

FCC MAIL SECTION

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

DISPATCHED BY

In the Matter of)
)
 Service Rules for the 746-764 and)
 776-794 MHz Bands, and) WT Docket No. 99-168
 Revisions to Part 27 of the)
 Commission's Rules)
)
)
)

FIRST REPORT AND ORDER

Adopted: January 6, 2000

Released: January 7, 2000

By the Commission: Commissioner Ness issuing a separate statement; Commissioner Furchtgott-Roth approving in part and dissenting in part and issuing a separate statement.

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I. INTRODUCTION AND EXECUTIVE SUMMARY

1. By this Report and Order we adopt service rules for licensing the commercial use of the 746-764 MHz and 776-794 MHz bands—bands that have been reallocated, by Congressional direction, from their previous use solely for the broadcasting service.¹ The service rules adopted today govern the predominant portion of these bands—thirty of the thirty-six megahertz reallocated for commercial use. A subsequent Report and Order will adopt service rules, including licensing, technical, and operational rules, for the remaining six megahertz.² We believe that, under these rules, these bands can be used to provide a wide range of advanced wireless services. The revised spectrum allocation, which enabled the provision of Fixed, Mobile, and Broadcasting services on these bands, subject to the particular requirements of the service rules, was adopted in our *Reallocation Report and Order*.³ The rules we adopt today are aimed at enabling the broadest possible use of this spectrum, consistent with sound spectrum management and the Congressional mandate that the receipts from auctioning this spectrum be deposited into the Treasury by September 30, 2000.⁴

2. This Report and Order is our first decision guided by the principles enunciated in our recent

¹ See Section 337(a) of the Communications Act, 47 U.S.C. § 337(a), as added by § 3004 of the Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (1997).

² See Public Comment Sought on Issues Related to Guard Bands in the 746-764 MHz and 776-794 MHz Spectrum Block (WT Docket No. 99-168), *Public Notice*, January 7, 2000.

³ See Reallocation of Television Channels 60-69, the 746-806 MHz Band, ET Docket No. 97-157, Report and Order, 12 FCC Rcd 22953 (1998) (*Reallocation Report and Order*), recon., 13 FCC Rcd 21578 (1998) (*Reallocation Reconsideration*).

⁴ See Pub. Law 106-113, 113 Stat. 1501, Appendix E, Section 213. See also 145 Cong. Rec. at H12494-94, H12501 (Nov. 17, 1999), “Making consolidated appropriations for the fiscal year ending September 30, 2000, and for other purposes.” (*Consolidated Appropriations*).

*Spectrum Reallocation Policy Statement.*⁵ Based on those principles, the record developed in this proceeding, and our own review of technical issues, we find that a flexible, market-based approach is the most appropriate method for determining service rules in this band. We also conclude that, in the circumstances of these spectrum bands, the establishment of sub-bands will best ensure that a variety of spectrum management priorities are realized, including protection of public safety operations from interference. In this Report and Order we adopt service, licensing and auction rules for the thirty megahertz of spectrum that are separated from public safety spectrum by Guard Bands totaling six megahertz. Rapidly expanding demand for wireless voice and data services, as well as projections of international demand and the increased spectrum necessary to support wideband applications to be implemented with next generation technologies,⁶ confirm that these bands should be structured to enable their efficient and intensive use for wireless services and technologies. New broadcast-type services that can be provided within the technical parameters adopted here are also permissible in these bands. To comport with the range of potential service applications on these bands, and our intended use of Part 27 as a basic regulatory framework for service rules governing other bands, we have also recast the structure of the Part 27 rules to reflect their revised scope.

3. More specifically, we are today making the following determinations for licensing and operations in this spectrum:

- We are providing for two license bands - one of 20 megahertz and one of 10 megahertz - that address the increasing demand for broadband wireless access capacity, including both fixed and mobile next generation applications. The 20 megahertz segment, consisting of paired 10 megahertz blocks, offers bidders a significantly large block of spectrum that should be desirable for providers of advanced wireless services. The 10 megahertz segment, consisting of paired 5 megahertz blocks, should prove of interest to parties in the record who desire spectrum to deploy innovative wireless technologies, including high-speed Internet access, that do not require as much spectrum. New broadcasting operations that are consistent with our technical rules could also utilize some or all of these blocks. Finally, we are permitting parties interested in acquiring both licenses in an area to win both in the auction.
- We also are providing for two paired Guard Bands – one of 4 megahertz and one of 2 megahertz – located immediately adjacent to public safety spectrum. These bands are necessary to protect public safety users from interference. Consistent with the Congress’s intent, we have provided protection to public safety users by establishing “Guard Bands” immediately adjacent to public safety bands, and in our subsequent Report and Order will adopt technical standards and service rules for the Guard Bands. To ensure that public safety licensees in adjacent bands can operate free of interference, we intend to adopt more stringent interference protection standards for these Guard Bands than we adopt in this Report and Order for the larger segments that do not directly abut public safety spectrum.

⁵ Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, *Policy Statement*, FCC 99-354, November 22, 1999, (*Spectrum Reallocation Policy Statement*), 1999 WL 1054886 (1999).

⁶ Recent growth trends in voice and data wireless applications are described in the *Fourth CMRS Competition Report*. 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, *Fourth Report*, 14 FCC Rcd 10145 (1999).

- We will auction licenses for the larger spectrum blocks on the basis of six Economic Area Groupings (EAGs) throughout the country. These relatively large regions should allow for significant economies of scale to help reduce costs and increase efficiencies. We also will allow bidders to aggregate these regional licenses into nationwide licenses. To further our overall policy goals of implementing innovative auction techniques to increase bidder flexibility, we also are directing the Wireless Telecommunications Bureau to implement, if operationally feasible, a new optional bidding procedure. This procedure would cap bid withdrawal payments on a nationwide aggregation of licenses for a bidder who commits at the outset to bid solely on that nationwide aggregation. Finally, to increase options for the provision of service to otherwise unserved geographic areas, we also will allow licensees to partition and disaggregate their licenses in the post-auction market.
- The service rules also provide for application licensing, technical and operational requirements, and competitive bidding. We also have determined how best to maximize the scope of practicable flexibility afforded licensees in this spectrum, consistent with our review of flexible use allocations required by Section 303(y) of the Act,⁷ and with the technical and other service rules that govern the range of services enabled.
- Finally, we adopt standards to assure protection of the approximately 100 existing conventional television stations that will continue to operate on these bands during the transition to digital television (DTV), and to safeguard public safety operations on adjacent bands.

4. We expect these service rules will enable a significant number of existing and potential wireless service providers to pursue these bands, potentially to deploy new methods of providing high speed Internet access in competition with digital subscriber loop (DSL) and cable modem operators. These bands are also suitable for new fixed wireless service in underserved areas, as well as next generation, high-speed mobile services. Because the record indicates a wide range of possible technical approaches to serving the expanding demand for wireless services, we have sought to establish an open regulatory framework with the potential to accommodate both existing and future technologies. This framework permits new broadcast-type services that are consistent with the technical rules essential to fostering efficient development of wireless services in this band, and sound spectrum management. By setting the scope of our flexible service rules to enable the most efficient and intensive use of this spectrum, we believe we have fully satisfied our statutory spectrum management responsibilities.

II. BACKGROUND

5. The 746-806 MHz band at issue here has historically been used exclusively by television stations (Channels 60-69). Incumbent conventional television broadcasters are permitted by statute to continue operations in this band until their markets are converted to digital television.⁸ The Balanced Budget Act of 1997 directed the Commission to reallocate this spectrum for public safety and commercial use by December 31, 1997,⁹ and to commence competitive bidding for the commercial

⁷ 47 U.S.C. § 303(y). See paras. 20-25.

⁸ See 47 U.S.C. § 337(e). See *Advanced Television Systems and Their Impact Upon Existing Television Broadcast Service*, MM Docket No. 87-268, *Reconsideration of Fifth Report and Order*, 13 FCC Rcd 6860, 6887 (1998).

⁹ See Section 337(a) of the Communications Act, 47 U.S.C. § 337(a).

licenses on the reallocated spectrum after January 1, 2001.¹⁰ In November 1999, Congress enacted a consolidated appropriations statute that revises the latter instruction.¹¹ This legislation accelerates the schedule for auction of the commercial spectrum bands, and requires that the proceeds from the auction of these bands be deposited in the U.S. Treasury by September 30, 2000.

6. In the *Reallocation Report and Order*, adopted December 31, 1997, we implemented the specific spectrum management decisions enacted by Section 3004 of the Balanced Budget Act of 1997¹² by adding Fixed and Mobile services to the Broadcasting allocation in the 746-806 MHz band. We designated Channels 60-62 and 65-67 for commercial use, and designated Channels 63, 64, 68, and 69 for the exclusive use of public safety. We also declined to adopt additional protections for low-power TV and TV translator stations beyond those adopted in the DTV Proceeding.¹³ We stated that no new applications would be considered for the provision of analog TV service in Channels 60-69, but that current applicants, at a later date, would be afforded an opportunity to amend their applications to seek channels below Channel 60. We subsequently denied petitions that sought reconsideration of these decisions to grant no new licenses for TV service on these channels, and the decision to provide no additional protection to low-power TV and TV translator stations.¹⁴

7. In the *NPRM* in this proceeding, we sought comment on various service rule issues necessary to conduct an auction, including licensing, operational, technical, and competitive bidding rules.¹⁵ The Report and Order we adopt here addresses these issues and will enable the auctions process to commence expeditiously, consistent with the statutory deadline set by Congress.

III. SERVICE RULES

A. In General

8. The *NPRM* sought comment both on broad spectrum management issues¹⁶ and on the unique technical issues raised by the reallocation of this band. In this Report and Order, we initially address the broad question of whether our service rules for these bands should implement flexible use at the inter-service level by providing for sharing of these bands between incumbent conventional, full-power television broadcasting licensees and the range of possible broadcasting and wireless services.¹⁷ After

¹⁰ See Section 337(b)(2) of the Communications Act, 47 U.S.C. § 337(b)(2)(a).

¹¹ See *Consolidated Appropriations*, Appendix E, § 213. See also 145 Cong. Rec. H12493-94 (Nov. 17, 1999).

¹² Balanced Budget Act of 1997, § 3004 (adding new §§ 337(a) and 337(b) of the Communications Act).

¹³ See *Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service (DTV Proceeding)*, MM Docket No. 87-268, *Fifth Report and Order*, 12 FCC Rcd 12809 (1997), *recon.*, 13 FCC Rcd 6860 (1998); *Sixth Report and Order*, 12 FCC Rcd 14588 (1997), *recon.*, 13 FCC Rcd 7418 (1998).

¹⁴ *Reallocation Reconsideration*, 13 FCC Rcd at 21582-83 paras. 12-14.

¹⁵ *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, *Notice of Proposed Rule Making*, FCC 99-97, June 3, 1999 (*NPRM*), 1999 WL 350460.

¹⁶ *NPRM* at paras. 6-15.

¹⁷ As explained more fully at paras. 10 and 23-25, we use the term "inter-service" to refer to issues involving the relation between broad categories of services, such as "broadcast" or "fixed wireless," that are treated as distinct

this discussion, we turn to the specific service rule decisions required by this proceeding.

1. Spectrum Management Considerations

9. **Background.** In the *NPRM*, we emphasized our continued interest in the broader aspects of spectrum management, noting the potential for new technologies to blur technical and regulatory distinctions and affect the balance between licensee discretion and regulatory requirements.¹⁸ We also sought comment on the extent to which flexible use allocations that juxtapose such technically dissimilar services as wireless and conventional broadcasting might raise new issues. Such additional issues might include whether and how to apply service-specific statutory requirements in this context, how to consistently apply service rules for this spectrum band and other Parts of our Rules, and, more broadly, how these service rules should provide for implementation of next generation wireless technology.¹⁹ We recognized that proposals involving a broad range of services make our review of flexible use allocations under Section 303(y) especially important,²⁰ and sought comment on the extent to which the spectrum could and should be made available for private mobile and fixed radio service.²¹ We noted the statutory provisions that potentially bear on our spectrum management decisions for these bands, including Sections 303(y), 309, 337, broadcast-specific statutory provisions such as Sections 312(a)(7) and 315,²² and Section 713 (captioning regulations), and Section 255 (accessibility of telecommunications equipment and services).²³

10. Section 303(y) reflects Congressional concern that proposals for the flexible use of spectrum have the potential, if not thoroughly considered, to create interference between services and discourage investment and technical innovation.²⁴ That section requires the Commission to make a positive determination that such issues have been considered, and that these potential problems will not be realized, before it approves such flexible use of spectrum allocations—*i.e.*, allocation or service rules

“services” for purposes of the Table of Allocations. In the discussion generally, we use the term “wireless services” to refer to terrestrial fixed and mobile wireless services other than conventional television and radio broadcasting.

¹⁸ *NPRM* at para. 6.

¹⁹ *NPRM* at paras. 7-10.

²⁰ *NPRM* at paras. 11-13.

²¹ *NPRM* at para. 15.

²² *NPRM* at para. 10.

²³ *NPRM* at paras. 10, 8.

²⁴ Section 303(y) authorizes the Commission “to allocate electromagnetic spectrum so as to provide flexibility of use” if consistent with international agreements and:

(2) the Commission finds, after notice and an opportunity for public comment, that—

(A) such an allocation would be in the public interest;

(B) such use would not deter investment in communications services and systems, or technology development; and

(C) such use would not result in harmful interference among users.

47 U.S.C. § 303(y)(2).

that enable the licensing of multiple services, as the term “service” is used in the Table of Allocations, on the same frequency band. We make the determinations required by Section 303(y) below, at paras. 20-25.

11. Many commenters assert that renewed conventional television operations on these bands would create such a wide range of interference difficulties as to effectively preclude other, non-broadcast wireless applications. Motorola states that it is not possible to “craft service rules that will permit efficient operation of advanced mobile systems and traditional wide area broadcast systems in the same geographic area,” and warns of “unrealizable” business plans.²⁵ Motorola and AirTouch contend that this view is supported by experience with sharing in the Channel 14-20 television band,²⁶ and Motorola also refers to the rule changes we adopted for the 2.5 GHz MMDS spectrum to allow licensees the flexibility to provide broadcasting and wireless applications.²⁷ US WEST cautions against renewed broadcast use of the band, stating that the interference caused by full-power broadcast services would deter necessary investment in new services and systems.²⁸

12. Interference from conventional television broadcast services concerns parties who seek additional spectrum to provide next generation wireless services, whether fixed or mobile. AirTouch states that sharing between mobile and new broadcast uses “would necessitate further segmentation of the band, thus limiting the Commission’s ability to designate spectrum blocks of sufficient size to facilitate reliable mobile services.”²⁹ Bell Atlantic Mobile asserts the 700 MHz band is uniquely suited for 3G mobile services, and asks us to reserve these bands for 3G terrestrial mobile service, citing demand projections prepared by the WRC-2000 advisory committee.³⁰ Metricom, which provides wireless Internet access, opposes conventional broadcast television service, as does RTG, which contemplates both fixed and mobile services.³¹

13. A few commenters advocate inter-service, wideband “flexible use,” and seek service rules sufficiently flexible to enable conventional full-service television broadcast operations, or “hybrid” services with comparable technical characteristics. Advocates of enabling such full-service conventional television service include MSTV and TWDC, which assert that there are few locations in the crowded radio spectrum with sufficient bandwidth for terrestrial broadband services, especially a “hybrid

²⁵ Motorola Comments at 9.

²⁶ Motorola Comments at 9; AirTouch Comments at 15-16. *See also* Resolution of Interference Between UHF Channels 14 and 69 and Adjacent-channel Land Mobile Operations, MM Docket No. 87-465, *Notice of Proposed Rule Making and Notice of Inquiry*, 2 FCC Rcd 7328 (1987).

²⁷ Motorola Comments at 9.

²⁸ US WEST Comments at 7.

²⁹ AirTouch Comments at 14; *see also* US WEST Comments at 6-9.

³⁰ Bell Atlantic Mobile Reply at 3-6, *citing* Public Notice, “The FCC’s Advisory Committee For the 2000 World Radio Communications Conference Offers Additional Draft Proposals On WRC 2000 Issues,” DA 99-1364 (released July 14, 1999).

³¹ Metricom Reply at 4-6; RTG Comments at ii-iii, 1.

broadband and mobile service.”³² NTA contends that the objective of these service rules should be to have 10 to 12 analog channels in translator-dependent areas, to reflect new program sources as well as to extend DTV signals.³³

14. Commenters also specifically address the “flexible use” findings that the Commission is required to make under Section 303(y). Several commenters ascribe the WCS auction results, and the subsequent slow pace of WCS service activation, to excessively flexible service rules.³⁴ To avoid a recurrence, they argue that we should limit flexibility in both the inter-service and intra-service aspects. With regard to inter-service flexibility, they contend we should exclude conventional television broadcast from these bands, *i.e.*, prohibit “flexible use” between distinct services in the sense that “service” is used in the Table of Allocations. With regard to intra-service flexibility, they assert that we should not permit unbounded flexibility even within the context of wireless service, but should instead create a stable regulatory framework—a band plan and related rules—that encourages investment and service innovation.³⁵ Metricom, while not opposing those views, raises a more specifically focused concern, urging us not to retreat from the existing scope of operational flexibility contained in the Part 27 service rules. Metricom asserts that flexibility with regard to bandwidth, channelization, and other technical variables affecting the structure of its Ricochet™ service was essential to its expeditious activation.³⁶

15. **Discussion.** After careful consideration, we will not adopt service rules that would permit the sharing of this band by conventional television and wireless services. The inherent interference difficulties presented by sharing between these dissimilar services require that we orient our service rules to one service or the other, if efficient and intensive use of this spectrum is to be realized. Based on the predominant interest in fixed and mobile wireless services expressed in the record, we will adopt service rules primarily oriented toward fulfilling the need for a variety of wireless services on these bands. The rules are not structured to establish particular service configurations. Rather, the service rules allow licensees to make determinations respecting the services provided and technologies to be used, including provision of new broadcast-type services so long as those services comply with our technical rules.³⁷

³² Quote from MSTV Comments at 3; *see also* TWDC Comments at 2-4.

³³ NTA Comments at 1-2. The NAB supports service rules that ensure protection from interference to existing broadcasters, but does not advocate service rules configured to encourage additional conventional television licenses. NAB Comments at 2-3.

³⁴ *See* ArrayComm Comments at 3-4; AMTA Comments at 2 n3; and Motorola Comments at 3-4. AirTouch asserts that the *Conference Report* states “unlimited flexibility can introduce a level of entrepreneurial uncertainty that could ultimately retard the development of new services and technology.” AirTouch Comments at 5, *citing* H. Conf. Rep. No. 105-217, at 581 (1997), *reprinted at* 1997 USCCAN 201.

³⁵ *See, e.g.*, AMTA Comments at 1-2; Motorola Comments at 1-2, 16-17, and Motorola *Ex Parte* Filing of October 18, 1999; PCIA Comments at 3-5; ArrayComm Comments at 5-8.

³⁶ Metricom Reply Comments at 2-4.

³⁷ Such services, to the extent they may be offered on these bands, will not necessarily resemble current radio and television broadcast services subject to Part 73 and Part 74 of our Rules, but could still meet the statutory definition of “broadcasting.” *See* 47 U.S.C. § 153(6). (The term “broadcasting” means the “dissemination of radio communications intended to be received by the public, directly or by the intermediary of relay stations.”) Because such new broadcast-type services on these bands will necessarily use lower power levels than even existing low-

16. Our recent *Spectrum Reallocation Policy Statement* identifies as a Commission objective the development of a variety of mechanisms to make spectrum markets more efficient, including flexible service rules and innovative assignment mechanisms. In this proceeding, we find that such flexibility cannot extend to opening these bands to both conventional television and wireless services. Establishing regulatory flexibility sufficient to accommodate conventional television broadcasting would impose disproportionate, offsetting burdens on wireless services, constraining their technical effectiveness and, consequently, their economic practicability.³⁸ This conclusion is supported by the record. AirTouch, for example, asserts that the inherent conflicts between such disparate services “will require burdensome interference protection requirements that will prevent efficient spectrum use and compromise service to the public.”³⁹ Sharing with conventional broadcasting services is also opposed by AMTA, APCO, Motorola, PCIA, RTG, and US WEST.⁴⁰ AMTA asserts that protective co-channel and adjacent channel standards designed to prevent land mobile interference to television operations in the 470-512 MHz band severely limited both the number of markets in which spectrum was available for land mobile use, and the area in which operations could be conducted within those markets. According to AMTA, transplanting similar sharing criteria to this band would severely limit provision of wireless services.⁴¹

17. We find that the contrasting technical characteristics of conventional television broadcasting, using power levels authorized by Part 73, and wireless services effectively preclude the development of interference rules that would enable the practicable provision of both sets of services on this spectrum.⁴² The interference problem arises from the disparity between the two services’ characteristic power levels, and between their transmitter tower heights.⁴³ Any substantial disproportion between the power levels of

power television service, and may differ significantly in both technical and public policy respects from conventional broadcasting, we have not sought to anticipate or develop a regulatory framework, beyond the technical and operational rules we adopt in this Report and Order or that already apply to broadcast services generally.

³⁸ See, e.g., Bell Atlantic Mobile Reply at 6-8; Intek Comments at 4; ITA Comments at 5-7; Metricom Reply at 4-6; Motorola Comments at 8; PCIA Comments at 4; US WEST Comments at 6-8.

³⁹ AirTouch Comments at 13. AirTouch recognizes that Commission rules authorize cellular and broadband PCS licensees to provide fixed service on a co-primary basis with mobile operations, and does not object to that type of flexible use authorization. AirTouch Comments at 12; see 47 C.F.R. §§ 22.901(d) and 24.3.

⁴⁰ AMTA Comments at 12; APCO Comments at 3; Motorola Comments at 8; PCIA Comments at 4; RTG Comments at 11-12; US WEST Comments at 6.

⁴¹ AMTA Comments at 12.

⁴² See, e.g., Bell Atlantic Mobile Reply at 6-8; Intek Comments at 4; ITA Comments at 5-7; Metricom Reply at 4-6; Motorola Comments at 8; PCIA Comments at 4; US WEST Comments at 6-8.

⁴³ Formulas for maximum television transmitter power levels are specified in Section 73.614 of the Commission’s Rules. While 5000 kW is the maximum power for UHF NTSC stations, less than a fifth of licensed stations use that level of power; in Washington, D.C., for example, the powers used by four UHF stations range from 2450 kW to 5000 kW. The maximum power permitted PCS licensees in the 900 MHz bands, in contrast, is 3500 watts, more than 1000 times less. 47 C.F.R. § 24.312. The central problem arises from the disparity, amounting to several orders of magnitude, between even a comparatively modest conventional television facility and a maximum-power PCS license. As described in Section III.D.3, we here adopt maximum power levels for these bands of 1000 watts and 30 watts for the lower and upper band segments respectively.

The high transmission power characteristic of conventional analog or digital television service, and the channelization of that spectrum into 6 megahertz sections, reflect standards developed to establish a nationally

services sharing a spectrum band creates much greater interference difficulties for the lower-power service than when sharing or adjacent-band services operate at comparable power levels. The disparity between television transmitter tower heights and those used by typical wireless providers adds to the difficulty by accentuating the power of the more powerful service. Even at considerable distance from the higher-power service's transmitter, its signal is still strong enough, due in part to the effect of tower height, to make a receiver designed for a nearer, lower-power service vulnerable to interference.⁴⁴ These effects are recognized by the Commission's Rules establishing minimum distance separation requirements between conventional television facilities using the same channel and between facilities using adjacent channels.⁴⁵

18. Establishing standards to manage the inherent interference between such dissimilar transmissions as conventional television and wireless services would create substantial spectrum inefficiencies in a band where efficiency is especially important because of the band's suitability for uses ranging from wideband mobile communications to innovative, fixed wireless Internet access services and new broadcast-type services.⁴⁶ If, for example, we applied standards for the protection of incumbent television licensees on this band to protect new television licensees operating at power levels authorized by Part 73, we would curtail to negligible levels the potential of this band for wireless service. The efficient and intensive use of spectrum resources⁴⁷ is critical to facilitating new wireless technologies that have the potential to provide innovative new services and, as well, to serve underserved areas with both narrowband and broadband services.⁴⁸ The record in this proceeding demonstrates diverse and substantial demand for expanded wireless broadband spectrum—for uses ranging from the implementation of next generation applications as extensions of existing mobile and fixed uses, to the implementation of various innovative stand-alone technologies.⁴⁹ The innovations expected from the transition to DTV have been and will continue to be accommodated on the bands dedicated for television broadcasting.

19. Although we have determined to orient our technical and service rules primarily to enable the efficient and intensive use of these bands for wireless service, we will nonetheless allow any broadcast-type services consistent with the Table of Allocations that meet those rules. This approach will

consistent television service, which has generally been implemented by allocating bands limited to television service. Neither the high power levels nor the preconfigured 6 megahertz spectrum blocks characteristic of conventional television service are necessary, however, for the flexible range of existing and contemplated wireless services.

⁴⁴ See Motorola October 27, 1999 *Ex Parte* Filing.

⁴⁵ See 47 C.F.R. § 73.610. Additional distance separation requirements applicable to conventional television operations on Channels 14-69 are specified in Table II of 47 C.F.R. § 73.698.

⁴⁶ See, e.g., Cisco November 1, 1999 *Ex Parte* Filing; see also, e.g., CEMA filings.

⁴⁷ See 47 U.S.C. 309(j)(3)(D).

⁴⁸ RTG asserts that allowing broadcast use on these bands is inconsistent with Sections 309(j) and 706 of the Act, because rules permitting broadcast use "will dramatically reduce the amount of spectrum actually made available for advanced telecommunications services in rural areas." RTG Comments at 12. See also FreeSpace October 13, 1999 *Ex Parte* Filing.

⁴⁹ See FreeSpace October 13, 1999 *Ex Parte* Filing; Clearwire Reply at 3-4.

allow the broadest degree of flexibility possible, consistent with technical interference limits and their economic consequences here.

20. *Section 303(y) Review.* Section 303(y) requires the Commission to make affirmative findings before permitting flexible use as part of the allocations process. Specifically, we are required to determine that such flexibility: (1) is consistent with international agreements; (2) would be in the public interest; (3) would not deter investment in communications services or systems, or technology development; and (4) would not result in harmful interference among users.⁵⁰ We find that the flexible allocation we adopted in the allocation Report and Order satisfies the standards of Section 303(y).

21. In the *Reallocation Report and Order*, we preserved the allocation of these bands to broadcasting, but recognized that sharing the spectrum between broadcasting and wireless services presented technical issues.⁵¹ Metricom and other commenters assert that the fundamental purpose of flexible regulation would be defeated, and Section 303(y) would be violated, by an attempt to reconcile the very different interference rules associated with conventional broadcasting and broadband wireless communications.⁵² Because we agree that service rules permitting television service based on conventional (Part 73 and Part 74) technical standards are not in the public interest, and have determined against that approach, we need not consider whether that approach to flexible use violates Section 303(y).

22. We do, however, undertake Section 303(y) review with respect to our decision to allow broadcasting that complies with Part 27 technical rules. We have determined that this inter-service aspect of our decision fully satisfies the requirements of Section 303(y). The revised entry in our Table of Allocations continues this band's previous use for broadcast service, and is consistent with international agreements.⁵³ As for the findings required by Section 303(y)(2), we find that no additional interference will be created by this approach to inter-service flexibility, because new broadcast-type services on these bands will be required to comply fully with the same technical requirements applied to wireless services. In that regard, our technical rules are transparent, and include no provisions to accommodate conventional broadcasting. For this reason, we anticipate no adverse investment or innovation effects on wireless services. In these circumstances, we find that permitting new broadcast-type use on these bands by the flexible use plan adopted here is in the public interest, and otherwise satisfies the review required by Section 303(y).

23. Some commenters have construed the scope of the Section 303(y) review requirement to reach beyond an inter-service interpretation of that mandate. These parties assert that the findings required by Section 303(y) are required to be made when the Commission adopts intra-service rules sufficiently flexible to enable a range of technical and regulatory characteristics within a specific service allocation. Specifically, they assert that Section 303(y) requires us to limit licensees using these 700

⁵⁰ 47 U.S.C. § 303(y).

⁵¹ *Reallocation Report and Order*, 12 FCC Rcd at 22962 para. 18.

⁵² Metricom Reply at 5. CEMA contends too broad an approach to flexibility "may have the undesired effect of deterring those investments needed to provide communications services and encourage new technologies on the newly allocated spectrum. The potential sharing of this spectrum between broadcast service licensees and fixed and mobile wireless licensees, alone, complicate these issues." CEMA Comments at 14. *See also* US WEST Comments at 7.

⁵³ *See Reallocation Report and Order*, 12 FCC Rcd at 22960, 22962 (paras. 14, 19).

MHz commercial spectrum bands, or some portion of them, to specific technical or regulatory categories of wireless service, *e.g.*, specialized mobile radio (SMR) or terrestrial mobile applications. Southern, for example, while supporting a more flexible use for half the spectrum at issue, contends the public interest finding mandated by Section 303(y)(2)(A) requires the Commission to designate 18 Megahertz exclusively for SMR use.⁵⁴ AirTouch similarly invokes the public interest finding to assert that the demand for second- and third-generation mobile services, the spectrum needed to meet such demand, and the technical characteristics of the 700 MHz band, together demonstrate that the public interest is served by designation of these bands exclusively for terrestrial mobile use.⁵⁵ In addition, Metricom urges us not to diminish the existing flexibility of Part 27 with regard to channelization and other service rules that enable the flexible configuration of a particular service.⁵⁶

24. We interpret the Section 303(y) review requirement as applicable to flexible use determinations by the Commission that would enable the sharing of specific spectrum bands by services treated as distinct by the international and domestic allocations process. Our review of flexible use under Section 303(y) is limited to regulatory decisions that would enable such inter-service flexibility.⁵⁷ We disagree with commenters that assert that the Commission is required to make the affirmative findings required by Section 303(y) as a precondition to adoption of flexible intra-service regulations. That statutory provision confers authority to “allocate electromagnetic spectrum so as to provide flexibility of use,” but does not address domestic assignments or operational regulations. Nevertheless, while we find that its requirements apply directly and explicitly to our service allocation decisions, we here also consider these criteria under our broader public interest mandates in the statute, when making decisions that may affect the broader allocation through service rules.

25. The Part 27 provisions referred to generally by Metricom enable the type of operational flexibility that, while important to individual licensees, does not involve the type of inter-service regulations that, in our view, might potentially be inconsistent with the terms of Section 303(y). These regulations confer discretion on licensees at the level of individual system implementation, and pose minimal if any potential for interference or discouragement of investment. Thus, while our broad statutory mandate requires that our service and other rules (*e.g.*, competitive bidding regulations) fulfill the general public interest standard as well as enumerated legislative purposes,⁵⁸ we find further that, under Section 303(y), our various non-allocative, intra-service regulations meet the statutory criteria to provide such flexibility of use.

⁵⁴ Southern Comments at 3-5. The Commission is required to consider the effect of its policies on competitive conditions within the relevant markets, Southern asserts, *citing Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983), and Southern contends it faces unique competitive concerns in the SMR context. *See also* Southern November 4, 1999 *Ex Parte* Filing.

⁵⁵ AirTouch Comments at 4-6. At the same time, however, AirTouch states that it does not object to flexible use provisions that provide for co-primary use by cellular and PCS licensees and mobile operations. AirTouch Comments at 11-12.

⁵⁶ Metricom Reply at 2-4.

⁵⁷ *See NPRM* at para. 11 n.24.

⁵⁸ *See, e.g.*, Section 309(j)(3) (safeguards to protect the public interest in the use of the spectrum) and Section 309(j)(4) (elements of regulations implementing competitive bidding authority).

2. Band Plan

26. **Background.** In the *NPRM*, we sought comment on several aspects of spectrum management, including the extent to which the pace of technical change may affect the desirable balance between licensee discretion and the extent of technical and operational regulations,⁵⁹ and how investment generally, and specifically for new and innovative technologies and services, would be affected by service rules. The *NPRM* also sought comment on the effect of different approaches to these bands upon interference to other services,⁶⁰ and how the Commission's auction processes should reflect and implement the spectrum management decisions.⁶¹

27. Several commenters urge us to auction a single, 36 megahertz license. A single, 36 megahertz license would, Metricom contends, leave the details of flexible use, including management of interference between distinct services, to be determined by the licensee.⁶² MSTV similarly asserts that a unitary license would leave issues arising from the coordination of services, including the development of methods for sharing spectrum that do not unfairly burden specific services, to the licensee.⁶³ AirTouch also advocates a single, 36 megahertz license, though it would designate the entire band for terrestrial mobile services, predicated on substantially expanded spectrum needs for the implementation of next generation broadband wireless services.⁶⁴ Cisco contends that a single, 36 megahertz license would better enable use of these bands for efficient fixed wireless applications without precluding mobile services, and asserts that discrete sub-bands are not necessary to protect adjacent public safety uses.⁶⁵

28. Several other commenters, including AMTA, FreeSpace, Motorola, PCIA, Intek, and US WEST, support a more structured approach to band management.⁶⁶ Some of these commenters argue for division of the band into comparatively modest spectrum segments, configured to flexibly enable a range of new and existing narrowband technologies, and propose division of the 36 megahertz into several bands with varying degrees of flexibility. In this latter category, for example, Motorola has proposed an overall band plan that configures two 1.5 megahertz band pairs, adjacent to the public safety spectrum bands, designated for the licensing of systems to band managers, and divides the remainder of the band into sub-bands intended to support a range of expanded wireless fixed and mobile services.⁶⁷ Others seek larger spectrum blocks; Southern, for example, argues that 18 megahertz should be designated for

⁵⁹ *NPRM* at para. 6.

⁶⁰ *NPRM* at paras. 57-70.

⁶¹ *NPRM* at paras. 79-83.

⁶² Metricom Reply at 5-8. Metricom also proposes that the successful bidder be required to make a payment for each transmitter deployed, based on power and bandwidth.

⁶³ MSTV Comments at 4-8.

⁶⁴ AirTouch Comments at 6.

⁶⁵ Cisco November 10, 1999 *Ex Parte* Filing.

⁶⁶ AMTA Comments at 7-9; Free Space October 13, 1999 *Ex Parte* Filing at 2; Motorola Comments at 7; PCIA Comments at 5; Intek Comments at 5-6; US WEST Comments at 3-6.

⁶⁷ Motorola October 27, 1999 *Ex Parte* Filing.

SMR service, and the remainder for flexible use.⁶⁸

29. Several commenters assert that the failure to establish at least a minimal regulatory framework for services offered on these bands will seriously compromise the overall public benefits from these bands.⁶⁹ AMTA, for example, while asserting that relaxed regulation has encouraged innovative technologies and service offerings, also notes that the FCC is properly concerned that “unbridled regulatory flexibility not have the contrary effect of permitting harmful interference among users, deterring investment in communications systems or services or technological development, or otherwise not serve the public interest.”⁷⁰ PCIA believes that a service allocation that is too flexible will deter investment in communications services and systems and technology.⁷¹

30. **Discussion.** We will adopt a band plan that establishes a 20 megahertz segment (two paired, 10 megahertz blocks), a 10 megahertz segment (two paired, 5 megahertz blocks), and two small, also paired, Guard Bands of 1 and 2 megahertz adjacent to the established public safety bands. The two larger band segments are not subject to eligibility requirements. The regulatory and technical standards applicable to the smaller Guard Band segments will be resolved in the subsequent Report and Order.

31. We decline to grant a unitary, 36 megahertz license. As an initial matter, we do not consider it desirable, in light of the record regarding the potential for interference to public safety users, to leave determination of the internal framework of these bands, including the structure of Guard Bands, to a single commercial entity. More broadly, in light of the range of technologies, services, and spectrum needs asserted by commenters, we find that the best course is to adopt a band plan that will allow bidders to pursue licenses that are less than the full 36 megahertz, but will allow bidders to aggregate a substantial portion of the band. In that way, the marketplace forces operating through the auction process, rather than regulatory fiat, will determine which of the multitude of service proposals will actually be implemented.⁷² In addition, given the relatively small amount of bandwidth presently available, we must achieve a balance between the configuration of bands for broad groups of services, and preserving overall licensee flexibility in technical and service application choices.

⁶⁸ Southern Comments at 2-4, 6-7.

⁶⁹ Motorola states that “[l]ack of activity towards defining a service for the WCS band is the clearest indication that such extreme flexibility does not work in the real world. While auction revenues should not be equated with the public interest, we also note that the WCS auctions attracted less than one percent of the revenue projected by budget experts.” Motorola Comments at 5, *citing* 47 U.S.C. § 303(y).

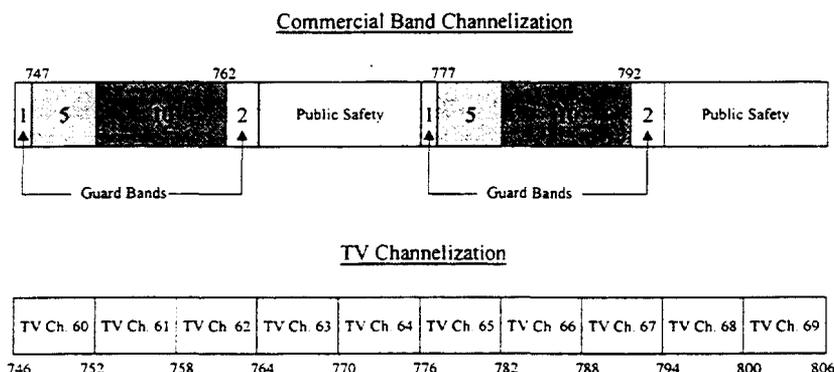
⁷⁰ AMTA Comments at 1-2.

⁷¹ PCIA Comments at 2.

⁷² See Section III.E.

32. Our band plan is presented graphically in the diagram below. Our subsequent description includes the specific public interest basis for each of the plan's several components.

700 MHz Band Plan



33. *Protecting Public Safety Operations Through Guard Bands.* Consistent with the legislative history of Section 337,⁷³ a primary goal of our band plan structure is to ensure that activation of services in these 36 Megahertz of spectrum will not impair public safety operations in the former channels 63-64 and 68-69 through harmful interference. The Conference Report states that the Commission should ensure that public safety service licensees in the 746-806 MHz band "continue to operate free of interference from any new commercial licensees."⁷⁴ The importance attached to interference protection by the Congress is emphasized by APCO, the NCC, and the International Association of Firefighters.⁷⁵ In addition, Motorola has recognized this concern in its band plan proposal, which establishes Guard Bands at the extremities of the commercial use bands to insulate the adjacent public safety bands from stronger commercial service emissions in the central segments of these bands.⁷⁶ Other commenters, though proposing different approaches, have also recognized the public safety priority.⁷⁷ Accordingly,

⁷³ H. Conf. Rep. No. 105-217, at 12 (1997), *reprinted at* 1997 U.S.C.C.A.N. 201.

⁷⁴ *Id.* at 580.

⁷⁵ APCO Comments at 2-5; NCC August 25, 1999 *Ex Parte* Filing; IAFC Comments at 2-3. *See also* Motorola Comments at 14-17; Region 20 Comments at 3-4.

⁷⁶ Motorola October 27, 1999 *Ex Parte* Filing.

⁷⁷ FreeSpace, for example, proposes bands with low out of band emission levels adjacent to public safety bands. FreeSpace October 13, 1999 *Ex Parte* Filing at 4-6.

we wish to ensure that the public safety bands are protected from interference, given that such spectrum will be used by local, state and Federal agencies for the protection of life, health, or property. This is a core function of this Commission under Section 1 and Section 337(f)(1) of the Communications Act.⁷⁸

34. We agree with commenters who contend that Guard Bands are the best way to ensure protection for public safety uses. In this Report and Order, we establish four sub-bands, two each of 1 and 2 megahertz, designated as Guard Bands in the diagram, in order to protect the immediately adjoining public safety licensees on Channels 63, 64, 68, and 69 from harmful interference. We will require licensees on these Guard Bands to minimize interference to public safety licensees through technical and operational measures to be determined in the subsequent Report and Order. While protecting adjacent public safety bands from harmful interference, the sub-bands we establish here will allow for effective and valued use of the spectrum, consistent with sound spectrum management, rather than the creation of Guard Band spectrum of little use. To that end, we find it is appropriate to establish two 1 megahertz sub-bands at 746 MHz and 776 MHz, to allow for a paired block, and similarly to establish two paired 2 megahertz sub-bands, at 762 and 792 MHz, to provide further protection for public safety bands and to encourage the effective and valued use of the Guard Band spectrum.

35. *Paired sub-bands of 10 megahertz (5 megahertz pairs) and 20 megahertz (10 megahertz pairs).* We have determined to divide each of the two remaining 15 megahertz bands into a 5 megahertz and 10 megahertz segment, to be auctioned as paired bands of 5+5 and 10+10 megahertz. The division into these spectrum blocks furthers several spectrum management goals.

36. The two paired 5 megahertz segments appear well-suited to the expressed preferences of new technology advocates, and, depending on the technology adopted will enable some data services, including Internet access. Five megahertz segments, paired as a 10 megahertz segment, enable a single wideband CDMA channel, which is sufficient to provide some forms of Internet access.⁷⁹ FreeSpace initially sought 8 megahertz of spectrum, and subsequently proposed 6 megahertz in four 1.5 megahertz paired channels.⁸⁰ AT&T Wireless is reportedly using some elements of its Project Angel to develop a new wireless data service, to compete against wireless data access service provided by, e.g., MCI (reselling Metricom service).⁸¹ Similarly, the Japanese Communications Research Laboratory, applying a new transmission system to existing Personal Handyphone System technology, which employs TDD transmission to serve approximately six million customers, reportedly has demonstrated a high-speed (384 kbps) transmission system for multimedia communications to wireless mobile terminals.⁸²

⁷⁸ See 47 U.S.C. §§ 151, 337(f)(1).

⁷⁹ See Lucent November 15, 1999 *Ex Parte* Filing.

⁸⁰ FreeSpace October 5, 1999 *Ex Parte* Filing; FreeSpace November 30, 1999 *Ex Parte* Filing (Presentation to National Coordination Committee at November 18-19, 1999 meeting.)

⁸¹ "AT&T Revs Up Portable Access Battle," Fred Dawson, October 18, 1999, <http://www.zdnet.com/zdnn> (downloaded Oct. 19, 1999).

⁸² "Development of 384 kbps PHS Communication Device," MPT NEWS, June 21, 1999 at 4. While the time division duplex transmission used by PHS does not dedicate bandwidth to data transmission in a manner directly comparable to channelized frequency division systems, the demonstration of this capability on a system widely used for voice and alphanumeric messaging is suggestive.

37. The size and placement of the two 5 megahertz segments achieves other spectrum management goals as well. As the diagram illustrates, this structure reduces the number of existing television channels, and thus of incumbent television licensees, to which a new licensee's operations would potentially cause co-channel interference, compared with equal 7.5 megahertz segments. In addition, we believe that our approach furthers the development and deployment of many services using these segments, but particularly accommodates firms seeking to negotiate accelerated transition agreements with incumbent television licensees. Such firms may likely confront a simpler negotiation process, because the alignment of these segments with existing television channels requires them to negotiate with fewer co-channel incumbents in many areas. Also, because the new license will directly overlap with the spectrum assignment of only a single incumbent television station, this alignment reduces the "free rider" problem created when third parties benefit from others' negotiations. Nor is any offsetting burden created for entities interested in the 10 megahertz segments, as compared to an equal division into 7.5 megahertz segments. Entities interested in providing services consistent with these spectrum blocks thus benefit from a reduced burden of expense and delay in achieving full use of their licensed spectrum.⁸³

38. The wider, 10 megahertz segments should enable a broader range of broadband services, including Internet access at higher speeds. A 10 megahertz segment, for example, is sufficient to provide two bidirectional 384 kb/s mobile data streams per sector, as well as smaller-capacity services, using high-tier cellular and PCS technologies consistent with 3G service classifications.⁸⁴ Commenters such as Bell Atlantic and AirTouch assert that a large block of spectrum is needed to support 3G mobile telephony.⁸⁵ Lucent, in describing the suitability of the 700 MHz band for 3G services, notes that the 5 megahertz minimum bandwidth increment is necessary to support the broadest range of 3G technologies,⁸⁶ and the greater flexibility of larger bandwidth segments could be used to satisfy the asymmetric characteristics of data services. These wider segments will enable substantial augmentation of existing CMRS systems, whether for expansion into provision of next generation services under the 3G service classification or some other approach less directly linked to existing systems. They also have the potential to support new systems in appropriate circumstances, as US WEST states.⁸⁷

39. We recognize assertions by Cisco and others that establishing any sub-bands reduces spectrum efficiencies achieved by aggregation and creates more frequency boundaries between licensees

Telcordia, however, suggests in its November 4, 1999, *Ex Parte* Filing, that DECT, PACS, and Personal Handyphone Service (PHS), while containing "well-defined data transport protocols," would be best at providing moderate-rate (64-128 kb/s) data service.

⁸³ See 47 U.S.C. § 309(j)(3)(A).

⁸⁴ Telcordia November 4, 1999 *Ex Parte* Filing at 2.

⁸⁵ AirTouch Comments at 16-17; AirTouch Reply at 10-11; Bell Atlantic Mobile Reply at 2-5.

⁸⁶ Lucent November 15, 1999 *Ex Parte* Filing.

⁸⁷ US WEST states that the economics of manufacturing new equipment for use in this band, and the preference of wireless service providers to establish services of national scope, require that a significant amount of spectrum be designated for a single nationwide license to enable a new nationwide competitor. US WEST modified its original proposal to ask that we designate 20 megahertz as a national license, and 10 megahertz for regional licensing. US WEST Comments at 4-6; US WEST November 15, 1999 *Ex Parte* Filing.

that require interference management.⁸⁸ We believe our decision here is appropriate, however. First, encouraging a variety of technologies and entrants is an important spectrum management goal. Subdividing the 36 megahertz of available spectrum will make it more likely that start-ups and companies that are not highly capitalized will have the opportunity to pursue spectrum. Second, our auction rules allow bidders to aggregate these band segments. This allows entities that believe they need to acquire a larger amount of spectrum than that available in the individual licenses to do so. Third, our choice of two licenses, rather than a single license, adds only one interference boundary as a constraint on spectrum efficiencies. While Cisco suggests that its approach to broadband Internet access would encourage the provision of such access to less densely developed areas, other parties that favor large spectrum block approaches generally do not suggest that a single large block is necessary to accommodate such important spectrum management goals. In the circumstances presented here, we conclude that our band plan, rather than a 30 or 36 megahertz license, best fulfills our statutory spectrum management responsibility.

40. *Paired-Band Architecture.* To achieve effective flexibility, without constraining new technologies and services, the band plan designates the lower and upper 18 megahertz segments for distinct power limits, consistent with traditional practice for paired mobile services and the requests of providers such as AirTouch, AMTA, and US WEST.⁸⁹ We establish different power limits for the lower frequency segment and the higher frequency segment. These limits reflect and optimize the efficient use of spectrum for the expected predominant use of each segment. Thus, power limits for the lower frequency band segment reflect its expected primary use for higher-power base station transmissions received by control, mobile and portable stations; in contrast, we have set power limits for the higher frequency band segment at levels that optimize its efficient use for the lower-power transmissions from control, mobile and portable stations that will be received by base stations. This approach enables more efficient spectrum use, by minimizing the "near-far" interference problem that arises in more extreme form by the juxtaposition of television transmission with land mobile services. Our Part 27 rules enable fixed services on either segment.⁹⁰

41. We recognize that advocates of lower power, TDD transmission seek smaller, unpaired sub-bands, and emission standards configured to encourage that mode of transmission.⁹¹ FreeSpace and other parties support the configuration of sub-bands and emission limits for TDD applications, and assert their preference for unpaired spectrum bands.⁹² Lower power technologies provide a range of voice and data services by flexibly using a single, contiguous band for asymmetric up- and down-link access.⁹³ ArrayComm notes a trade press prediction that NTT will rely on TDD-based systems rather than W-CDMA to deploy the first commercial 3G systems, and submits a spectral efficiency comparison

⁸⁸ Cisco November 11, 1999, *Ex Parte* Filing at 3.

⁸⁹ AirTouch Comments at 16-17; AMTA Comments at 7-8; US WEST Comments at 2-5.

⁹⁰ Determination of maximum allowable power levels is discussed in Section III.D.3.

⁹¹ See ClearWire Reply at 3; FreeSpace Communications Oct. 13, 1999; *Ex Parte* Filing at 6-7; ArrayComm Comments at 5-7.

⁹² ArrayComm Comments at 10; DDI Pocket Reply at 3-4; Clearwire at 3.

⁹³ PHS GUIDEBOOK, July, 1998, Japan Ministry of Posts and Telecommunications; DDI Comments at 2-3.

between various wireless technologies.⁹⁴

42. The majority of commenters note, however, that Frequency Division Duplex (FDD), which is the most commonly-used transmission procedure for PCS, cellular, and other mobile telephony applications, requires paired spectrum. Pairing of these bands under these circumstances will facilitate the auction procedure, by not requiring bidders seeking paired bands to prepare multiple bids. In sum, because paired bands are essential to these technologies, while technologies using unpaired spectrum can operate on paired segments if the segments are large enough, we conclude that the post-auction unpairing of this spectrum creates less of an overall problem for the expeditious activation of these bands than would the need to pursue post-auction pairing, if our rules did not initially establish a paired configuration.

B. Licensing Rules

43. In the *NPRM* we sought comment on licensing rules for a full range of possible licensees, consistent with our stated intention to permit as much flexibility in the use of this spectrum as is consistent with the requirements of Section 303(y) of the Act. In the interests of flexibility and optimum spectrum use, we have enabled the provision of any service in this Order, so long as the licensee complies with the technical rules governing spectrum use. The following discussion addresses licensing rules for uses of this spectrum other than new broadcast-type services.⁹⁵

1. Regulatory Status

44. **Background.** In the *NPRM*, we sought comment on whether to apply the existing licensing framework established in Part 27 for Wireless Communications Service (WCS)⁹⁶ to the 746-764 MHz and 776-794 MHz bands.⁹⁷ Part 27 accords licensees the flexibility to provide any fixed, mobile or radiolocation service contained in the non-government column of Table of Allocations in Part 2 of the Commission's Rules⁹⁸ for this spectrum, and provides, *inter alia*: (i) the limitation of eligibility requirements to foreign ownership restrictions set forth in Section 310 of the Communications Act; (ii)

⁹⁴ ArrayComm Reply at 5-6, *citing* Baskerville Communications Corp., "Japan Takes Quiet Road to Third-Generation Explosion," 3G MOBILE, May 19, 1999, at 6.

⁹⁵ There is little record comment on the appropriate regulatory treatment for new broadcast-type services, although several commenters note that different considerations inform the regulatory structures for broadcast services and nonbroadcast services. *See, e.g.*, CEMA Comments at 14. However, we cannot anticipate the nature of those broadcast services that may be developed in the future for use of this spectrum in conformance to the power limits and band configurations adopted in this Order. While we do not make specific determinations here regarding any new broadcast-type services, we remind potential applicants that certain broadcast regulations are mandatory as a matter of statute and thus must apply to such services. The provision of new broadcast-type services compliant with Part 27 technical standards does not alter the underlying nature of such services, or the licensee's related regulatory and statutory obligations.

⁹⁶ This regulatory framework was established in response to the Congressional mandate in Section 3001 of the Omnibus Consolidated Appropriations Act of 1997 to reallocate and assign the use of the frequencies at 2305-2320 MHz and 2345-2360 MHz. Omnibus Consolidated Appropriations Act, 1997, P.L. 104-208, 110 Stat. 3009 (1996).

⁹⁷ *NPRM* at para. 57.

⁹⁸ 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 10797-10802 (paras. 25-36) (*Part 27 Report and Order*).

the exclusion of WCS spectrum holdings from application of the CMRS spectrum cap; (iii) flexibility to partition geographic service areas and disaggregate spectrum blocks; (iv) determination of regulatory status by a licensee's designation in its long-form application; and (v) with some exceptions, incorporation of the competitive bidding rules set forth in Part 1 of the Commission's Rules.⁹⁹

45. Noting in the *NPRM* that the licensing framework for Part 27 permits applicants to request common carrier status as well as non-common carrier status under a single license,¹⁰⁰ we proposed to authorize licensees in the 746–764 MHz and 776–794 MHz bands to provide a variety or combination of fixed and mobile, common carrier and non-common carrier, and broadcast services, anywhere within their licensed areas at any time, consistent with the regulatory status specified by the licensee in its long form application (Form 601) and with applicable interference protection requirements. We tentatively concluded that this approach was likely to achieve efficiencies in the licensing and administrative process. In this regard, we sought comment in the *NPRM* on the need to modify Form 601 or any other appropriate form(s) to account for the flexibility of use permitted for these bands. Several parties advocating regulatory neutrality in administering this spectrum endorsed our proposal.¹⁰¹ TWDC, for example, contends that traditional regulatory requirements can disadvantage one class of participants and can discourage experimentation and the development of new services.¹⁰²

46. **Discussion.** To fulfill our enforcement obligations and ensure compliance with the statutory requirements of Titles II and III of the Communications Act, we will require applicants to identify whether they seek to provide common carrier services or other services permitted under the final rules adopted in this proceeding. However, licensees in the 747–762 MHz and 777–792 MHz bands will not be required to describe the specific services they seek to provide but only to designate the regulatory status of the services.¹⁰³ To facilitate this result, we have amended item 35 of the Form 601 to add the broadcast option. Licensees also will be required to notify the Commission within 30 days of service changes that alter the regulatory status of their services. When the change results in the discontinuance, reduction, or impairment of the existing service, a different approach may apply, depending on the nature of the service affected.¹⁰⁴

⁹⁹ We have since proposed application of the Part 27 framework to development of service and operational rules for other spectrum bands. See, e.g., *47 GHz Notice*, 13 FCC Rcd at 16968 (para. 51).

¹⁰⁰ *Part 27 Report and Order*, 12 FCC Rcd at 10845-48 (paras. 118-122).

¹⁰¹ TWDC Comments at 9; TWDC Reply at 8-9; MSTV Comments at 14; Alaskan Choice Comments at 4.

¹⁰² TWDC Comments at 9; TWDC Reply at 8.

¹⁰³ See Section 27.10 of the Commission's Rules at Appendix B, 47 C.F.R. § 27.10. See also *Part 27 Report and Order*, 12 FCC Rcd at 10848 (para. 121). See also 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 19.5-30.0 GHz Frequency Band, To Establish Rules and Policies for Local Multipoint Distribution Service And for Fixed Satellite Services, Petitions for Reconsideration of the Denial of Applications for Waiver of the Commission's Common Carrier Point-to-Point Microwave Radio Service Rules, CC Docket No. 92-297, Suite 12 Group Petition for Pioneer Preference, PP-22, *Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rulemaking*, 12 FCC Rcd 12545, 12644 (para. 223) (1997) (*LMDS Second Report and Order*); 47 C.F.R. § 101.1013.

¹⁰⁴ 47 U.S.C. § 214(a). See Section 27.66 of the Commission's Rules at Appendix B, 47 C.F.R. § 27.66. See also discussion of operating rules, *infra*.

2. Eligibility and Use Restrictions; Spectrum Aggregation

47. **Background.** Sections 27.12 and 27.302 of the Commission's Rules¹⁰⁵ impose no restrictions on eligibility, other than the foreign ownership restrictions set forth in Section 310 of the Communications Act.¹⁰⁶ Our proposal to impose no additional eligibility requirements is endorsed by several parties.¹⁰⁷ We also proposed to impose no restrictions on the amount of spectrum that any one licensee may obtain in the 746-764 MHz and 776-794 MHz bands in the same licensed geographic service area. We received conflicting responses to this portion of our proposal.¹⁰⁸

48. With respect to out-of-band spectrum aggregation, we noted in the *NPRM* that the 746-764 MHz and 776-794 MHz bands may be used for mobile services comparable to the cellular, broadband Personal Communications Service (PCS), and Specialized Mobile Radio (SMR) spectrum for which the CMRS spectrum cap was devised.¹⁰⁹ The CMRS spectrum cap in Section 20.6 of the Commission's Rules governs the amount of CMRS spectrum that can be licensed to a single entity within a particular geographic area. Under Section 20.6, a single entity may acquire attributable interests in the licenses of broadband PCS, cellular, and SMR services that cumulatively do not exceed 45 megahertz of spectrum within the same geographic area.¹¹⁰ In rural geographic areas, an entity may acquire as much as 55 megahertz of spectrum. The CMRS spectrum cap is intended to preclude licensees from aggregating sufficient amounts of CMRS spectrum in a single geographic area to enable them, singly or in combination with other licensees, to exclude competitors, reduce the quantity or quality of services provided, or increase prices to the detriment of customers.¹¹¹ In the *NPRM* we inquired whether CMRS provided on the 746-764 MHz and 776-794 MHz bands should be exempt from the CMRS spectrum cap.¹¹² This proposal was supported by a number of commenters,¹¹³ although others argued for

¹⁰⁵ 47 C.F.R. §§ 27.12, 27.302. See also *Part 27 Report and Order*, 12 FCC Rcd at 10829, para. 83.

¹⁰⁶ 47 U.S.C. § 310.

¹⁰⁷ AirTouch Comments at 22-25; BAM Reply at 11-12.

¹⁰⁸ This proposal is opposed by AirTouch (Comments at 22-24); Bell Atlantic Mobile (Reply at 12); and MSTV (Comments at 14). KM supports limiting the spectrum obtained by a single licensee (KM Comments 4).

¹⁰⁹ See Section 20.6(a) of the Commission's Rules, 47 C.F.R. § 20.6(a). See also *Part 27 Report and Order*, 12 FCC Rcd at 10832-34 (paras. 87-91).

¹¹⁰ See 1998 Biennial Regulatory Review--Spectrum Aggregation Limits for Wireless Telecommunications Carriers, WT Docket No. 98-205, Cellular Telecommunications Industry Association's Petition for Forbearance from the 45 MHz CMRS Spectrum cap, Amendment of Parts 20 and 24 of the Commission's Rules--Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap, WT Docket No. 96-59, Implementation of Sections 3(n) and 332 of the Communications Act, GN Docket No. 93-252, *Report and Order*, FCC 99-244, released Sept. 22, 1999, 1999 WL 734848 (*Spectrum Cap Report and Order*).

¹¹¹ *Spectrum Cap Report and Order* at para. 11.

¹¹² *NPRM* at para. 28.

¹¹³ AirTouch Comments at 20-22; BAM Reply at 11; MSTV Comments at 14. RTG argues that applying the spectrum cap to this spectrum would preclude deployment of advanced 3G services to rural areas. RTG Comments at 9-10. See also RTG Reply at 9.

subjecting these bands to the CMRS spectrum cap.¹¹⁴

49. **Discussion.** We will impose no restrictions on eligibility for a license in the 747-762 MHz and 777-792 MHz bands. Thus, no prospective licensee will be barred from participation in the auction or from post-auction acquisition of a license for this spectrum based on its status as a provider of cable services, for example, or of telephone or other telecommunications services. We believe that opening this spectrum to as wide a range of applicants as possible will encourage entrepreneurial efforts to develop new technologies and services, while helping to ensure the most efficient use of the spectrum.¹¹⁵

50. We have pursued a policy of flexible use for the 747-762 MHz and 777-792 MHz bands. We are particularly concerned that eligibility restrictions could impede efficient development of this spectrum. Were we to exclude all incumbent providers of services that could compete with services that could be provided using this spectrum, we would exclude virtually every major telecommunications service provider active today. We anticipate that use of this spectrum will offer incumbent providers of both wireline and wireless services an opportunity to augment their existing services and systems, rather than to act in an anticompetitive manner, for example, by warehousing the spectrum acquired.

51. With respect to the CMRS spectrum cap, we noted in the *NPRM* that the 746-764 MHz and 776-794 MHz bands may be used for mobile services comparable to the cellular, broadband PCS, and SMR spectrum for which the CMRS spectrum cap was devised. Recognizing that the spectrum cap limits were set on the basis of the particular amount of spectrum (180 megahertz) available at that time for CMRS, we indicated in the *Spectrum Cap Report and Order* that we would evaluate whether the cap should apply, or be adjusted, at the time that we made more spectrum available for CMRS.¹¹⁶ It has been our expectation that, as we made more spectrum available for CMRS services, we would either adjust the cap upward or refrain from including the new spectrum within the scope of the cap.

52. Consistent with our proposal in the *NPRM*, we have determined that the 747-762 MHz and 777-792 MHz bands, if used to provide CMRS, should not count against the 45/55 megahertz spectrum cap. In our recent biennial review of the CMRS spectrum cap, we declined to increase the cap, except in those rural areas in which we determined that an increase was necessary to facilitate the deployment of CMRS.¹¹⁷ We believe that the presence of the CMRS spectrum cap for the existing 180 megahertz of CMRS spectrum provides a sufficient safeguard against consolidation of spectrum to refrain from extending the cap to the 747-762 MHz and 777-792 MHz bands. We also are interested in facilitating the use of these bands for next generation applications that would benefit from those economies of scale provided by licensing on a national or large regional basis. In addition, it is not clear that this spectrum will be used primarily or even substantially for CMRS services or that the services that are provided will be competitive with CMRS. The spectrum is presently encumbered and is likely to remain so, to at least some extent, until 2006. In no part of the country is this band totally unencumbered; in certain parts of

¹¹⁴ UTC argues that the imposition of a spectrum cap on CMRS services provided on the spectrum would create needed parity between broadcast and CMRS providers. UTC Comments at 4. See also KM Comments at 4.

¹¹⁵ Given the commercial nature of the spectrum and our recent (and significant) public safety allocation in the 700 MHz band, providers of public safety services as defined in Section 337(f) of the Communications Act will not likely be interested in participating in the auction of this spectrum or acquiring spectrum in post auction transactions. See 47 U.S.C. § 337(f).

¹¹⁶ *Spectrum Cap Report and Order* at paras. 20-27, 66-67.

¹¹⁷ *Spectrum Cap Report and Order* at paras. 20-27, 66-67.

the country, particularly metropolitan areas, very little of this band is presently available. In light of the present level of encumbrance and the extended transition period provided for incumbent television broadcasters to move out of the band, it would not make sense to count this spectrum against the current cap.

53. Finally, our decision furthers the public interest better than including this spectrum in the cap and then adjusting the cap upward. That course would permit reconsolidation within the present CMRS bands. We note that our approach here is consistent with that in other bands for which we have adopted very flexible allocations and service rules.¹¹⁸ As we indicated in the *Spectrum Cap Report and Order*, reconsolidation would prompt concern about reductions in competition and attendant increases in prices and diminution in the quality of services provided.¹¹⁹ We deem it appropriate to provide additional spectrum for incumbent providers to implement broadband CMRS services, provided this can be accomplished without sacrificing the substantial benefits that the public has realized from competition in CMRS services. We believe that excluding this spectrum from the cap will not result in any additional concentration, or reduce competition in the CMRS marketplace. Correspondingly, keeping the cap in place on present CMRS bands, at least for the time being, will help to ensure that the competitive market structure is maintained.

3. Size of Service Areas for Geographic Area Licensing

54. **Background.** In the past, Part 27 spectrum has been licensed based on one of two kinds of service areas:¹²⁰ twelve Regional Economic Area Groupings (REAs)¹²¹ or 52 Major Economic Areas (MEAs). REAs and MEAs are based on the 172 Economic Areas (EAs) defined by the U.S. Department of Commerce, as modified by the Commission. Licensing Part 27 spectrum using REAs and MEAs allowed us to balance various specific competing needs.¹²² In the 220 MHz auction, we auctioned spectrum in six Economic Area Groupings (EAGs) which were also based on EAs as defined by the Department of Commerce.¹²³ In the *NPRM*, we requested comment on the type of service area or areas that should be used to license the 746-764 MHz and 776-794 MHz bands.

¹¹⁸ See, e.g., *LMDS Second Report and Order* at pages 12634-12639.

¹¹⁹ See *Spectrum Cap Report and Order* at paras. 33-36.

¹²⁰ Section 27.6 of the Commission's Rules, 47 C.F.R. § 27.6; see also, *Part 27 Report and Order*, 12 FCC Rcd 10785, 10814-16 (paras. 54-60) (1997).

¹²¹ "REAs" (Regional Economic Areas) refer to the 12 regions established in the WCS auction, which at that time were known as Regional Economic Area Groupings (REAGs). See OET mapping information on the FCC website <www.fcc.gov/oet/info/maps/areas/>.

¹²² *Part 27 Report and Order*, 12 FCC Rcd at 10814-15 (para. 55).

¹²³ See Appendix C. The 220 *Third Report and Order* established groupings of EAs into six regions of approximately equal population size based on the 1990 census. See, In the Matter of Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, PR Docket No. 89-552, RM-8506, Implementation of Sections 3(n) and 332 of the Communications Act, GN Docket No. 93-252, Regulatory Treatment of Mobile Services Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, FCC 97-57, *Third Report and Order*; *Fifth Notice of Proposed Rulemaking*, 12 FCC Rcd. 10943, (Appendix E) (1997) (*220 Third Report And Order*).

55. The majority of commenters tended to recommend larger geographic sizes for this spectrum band.¹²⁴ Those parties advocating CMRS use for the spectrum generally tended to recommend larger geographic areas. They contend that the trend in the marketplace toward the development of nationwide footprints by CMRS carriers demonstrates that CMRS is increasingly a nationwide service and should be licensed on that basis.¹²⁵ Some companies proposing innovative technologies argued for a nationwide license divided into narrow bands at different frequencies, which would enable them to bypass incumbent TV stations.¹²⁶ A larger geographic licensing area, it is argued, would also allow these new service providers to build-out over large regions reaching rural areas in a cost-effective manner by taking advantage of the long-distance propagation characteristics of this UHF band.¹²⁷ Other reasons given by commenters for larger geographic area licensing include the economies of scale needed to lower equipment costs¹²⁸ and to deploy innovative services rapidly;¹²⁹ advantages in facilitating interoperability and standards;¹³⁰ the simplification of interference coordination;¹³¹ and lowered-cost pricing plans by minimizing roaming costs¹³² or allowing for single-rate pricing plans.¹³³ A few commenters argued for much smaller geographic licensing areas (172 EAs or smaller) in order to be affordable for rural areas,¹³⁴ to enable reuse of existing tower sites,¹³⁵ or to better serve smaller market areas.¹³⁶

¹²⁴ See, e.g., US WEST Comments at 2; Freespace Oct. 13; 1999 *Ex Parte* Filing at 2-3, 11-13.

¹²⁵ See AirTouch Comments at 19-20; BAM Reply at 10; FreeSpace Oct. 13; 1999 *Ex Parte* Filing at 11-12 (referring to AT&T, Sprint, Vodafone-AirTouch/Bell Atlantic merger, Nextel, VoiceStream buying up Omnipoint and 360° Comm); US WEST Comments at 3 (arguing for 24 megahertz national and 12 megahertz in areas no smaller than MEAs in order to offer a 3G migration path for wireless companies now holding 10 megahertz broadband PCS licenses).

¹²⁶ See FreeSpace Oct. 13, 1999 *Ex Parte* Filing at 2-3.

¹²⁷ See FreeSpace Oct. 13, 1999 *Ex Parte* Filing at 6-7.

¹²⁸ AirTouch Comments at 18-19; BAM Reply at 9-10; FreeSpace Oct. 13, 1999 *Ex Parte* Filing at 11.

¹²⁹ AirTouch Comments at 18-19; BAM Reply at 9-10; FreeSpace Oct. 13, 1999 *Ex Parte* Filing at 12.

¹³⁰ AirTouch Comments at 18-19; BAM Reply at 9-10.

¹³¹ AirTouch at Comments 18-19; FreeSpace Oct. 13, 1999 *Ex Parte* Filing at 12 (noting the difficulty of coordination in this band already encumbered with existing TV licensees).

¹³² AirTouch Comments at 18-19.

¹³³ BAM Reply at 9-10; FreeSpace Oct. 13, 1999 *Ex Parte* Filing at 11.

¹³⁴ RTG Comments at 3 (seeking to enable rural providers who have extensive physical plant requirements, to afford to bid for a manageable sized region).

¹³⁵ SBC Comments at 3 (noting that licensing by SMAs and RSAs would enable reuse of existing towers constructed for build-out of cellular service).

¹³⁶ KM Comments at 3-4 (pointing out that local stations are essential to broadcasting); MSTV at 11 (arguing that broadband providers attempt to reach a market which shares similar regional interests and concerns).

56. **Discussion.** We have determined to license both the 20 megahertz and the 10 megahertz licenses according to the six Economic Areas Groupings (EAGs).¹³⁷ We believe that auctioning both licenses on the same geographic basis will enable aggregation into a 30 megahertz band needed for certain applications, for example, for high-speed data.

57. In reaching our conclusion on the appropriate service area size for this spectrum, we have considered several factors. First, we have assessed the use or uses to which this spectrum is likely to be put and determined the geographic scope that, based on the record, would best facilitate rapid deployment.¹³⁸ Second, Section 309(j) of the Communications Act includes as objectives for competitive bidding the avoidance of excessive concentration of licenses and the dissemination of licenses among a wide variety of applicants.¹³⁹ Third, we are mindful of our statutory obligation to conduct the auction for the 746-764 MHz and 776-794 MHz bands to ensure that all proceeds are deposited by September 30, 2000¹⁴⁰ and of our experience in previous auctions, which has shown that simultaneous multiple-round auctions for a larger number of licenses are more complex and take longer to complete than similar auctions involving fewer licenses. Fourth, while individual parties will be able as part of the auction process to aggregate service areas¹⁴¹ or to join bidding consortia to obtain spectrum rights to areas smaller than the Commission's licensing areas, there are risks and costs associated with attempting to do either. This is particularly true when there are a large number of small geographic areas. Thus, we think the best approach is for the Commission to attempt to determine as a starting point the most efficiently sized geographic areas. Finally, as discussed below, to the extent that our decision does not result in optimally sized initial areas for all licensees, we are also allowing for post-auction partitioning and aggregation of licenses for those bidders whose business plans require smaller or larger geographic areas. These rules should allow post-auction transactions to facilitate the most efficient distribution of licenses.

¹³⁷ For the purposes of the 220 MHz Auction, the Economic Area Groupings did not include the Gulf of Mexico. For the current auction, we will divide the Gulf by a line of demarcation which corresponds to the boundary established for the "Western Gulf Planning Area" as mapped by the Mineral Management Services Bureau of the Department of Interior (MMS). All services to east of that line of demarcation (MSS's Eastern and Central Planning Areas) will be part of the Southeast EAG (EAG 3) and all services to the west (MSS's Western Gulf Planning Area) will be part of the Central/Mountain EAG (EAG 5). Having the service area extend into the Gulf will provide service for oil rigs and other mining installations located there without the difficult interference issues that have arisen in the past when one licensee served the Gulf and different licensee the adjoining land. *See*, In re Cellular Service and Other Commercial Mobile Radio Services in the Gulf of Mexico, WT Docket No. 97-112, Amendment of Part 22 of the Commission's Rules to Provide for Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules, CC Docket No. 90-6, *Second Further Notice of Proposed Rule Making*, 12 FCC Rcd 4578 (1997). MMS's boundaries were selected because they are the basis for the leased mineral rights areas which are the major economic divisions in the Gulf and because the mapping data is public information available on their website. *See* <www.gomr.mms.gov/homepg/offshore/offshore.html>

¹³⁸ *Supra*, notes 130-142.

¹³⁹ *See* 47 U.S.C. § 309(j)(3)(B).

¹⁴⁰ *See Consolidated Appropriations*, Appendix E, Sec. 213. *See also* 145 Cong. Rec. at H12493-94, (Nov. 17, 1999).

¹⁴¹ *See WCS R&O*, FCC 97-50, at n. 139 (citing as examples the auctions for PCS Narrowband and Broadband A/B blocks).

58. We concur with the comments advocating that we use the same geographic licensing areas for various segments of the band to permit flexibility in the use of this spectrum. For instance, as Cisco argues, regardless of the geographic area, having both licenses (10 and 20 megahertz) auctioned for the same sized regions would enable aggregation into a 30 megahertz band in a particular region. This bandwidth is needed for certain applications, especially as a third pipe for broadband connection to the Internet.¹⁴² Recognizing the significance this capability would add to the flexible uses for this spectrum, we have determined to license both the 20 megahertz and the 10 megahertz licenses according to the same license areas and have opted for the six Economic Areas Groupings (EAGs).

59. In reaching the decision for two sets of six EAG licenses (twelve total), we have ruled out MEAs or EAs recognizing the overall advantages of larger-sized areas for this band:

- To provide optimum opportunity for alternative aggregation approaches to suit a wide variety of possible services and business plans such as building a nationwide footprint or acquiring both licenses in a particular region.¹⁴³
- To allow the growth of existing technologies while encouraging the development of new applications. When areas are inefficiently small, the costs of aggregation during or after the auction in terms of delay and transaction costs may harm both service providers and customers alike.¹⁴⁴
- To take advantage of opportunities afforded by economies of scale: for developing standard protocols for particular applications and for manufacturing equipment to operate at specific frequencies of the spectrum.¹⁴⁵
- To help address the problems associated with incumbent TV stations in this band, which operate in fairly large areas protected from interference. To license new spectrum in smaller areas would create many situations in which the protection zone would overlap the incumbent license areas or create the need for complicated protection agreements.
- To facilitate conducting the auction in a timely manner.

60. These large geographic areas would readily allow aggregation into a nationwide service area and would enable multiple parties to bid on this spectrum for the provision of high-speed wireless data services. Given the existing build-out of CMRS carriers on a national level, new providers entering this competitive market or existing carriers adding new services to their growing customer base may wish to

¹⁴² Cisco Nov. 10, 1999 *Ex Parte* Filing at 2.

¹⁴³ See *infra*, Competitive Bidding Section.

¹⁴⁴ For example, this may be what has happened in CMRS where a combination of very large number of small license areas and multiple standards has led to difficult roaming issues and operational inefficiencies (e.g., the need for multiple mode phones) which, in turn, has led to greater costs in the form of higher roaming rates.

¹⁴⁵ These geographic areas should permit industry to internalize the costs of developing its own standards. We find that the REA licenses purchased as a 10 megahertz block with the capability of aggregating to nationwide build-out is a sufficient segment to help facilitate the standard-setting process. Smaller regions could hinder the evolution of appropriate standards.

aggregate either the 10 or 20 megahertz regional licenses into a nationwide footprint.¹⁴⁶ Others, following the Cisco proposal, for exclusively fixed high-speed wireless data, may wish to aggregate the two bands within a single region to increase bandwidth to the 30 megahertz to provide high-speed Internet access, resulting in different service providers for different regions.¹⁴⁷ However, in light of the variety of potential services proposed in the record, including for emerging technologies or next-generation applications, the most desirable or efficient scale of service area varies according to the business plans of the particular commenting party. Some may need less spectrum as well as smaller geographic area.¹⁴⁸

61. In addition, we conclude that the six EAGs, as opposed to a nationwide license, will more easily allow partitioning where appropriate to serve the needs of smaller users and rural communities. Partitioning – which could be conditionally agreed upon prior to the auction or arranged post-auction – will also allow start-ups and rural-based companies additional opportunities to acquire spectrum for the provision of service.¹⁴⁹ Thus, we decide to use EAGs for all licenses but allow licensees to partition them into smaller areas, as well as to aggregate them into larger geographic areas. This approach should provide maximum flexibility to the parties to adjust their operating area most efficiently given marketplace and technological needs.

4. Foreign Ownership Restrictions

62. **Background.** In the *NPRM*, we proposed means for implementing the foreign ownership provisions set forth in Sections 310(a) and 310(b) of the Communications Act.¹⁵⁰ Section 310(a) prohibits any foreign government or representative from holding a station license. Section 310(b) prohibits certain defined foreign ownership interests in broadcast, common carrier, aeronautical en route or aeronautical fixed radio station licenses. One comment, supporting our proposal, was received on this portion of the *NPRM*.¹⁵¹

63. **Discussion.** We have determined that Section 27.12 of the Commission's Rules, which implements Section 310 of the Act,¹⁵² should apply to applicants for licenses in the 747-762 MHz and 777-792 MHz bands. A nonbroadcast applicant requesting authorization only for non-common carrier services will be subject to Section 310(a) but not to the additional prohibitions of Section 310(b). An applicant requesting authorization for common carrier services will be subject to both Section 310(a) and Section 310(b).

64. In the case of Multipoint Distribution Service (MDS), satellite service, or Local Multipoint

¹⁴⁶ US WEST Comments at 4-6.

¹⁴⁷ Cisco Nov. 10, 1999 *Ex Parte* Filing at 3.

¹⁴⁸ See Southern Reply at 7 (advocating licensing on the basis of EAs) and Freespace Oct. 13, 1999 *Ex Parte* Filing at 2 (proposing a system requiring as little as 4 megahertz of spectrum).

¹⁴⁹ See *infra*, Competitive Bidding Section regarding bidding credits.

¹⁵⁰ 47 U.S.C. §§ 310(a), 310(b).

¹⁵¹ See AirTouch Comments at 25.

¹⁵² 47 C.F.R. § 27.12. See also Section 27.302 of the Commission's Rules, 47 C.F.R. § 27.302.

Distribution Service (LMDS), the Commission requires an applicant electing non-common carrier status to submit the same information that common carrier applicants submit to address the alien ownership restrictions under Section 310(b) of the Act.¹⁵³ In light of Part 27 licensees' ability to provide common carrier and non-common carrier services, Commission rules require all licensees, even non-common carriers, to report alien ownership on a consistent basis, to enable the Commission to monitor compliance more effectively. As we proposed in the *NPRM*, we will follow the same approach in the case of applicants for the 747-762 MHz and 777-792 MHz spectrum. Common carriers and non-common carriers will not be subject to varied reporting obligations, but will be required to file changes in foreign ownership information to the extent required by Part 27 of our Rules. By establishing parity in reporting obligations, however, we do not establish a single substantive standard for compliance. Thus, we do not and would not disqualify an applicant requesting authorization exclusively to provide non-common carrier services from a license simply because its citizenship information would disqualify it from a common carrier license.

65. The statutory foreign ownership restrictions are applicable to licensees to the extent they apply to a particular service being offered in the 747-762 MHz and 777-792 MHz bands. However, we note that, in response to the World Trade Organization (WTO) Basic Telecommunications Agreement, we have liberalized our policy concerning foreign ownership of common carrier radio licensees under Section 310(b)(4). We now presume that ownership by entities from countries that are WTO members serves the public interest. Ownership by entities from countries that are not WTO members continues to be subject to the "effective competitive opportunities" test established by the Commission.¹⁵⁴

5. License Term; Renewal Expectancy

66. **Background.** In the *NPRM* we proposed to adopt the license term and renewal provisions in Part 27 of the Commission's Rules, for other than new broadcast-type services. Section 27.13 limits the license term to 10 years from the date of original issuance or renewal.¹⁵⁵ Section 27.14(c) establishes a licensee's right to a renewal expectancy.¹⁵⁶ Most commenters addressing the issue endorsed this approach.¹⁵⁷ However, one commenter, in addressing the issue of performance requirements, expressed concern that new licensees might not be able to comply with performance requirements in some markets,

¹⁵³ 47 U.S.C. § 310(b). See Revisions to Part 21 of the Commission's Rules regarding the Multipoint Distribution Service, CC Docket No. 86-179, *Report and Order*, 2 FCC Rcd 4251, 4253 (para. 16) (1987) (*MDS Report and Order*); Streamlining the Commission's Rules and Regulations for Satellite Application and Licensing Procedures, IB Docket No. 95-117, *Report and Order*, 11 FCC Rcd 21581, 21599 (para. 43) (1996) (*Satellite Rules Report and Order*); *LMDS Second Report and Order*, 12 FCC Rcd at 12651 (para. 243).

¹⁵⁴ See Rules and Policies on Foreign Participation in the U.S. Telecommunications Market, IB Docket No. 97-142, Market Entry and Regulation of Foreign-Affiliated Entities, IB Docket No. 95-22, *Report and Order and Order on Reconsideration*, 12 FCC Rcd 23891, 23935-47 (paras. 97-132) (1997). We did not amend our rules for broadcast licenses, which are not covered by the WTO Basic Telecommunications Agreement.

¹⁵⁵ 47 C.F.R. § 27.13.

¹⁵⁶ 47 C.F.R. § 27.14(b).

¹⁵⁷ See, e.g., AirTouch Comments at 26; SBC Comments at 4; but see AMTA Comments at 9; MSTV Comments at 14.

given the continued existence of incumbent broadcasters until 2006.¹⁵⁸

67. **Discussion.** The Communications Act imposes no time limit on licenses issued by the Commission, other than those for broadcast services, which are limited to an eight-year license term.¹⁵⁹ Although we proposed a ten-year license term in the *NPRM*, we are concerned that the continued existence of incumbent broadcasters in the licensed spectrum may retard a licensee's development and use of the spectrum. Thus, we are modifying the license term as it relates to the 747-762 MHz and 777-792 MHz bands, to accommodate licensees' need for additional time to develop and use this spectrum, in light of its continued use by broadcasters until 2006. Based on our estimate that an average of eight years additional time is a reasonable time period in which to comply with the performance requirements set forth below,¹⁶⁰ we have determined that a license issued to a winning bidder for this spectrum will extend eight years beyond the year 2006, the date as of which incumbent broadcasters are required to have relocated to other portions of the spectrum, that is, until January 1, 2014, for a total of approximately 14 years.¹⁶¹ However, if a licensee commences new broadcast-type operations on or before January 1, 2006, the licensee will be required to seek renewal of its license at the end of the eight-year term following commencement of such broadcast operations.

68. We adopt these license provisions for all licensees in the 747-762 MHz and 777-792 MHz bands, as well as the right to a renewal expectancy established in Section 27.14(b), for nonbroadcast services. In the event that a license is partitioned or disaggregated, as discussed below, any partitionee or disaggregatee is authorized to hold its license for the remainder of the original licensee's term, and the partitionee or disaggregatee may obtain a renewal expectancy on the same basis as other licensees in the band. All licensees meeting the substantial service requirement discussed below will be deemed to have met this element of the renewal expectancy requirement regardless of which of the construction options, described below, the licensee has chosen. This approach is appropriate because a licensee, through partitioning, should not be able to confer greater rights than it was awarded under the terms of its license grant.¹⁶² In addition, we conclude that, to claim a renewal expectancy, a renewal applicant involved in a comparative renewal proceeding must include, at a minimum, the showing required in Section 27.14(b) of the Commission's Rules.¹⁶³

¹⁵⁸ AirTouch Comments at 25-26.

¹⁵⁹ See 47 C.F.R. § 73.1020(a).

¹⁶⁰ See Section III.B.6., *infra*.

¹⁶¹ This date may be extended under particular circumstances set forth in 47 U.S.C. § 309(j)(14)(B) including for those markets where 15 percent or more households do not have access to either DTV-equipped receivers or multi-channel video. In addition, given the large geographic licensing areas, each with a number of incumbent broadcasters, we are setting a definite license term, rather than one dependent on the date on which incumbent broadcasters complete their digital television transition.

¹⁶² See Section 27.15(e) of the Commission's Rules at Appendix B, 47 C.F.R. § 27.15(e); see also *Part 27 Report and Order*, 12 FCC Rcd at 10840, para. 106.

¹⁶³ 47 C.F.R. § 27.14(b). See also *Part 27 Report and Order*, 12 FCC Rcd at 10840-41, 10843-44, paras. 106-107, 113.

6. Performance Requirements

69. **Background.** In the *NPRM*, we proposed to adopt the performance requirement in Section 27.14(a) of the Commission's rules for licensees in the 746-764 and 776-794 bands.¹⁶⁴ Section 27.14(a) requires licensees to provide "substantial service" to their service area within 10 years of being licensed.¹⁶⁵ A failure to meet this requirement results in forfeiture of the license and in the licensee's ineligibility to regain the license. Although our proposal received general support, one commenter expressed concern that the continued existence of incumbent broadcasters may make it difficult for new licensees to comply with these performance requirements in some markets.¹⁶⁶

70. **Discussion.** In light of the incumbents issue identified by one commenter, we are amending the performance requirement in Section 27.14(a) of the Commission's Rules as it relates to the 747-762 MHz and 777-792 MHz bands. Under the amended performance requirement, a licensee must provide "substantial service" to its service area no later than January 1, 2014, *i.e.*, eight years after 2006, the date as of which incumbent broadcasters are required to have relocated to other portions of the spectrum.¹⁶⁷

The *Part 27 Report and Order* provided several examples of "safe harbors" that would demonstrate substantial service, which we will apply to licensees in the 747-762 MHz and 777-792 MHz bands.¹⁶⁸ The "substantial service" construction requirement provides licensees with the flexibility to offer the full range of services under the allocations table and accommodate new and innovative services.¹⁶⁹ Licensees in the 747-762 MHz and 777-792 MHz bands may avail themselves of any of the following "safe harbors" for the 747-762 MHz and 777-792 MHz bands. First, for a licensee that chooses to offer fixed, point-to-point services, the construction of four permanent links per one million people in its licensed service area at the license-renewal mark would constitute substantial service. Second, for a licensee that chooses to offer mobile services or fixed, point-to-multipoint services, a demonstration of coverage for 20 percent of the population of its licensed service area at the license-renewal mark would constitute substantial service. We encourage licensees, however, to build out not only in urban areas and areas of high density population but in rural areas as well, or to partition their license to allow others to do so.

71. However, a licensee that limits buildout to urban areas and areas with high density population, will not necessarily be ensured of license renewal, even if otherwise compliant with the construction benchmarks. We believe that the "substantial service" standard requires the licensee to buildout in rural areas as well.

72. We conclude that the buildout requirement we are imposing for this spectrum fulfills our

¹⁶⁴ *NPRM* at para. 33.

¹⁶⁵ 47 C.F.R. § 27.14(a). This section defines substantial service as "service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal." See *Part 27 Report and Order*, 12 FCC Rcd at 10843-45, paras. 111-115.

¹⁶⁶ AirTouch Comments at 25-26.

¹⁶⁷ See Section 27.14(a) of the Commission's Rules at Appendix B, 47 C.F.R. § 27.14(a).

¹⁶⁸ See *Part 27 Report and Order*, 12 FCC Rcd at 10843-44, para. 113.

¹⁶⁹ See *Part 27 Report and Order*, 12 FCC Rcd at 10843, para. 112.

obligations under Section 309(j)(4)(B) of the Act,¹⁷⁰ and that the auction rules for this spectrum, together with the service rules adopted in this proceeding, and our overall competition and universal service policies, constitute effective safeguards and performance requirements for licensing this spectrum. However, we reserve the right to review our construction requirements in the future if we receive complaints related to Section 309(j)(4)(B), or if a reassessment is warranted because spectrum is being warehoused or is otherwise not being used despite demand. We will also reserve the right to impose additional, more stringent construction requirements on licenses in the future in the event that actual anticompetitive or universal service problems develop.

7. Disaggregation and Partitioning of Licenses

73. **Background.** In the *NPRM*, we proposed to permit licensees in the 746-764 MHz and 776-794 MHz bands to partition their service areas and to disaggregate their spectrum, and tentatively concluded that geographic partitioning and spectrum disaggregation can result in efficient spectrum use and economic opportunity for a wide variety of applicants, including small business, rural telephone, minority-owned, and women-owned applicants, as required by Section 309(j)(4)(C) of the Communications Act.¹⁷¹ Although there is general support for our proposal to permit disaggregation and partitioning on these bands, several commenters argue that disaggregation and partitioning are rare and that they thus provide little opportunity for small entities to enter the market for telecommunications services.¹⁷²

74. **Discussion.** We continue to believe it advisable to permit licensees in the 747-762 MHz and 777-792 MHz bands to partition their service areas and to disaggregate their spectrum. Despite assertions to the contrary, we believe that adopting this approach will improve smaller entities' ability to overcome entry barriers through the creation of smaller licenses that require less capital, and will thereby facilitate greater participation by rural telephone companies and other smaller entities, including those owned by minorities and women.¹⁷³ With respect to the 10 and 20 megahertz licenses, to be auctioned on an EAG basis, there is an opportunity to partition into smaller regions. This allows bidders for the 10 and 20 megahertz licenses maximum flexibility to partition the service areas so as to provide a particular type of service for a particular service area. As a corollary to this approach, we have also provided bidding credits to encourage participation in the development of this spectrum by rural telephone companies and small businesses.

75. Section 27.15 of the Commission's Rules,¹⁷⁴ to which licensees in the 747-762 MHz and 777-792 MHz bands will be subject, permits licensees to partition their licensed geographic service areas or

¹⁷⁰ See *Part 27 Report and Order* at 10844-45, paras. 114-115, citing 47 U.S.C. § 309(j)(4)(B).

¹⁷¹ 47 U.S.C. § 309(j)(4)(C).

¹⁷² AMTA Comments at 8-9; RTG Comments at 6-7.

¹⁷³ See *Geographic Partitioning and Spectrum Disaggregation by Commercial Mobile Radio Services Licensees; Implementation of Section 257 of the Communications Act – Elimination of Market Entry Barriers*, WT Docket No. 96-148, *Report and Order and Further Notice of Proposed Rulemaking*, 11 FCC Rcd 21831, 21843-44, paras. 13-17, (1996) (*Partitioning and Disaggregation Report and Order*).

¹⁷⁴ 47 C.F.R. § 27.15.

disaggregate their licensed spectrum at any time following the grant of their licenses.¹⁷⁵ We will permit geographic partitioning of any service area defined by the partitioner and partitionee, spectrum disaggregation without restriction on the amount of spectrum to be disaggregated and combined partitioning and disaggregation.¹⁷⁶ Pursuant to Section 27.15, the partitioning licensee must include with its request a description of the partitioned service area and calculations of the population of the partitioned service area and the licensed geographic service area,¹⁷⁷ and will be subject to the provisions against unjust enrichment set forth in Section 27.15(c).¹⁷⁸

76. As we proposed in the *NPRM*, parties to partitioning agreements may choose between two options for satisfying the construction requirement.¹⁷⁹ Under the first option, the partitioner and partitionee would each certify that it will independently satisfy the substantial service requirement for its respective partitioned area. If a licensee fails to meet its substantial service requirement during the relevant license term, the non-performing licensee's authorization will be subject to cancellation at the end of the license term. Under the second option, the partitioner can certify that it has met or will meet the substantial service requirement for the entire market. If the partitioner fails to meet the substantial service standard during the relevant license term, only its license will be subject to cancellation at the end of the license term; the partitionee's license will not be affected by the failure.

77. We offer these two options to partitioning parties because we believe that Part 27 licensees in the 747-762 MHz and 777-792 MHz bands may be motivated to enter into partitioning arrangements for different reasons and under various circumstances. For example, a licensee might be motivated to partition its license in order to reduce its construction costs. In that case, the original licensee would have less population to cover in order to meet its substantial service requirement and might find the first option more attractive. Under another scenario, a licensee that has met or is close to meeting its substantial service requirement may be approached by another entity interested in serving a niche market in a portion of the service area. Under these circumstances, the second option may seem more attractive to the parties. In either instance, the public interest is advanced by permitting that flexibility, in terms of service areas and niche markets, conducive to optimizing the viability and value of the licenses partitioned, while precluding circumvention of our construction requirements.¹⁸⁰

78. In addition, we will allow parties to disaggregation agreements to choose between two options for satisfying the construction requirement.¹⁸¹ Under the first option, the disaggregator and disaggregatee would certify that each will share responsibility for meeting the substantial service

¹⁷⁵ See *Part 27 Report and Order*, 12 FCC Rcd at 10836-39, paras. 96-103.

¹⁷⁶ See *Part 27 Report and Order* at 10836-37, 10839, paras. 97-99, 102, citing *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21847-48, paras. 23-24.

¹⁷⁷ 47 C.F.R. § 27.15(b)(1).

¹⁷⁸ 47 C.F.R. § 27.15(c). See also 47 C.F.R. § 1.2111.

¹⁷⁹ See Section 27.15(e)(1) of the Commission's Rules at Appendix B, 47 C.F.R. § 27.15(e)(1). See also *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21857, para. 42.

¹⁸⁰ See *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21857, para. 43.

¹⁸¹ See Section 27.15(e)(2) of the Commission's Rules at Appendix B, 47 C.F.R. § 27.15(e)(2). See also *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21865, paras. 62-63.

requirement for the geographic service area. If the parties choose this option, both parties' performance will be evaluated at the end of the relevant license term, and both licenses could be subject to cancellation, should the requirement not be met. The second option allows the parties to agree that either the disaggregator or the disaggregatee will be responsible for meeting the substantial service requirement for the geographic service area. If the parties choose this option, and the party responsible for meeting the construction requirement fails to do so, only the license of the non-performing party will be subject to cancellation. As with partitioned licenses, providing these options preserves the public interest in developing the spectrum to the same degree as that required had the disaggregation (or partitioning) not occurred.¹⁸²

8. Public Notice of Initial Applications; Petitions to Deny

79. **Background.** Section 309(b) and Section 309(c) of the Communications Act require public notice for initial applications, and substantial amendments thereof.¹⁸³ These requirements provide that no such application shall be granted earlier than 30 days following the issuance of public notice by the Commission, and that the Commission may not require petitions to deny such applications to be filed earlier than 30 days following the public notice. The same provision also grants the Commission the authority to impose public notice requirements for other licenses, even though the statute does not require public notice. However, the administrative procedures for spectrum auctions adopted in Section 3008 of the Balanced Budget Act of 1997¹⁸⁴ and Consolidated Appropriations Act¹⁸⁵ permit the Commission to shorten notice periods in the auction context to five days for petitions to deny and seven days for public notice, notwithstanding the provisions of Section 309(b) of the Communications Act. In the *Part 1 Third Report and Order*,¹⁸⁶ the Commission exercised this statutory authority by amending Section 1.2108(b) and Section 1.2108(c) of the Commission's Rules¹⁸⁷ to provide for a five-day period for filing petitions to deny and a seven-day public notice period for all auctionable services. We received no comments on our proposal to adopt these deadlines for services in the 746-764 MHz and 776-794 MHz spectrum bands.

80. **Discussion.** We have determined to adopt for this spectrum the seven-day notice requirement for initial applications and the five-day deadline for petitions to deny. An applicant filing for both common carrier and non-common carrier authorizations in a single license and wishing to make subsequent status changes will also be subject to the seven-day public notice requirement.

¹⁸² See *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21864-65 (para. 61).

¹⁸³ 47 U.S.C. §§ 309(b), 309(c). See also Section 309(d) regarding petitions to deny; 47 U.S.C. § 309(d).

¹⁸⁴ 47 U.S.C. § 309(j) nt. 3.

¹⁸⁵ See *Consolidated Appropriations*, Appendix E, § 213. See also 145 Cong. Rec. H12493-94 (Nov. 17, 1999).

¹⁸⁶ Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures, WT Docket No. 97-82, Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 4660-4685 MHz, ET Docket No. 94-32, *Third Report and Order and Second Further Notice of Proposed Rulemaking*, 13 FCC Rcd 374, 431 (para. 98) (1997), recon. pending.

¹⁸⁷ 47 C.F.R. §§ 1.2108(b), 1.2108(c).

C. Operating Rules

81. In the *NPRM*, we proposed to subject licensees in the 746-764 MHz and 776-794 MHz bands to the Part 27 rules that govern operations, subject to any modifications adopted in this proceeding. We proposed operating rules for a full range of possible licensees, consistent with our stated intention to permit as much flexibility in the use of this spectrum as is consistent with the requirements of Section 303(y) of the Act. The following discussion focuses on operating rules for licensees in the 747-762 MHz and 777-792 MHz bands to the extent that they offer common carrier services on these bands. We do not purport to survey at this time the range of statutory and regulatory provisions that may be relevant to any new service offerings on this band that qualify as new broadcast-type services.¹⁸⁸

1. Applicability of General Common Carrier Obligations; Forbearance

82. **Background.** In the *NPRM*, we reviewed our decisions respecting forbearance from the requirements of the Communications Act and interpreted the potential effect of these decisions on fixed common carrier services provided on the 746-764 MHz and 776-794 MHz bands. We noted that we have exercised our authority under Section 332(c)(1)(A) of the Communications Act to forbear for CMRS from certain of the obligations imposed on common carriers by Title II of the Communications Act, such as the filing of tariffs and intercarrier contracts and maintenance of certain records.¹⁸⁹ We have also extended the deadline for CMRS providers to support service provider local number portability (LNP) until November 24, 2002,¹⁹⁰ and have forbore from requiring CMRS providers to file tariffs for most international services, and from applying most of Section 226 of the Act, relating to telephone operator services.¹⁹¹ We noted that we have also exercised our expanded forbearance authority¹⁹² in the case of wireline carriers, for the “complete detariffing” of interstate, interexchange services offered by

¹⁸⁸ As with the licensing rules, there is little record comment on the appropriate treatment for new broadcast-type services operating in this spectrum. We have not attempted to anticipate the nature of services that may be developed under the service and technical rules adopted here, or to determine how the regulations discussed below would apply to new broadcast-type services. We remind potential applicants, however, that certain regulations are mandatory as a matter of statute and thus must apply to such services.

¹⁸⁹ Implementation of Sections 3(n) and 332 of the Communications Act – Regulatory Treatment of Mobile Services, GN Docket No. 93-252, *Second Report and Order*, 9 FCC Rcd 1411, 1463-90, paras. 124-213, (1994) (*CMRS Second Report and Order*) (authorizing forbearance from 47 U.S.C. §§ 203, 204, 205, 211 and 214), *recon. pending*.

¹⁹⁰ Cellular Telecommunications Industry Association's Petition for Forbearance from Commercial Mobile Radio Services Number Portability Obligations, WT Docket No. 98-229, *Memorandum Opinion and Order*, FCC 99-19, (rel. Feb. 9, 1999, 1999) WL 58618.

¹⁹¹ Personal Communications Industry Association's Broadband Personal Communications Services Alliance's Petition for Forbearance For Broadband Personal Communications Services, Biennial Regulatory Review-- Elimination or Streamlining of Unnecessary and Obsolete CMRS Regulations, Forbearance from Applying Provisions of the Communications Act to Wireless Telecommunications Carriers, WT Docket No. 98-100, Further Forbearance from Title II Regulation for Certain Types of Commercial Mobile Radio Service Providers, GN Docket No. 94-33, GTE Petition for Reconsideration or Waiver of a Declaratory Ruling, MSD-92-14, *Memorandum Opinion and Order and Notice of Proposed Rulemaking*, 13 FCC Rcd 16857 (1998).

¹⁹² See Section 10 of the Communications Act; 47 U.S.C. § 160.