CLAUSES

107. Accordingly, IT IS ORDERED THAT, pursuant to Sections 1, 4(i), 7, 10, 201, 202, 208, 214, 301, 303, 308, 309, and 310 of the Communications Act of 1934, as amended, 47 U.S.C. Sections §§ 151, 154(i), 157, 160, 201, 202, 208, 214, 301, 303, 308, 309, and 310, this Notice of Proposed Rulemaking is hereby ADOPTED.

---

[159] 47 C.F.R. §§ 1.415, 1.419.

[160] *See* Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24,121 (1998).

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

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas

Magalie Roman Salas
Secretary

APPENDIX

INITIAL REGULATORY FLEXIBILITY ANALYSIS

1. As required by the Regulatory Flexibility Act (RFA),[1] the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and proposals in this Notice of Proposed Rulemaking (NPRM), WT Docket No. 00-230. Written public comments are requested on this IRFA. These comments must be filed in accordance with the same filing deadlines for comments on the rest of this NPRM, as set forth in paragraph 104, *supra*, and they must have a separate and distinct heading designating them as responses to IRFA. The Commission's Office of Public Affairs, Reference Operations Division, will send a copy of this NPRM, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with RFA.[2] In addition, the NPRM and IRFA (or summaries thereof) will be published in the Federal Register.[3]

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

2. This rulemaking proceeding outlines a number of approaches that would promote more robust secondary markets in radio spectrum usage rights. First, we propose to promote wider use of leasing of spectrum usage rights throughout our wireless services, particularly our Wireless Radio Services.[4] In so doing, we examine whether Section 310(d) of the Communications Act, as amended (the "Act"), or the Commission's policies and rules, including its application of the *Intermountain Microwave* standard for interpreting *de facto* transfer of control of licenses, may unnecessarily impede the ability of licensees to enter such leasing arrangements. Second, we explore whether additional flexibility in our technical and service rules would further enhance the development of secondary markets. Finally, we request comment on whether, and if so how, the Commission should facilitate the development of secondary markets by making certain information on spectrum available to the public.

---

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

[2] *See* 5 U.S.C. § 603(a).

[3] *Id.*

[4] "Wireless Radio Services" are defined in Section 1.907 of the Commission's rules. *See* 47 C.F.R. § 1.907. They include all radio services authorized in parts 13, 20, 22, 24, 26, 27, 74, 80, 87, 90, 95, 97, and 101 of Chapter 1 of Title 47 of the United States Code, which governs the Federal Communications Commission. *Id.* These services include: Personal Communications Service (PCS); Cellular Radiotelephone Service (Cellular); Public Mobile Services other than cellular (*i.e.*, Paging and Radiotelephone, Rural Radiotelephone, Offshore Radiotelephone, Air-Ground Radiotelephone); Specialized Mobile Radio Service (SMR); Wireless Communications Service (WCS); Local Multipoint Distribution Service (LMDS); Fixed Microwave Service; 700 MHz Service; 700 MHz Guard Band Service; 39 GHz Service; 24 GHz Service; 3650-3700 MHz Service; 218-219 MHz Service; and Private Land Mobile Radio Services (PLMR). However, as indicated below, we do not include in this proposal the radio and television broadcasting services under Part 74 of the Commission's rules. At this time we also are excluding Public Safety Radio, Amateur Radio, Personal Radio, Maritime, and Aviation Services from our proposal because of considerations unique to these particular services.

B. Legal Basis

3. The potential actions on which comment is sought in this NPRM would be authorized under Sections 4(i), 303(r), and 309(j) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r), and 309(j), and Sections 1.411 and 1.412 of the Commission's rules, 47 C.F.R. §§ 1.411 and 1.412.

C. Description and Estimate of the Small Entities Subject to the Rules

4. The RFA requires that an initial regulatory flexibility analysis be prepared for notice-and-comment rulemaking proceedings, unless the Agency certifies that "the rule will not, if promulgated, have a significant impact on a substantial number of small entities."[5] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[6] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[7] 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).[8] A small organization is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."[9] This IRFA describes and estimates the number of small-entity licensees that may be affected if the proposals in this NPRM are adopted.

5. This NPRM could result in rule changes that, if adopted, would create new opportunities and obligations for Wireless Radio Services licensees and other entities that may lease spectrum usage rights from these licensees. To assist the Commission in analyzing the total number of potentially affected small entities, we request commenters to estimate the number of small entities that may be affected by any rule changes resulting from this NPRM.

Wireless Radio Services

6. Many of the potential rules on which comment is sought in this NPRM, if adopted, would affect small licensees of the Wireless Radio Services identified below.

7. **Cellular Licensees**. Neither the Commission nor the SBA has developed a definition of small entities applicable to cellular licensees. Therefore, the applicable definition of small entity is the

---

[5] 5 U.S.C. § 603(b)(3).

[6] *Id.* at § 601(6).

[7] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to the RFA, 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." 5 U.S.C. § 601(3).

[8] Small Business Act, 15 U.S.C. § 632 (1996).

[9] 5 U.S.C. § 601(4).

definition under the SBA rules applicable to radiotelephone (wireless) companies. This provides that a small entity is a radiotelephone company employing no more than 1,500 persons.[10] According to the Bureau of the Census, only twelve radiotelephone firms from a total of 1,178 such firms, which operated during 1992, had 1,000 or more employees.[11] Therefore, even if all twelve of these firms were cellular telephone companies, nearly all cellular carriers were small businesses under the SBA's definition. In addition, we note that there are 1,758 cellular licenses; however, a cellular licensee may own several licenses. In addition, according to the most recent *Telecommunications Industry Revenue* data, 808 carriers reported that they were engaged in the provision of either cellular service or Personal Communications Service (PCS) services, which are placed together in the data. We do not have data specifying the number of these carriers that are not independently owned and operated or have more than 1,500 employees, and thus are unable at this time to estimate with greater precision the number of cellular service carriers that would qualify as small business concerns under the SBA's definition. Consequently, we estimate that there are fewer than 808 small cellular service carriers that may be affected by these proposals, if adopted.

8. **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 definition under the SBA rules applicable to Radiotelephone Communications companies. This definition provides that a small entity is a radiotelephone company employing no more than 1,500 persons.[12] According to the Bureau of the Census, only 12 radiotelephone firms out of a total of 1,178 such firms, which operated during 1992, had 1,000 or more employees.[13] Therefore, if this general ratio continues in 1999 in the context of Phase I 220 MHz licensees, we estimate that nearly all such licensees are small businesses under the SBA's definition.

9. **220 MHz Radio Service – Phase II Licensees.** The Phase II 220 MHz service is a new service, and is subject to spectrum auctions. In the 220 MHz *Third Report and Order*, we adopted criteria for defining small businesses and very small businesses for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[14] We have defined a small business as 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 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.[15] The SBA has approved these

---

[10] 13 C.F.R. § 121.201, SIC code 4812.

[11] *1992 Census, Series UC92-S-1*, at Table 5, SIC code 4812.

[12] 13 C.F.R. § 121.201, Standard Industrial Classification (SIC) code 4812.

[13] *1992 Census, Series UC92-S-1*, at Table 5, SIC code 4812.

[14] *220 MHz Third Report and Order*, 12 FCC Rcd 10943, 11068-70, at ¶¶ 291- 295 (1997).

[15] *220 MHz Third Report and Order*, 12 FCC Rcd at 11068-69, ¶ 291.

definitions.[16] An auction of Phase II licenses commenced on September 15, 1998, and closed on October 22, 1998.[17] Nine hundred and eight (908) licenses were auctioned in 3 different-sized geographic areas: three nationwide licenses, 30 Regional Economic Area Group Licenses, and 875 Economic Area (EA) Licenses. Of the 908 licenses auctioned, 693 were sold. Companies claiming small business status won one of the Nationwide licenses, 67% of the Regional licenses, and 54% of the EA licenses.

10. **700 MHz Guard Band Licensees**. In the *700 MHz Guardband Order*, we adopted criteria for defining small businesses and very small businesses for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[18] We have defined a small business as 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 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. An auction of 176 Economic Area (EA) licenses commenced on September 6, 2000, and closed on September 21, 2000.[19] Of the 104 licenses auctioned, 96 licenses were sold.

11. **Private and Common Carrier Paging.** In the Paging *Third Report and Order*, we adopted criteria for defining small businesses and very small businesses for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[20] We have defined a small business as 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 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.[21] The SBA has approved these definitions.[22] An auction of Metropolitan Economic Area (MEA) licenses commenced on February 24, 2000, and closed on March 2, 2000.[23] Of the 985 licenses auctioned, 440 were sold. 57 companies claiming small business status won. At present, there are approximately 24,000 Private Paging site-

---

16 *See* Letter from A. Alvarez, Administrator, SBA, to D. Phythyon, Chief, Wireless Telecommunications Bureau, FCC (Jan. 6, 1998).

17 *See generally* Public Notice, "220 MHz Service Auction Closes," Report No. WT 98-36 (Wireless Telecom. Bur. Oct. 23, 1998).

18 *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 (20000).

19 *See generally* Public Notice, "220 MHz Service Auction Closes," Report No. WT 98-36 (Wireless Telecom. Bur. Oct. 23, 1998).

20 *220 MHz Third Report and Order*, 12 FCC Rcd 10943, 11068-70, at ¶¶ 291- 295 (1997).

21 *220 MHz Third Report and Order*, 12 FCC Rcd at 11068-69, ¶ 291.

22 *See* Letter from A. Alvarez, Administrator, SBA, to D. Phythyon, Chief, Wireless Telecommunications Bureau, FCC (Jan. 6, 1998).

23 *See generally* Public Notice, "220 MHz Service Auction Closes," Report No. WT 98-36 (Wireless Telecom. Bur. Oct. 23, 1998).

specific licenses and 74,000 Common Carrier Paging licenses. According to the most recent *Telecommunications Industry Revenue* data, 172 carriers reported that they were engaged in the provision of either paging or "other mobile" services, which are placed together in the data.[24] We do not have data specifying the number of these carriers that are not independently owned and operated or have more than 1,500 employees, and thus are unable at this time to estimate with greater precision the number of paging carriers that would qualify as small business concerns under the SBA's definition. Consequently, we estimate that there are fewer than 172 small paging carriers that may be affected by these proposals and policies, if adopted. We estimate that the majority of private and common carrier paging providers would qualify as small entities under the SBA definition.

12. **Mobile Service Carriers.** Neither the Commission nor the SBA has developed a definition of small entities specifically applicable to mobile service carriers, such as paging companies. As noted above in the section concerning paging service carriers, the closest applicable definition under the SBA rules is that for radiotelephone (wireless) companies,[25] and the most recent *Telecommunications Industry Revenue* data shows that 172 carriers reported that they were engaged in the provision of either paging or "other mobile" services.[26] Consequently, we estimate that there are fewer than 172 small mobile service carriers that may be affected by the policies and proposals, if adopted.

13. **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 defined "small entity" for Blocks C and F as an entity that has average gross revenues of less than $40 million in the three previous calendar years.[27] For Block F, an additional classification for "very small business" was added and is defined as an entity that, together with their affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[28] These regulations defining "small entity" in the context of broadband PCS auctions have been approved by the SBA.[29] No small businesses within the SBA-approved definition 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% of the 1,479 licenses for Blocks D, E, and F.[30] On March 23, 1999, the Commission reauctioned 347 C, D, E, and F Block licenses; there were 48 small business winning bidders. Based on this

---

24 *Trends in Telephone Service*, Table 19.3 (February 19, 1999).

25 13 C.F.R. § 121.201, SIC code 4812.

26 *Trends in Telephone Service*, Table 19.3 (February 19, 1999).

27 *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*, FCC 96-278, WT Docket No. 96-59, ¶¶ 57- 60 (rel. Jun. 24, 1996), 61 FR 33859 (Jul. 1, 1996); *see also* 47 C.F.R. § 24.720(b).

28 *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*, FCC 96-278, WT Docket No. 96-59, ¶ 60 (1996), 61 FR 33859 (Jul. 1, 1996).

29 *See, e.g.*, Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, PP Docket No. 93-253, *Fifth Report and Order*, 9 FCC Rcd 5532, 5581-84 (1994).

30 FCC News, *Broadband PCS, D, E and F Block Auction Closes*, No. 71744 (released Jan. 14, 1997).

information, we conclude that the number of small broadband PCS licensees will include the 90 winning C Block bidders and the 93 qualifying bidders in the D, E, and F blocks plus the 48 winning bidders in the re-auction, for a total of 231 small entity PCS providers as defined by the SBA and the Commission's auction rules.

14. **Narrowband PCS.** The Commission has auctioned nationwide and regional licenses for narrowband PCS. There are 11 nationwide and 30 regional licensees for narrowband PCS. The Commission does not have sufficient information to determine whether any of these licensees are small businesses within the SBA-approved definition for radiotelephone companies. At present, there have been no auctions held for the major trading area (MTA) and basic trading area (BTA) narrowband PCS licenses. The Commission anticipates a total of 561 MTA licenses and 2,958 BTA licenses will be awarded by auction. Such auctions have not yet been scheduled, however. Given that nearly all radiotelephone companies have no more than 1,500 employees and that no reliable estimate of the number of prospective MTA and BTA narrowband licensees can be made, we assume, for purposes of this IRFA, that all of the licenses will be awarded to small entities, as that term is defined by the SBA.

15. **Rural Radiotelephone Service.** The Commission has not adopted a definition of small entity specific to the Rural Radiotelephone Service.[31] A significant subset of the Rural Radiotelephone Service is the Basic Exchange Telephone Radio Systems (BETRS).[32] We will use the SBA's definition applicable to radiotelephone companies, *i.e.*, an entity employing no more than 1,500 persons.[33] There are approximately 1,000 licensees in the Rural Radiotelephone Service, and we estimate that almost all of them qualify as small entities under the SBA's definition.

16. **Air-Ground Radiotelephone Service.** The Commission has not adopted a definition of small entity specific to the Air-Ground Radiotelephone Service.[34] Accordingly, we will use the SBA's definition applicable to radiotelephone companies, *i.e.*, an entity employing no more than 1,500 persons.[35] There are approximately 100 licensees in the Air-Ground Radiotelephone Service, and we estimate that almost all of them qualify as small under the SBA definition.

17. **Specialized Mobile Radio (SMR).** Pursuant to 47 C.F.R. § 90.814(b)(1), the Commission has defined "small business" for purposes of auctioning 900 MHz SMR licenses, 800 MHz SMR licenses for the upper 200 channels, and 800 MHz SMR licenses for the lower 230 channels on the 800 MHz band as a firm that has had average annual gross revenues of $15 million or less in the three preceding calendar years. The SBA has approved this small business size standard for the 800 MHz and 900 MHz auctions. Sixty winning bidders for geographic area licenses in the 900 MHz SMR band qualified as small businesses under the $15 million size standard. The auction of the 525 800 MHz SMR geographic area licenses for the upper 200 channels began on October 28, 1997, and was completed on December 8,

---

31 The service is defined in § 22.99 of the Commission's Rules, 47 C.F.R. § 22.99.

32 BETRS is defined in §§ 22.757 and 22.759 of the Commission's Rules, 47 C.F.R. §§22.757, 22.759.

33 13 C.F.R. § 121.201, SIC code 4812.

34 The service is defined in § 22.99 of the Commission's Rules, 47 C.F.R. § 22.99.

35 13 C.F.R. 121.201, SIC code 4812.

1997. Ten (10) winning bidders for geographic area licenses for the upper 200 channels in the 800 MHz SMR band qualified as small businesses under the $15 million size standard.

18. The auction of the 1,030 800 MHz SMR geographic area licenses for the General Category channels began on August 16, 2000, and was completed on September 1, 2000. Eleven (11) winning bidders for geographic area licenses for the General Category channels in the 800 MHz SMR band qualified as small businesses under the $15 million size standard. The Commission anticipates that a total of 2,823 EA licenses will be auctioned in the lower 80 channels of the 800 MHz SMR service. Therefore, we conclude that the number of 800 MHz SMR geographic area licensees for the lower 80 channels that may ultimately be affected by these proposals could be as many as 2,823. In addition, there are numerous incumbent site-by-site SMR licensees on the 800 and 900 MHz band. The Commission awards bidding credits in auctions for geographic area 800 MHz and 900 MHz SMR licenses to firms that had revenues of no more than $15 million in each of the three previous calendar years.[36]

19. **Private Land Mobile Radio (PLMR).** PLMR systems serve an essential role in a range of industrial, business, land transportation, and public safety activities. Companies of all sizes operating in all U.S. business categories use these radios. The Commission has not developed a definition of small entity specifically applicable to PLMR licensees due to the vast array of PLMR users. For the purpose of determining whether a licensee is a small business as defined by the SBA, each licensee would need to be evaluated within its own business area.

20. The Commission is unable at this time to estimate the number of small businesses, which could be impacted by these policies and proposals. However, the Commission's 1994 Annual Report on PLMRs[37] 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 policies and proposals in this context could potentially impact every small business in the United States.

21. **Fixed Microwave Services.** Microwave services include common carrier[38] and private-operational fixed services.[39] At present, 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 IRFA, we will utilize the SBA's definition applicable to radiotelephone companies – *i.e.*, an entity with no more than 1,500 persons.[40] We estimate, for this purpose, that all of

---

36 47 C.F.R. § 90.814(b)(1).

37 Federal Communications Commission, *60th Annual Report, Fiscal Year 1994*, at 116.

38 47 C.F.R. §§ 101 *et seq.* (formerly, part 21 of the Commission's Rules).

39 Persons eligible under part 101 of the Commission's rules can use Private Operational-Fixed Microwave services. *See* 47 C.F.R. § 101 *et seq.* 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.

40 13 C.F.R. § 121.201, SIC 4812.

these Fixed Microwave licensees (excluding broadcast auxiliary licensees) would qualify as small entities under the SBA definition for radiotelephone companies.

22. **Offshore Radiotelephone Service.** This service operates on several UHF TV broadcast channels that are not used for TV broadcasting in the coastal area of the states bordering the Gulf of Mexico.[41] At present, there are approximately 55 licensees in this service. We are unable at this time to estimate the number of licensees that would qualify as small under the SBA's definition for radiotelephone communications.

23. **Local Multipoint Distribution Service**. The auction of the 1,030 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.[42] An additional classification for "very small business" was added and is defined as an entity that, together with their affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[43] These regulations defining "small entity"' in the context of LMDS auctions have been approved by the SBA. 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 reauctioned 161 licenses; there were 40 winning bidders. Based on this information, we conclude that the number of small LMDS licensees will include the 93 winning bidders in the first auction and the 40 winning bidders in the re-auction, for a total of 133 small entity LMDS providers as defined by the SBA and the Commission's auction rules.

24. **39 GHz Service**. The auction of the 2,173 39 GHz licenses began on April 12, 2000 and closed on May 8, 2000. The Commission defined "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.[44] An additional classification for "very small business" was added and is defined as an entity that, together with their affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[45] These regulations defining "small entity"' in the context of 39 GHz auctions have been approved by the SBA.

25. **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. The Commission auctioned geographic

---

41 This service is governed by subpart I of part 22 of the Commission's Rules. *See* 47 C.F.R. §§ 22.1001-22.1037.

42 *See* Local Multipoint Distribution Service, *Second Report and Order*, 12 FCC Rcd 12545, (1997).

43 *Id.*

44 *See* In the Matter of 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).

45 *Id.*

area licenses in the WCS service. In the auction, there were seven winning bidders that qualified as very small business entities, and one that qualified as a small business entity. We conclude that the number of geographic area WCS licensees affected is eight entities.

International Services

26. **International Broadcast Stations**. Commission records show that there are 20 international broadcast station licensees. We do not request or collect annual revenue information for these licenses, and thus are unable to estimate the number of international broadcast licensees that would constitute a small business under the SBA definition.

27. **International Public Fixed Radio (Public and Control Stations)**. There are 3 licensees in this service. We do not request or collect annual revenue information for these licenses, and thus are unable to estimate the number of international broadcast licensees that would constitute a small business under the SBA definition.

28. **Fixed Satellite Transmit/Receive Earth Stations.** There are approximately 2,679 earth station authorizations, a portion of which are Fixed Satellite Transmit/Receive Earth Stations. We do not request or collect annual revenue information for these licenses, and thus are unable to estimate the number of the earth stations that would constitute a small business under the SBA definition.

29. **Fixed Satellite Small Transmit/Receive Earth Stations.** There are approximately 2,679 earth station authorizations, a portion of which are Fixed Satellite Small Transmit/Receive Earth Stations. We do not request or collect annual revenue information for these licenses, and thus are unable to estimate the number of fixed satellite transmit/receive earth stations that would constitute a small business under the SBA definition.

30. **Fixed Satellite Very Small Aperture Terminal (VSAT) Systems**. These stations operate on a primary basis, and frequency coordination with terrestrial microwave systems is not required. Thus, a single "blanket' application may be filed for a specified number of small antennas and one or more hub stations. The Commission has processed 377 applications. We do not request or collect annual revenue information for these licenses, and thus are unable to estimate the number of VSAT systems that would constitute a small business under the SBA definition.

31. **Mobile Satellite Earth Stations.** There are 11 licensees. We do not request or collect annual revenue information for these licenses, and thus are unable to estimate the number of mobile satellite earth stations that would constitute a small business under the SBA definition.

32. **Radio Determination Satellite Earth Stations.** There are four licensees. We do not request or collect annual revenue information for these licenses, and thus are unable to estimate the number of radio determination satellite earth stations that would constitute a small business under the SBA definition.

33. **Space Stations (Geostationary).** Commission records reveal that there are 64 Geostationary Space Station licensees. We do not request or collect annual revenue information for these licenses, and thus are unable to estimate the number of geostationary space stations that would constitute a small business under the SBA definition.

34. **Space Stations (Non-Geostationary).** There are 12 Non-Geostationary Space Station licensees, of which only three systems are operational. We do not request or collect annual revenue information for these licenses, and thus are unable to estimate the number of non-geostationary space stations that would constitute a small business under the SBA definition.

35. **Direct Broadcast Satellites.** Because DBS provides subscription services, DBS falls within the SBA-recognized definition of "Cable and Other Pay Television Services."[46] This definition provides that a small entity is one with $11.0 million or less in annual receipts.[47] As of December 1996, there were eight DBS licensees. However, the Commission does not collect annual revenue data for DBS and, therefore, is unable to ascertain the number of small DBS licensees that would be impacted by these policies and proposals. Although DBS service requires a great investment of capital for operation, there are several new entrants in this field that may not yet have generated $11 million in annual receipts, and therefore may be categorized as small businesses, if independently owned and operated.

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

36. With certain exceptions, the polices and proposals in this NPRM could apply to all Commission licensees holding licenses under Title III of the Communications Act or which engage in spectrum leasing on their authorized systems. This NPRM proposes to require licensees and lessees engaging in spectrum leasing to comply with the Commission's rules and policies, including, but not limited to, regulatory fees, universal service fund, and reporting requirements. Licensees and lessees would ordinarily comply with these requirements as part of their normal business practices. This NPRM also seeks comment on potential reporting, recordkeeping and compliance requirements for spectrum lessors and lessees including: (1) retention of lease agreements; (2) reporting of spectrum leasing terms to the Commission; (3) licensee and lessee compliance with the Commission's technical and service rules; (4) licensee filings with the Commission on behalf of the lessee; (5) licensee verification of lessee compliance with FCC rules; (6) licensee supervision of a lessee's adherence to the Commission's rules and policies; and (7) the leasing of spectrum by entities designated as "small business" or "very small business" under the Commission's rules. Licensees and lessees may retain or hire outside professionals (*e.g.*, legal and engineering staff) to draft lease agreements, provide consulting service, maintain records, and comply with applicable Commission rules. They also may choose employees to be responsible for reporting, recordkeeping and other compliance requirements.

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

37. 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: (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.

---

46 13 C.F.R. § 120.121, SIC code 4841.

47 13 C.F.R. § 121.201, SIC code 4841.

38. This NPRM proposes to reduce regulatory burdens on Commission licensees (including small-business) that may wish to lease their spectrum to third parties. It also creates economic opportunities for third parties (including small businesses) that may wish to lease spectrum usage rights from certain licensees. In particular, it would provide licensees, including small-business licensees, flexibility to subdivide and apportion the spectrum and lease the spectrum usage rights to various third party users – in any geographic or service area, in any quantity of frequency, and for any period of time during the term of their licenses – without having to secure prior Commission approval. In addition, many different types of spectrum users (including small businesses) would be permitted to satisfy their spectrum needs without having to acquire a license or go through the Commission's procedures for assigning or transferring control of a license or a partial license through partitioning, disaggregation, or partial assignment. By reducing the transactional costs for users, including small businesses, spectrum leasing could facilitate more intensive and efficient use of spectrum in both underserved areas and more congested areas.

39. A key issue in this proceeding concerns how the Commission can ensure that licensees and lessees comply with the Communications Act and the Commission's rules. As explained below, we are considering a number of alternative approaches to achieve this goal. We consider these different alternatives partly because we seek to minimize, to the extent possible, the economic impact of these potential requirements on small businesses.

40. A core feature of this proposal is that licensees (including small-business licensees) will retain ultimate responsibility for ensuring that spectrum lessees comply with the Communications Act and the Commission's rules. We therefore solicit comment on whether we should impose additional requirements on the licensee to ensure that each lessee complies with the Commission's rules. These requirements could include having the licensee require that the lessee certify that it complies with all rules, and requiring the licensee to verify that the lessee is complying with all rules.

41. In addition, we seek comment on whether there are circumstances in which we should hold lessees (which would include small businesses) responsible for non-compliance with the Communications Act or the Commission's rules in addition to, or instead of, the licensee.

42. We also solicit comment on whether to require all spectrum leasing agreements to include certain contractual provisions, which would define the minimum basic rights, obligations, and responsibilities of the licensee and lessee. We also seek comment on whether to require licensees and lessees to keep copies of spectrum leasing agreements and keep them current and available upon request for the inspection by the Commission.

43. The Commission's unjust enrichment rules require that licensees that received bidding credits or participated in installment plans, which are often small entities, reimburse the U.S. Treasury if they assign or transfer all or part of the licenses to an entity that would not meet the eligibility standards for similar bidding credits.[48] In this NPRM, we inquire whether licensees that received bidding credits or participates in installment plans should reimburse the U.S. Treasury if they lease spectrum usage rights to entities that would not meet the eligibility standards for similar bidding credits.

[48] 47 C.F.R. § 1.2110.

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

44. None.

SEPARATE STATEMENT OF COMMISSIONER SUSAN NESS

Re: *Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets (adopted November 9, 2000)*

The United States has long been the vanguard for developing new approaches to spectrum policy and management. Today, we launch another vehicle to increase the efficiency with which spectrum – a scarce national resource – is deployed in this country. Previously, we have led the way globally to encourage the adoption of flexible wireless allocations and competitive bidding for license assignment. We have promoted the development of new technologies, such as software defined radio, that will facilitate more efficient, less costly, and less regulated access to spectrum. I am pleased that we are initiating a policy to foster secondary markets for spectrum – another effort to increase the opportunity for the public to have access to new services made possible by more efficient use of the spectrum.

The viability of a secondary market for spectrum will depend upon three crucial elements: (1) whether the Commission in future proceedings can establish the appropriate legal framework; (2) whether industry can produce equipment that takes advantage of this flexibility without causing undue interference; and (3) whether the market can develop a mechanism for identifying and distributing available spectrum. I look forward to working with all parties to accomplish these goals.

SEPARATE STATEMENT OF COMMISSIONER HAROLD W. FURCHTGOTT-ROTH

Re: Principles for Encouraging the Development of Secondary Markets for Spectrum, Policy Statement (rel. November 27, 2000); Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, WT Docket No. 00-230 (rel. November 27, 2000).

Markets and government regulation are not complete strangers. Mutual contempt has bred an all too asymmetric familiarity. Regulations change, and markets, by necessity, adapt instantaneously. The converse, however, is not true.

It is difficult to find a market in which all applicable regulations have not been reflected; their effects on the market—for good or ill— are implicitly counted. By contrast, it is rare to find a regulation that directly and reasonably accounts for its effects in one market, much less all markets. Thus, even a casual observer should pause when a government agency writes a regulation with the word "market" in its title. What is at work here? A regulation based on familiarity with markets, or—all too familiarly—a regulation based on contempt for markets?

I am happy to report that the items today reflect more the former than the latter, and for this, the Office of Engineering Technology and Dale Hatfield along with Tom Sugrue and his Wireless Telecommunications Bureau deserve enormous credit. Indeed, these items are conceived from the all too obvious—and all too often ignored—observation that markets for spectrum rights are not working well. Buyers complain. Sellers complain. And the common refrain is that FCC rules are costly, cumbersome, and do more harm than good for spectrum markets. Even with the progress made by these items, much more needs to be done. These are but the first infant steps when giant steps are ultimately needed, particularly to remove the shadow of regulatory uncertainty from spectrum markets.

Clarifying lease arrangements

The items today do much to clarify Commission rules and policy regarding leasing arrangements for spectrum rights, and this newfound clarity and certainty will reduce one significant area of regulatory uncertainty. There remain some issues surrounding rental or leasing arrangements that are unresolved by today's items, but surely the additional clarity in Commission policy is a positive step.

Some may observe that secondary markets for spectrum are alive and thriving. Indeed, every year the FCC processes thousands of license transfers, the consummation of secondary markets for spectrum rights. In many if not most instances, these licenses are transferred from one party to another in exchange for some form of consideration as a result of a contract. Yet, the mere existence of a secondary market for spectrum rights does not imply that the market functions particularly well. Complaints about the license transfer process at the FCC are legion. As I have often noted, the license transfer process at the FCC is seriously flawed with delays, discriminatory treatment of applicants, unwritten rules, and other problems.[1] The unpredictable, dysfunctional, and possibly unlawful license transfer process at the FCC burdens secondary markets for spectrum rights. The process discourages some potential market participants, and leaves many participants disenchanted.

---

1 *See, e.g.*, Statement of Commissioner Furchtgott-Roth, Concurring in Part & Dissenting in Part, *Applications of Ameritech Corp., Transferor, and SBC Communications, Inc., Transferee, For Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95, and 101 of the Commission's Rules*, CC Docket 98-141 (rel. Oct. 6, 1999).

Even if the FCC were to move to timely, nondiscriminatory, transparent, carefully crafted, fully lawful rules for license transfers, secondary markets for spectrum rights would still not be as vibrant as they could be. This is because Commission policies in many areas militate against transactions for spectrum.

Despite all of the good that comes from today's items, they do not, in my view, go nearly far enough. Markets for spectrum rights labor under a multitude of regulations, only a few of which are meaningfully reviewed or addressed, in these items. In the remainder of this statement, I describe broad areas where markets for spectrum rights are hampered.

What makes a market

Markets are simply means by which buyers and sellers exchange for mutual benefit goods, services, or bundles of rights. Markets facilitate exchanges in all societies, both primitive and modern. In primitive societies, many transactions may be based on barter exchange at one point in time. In modern times, transactions can be quite subtle and complex involving complicated contractual arrangements that occur over long periods of time. All market transactions, both simple and complex, have many rules—either explicit or implicit, and these can be summarized in three broad categories:

1. *Property or exclusivity rights*. The parties to a transaction should agree on what is being exchanged. In a simple transaction involving simple property, this might mean a good or service without much description or qualification of the rights associated with the good or service. But for many goods and services, the precision with which associated rights are defined determines the value of the good or service. One example of the importance of associated rights is spectrum. The extent to which excludability or property rights are defined and associated with a spectrum license determines the value of the license.

Much like land or many other forms of property, the right to exclude others from the use of spectrum is important to the value of spectrum. The use of spectrum with most current technologies is congestible. Different, uncoordinated uses of spectrum in the same band and location are likely to conflict and interfere with one another. The value of access to spectrum is directly related to the exclusivity rights of that spectrum, both for current and future use. On the other hand, limitations on the uses to which property may be used diminish the value of the property, including spectrum. Under FCC rules, there are limitations on the uses of practically all spectrum licenses.

2. *Contract or transaction rights*. When a good or service is bought or sold, the rights of the buyer to transfer the good or service to a third party may be restricted. To the extent there are restrictions, however, those are usually agreed upon at the time of the transaction. For FCC licensees, except for those limited leasing arrangements described in today's items, these transactions must be approved by the Commission.

3. *Enforcement and liability rules*. In most sophisticated contracts, the means to enforce the contract and the liability rules for failure to perform under the contract are explicitly stated. For FCC license transfers, enforcement and liability rules between private parties are difficult to write and to implement because the FCC is an intermediary in all transactions.

Uncertainty and markets

Demand and supply conditions in a market determine prices, and perturbations in demand and supply conditions lead to corresponding changes in prices. Even market participants with complete information on their current and future excludability rights, contract rights, enforcement rights, liability rules, and the other bundles of rights associated with goods or services in a market understand that prices are not constant forever. Buyers and sellers make transactions with expectations that prices will change, although perhaps not with shared expectations of price movements. At least in competitive markets, neither

buyers nor sellers believe that any market participant has the power individually to influence market conditions. Future market volatility as the result of changing demand and supply conditions is assumed to be an unpredictable exogenous event. This volatility in a competitive market where buyers and sellers have complete information on their current and future bundle of rights reflects the common usage of "market uncertainty."

For this common usage of "market uncertainty," firms will be more or less inclined to participate in a market depending on the firm's degree of risk aversion specifically to market uncertainty. Some firms like more risk; others like less. Some firms can insure against risks in one market with offsetting risks in another market while others cannot. Market uncertainty affects transactions and the distribution of assets in a market, but those outcomes are rationally assumed to be competitively neutral, not favoring one class of firms over another, except perhaps those that can—or those that believe they can—better insure against market risks than others. In any event, government agencies can do nothing to remove this form of market uncertainty.

There is a different form of uncertainty in markets that is independent of the market uncertainty of changing demand and supply conditions. This uncertainty is regulatory uncertainty, or incomplete information about future regulatory outcomes. There are many possible categories of regulatory uncertainty, but the three categories for transactional rules -- property, contract, and liability -- are convenient. Where market participants are unsure about current and future property rules, contract rules, and liability rules, not only will asset values fall but participants will be discouraged from transactions.

If the future outcomes of property rules, contract rules, and liability rules are believed to be random events, uninfluenced by any market participants, it is conceivable that regulatory uncertainty can be consistent with a competitive market. In practice, however, regulatory rules are the product of regulators who participate in spectrum markets often as sellers of spectrum, and always as intermediaries for all license transfers. Where sellers and intermediaries have the power to change regulatory rules, the competitive paradigm for regulatory uncertainty vanishes. Moreover, many other market participants actively lobby regulators, obviously in the belief that regulators can be persuaded one way or another. Again, where regulatory rules are influenced by market participants, regulatory uncertainty is inconsistent with the competitive paradigm.

As with market uncertainty, regulatory uncertainty affects the distribution of assets in a market. Many firms may simply avoid markets with substantial regulatory uncertainty. Unlike market uncertainty, it is difficult to insure against regulatory risk in one market with offsetting risk in another market. While some firms may believe they have the power to influence regulators, and therefore they may broaden their portfolio of assets subject to regulatory risks, other firms may view a portfolio of such assets as non-diversifiable risk.

FCC actions increase regulatory risk

The FCC has taken many actions that increase regulatory risk particularly by changing the property, contract, and liability rules that apply to licensees. These include consideration of and adoption of rules that limit the rights of licensees to exclude others from using or interfering with licensed spectrum. Examples include consideration of sharing of spectrum for DBS licensees, changing interference protection for FM radio broadcasters, absence of protection for WCS licensees, and forced relocation for certain licensees.

Although there are perhaps more examples of the FCC relaxing use restrictions, there are some examples where the Commission has considered and adopted more restrictive limitations on spectrum use. Examples include new public interest requirements on broadcasters.

Commission practice regarding license transfer transactions are also ever changing. (Formal rules

rarely change because there are few formal written rules on license transfers.) Outside parties simply do not know how license transfers, whether simple or complex, will be treated at the agency.

Finally, liability rules for interference change. Most licensees are assigned a license that is defined by geographic location, a spectral band, power limits, and other restrictions. While licenses sometimes delineate explicit protection from a small number of identifiable sources of interference, the FCC rarely makes explicit the interference protections to be afforded licensees from all other potential sources of interference. When legal but creeping interference increases in a band, liability rules implicitly are relaxed. When interference standards for broadcasters change or underlying noise levels for ultrawideband technology are modified, so too do associated liability rules and their enforcement.

Erosion of these property, contract, and liability rules ultimately increase regulatory risk, diminish the value of spectrum licenses, and discourage participation in spectrum markets. These adverse regulatory effects develop independent of the steps we take today to provide greater clarity for leasing of spectrum rights by licensees.

Frustration of parties with the FCC

Every business day, the FCC hears entreaties from many private parties concerning spectrum. Some want to acquire bundles of rights to spectrum. Some want to sell various rights associated with spectrum. Others want to facilitate (or to interfere with) the transfer of a spectrum license from one party to another. In the ordinary course of business for other commodities, buyers and sellers meet in markets, markets that may develop anywhere in America. For spectrum, all markets pass through the FCC in Washington.

Market transactions typically occur when all parties to the transaction are at least as well off as a result of the transaction. Buyers and sellers come to the FCC not because we make transactions less complex or more certain; they come here because, by law, they must. Buyers and sellers have some divergent interests, but, after their experiences at the FCC, all parties repeat common themes: (1) impatience with our process in which delays are the norm; (2) puzzlement at our complex rules and the unknown range of possible outcomes; (3) fear of the unknown likelihood of each unknown result; and (4) frustration at the absence of effective remedies for outcomes they perceive as unfavorable.

While the Commission today calls for a more active secondary spectrum market, it largely misses an opportunity to define the property, contract, and liability rights associated with a spectrum license. Absent a clear definition of the rights of its licensees, secondary markets cannot reach their full potential. Regulatory uncertainty is rampant at the FCC as evident by the types of questions regulated entities pose: What are the range of possible rights associated with a spectrum license? What is the likelihood associated with each outcome? Will the Commission change those rights unilaterally? What protections do licensees have from interference? What certainty do licensees have that the Commission will not seek to relocate them or ask them to share with other potentially interfering users? What remedies do licensees have for bad outcomes? How long will FCC proceedings last? The answer to each question seems to vary by proceeding.

Even more troubling is the Commission's reluctance to answer these questions at all. For example, there is reluctance to explain why we contemplate sharing arrangements in some bands of spectrum and not in others. Similarly, we refrain from defining interference protections because we want the "discretion" to alter those rules later on. Yet to the extent the Commission wants to continue to change, eliminate, or overrule its decisions about the scope of licensees' rights, the Commission must accept as a consequence of increased regulatory uncertainty that secondary markets will not flourish. Few want to buy something that cannot be defined. Licensees can only sell what they have – yet the

FCC is reluctant to define exactly what "spectrum usage rights" these licensees have.

A Pig in a Poke

Much wisdom rests in an old country saying: "Don't buy a pig in a poke." Narrowly, the expression admonishes a potential buyer to have responsibility for diligence before purchasing a good or service. More broadly, the expression means that a person should not blindly enter into situations without having some knowledge of the possible outcomes, the likelihood of those outcomes, and any remedies that might be available for bad outcomes. Where the range of possible outcomes is unknown, the likelihood associated with any outcome is unknowable, and remedies for bad outcomes are unavailable, individuals should be wary.

One can look around America, in urban canyons and in country fairs, and still not find a market for a "pig in a poke." It is not for the difficulty of supply; while difficult, putting a pig in a bag is not impossible. There is no market because no one wants to buy one, and it is consumer demand—not the ease of supply—that creates a market.

Few markets have products where the range of possible outcomes is unknown, the likelihood associated with any outcome is unknowable, and remedies for bad outcomes are unavailable. If there is such a pig-in-the-poke market, it is generally the market—and more particularly the secondary market--for spectrum rights and all of the regulatory uncertainty associated with it.

The Commission's consensus goal of a vigorous secondary spectrum market will only be achieved if we are prepared to answer the difficult questions associated with clearly defining exactly what rights a spectrum license creates. The process will be difficult, but the resulting benefits make it our necessary course. Ultimately only through free market evolution will spectrum-based services ever keep pace with consumer demand and technological change. Thus defining spectrum usage rights is a challenge that we have no choice but to accept.

STATEMENT OF COMMISSIONER GLORIA TRISTANI

Re: Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets; Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets (adopted November 9, 2000)

I support our action here to examine whether we can facilitate more efficient use of commercial and private wireless licensed spectrum by encouraging a secondary market in spectrum usage. I write separately, however, to dissent on the scope of our discussion in the *Policy Statement* and to highlight my keen interest in encouraging comments on certain issues raised in the Notice of Proposed Rulemaking (NPRM).

As an initial matter, the *Policy Statement* alludes to future consideration of secondary markets in spectrum dedicated to broadcast licenses, and I believe the item should have focused exclusively on spectrum used for commercial and private wireless services. Our action here stems in large part from last May's *Secondary Markets Public Forum*, which did not include any panelists from the broadcast industry or the public interest community and focused on commercial and private wireless spectrum. Any discussion of spectrum licensed for broadcast use must include the principles of localism and diversity. While the *Policy Statement* acknowledges public interest "considerations" in the broadcast context, the values of localism and diversity are at the core of broadcasters' public interest obligations and should not be subordinate to spectrum efficiency. These issues were not raised at the *Public Forum*, and the *Policy Statement* merely asserts that the Commission will accord such values "adequate weight in pursuing a secondary markets policy." I believe that we must engage with the broadcast industry and the public interest community before we hint at embarking on a secondary market campaign in the broadcast arena, and we must reflect on the importance of these values in any debate. I cannot support such discussion when we have not.

Nonetheless, I support the essence of these items as they explore how this agency can take steps to foster increased use of spectrum licensed for commercial and private wireless services, consistent with the Communications Act and sound public policy. It goes without saying that spectrum is an increasingly valuable public resource, and that spectrum management is a core function of this agency. In exercising this responsibility, exploring ways to encourage more intense use of this limited public resource serves the public interest. Secondary market transactions may be one opportunity to do just that.

A vision of secondary market transactions, however, raises several legal and policy issues. With regard to the NPRM, I intend to look closely at the comments regarding our obligation to review radio spectrum license transfers under section 310(d) of the Act. We are aware that some leasing arrangements are scuttled by regulatory uncertainty and others by the transactions cost of license transfer proceedings. Leasing arrangements without Commission approval, we are told, would tap the secondary market. To that end, what is the nature of our statutory obligation to review radio license transfers of control? How should we define control under section 310(d) for purposes of commercial and private wireless licenses? Are there considerations beyond ultimate responsibility for compliance with our rules that we must consider in the context of spectrum use and control of a license? I encourage interested parties to examine these issues thoroughly. We cannot ignore the obligations of the Act in the name of secondary markets.

The NPRM also seeks comment on the extent to which existing service rules applicable to licensees should extend to spectrum lessees. I believe the wisest course in this uncharted territory is to move deliberately, lest we find ourselves advancing secondary markets at the expense of the underlying purposes of our rules. More to the point, I am concerned that relaxation of our service rules, under the guise of furthering secondary markets, could invite opportunities to circumvent enforcement of our

licensing responsibilities and public interest requirements. I am inclined to support a starting point where the lessee "stands in the shoes" of the licensee, agreeing to all interference and service rules that attach to the licensee. Certainly, there are circumstances that warrant relief from the service rules, and I encourage commenters to explore where we should grant such relief.

Ultimately, my goal is to find a balance that will foster secondary markets without undermining our obligations under the Communications Act or our policies to promote the public interest. I hope that this *Policy Statement* and the NPRM offer tangible steps, and I look forward to reviewing the record.