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

In the Matter of	)	
	)	
Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59)	)	GN Docket No. 01-74

REPORT AND ORDER

Adopted: December 12, 2001 **Released:** January 18, 2002

By the Commission: Commissioner Copps issuing a separate statement; Commissioner Martin approving in part, concurring in part, and issuing a separate statement.

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I. INTRODUCTION

1. In the *Notice of Proposed Rulemaking* (*Notice*) in this docket released March 28, 2001, the Commission proposed to reallocate and adopt service rules for the 698-746 MHz spectrum band ("Lower 700 MHz Band"), currently comprising television Channels 52-59, to support the development of new services.[1] By this Report and Order, we adopt allocation and service rules for the Lower 700 MHz Band in order to reclaim and license this spectrum in accordance with statutory mandate.[2] In doing so, we take another significant step in the transition of TV broadcasting from analog to digital transmission systems. Because digital television technology is more spectrally efficient than the current analog standard, the same amount of television service can operate in a reduced allocation. By relocating television operations to a core spectrum (TV Channels 2-51), we make existing broadcast spectrum available for reallocation. The flexible allocation we adopt for the Lower 700 MHz Band will allow service providers to select the technology they wish to use to provide new services that the market may demand. At the same time, we take steps to protect incumbent broadcasters during the technically complex transition to digital broadcasting during which there will be significant interference protection issues for new licensees seeking to initiate service in the Lower 700 MHz Band.

[1] Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), *Notice of Proposed Rulemaking*, GN Docket No. 01-74, 16 FCC Rcd 7278 (2001) (*Notice*). The *Notice* sought comment on the proposed reallocation of the 698-746 MHz band, as well as on the proposed service rules for the 698-746 MHz band. A list of parties filing comments and reply comments in response to the *Notice*, along with short title references used to cite to commenting parties, appears in Appendix A.

[2] *See* Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 § 3003 (1997) ("BBA 97") (adding new Section 309(j)(14) to the Communications Act of 1934, as amended); § 3007 (uncodified; reproduced at 47 U.S.C. §309(j) note 3).

2. Specifically, we reallocate the entire 48 megahertz of spectrum in the Lower 700 MHz Band to fixed and mobile services and retain the existing broadcast allocation for both new broadcast services and incumbent broadcast services during their transition to digital television ("DTV"). We establish technical criteria designed to protect incumbent television operations in the band during the DTV transition period, allow low power television ("LPTV") and TV translator stations to retain secondary status and operate in the band after the transition, and set forth a mechanism by which pending broadcast applications may be amended to provide analog or digital service in the core television spectrum or to provide digital service on TV Channels 52-58. In our service rules, we divide the Lower 700 MHz Band into three 12-megahertz blocks, with each block consisting of a pair of 6-megahertz segments, and two 6-megahertz blocks of contiguous, unpaired spectrum. We will license the five blocks in the Lower 700 MHz Band plan as follows: the two 6-megahertz blocks of contiguous unpaired spectrum, as well as two of the three 12-megahertz blocks of paired spectrum, will be assigned over six Economic Area Groupings ("EAGs"); the remaining 12 megahertz block of paired spectrum will be licensed over 734 Metropolitan Statistical Areas ("MSAs") and Rural Service Areas ("RSAs"). All operations in the Lower 700 MHz Band will be generally regulated under the framework of Part 27's technical, licensing, and operating rules. To permit both wireless services and certain new broadcast operations in the Lower 700 MHz Band, however, we have amended Part 27's maximum power limits to permit 50 kW effective radiated power ("ERP") transmissions in the Lower 700 MHz Band, subject to certain conditions. Finally, we establish competitive bidding procedures and voluntary band-clearing mechanisms for the Lower 700 MHz Band.

II. BACKGROUND

3. Section 309(j)(14) of the Communications Act of 1934, as amended ("Communications Act" or "Act"), requires the Commission to assign spectrum recovered from broadcast television using competitive bidding, and envisions that the Commission will conduct an auction of this spectrum by September 30, 2002.[3] The statute further requires analog broadcasters to cease operation in the recovered spectrum by the end of 2006 unless the Commission extends the end of the transition.[4] As provided in the statute, the Commission is required to extend the end of the transition at the request of individual broadcast licensees on a market-by-market basis if one or more of the four largest network stations or affiliates are not broadcasting in digital, digital-to-analog converter technology is not generally available, or 15 percent or more television households are not receiving a digital signal.[5]

4. The recovery of the Lower 700 MHz spectrum as well as the 698-746 MHz spectrum band ("Upper 700 MHz Band") – a total of 108 megahertz – is made possible by the conversion of television broadcasting from the existing analog transmission system to a digital transmission system.[6] Because the

[3] 47 U.S.C. § 309(j)(1) (codifying BBA 97 § 3003).

[4] *Id.* § 309(j)(14)(A)-(B).

[5] *Id.* § 309(j)(14)(B)(i)-(iii).

[6] *See Notice*, 16 FCC Rcd at 7282 ¶ 5 (describing the transition process in greater detail). *See also generally* Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, MM Docket No. 87-268, *Second Memorandum Opinion and Order on Reconsideration of the Fifth and Sixth Report and Orders*, 14 FCC Rcd 1348 (1998) (*DTV Second MO&O of the Fifth and Sixth Report and Orders*); Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, MM Docket No. 87-268, *Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order*, 13 FCC Rcd 7418 (1998) (*DTV MO&O of the Sixth Report and Order*); Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, MM Docket No. 87-268, *Memorandum Opinion and Order on Reconsideration of the Fifth Report and Order*, 13 FCC Rcd 6860 (1998) (*DTV MO&O of the Fifth Report and Order*); Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, MM Docket No. 87-268, (continued….)

digital television transmission system is more spectrally efficient than the analog system, less spectrum will be needed for broadcast television service after the transition. The Upper 700 MHz Band (Channels 60-69) comprises 60 megahertz, while the Lower 700 MHz Band (Channels 52-59) comprises 48 megahertz. The reclamation of television spectrum has been addressed in two parts, primarily as a result of different statutory requirements applicable to the two bands and differing degrees of incumbency in the two bands.[7] The Lower 700 MHz Band is significantly more occupied by incumbent television operations than is the Upper 700 MHz Band.[8] The Commission was required to make specific allocations in the Upper 700 MHz Band by January 1, 1998.[9] Early recovery of additional spectrum beyond the Upper 700 MHz Band was not contemplated in the DTV transition plan.[10] Both Congress and the Commission initially expected to license the Lower 700 MHz Band after the auction of the Upper 700 MHz Band.[11] While Congress did not specify the amount of spectrum to be reclaimed beyond the Upper 700 MHz Band, the Commission determined that all broadcasters could operate with digital transmission systems in Channels 2-51 after the transition, thus allowing Channels 52-59 to be reclaimed for new services.[12]

5. As indicated above, we are required to assign the reallocated spectrum via competitive bidding. Several statutory mandates inform the approach we take when considering allocation and service rules for such spectrum. Under Section 309(j)(3) of the Act, the Commission must consider a bidding methodology that promotes a number of objectives, including new technologies, services for the public, economic competition and growth, commercial use, and time for interested parties to develop their business plans.[13] Under Section 309(j)(4), the regulations must prescribe area designations and bandwidth assignments that promote (a) equitable distribution of licenses and services among geographic areas, (b) economic opportunity for a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women, and (c) investment in, and rapid deployment of, new technologies and services.[14] Similarly, under Section 303(y)(2), the Commission is authorized to allocate spectrum to provide flexibility of use.[15] The Commission must make affirmative findings that such flexibility: (1) is consistent with international agreements, (2) would be in the public interest, (3) would not

(Continued from previous page)
Sixth Report and Order, 12 FCC Rcd 14588 (1997) (*DTV Sixth Report and Order*); Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, MM Docket No. 87-268, *Fifth Report and Order*, 12 FCC Rcd 12809 (1997) (*DTV Fifth Report and Order*); Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, MM Docket No. 87-268, *Sixth Further Notice of Proposed Rule Making*, 11 FCC Rcd 10968 (1996) (*DTV Sixth Further Notice*) (collectively "DTV proceeding").

[7] *Notice*, 16 FCC Rcd at 7282 ¶ 6.

[8] *See DTV Sixth Report and Order*, 12 FCC Rcd at 14609 ¶ 37.

[9] BBA 97 § 3004 (adding new § 337 of the Communications Act). The legislation specifically directed the Commission to allocate 24 megahertz of spectrum to Public Safety Services and 36 megahertz to commercial use.

[10] *See DTV Sixth Report and Order*, 12 FCC Rcd at 14590 ¶ 1.

[11] *See* 47 U.S.C. § 337(a); *see also id.* § 337(b)(2); Consolidated Appropriations Act, 2000, Pub. L. No. 106-113, 113 Stat. 2502, App. E, § 213, 145 Cong. Rec. H12493-94 (Nov. 17, 1999) ("Consolidated Appropriations Act"); 47 U.S.C. § 309(j)(14)(C)(ii); BBA 97 § 3003. *DTV Sixth Report and Order*, 12 FCC Rcd at 14590 ¶ 1.

[12] *See DTV MO&O of the Sixth Report and Order*, 13 FCC Rcd at 7435-36 ¶ 42.

[13] *See* 47 U.S.C. § 309(j)(3)(A)-(E).

[14] *See id.* § 309(j)(4).

[15] *See id.* § 303(y)(2).

deter investment in communications services and systems, or technology development, and (4) would not result in harmful interference among users.[16] We adopt this Report and Order with full consideration of these requirements.

III. DISCUSSION

6. While the end of the DTV transition is targeted for the end of 2006, the statute anticipates that the Commission will reclaim excess television spectrum by September 30, 2002.[17] Therefore, the auction for this spectrum will occur a number of years in advance of the end of the digital transition. During this period, incumbent broadcasters may continue to operate in the band. New licensees may operate in the band prior to the end of the transition, provided they do not interfere with existing analog and digital broadcasters. In the *Notice*, the Commission established a framework for consideration of both allocation and service rules for the Lower 700 MHz Band that was modeled on the decisions the Commission made in the Upper 700 MHz Band proceeding.[18] While we conclude that many of these decisions can be implemented in the Lower 700 MHz Band, we do not hesitate to take a different approach when we conclude that the differences between these spectrum resources outweigh the similarities.[19]

A. Spectrum Allocation Issues

1. Reallocation of the 698-746 MHz Band

7. Domestically, the Lower 700 MHz Band is currently allocated on a primary basis to non-

[16] *See id.*

[17] *See* BBA 97 §§ 3003, 3007.

[18] *Notice*, 16 FCC Rcd at 7284 ¶ 8. *See also* 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, Carriage of the Transmissions of Digital Broadcast Stations, CS Docket No. 98-120, Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, MM Docket No. 00-39, *Order on Reconsideration of the Third Report and Order*, FCC 01-258 (rel. Sept. 17, 2001) (*Upper 700 MHz Third Report and Order Reconsideration*); 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, Carriage of the Transmissions of Digital Broadcast Stations, CS Docket No. 98-120, Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, MM Docket No. 00-39, *Third Report and Order*, 16 FCC Rcd 2703 (2001) (*Upper 700 MHz Third Report and Order*); Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, *Second Memorandum Opinion and Order*, 16 FCC Rcd 1239 (2001) (*Upper 700 MHz Second MO&O*); 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, *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 20845 (2000) (*Upper 700 MHz MO&O and FNPRM*); Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, *Second Report and Order*, 15 FCC Rcd 5299 (2000) (*Upper 700 MHz Second Report and Order*); Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, *First Report and Order*, 15 FCC Rcd 476 (2000*) (Upper 700 MHz First Report and Order*); 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 Rulemaking*, 14 FCC Rcd 11006 (1999) (*Upper 700 MHz NPRM*); Reallocation of Television Channels 60-69, The 746-806 MHz Band, ET Docket No. 97-157, Report and Order, 12 FCC Rcd 22953 (1998) (*Upper 700 MHz Reallocation Order*); Reallocation of Television Channels 60-69, the 746-806 MHz Band, ET Docket No. 97-157, *Notice of Proposed Rulemaking*, 12 FCC Rcd 14141 (1997) (*Upper 700 MHz Reallocation Notice*) (collectively "Upper 700 MHz Band proceeding").

[19] *See, e.g., infra* para. 63 (discussing some of these differences between the Upper and Lower 700 MHz Bands).

government broadcasting. TV Channels 52-59 (each channel represents 6 megahertz of spectrum) occupy the band. TV broadcast services may also use TV subcarrier frequencies, and, more generally, their TV channels, on a secondary basis for other purposes, including datacasting.[20] The band is further allocated to the fixed service for subscription television operations in accordance with Part 73 of our rules.[21] Internationally, the band is allocated worldwide on a primary basis to broadcasting services. The band is also allocated to fixed and mobile services in Region 2 (which includes the United States) on a secondary basis and in Region 3 on a co-primary basis.[22] A footnote to the International Table of Frequency Allocations elevates the allocation to fixed and mobile services to primary status in the United States, Mexico, and several other Region 2 countries, but this primary allocation has yet to be implemented domestically.[23]

8. In recent years, there has been tremendous growth in new wireless services and demand for spectrum.[24] In the United States, virtually all spectrum, particularly in the most sought after bands below 3 GHz, has been assigned to various services. Consequently, with the exception of several small bandwidth segments of only a few megahertz each that are not sufficient to support high volume operations, there is very little unencumbered spectrum available for new uses or users.[25] In previous proceedings, the Commission has noted that the propagation characteristics of the Lower 700 MHz Band are ideal for two-way mobile communications. For example, the Commission's 1999 *Spectrum Reallocation Policy Statement* suggested the reallocation of the Lower 700 MHz Band for Fixed, Mobile and new Broadcast services for commercial uses following the same approach used in allocating the 36 megahertz of commercial spectrum in the Upper 700 MHz Band.[26] Similarly, the Lower 700 MHz Band was identified as a possible candidate for third-generation ("3G") mobile services in the Commission's *3G Notice* on Advanced Fixed and Mobile Services.[27] Further, a resolution adopted at World Radiocommunication Conference-2000 ("WRC-2000") recognized that some administrations may use the Lower 700 MHz Band for 3G services.[28] At WRC-2000, the United States proposed that the Lower 700 MHz Band be identified as one of several candidate bands for the terrestrial component of new advanced communication

[20] *See* 47 C.F.R. § 2.106 note NG128.

[21] *See id.* § 2.106 note NG149.

[22] *Id.*

[23] *Id.* § 2.106 note S5.293.

[24] *Notice*, 16 FCC Rcd at 7284-7285 ¶ 9 (citing Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, *Policy Statement*, 14 FCC Rcd 19868 (1999) (*Spectrum Reallocation Policy Statement*) and Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets, *Policy Statement*, 15 FCC Rcd 24178 (2000) (*Secondary Markets Policy Statement*)).

[25] *See id.*

[26] *Spectrum Reallocation Policy Statement*, 14 FCC Rcd at 19879-80 ¶ 25.

[27] *See* Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, *Notice of Proposed Rulemaking*, ET Docket No. 00-258, 16 FCC Rcd 596, 633, App. D (2001) (*3G Notice*).

[28] *Id.* at 612 ¶ 38.

applications.[29]

9. Although the Lower 700 MHz Band is well suited for a variety of new services, it is also home to broadcasters who are in the midst of the technically complex transition to digital television. As previously noted, the Commission has anticipated that the band will remain principally a television band until the end of the digital transition, and that early recovery of additional spectrum beyond the Upper 700 MHz Band was not contemplated in the DTV transition plan.[30] Because of the statutory requirement to auction this spectrum several years in advance of the end of the transition, the Commission sought comment on the reallocation plans and service rules necessary to license the spectrum for new services consistent with the Congressional mandate.[31] However, we also recognize that we must balance the opportunities for new services with the significant investment and planning required by the broadcasters to build new digital facilities and relocate operations.

a. Fixed, Mobile, and Broadcast Allocation

10. Background. In the *Notice*, the Commission proposed to reallocate the entire 48 megahertz of spectrum in the Lower 700 MHz Band to fixed and mobile services, and to retain the existing broadcast allocation.[32] It concluded that such an allocation would support next generation broadband operations.[33] By proposing a broad allocation, the Commission sought to provide licensees with flexibility to deploy a variety of services, including broadcasting services. The Commission believed that this approach would "permit the maximum diversity in service offerings" in the Lower 700 MHz Band.[34]

11. Commenters support the Commission's proposal to adopt a broad reallocation plan for this band.[35] Several commenters also agree with the tentative conclusion of the *Notice* that this spectrum is well suited for advanced broadband services, and support the proposed fixed and mobile allocation.[36] Qwest, for example, notes that because the band is situated near spectrum currently licensed to cellular and Enhanced Specialized Mobile Radio services, such an allocation would create efficiencies for carriers and manufacturers in designing new products and networks that would benefit consumers.[37]

12. The proposal to retain the existing broadcast allocation also received support, but several commenters question whether fixed and mobile services can successfully coexist with broadcast operations

[29] *See International Telecommunications Union Final Acts of the World Radiocommunication Conference* (*WRC-2000*), Istanbul, 2000 (*WRC-2000 Report*).

[30] *Notice*, 16 FCC Rcd at 7283, 7285 ¶¶ 7, 11. The Commission did seek comment on what mechanisms, if any, could be employed to facilitate band clearing in the Lower 700 MHz Band and accelerate the digital television transition. *Id.* at 7330-35 ¶¶ 125-136. We address these proposals *infra* at paras. 182-184.

[31] *Id.* at 7285 ¶ 11.

[32] *Id.* at 7286-87 ¶ 14.

[33] *Id.*

[34] *Id.*

[35] *See, e.g.*, Leap Comments at 1; RTG Reply at 1-2.

[36] *See, e.g.*, West River Comments at 2; U.S. Cellular Comments at 1.

[37] Qwest Comments at 2.

in the band.[38] The parties that support a broadcast allocation note that such an allocation would afford flexible use of the spectrum[39] and might allow DTV licensees to utilize translators in areas that may suffer service deficiencies.[40] Those commenters who do not support a broadcast allocation – including CTIA and Qwest – do not disagree with the tentative conclusion in the *Notice* that the public interest would be served by allowing licensees broad flexibility, but instead question whether advanced wireless providers can successfully coexist with new broadcast operations.[41] CTIA, for example, contends that "it is not technically feasible" for advanced wireless providers to share the band with full power broadcasters, both because of the Commission's experience in the Upper 700 MHz Band proceeding and because the engineering, operational and regulatory considerations necessary to share spectrum between two unlike services.[42]

13. Discussion. We are adopting the fixed and mobile service allocation as proposed, and retaining the existing broadcast allocation.[43] As proposed in the *Notice*, we are amending the Table of Allocations to reflect this change.[44] This decision is consistent with the Commission's allocation plans as set forth in the *Spectrum Reallocation Policy Statement*.[45] It is also consistent with the principles of the policy statement – that flexible allocations can promote efficient spectrum markets, which, in turn, encourages efficient use of the spectrum.[46] Furthermore, it conforms with positions the United States has taken at the World Radio Conference ("WRC").[47] We note that no commenter suggests an alternative basis for our allocation decision. Instead, those who do not fully support the Commission's proposal express narrow technical concerns about a shared allocation as opposed to broader concerns about the overall spectrum management approach we proposed.[48]

14. As a threshold matter, we must retain a broadcast allocation in the band insofar as we intend to allow broadcasting during the DTV transition period and, as discussed below, LPTV operations on a secondary basis for the indefinite future. We also look to the analysis the Commission undertook in the

[38] *See, e.g.*, Qwest Comments at 2; CTIA Comments at 2.

[39] *See* MSTV Comments at 2-4, Cox Reply at 2.

[40] Cox Reply at 7-9.

[41] CTIA Comments at 2. *See also* Qwest Comments at 2.

[42] CTIA Comments at 2-3.

[43] As discussed *infra* at para. 132, while none of the Lower 700 MHz Band is being allocated exclusively for private radio services, the rules we adopt will permit licensees to use spectrum they acquire for private, internal communications needs if they so choose.

[44] *Notice*, 16 FCC Rcd at 7286-87 ¶ 14. The Table of Frequency Allocations is located at 47 C.F.R. § 2.106.

[45] *Spectrum Reallocation Policy Statement*, 14 FCC Rcd at 19879-80 ¶ 25.

[46] *Id.* at 19870 ¶ 9.

[47] *See Notice*, 16 FCC Rcd at 7286-87 ¶ 14.

[48] *See, e.g.*, CTIA Comments at 2 (stating that CTIA "generally supports" the allocation proposal but does not believe that it is "technically feasible" for certain broadcast and land mobile applications to coexist in the band).

Upper 700 MHz Band proceeding.[49] There, the Commission recognized that conventional high-powered broadcasting and advanced fixed and mobile services could not effectively coexist in the band, and adopted service rules that limited the power of any new broadcasting services in order to insure the protection of new wireless entrants in the band – but did not exclude broadcast operations entirely.[50]

15. A flexible use approach is also consistent with Section 303(y) of the Communications Act. Section 303(y) requires the Commission to make affirmative findings that a proposed flexible use allocation (1) is consistent with international agreements; (2) would be in the public interest; (3) would not deter investment in communications services and systems, or technology development; and (4) would not result in harmful interference among users.[51] No commenter specifically addresses Section 303(y), but we look to the record to determine that a flexible allocation is justified. First, we find that the band is allocated worldwide on a primary basis to the broadcasting service, and is also allocated to the fixed and mobile services in Region 2 (which includes the United States) on a primary basis, via footnote to the International Table of Frequency Allocations.[52] Accordingly, we may add a fixed and mobile service allocation to the existing broadcast allocation and be consistent with international band management plans.[53] We also believe that a flexible allocation would be in the public interest. We look to the Upper 700 MHz Band proceeding, where, although the Commission found a strong interest in wireless services predominated the record, it nevertheless adopted a flexible allocation that permitted both wireless and broadcast applications.[54] In this proceeding, commenters express interest in both wireless and broadcast uses of the band. Based on the policy statements that found the 700 MHz Band well suited to advanced services, we believe a fixed and mobile services allocation in this band can support the development of those advanced services, and that doing so will promote the public interest. Because the record in this proceeding also reflects a strong level of support for new broadcast uses of the band, we also think it is prudent to try to accommodate these interests. We envision that the existing broadcast allocation, in conjunction with the technical rules we adopt, will support investment in and development of a variety of broadcast-type applications in the band, including two-way interactive services and services using coded orthogonal frequency division multiplex ("COFDM") technology. These applications could include video transmissions to mobile receivers, similar to services being developed in Europe and Asia.

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[49] In the Upper 700 MHz Band proceeding, the Commission discussed the technical barriers for coordinated full-power television and wireless services in the 700 MHz range. *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 484 ¶ 17 (2000). Those technical conclusions serve as an appropriate starting point for our discussion here because the Lower 700 MHz Band is adjacent to the Upper 700 MHz Band and shares many of the same characteristics in terms of signal propagation and susceptibility to interference. For example, many of our Part 73 Broadcast rules do not materially differentiate between operation on TV Channels 52-59 and TV Channels 60-69.

[50] *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 483 ¶ 15.

[51] 47 U.S.C. § 303(y).

[52] *See Notice*, 16 FCC Rcd at 7287 ¶ 16.

[53] As discussed *infra* at section III.A.2.c., we also take steps to insure that new licensees in the band do not cause interference to operations in Canada and Mexico. By adopting these provisions, we will be able to allow for new services without compromising existing agreements between the United States and those countries.

[54] *See, e.g., Upper 700 MHz First Report and Order*, 15 FCC Rcd at 483 ¶ 15 (stating that, "[b]ased 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"); *Id.*, 15 FCC Rcd at 486 ¶ 22 (concluding that a flexible use broadcast and fixed and mobile allocation satisfied the requirements of Section 303(y)).

16. Although we believe that the provision of broadcast and fixed and mobile services, in their own right, serve the public interest, it might not serve the public interest if these two services cannot successfully co-exist. At the most basic level, it is obvious that only an allocation that allows for both services would not deter investment in and development of technology for broadcast as well as fixed and mobile applications. There is support in the record for both broadcast and wireless services, but we can only expect investment in both if we allocate both services. A more meaningful analysis, however, also has to examine whether the two services are unable to co-exist such that harmful interference will occur among users and investment in either service will be deterred.

17. Commenters question whether the proposed services can successfully co-exist without causing harmful interference.[55] We agree with Cox that the answer to concerns about potential interference is not to exclude all potential broadcast licensees, which might prevent the spectrum from being utilized by the user who values it the most.[56] Instead, we will adopt technical rules that account for the differences between the services. This is the same approach we took in the Upper 700 MHz Band proceeding.[57] As discussed in the service rules portion of this Report and Order, and in the accompanying technical appendix,[58] we conclude that we can adopt interference protection criteria that will permit the provision of both broadcast and fixed and mobile services without harmful interference among users.

18. To the extent that Cox and MSTV's request for a "full range" of broadcast applications includes traditional full-power analog broadcasting,[59] we reject those proposals because they are more likely to cause harmful interference and deter development of the band. Accordingly, the service rules we are adopting will prevent licensees who acquire the reallocated spectrum from providing full-power analog broadcast services of the type that has traditionally been provided in this band (and which, until the end of the transition, will continue to be permitted under broadcast television service licenses).[60] Similarly, we note that many of the concerns of CTIA, Qwest, and other commenters who do not support a broadcast allocation appear to be based on the assumption that we would permit high-power analog broadcast operations and, therefore, are not at issue.[61]

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[55] *See, e.g.*, CTIA Comments at 3 (stating that there are too many challenges associated with the sharing of this spectrum by full power broadcasters and wireless licensees).

[56] Cox Reply at 7-9.

[57] We note that for technical and other reasons discussed *infra* at paras. 102-107, we conclude that we can allow a higher power limit than that which we adopted in the Upper 700 MHz Band proceeding. However the flexible use characteristic of the allocation – by which both broadcast and fixed and mobile services is allowed in the band – is identical in both bands.

[58] *See* Appendix D.

[59] Cox Reply at 2; MSTV Comments at 4-5.

[60] We recognize that it would not be efficient to permit new licensees to offer "new broadcast" services after the transition using the same maximum power limits used by existing analog broadcasters because we would have to adopt interference protection criteria that would make a large portion of this band effectively unusable for those licensees who seek to offer new wireless applications. *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 485 ¶ 18. However, we also recognize that a highly restrictive approach to broadcasting power limits would sharply limit broadcasting options for this band and would frustrate the public interest afforded by a broadcast allocation.

[61] *See, e.g.*, CTIA Comments at 3 (stating that there are too many challenges associated with the sharing of this spectrum by full power broadcasters and wireless licensees).

19. We find that, by adopting power limits and other technical rules that limit interference between service types, a broadcast and wireless allocation would not result in harmful interference among users. In turn, because we have taken steps to mitigate possible interference between the two distinct services, we believe that investment in communications services and systems, or technology development will not be deterred for either broadcast or wireless applications. Based on these affirmative findings, we conclude that this flexible use allocation will serve the public interest. Thus, we affirmatively find that the criteria outlined in Section 303(y) are met.

20. We believe that the balance between continued broadcast operations and new fixed and mobile services that we are adopting meets several additional statutory responsibilities. Section 309(j)(14) of the Communications Act requires us to reclaim and assign the Lower 700 MHz Band by competitive bidding.[62] Furthermore, Section 309(j)(3) of the Act sets forth objectives that we must promote in developing our competitive bidding methodology including, *inter alia*, the development, and rapid deployment of new technologies.[63] As in the Upper 700 MHz Band proceeding, we expect that many of the new technologies to be developed and deployed will support advanced wireless applications, and we want to provide licensees with the maximum opportunity to make use of these opportunities.[64] The record in this proceeding shows support for a variety of services – including new broadcast applications.[65] Our flexible allocation accommodates this interest consistent with these statutory considerations.

b. Special Considerations for Broadcast Allocation

21. Background. At the end of the DTV transition, television broadcasting will remain adjacent to the Lower 700 MHz Band, with full power and Class A low power television stations operating on TV Channel 51.[66] In the *Notice*, the Commission sought comment on whether restrictions on the allocation are necessary to protect these adjacent channel broadcast television operations. Among the possibilities suggested in the *Notice* were a guard band or a separate allocation at the lower end of the band limited to low power services.[67] The *Notice* also asked whether a fixed-only allocation or limitations on systems with low immunity to high-powered signals would best account for potential interference from adjacent-channel broadcast operations.[68]

22. Although commenters recognized potential interference issues at the low end of this band, the only proposal that generated significant discussion was that of a guard band allocation. Qwest suggests that the service-specific technical rules, which will establish limits for harmful interference between licensees, will dictate whether a licensee needs to establish a guard band on its own. It notes that mobile wireless licensees often establish their own "guard bands" at the edges of their licensed spectrum in order to avoid adjacent channel interference, and suggests that licensees should have the flexibility to determine on their own – consistent with sound RF engineering principles and the capabilities of their networks – what

[62] 47 U.S.C. § 309(j)(14). *See also Notice*, 16 FCC Rcd at 7280 ¶ 2.

[63] 47 U.S.C. § 309(j)(3). *See also Notice*, 16 FCC Rcd at 7281 ¶ 3 (describing in further detail these objectives).

[64] *See Notice*, 16 FCC Rcd at 7285 n. 29, 7286 n. 36 & 38 ¶¶ 9 and 13. *See generally Spectrum Reallocation Policy Statement*, 14 FCC Rcd 19868; *3G Notice*, 16 FCC Rcd at 633, App. D; *WRC-2000 Report*.

[65] *See, e.g.*, Cox Reply at 2; NAB Comments at 2-5.

[66] *Notice*, 16 FCC Rcd at 7287 ¶ 16.

[67] *Id.*

[68] *Id.*

steps are necessary to avoid harmful interference to adjacent channel broadcasters.[69] Similarly, MSTV suggests that enforcement of out-of-band emission limits would be more effective than the establishment of a guard band or separate allocation.[70] By contrast, HIC (supported by Cox) suggests an aggressive approach to ensure total protection of DTV operations on core Channel 51, including adoption of a guard band and interference protection criteria for channels located within and adjacent to the Lower 700 MHz Band.[71]

23. Discussion. We will not adopt a guard band or other specialized mechanism to protect DTV operations on Channel 51, but will instead rely on our interference protection criteria to ensure that new licensees adequately protect core TV channel operations. As discussed below, we are adopting rules to ensure that new licensees in the Lower 700 MHz Band protect existing analog TV operations and new DTV channel allotments and operations that will occupy the band during the transition period.[72] The protection for Channels 52-59 is no different from the protection for the core TV channels (Channels 2-51); only the duration of that protection differs.[73] Therefore, we do not believe that there is a basis to adopt any additional protective measures at the lower end of the Lower 700 MHz Band and find that the protective measures suggested by HIC are unnecessarily restrictive. As for making special considerations for new licensees – such as adjusting our allocation to minimize the presence of systems with low immunity to high-power signals – we opt for a flexible approach and will look to them to consider potential interference situations when designing and developing their systems.[74] We believe that bidders for this spectrum will take into account criteria established to protect the core TV channels and will develop their business plans, services, and facilities accordingly.[75]

c. Low Power Television Service and Television Translators

24. Background. In the *Notice*, the Commission asked how the allocation and service rules it adopts should affect LPTV and television translators[76] operating in the Lower 700 MHz Band. As an

[69] Qwest Comments at 3.

[70] MSTV Comments at 6-7.

[71] HIC Comments at 2-3. *See also* Cox Reply at 2-3.

[72] *See infra* section III.A.2.b.

[73] In the *DTV Sixth Report and Order*, the Commission stated that all analog TV and DTV operations in the 746-806 MHz band would be fully protected during the DTV transition period. *DTV Sixth Report and Order*, 12 FCC Rcd 14588, 14626-27 ¶ 80. Because we anticipate DTV stations on Channels 52-59 will eventually relocate to the core TV spectrum, the broadcast interference protection standards on Channels 52-59 will no longer apply after the transition. By contrast, the need for protection of broadcast operations in the core TV channels will continue indefinitely.

[74] We further note that the dynamic nature of wireless technologies and complexities in predicting the services that will ultimately be provided in the band makes options such as restricting the allocation less desirable. Instead, we adopt general interference protection measures to accommodate the flexibility we anticipate that licensees will need. *See* Qwest Comments at 3.

[75] Qwest Comments at 3.

[76] We recognize that LPTV stations and TV translators have distinct functions and unique programming characteristics. However, they are both low power broadcasting services that operate on a secondary status with the same power limits and are otherwise technically equivalent. Therefore, for purposes of our technical analysis (continued….)

initial matter, the Commission previously determined that there is insufficient spectrum to preserve all existing LPTV stations, and noted that LPTV will retain its secondary allocation status.[77] It also allowed LPTV stations on both the Channel 60-69 and Channel 52-59 bands to file displacement relief applications requesting a lower channel.[78]

25. However, the *Notice* also recognized that several issues relating to LPTV operations in the Lower 700 MHz Band remain unresolved. The Commission proposed that LPTV operators be permitted to operate in the band after the end of the transition, but that they must operate on a secondary basis.[79] Under this approach, operators would not be permitted to cause harmful interference to stations of primary services – including new licensees in the band – and would also be required to accept any interference caused by these primary services. The *Notice* also proposed that LPTV stations not be required to alter or cease their operations until they actually cause interference and that LPTV stations be permitted to negotiate interference agreements with new service providers.[80] The Commission sought comment on these proposals and any additional considerations that might mitigate the impact on low power operations in the Lower 700 MHz Band during the transition period.

26. Commenters recognize the secondary status afforded to the LPTV service, and generally support allowing LPTV stations to continue operating on a secondary basis in the band.[81] Although we received few comments addressing our specific proposals for LPTV treatment in the Lower 700 MHz Band, those we did receive generally support the *Notice*. For example, KM endorses the concept of negotiated interference agreements.[82]

27. Discussion. We are adopting the proposals for LPTV set forth in the *Notice*. Specifically, we are prohibiting LPTV stations, licensed under our existing rule in Part 74 Subpart G, from causing harmful interference to stations of primary services – including new licensees in the band.[83] We believe that this decision is consistent with the secondary status of LPTV, and will promote the deployment of new services anticipated for the band. However, we will allow LPTV stations to operate until they cause actual interference to a DTV station or new licensee and will allow LPTV stations to negotiate interference agreements with new service providers.

28. We conclude that this approach appropriately balances two largely conflicting interests. Section 337(e)(2) of the Communications Act states that after allocating the Upper 700 MHz Band, the

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within this proceeding, we do not distinguish between the two and, as a general reference, we refer to them collectively as "LPTV."

[77] *DTV Sixth Report and Order*, 12 FCC Rcd at 14595, 14627, 14652-53 ¶¶ 11, 81, 141-42.

[78] *DTV MO&O of the Sixth Report and Order*, 13 FCC Rcd at 7465-66 ¶ 144; Establishment of a Class A Television Service, *Report and Order*, MM Docket No 00-10, 15 FCC Rcd 6355, 6395-96 ¶ 100 (2000) (*Class A Report and Order*).

[79] *Notice*, 16 FCC Rcd at 7288 ¶ 18.

[80] *Id.*

[81] *See, e.g.*, Qwest Comments at 3, KM Comments at 2.

[82] KM Comments at 2.

[83] We note that Lower 700 MHz Band spectrum obtained through the competitive bidding process could be used for low power digital broadcasting, and that such stations would have primary regulatory status.

Commission "shall seek to assure . . . that each qualifying low-power television station is assigned a frequency below 746 MHz to permit the continued operation of such station."[84] However, LPTV operators in the Lower 700 MHz Band must be prepared to cease service once television Channels 52-59 are reclaimed, pursuant to Section 309(j)(14) of the Communications Act, when new licensees (who will have primary status) begin using the band. Congress has recognized – and the Commission has repeatedly noted – that not all LPTV stations can be guaranteed a certain future due to the emerging DTV service, and we do not think it is advisable to defer the ultimate displacement of LPTV operations to the detriment of new primary service licensees in the band.[85] To grant LPTV operations special considerations vis-à-vis new licensees would turn the concept of secondary status upside down and would retard the potential development of new and innovative services.

29. The overall framework for our treatment of LPTV stations was previously decided outside of this proceeding, and we see no reason to modify those decisions.[86] Those commenters who outline circumstances in which they believe LPTV should have greater protection do not explain how circumstances have changed since the Commission last examined the issue.

30. LPTV entities with operations on Channels 52-59 must recognize the possibility that a primary licensee can initiate service in the band. KNME, a New Mexico public television entity, states that, because its DTV transition plan includes extensive use of translators to provide wide-area coverage, public television services in New Mexico and many other states will be threatened if new licensees are permitted to use the band on a primary basis.[87] Cox argues that the rules should ensure that LPTV and TV translator stations operating in the Lower 700 MHz Band are protected from interference by new licensees.[88] We acknowledge these concerns, but also note that LPTV licensees have been aware of their secondary status throughout the transition. In the *DTV Sixth Report and Order*, which was released in 1997, the Commission stated that "[w]e also note that as secondary operations, LPTV and TV translator stations will be able to continue to operate until a displacing DTV station *or a new primary service provider* is operational and would receive interference from the low power TV or TV translator station."[89] The *DTV Sixth Report and Order* also identified the core DTV spectrum to consist of those TV channels below Channel 52.[90] The requirement to auction reclaimed spectrum has also been in place since 1997.[91] Notwithstanding these facts, we expect that many LPTV licensees will be able to continue to operate in the band for some time to come.[92] We have taken steps to allow continued LPTV operation, including allowing

[84] 47 U.S.C. § 337(e)(2).

[85] *See, e.g., Class A Report and Order*, 15 FCC Rcd at 6359 ¶ 6 (citing Section-by-Section Analysis to S. 1948, the Act known as the "Intellectual Property and Communications Omnibus Reform Act of 1999," as printed in the Congressional Record of November 17, 1999, at pages S 14708-14726).

[86] *See Notice*, 16 FCC Rcd at 7288 ¶¶ 17-18 (describing these decisions).

[87] KNME Comments at 2-3.

[88] Cox Reply at 4-7.

[89] *DTV Sixth Report and Order*, 12 FCC Rcd at 14653 ¶ 142 (1997) (emphasis added).

[90] *Id.* at 14627 ¶ 83.

[91] Public Law 105-33 (August 5, 1997), 111 Stat 251 (amending the Communications Act to add § 309(j)(14), 47 U.S.C. § 309(j)(14)).

[92] We note that the Commission has previously distinguished the Upper 700 MHz Band, in which we anticipate an early recovery of spectrum relative to the Lower 700 MHz Band, which will likely be significantly encumbered (continued….)

LPTV licensees to remain in the band until they actually cause interference and permitting LPTV operators to negotiate with new licensees for interference protection agreements. Given KNME's description of its transition facilities, we are also encouraged that it may be able to readily reconfigure its TV translator transmitters to operate on a core channel, if one is available.[93]

31. We also reject those comments that suggest that some LPTV stations should receive the same protection from displacement and interference as full power television stations because of the Commission's obligations with respect to Class A status.[94] KM says these stations should receive the same protection from displacement and interference as full power television stations because the Commission is required by statute to do so.[95] KM also contends that Class A-eligible stations should be protected during the Channel 52-59 reallocation, as the Commission is required to "seek to assure, consistent with the Commission's plan for allotments in the [DTV] service, that each qualifying [LPTV] station is assigned a frequency below 746 megahertz to permit the continued operation of such station."[96] Although KM correctly notes that the Commission is required to "act to preserve the service areas of [LPTV] licensees pending the final resolution of a Class A application," we find that provision inapplicable as KM would have it applied.[97] Only LPTV stations operating in the core spectrum may obtain Class A licenses.[98] Although the Commission and Congress undertook steps to facilitate the relocation of licensees operating between 698 and 806 MHz to core spectrum – whereupon they may apply for Class A licenses,[99] such licensees legally eligible for Class A status may not obtain Class A licenses without first receiving a construction permit for a channel in the core band. Given this intervening step and the clear mandate from Congress that licensees in the 700 MHz Band may not receive a Class A license (and concurrent mandate that we make the band available to new licensees), we do not read this provision as requiring us to protect

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throughout the transition. While a later recovery of the Lower 700 MHz Band may permit LPTV licensees to operate for a longer period without being displaced by new licensees in the band, the time period for recovery does not change the secondary status of LPTV. Section 309(j)(14) of the Act envisions that the Commission will complete the assignment of new licenses in the band by September 30, 2002, and secondary licensees must be prepared for new licensees in the band by that date regardless of whether we anticipate the band as a whole will be recovered at an early or late stage of the DTV transition. Thus, we find KNME's discussion of the time period for recovery of the band inapposite to the issue of LPTV secondary status. *See, e.g.,* KNME Comments at 2.

[93] *See* KNME Comments at 2.

[94] Certain low power television stations – known as Class A stations – are afforded "primary" spectrum use status by law. Class A licensees are subject to the same license terms and renewal standards as full-power television licensees, and Class A licensees are accorded primary status as television broadcasters as long as they continue to meet the requirements set forth in the statute for a qualifying low-power station. *See Class A Report and Order*, 15 FCC Rcd at 6358-59 ¶¶ 4-6.

[95] KM Comments at 4-5 (citing 47 U.S.C. § 336(f)(1)(D)).

[96] *Id.* at 4-5 (citing 47 U.S.C. § 337(e)(2)).

[97] KM Comments at 4-5.

[98] *Class A Report and Order*, 15 FCC Rcd at 6394 ¶ 96.

[99] The Commission has allowed for the filing of displacement applications for 700 MHz LPTV licensees regardless of whether actual interference exists. Furthermore, the Commission is required to provide licensees in the 700 MHz Band "the opportunity to meet the qualification requirements for a class A license," 47 U.S.C. § 336 (f)(6)(A). If a so-qualified licensee is assigned a channel in the core spectrum, we are required to "issue a class A license simultaneously with the assignment of such channel." *Id.*

LPTV operations in the 700 MHz Band.[100] Instead, the protection we must afford in this case relates to the in-core spectrum subsequently authorized to the licensee.

32. WLNY-TV, licensee of a full power TV station and two LPTV stations in the band, suggests that out-of-core LPTV stations that are eligible for Class A status should be allowed to continue operating until such a time as an in-core channel becomes available.[101] LPTV stations that are eligible under the statute for Class A status may be compelled to suspend operation, WLNY-TV claims, and if that happens, the station should retain its Class A eligibility upon locating to an in-core channel.[102] WLNY-TV states that it would be contrary to the Community Broadcasters Protection Act of 1999 ("CBPA") if we were to fail to preserve a licensee's Class A status in this circumstance.[103] We find these arguments unconvincing. Although we have made provisions to accommodate the relocation of some LPTV operations and are prepared to grant Class A licenses to qualified applicants, we note that not all LPTV licensees may be able to be accommodated in the core channels, and we are prohibited from granting Class A licenses to licensees operating outside the core. Therefore, the action WLNY-TV proposes would be overly broad and inconsistent with our ultimate goals for the band. We agree with WLNY-TV that there may be cases in which an LPTV operator who ceases operations due to a new licensee might later identify an in-core channel and seek to obtain a Class A license. In these circumstances, we will not automatically reject a LPTV licensee's eligibility to hold a Class A license.[104] Finally, we find that WLNY-TV's additional comments regarding the order of priority by which stations should be eligible to receive in-core DTV assignments are outside the scope of this proceeding.

33. Finally, SBE asks us to also afford continued secondary status to Part 74 low power broadcast auxiliary devices (such as wireless microphones) operating in the Lower 700 MHz Band, and to establish a new service in Part 95 of our Rules to accommodate their use.[105] We reject these proposals as being outside the scope of this proceeding. We conclude that the type of comprehensive evaluation of these devices that SBE proposes is not served in this proceeding, where the Commission has neither solicited nor developed a record on this issue.[106] We further note that, insofar that the Lower 700 MHz Band will host extensive broadcast use throughout the DTV transition, it is unlikely that new licensees will rapidly occupy the band to the extent that users of the low power broadcast auxiliary devices of the type SBE discusses will have to immediately cease all operation.

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[100] This approach is consistent with the Commission's decision in the Class A proceeding, in which it declined to offer Class A eligible stations additional protection outside the core channels. *Class A Report and Order*, 15 FCC Rcd at 6397 ¶ 104; Establishment of a Class A Television Service, *Report and Order on Reconsideration*, MM Docket No 00-10, 16 FCC Rcd 8244, 8277 ¶ 87 (2001) (*Class A Reconsideration Order*).

[101] WLNY-TV Comments at 4.

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

[103] *Id.* at 3-7.

[104] *See* 47 U.S.C. § 336(f)(2)(B) (setting forth a mechanism by which the Commission may find that a station is a "Qualifying Low-Power Television Station" for purposes of Class A eligibility).

[105] SBE Comments at 4-5.

[106] *See also* SBE Comments at 1 (acknowledging that its comments "address an issue not discussed in the Notice of Proposed Rulemaking").

d. Satellite Services

34. Background. In the *Notice*, the Commission sought comment on whether satellite operations, including satellite feeder link operations (which typically involve a limited number of earth station locations), would be technically feasible in the Lower 700 MHz Band.[107] However, the Commission did not propose a satellite allocation for the band.

35. The sole commenter to address this issue, Qwest, opposes a satellite allocation in the Lower 700 MHz Band. Qwest argued that due to difficulties in coordinating satellite services with terrestrial mobile services, such licensing would likely impose significant restrictions and delays on new and emerging services.[108]

36. Discussion. We will not include a satellite allocation in the Lower 700 MHz Band. We agree with Qwest that the inherent difficulties in coordinating satellite and terrestrial services could delay or stifle the introduction of new services in this band. Thus, we question whether a flexible satellite allocation in this band could meet our statutory requirements under Section 303(y) of the Act.[109] Moreover, we note that current international allocations do not include satellite operations in this band. For these reasons, we conclude that allowing satellite operations would be inconsistent with the principles of effective spectrum management in the Lower 700 MHz Band.

2. Transition Issues

a. Incumbent Broadcasters

37. Although we have looked generally to our decisions in the Upper 700 MHz Band proceeding when considering transition issues in this proceeding, we note that there are differences between the upper and lower bands. Early recovery of additional spectrum beyond the Upper 700 MHz Band was not contemplated in the DTV transition plan, and even with the mechanisms we adopt to encourage voluntary band clearing in both the Upper and Lower 700 MHz Bands, we have never anticipated that we will be able to clear the Lower 700 MHz Band before the Upper 700 MHz Band. Because of this history, and because encumbrances in the Lower 700 MHz Band are likely to make band clearing a more complex operation, we realize that some broadcasters may have accepted an allotment in the Lower 700 MHz Band with the expectation that the band would continue to be extensively used for broadcasting throughout the transition.[110]

38. New licensees will also need to take into account the large number of digital broadcasters who will operate in the Lower 700 MHz Band during the transition. On average, there are slightly more than ten times the number of digital stations per channel on Channels 52-59 as compared to Channels 60-69.[111] While the planning for the DTV Table of Allotments sought to minimize use of out-of-core channels, the

[107] *Notice*, 16 FCC Rcd at 7289 ¶ 19.

[108] Qwest Comments at 6.

[109] *See supra* para. 15.

[110] *See* APTS Comments at 3.

[111] There are 166 DTV assignments on the eight television channels in the Lower 700 MHz Band (this number includes licenses, construction permits, and pending applications). There are also four DTV allotment petitions filed by entities that originally proposed NTSC operations. *Notice*, 16 FCC Rcd at 7292 ¶¶ 25-26. There are 20 digital assignments on the ten television channels in the Upper 700 MHz Band. *Id*. at ¶ 26 and n. 67.

Commission was unable to accommodate a second digital channel for all broadcasters within the "core" broadcast spectrum. The degree of incumbency in the Lower 700 MHz Band – consisting of both digital and analog broadcasters – is likely to make it far more difficult for new services to operate in this band, particularly in major metropolitan markets, prior to the end of the transition. The degree of incumbency in this band also underscores the importance of adopting rules that insure that new licensees provide adequate protection to incumbent broadcasters. We emphasize that we have an obligation to fully protect incumbent full-power analog and digital broadcasters during the transition period, and adopt rules that support this core value.

(i) Analog Stations

39. Background. Currently, there are 94 licensed full service NTSC analog stations and seven approved analog construction permits in the Lower 700 MHz Band. Although this figure represents approximately the same number of analog incumbents as in the Upper 700 MHz Band, the Lower 700 MHz Band consists of less spectrum and, therefore, incumbent licensees are more densely situated across the band. In the *Notice*, the Commission noted that it had concluded in the Upper 700 MHz proceeding that stations for which a construction permit has been granted were sufficiently far enough along the licensing process that they should be treated the same as operating TV stations and receive protection from new service providers during the DTV transition period.[112] The *Notice* proposed to treat construction permits in the 698-746 MHz band in the same manner.[113] Under these procedures, holders of construction permits, both for new facilities and modification of existing facilities must comply with a three-year construction requirement.[114]

40. There are currently a number of pending application and channel allotment requests for new NTSC stations in the band, and the Commission sought comment on their disposition.[115] These requests can be broken down into two subgroups: petitions for new NTSC channel allotments and applications for construction permits (some of which also include a petition for modification of an existing allotment).[116] Some of these requests were filed before the deadline for new applications for analog stations for vacant allotments and petitions to add channels to the TV allotment table. In the *DTV Sixth Further Notice*, in order to accommodate parties who were in the process of preparing applications, the Commission established a final opportunity for the filing of new applications for analog stations for vacant allotments.[117]

[112] *Id.* at 7290 n. 55 ¶ 21 (citing *Upper 700 MHz Reallocation Order*, 12 FCC Rcd at 22969 ¶ 35).

[113] *Id.*

[114] 47 C.F.R. § 73.3598.

[115] At the time the *Notice* was adopted, the pending requests could have resulted in 57 additional NTSC stations. *Notice*, 16 FCC Rcd at 7291 ¶ 24. Since then, the number of potential stations has been reduced because of the dismissal of several defective requests.

[116] New allotment petitions now account for 12 of the potential NTSC stations.

[117] *See DTV Sixth Further Notice*, 11 FCC Rcd 10968. The adoption date of the *DTV Sixth Further Notice* (July 25, 1996) was the last opportunity to file petitions to add analog channels to the TV Table of Allotments. The application filing deadline (September 20, 1996) was established as 30 days after publication of the Notice in the *Federal Register*. Regarding these applications, we decided to continue our "cut-off" process for accepting competing applications. We had previously frozen television applications for certain cities – See Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, *Order*, RM 5811, 76 Rad. Reg. 2d (P & F) 843 (rel. July 17, 1987) (*1987 Freeze Order*) – but continued the policy of considering requests for waiver of the *1987 Freeze Order* on a case-by-case basis.

Other parties submitted rulemaking petitions to specify a channel in the Lower 700 MHz Band under a second filing period that allowed persons with certain pending requests for new analog stations to modify their requests, if possible, to eliminate technical conflicts with DTV stations and to move from the Upper 700 MHz Band.[118] This second filing period opened on November 22, 1999, and closed on July 17, 2000.[119] The Commission based these actions on its recognition that those persons with pending applications and/or petitions for new full-service analog television stations on channels had already invested time, money, and effort into their applications and petitions.[120] These filing periods were established after the Commission had reallocated the Upper 700 MHz Band but before this proceeding was initiated. Thus, applicants were permitted to select channels in the Lower 700 MHz Band.

41. The Commission stated that it might be inequitable not to process these pending applications, or some subset of them, but also recognized the additional incumbency new analog stations could impose in the band. Therefore, the *Notice* sought comment on the ultimate disposition of these applications. Specifically, the Commission asked whether there are stronger equities for continuing to process any particular subcategory of these pending applications; whether the Commission could require these stations to transition to available frequencies below 698 MHz by a "date certain" to ensure that these stations do not encumber the provision of new services;[121] and what extent applicants should be allowed to amend their pending applications through a channel allotment rule making petition to specify a new digital channel in the core that may become available later.[122] Because of the possibility that new stations on Channel 59 could affect new licensees in the adjacent Upper 700 MHz Band due to adjacent channel interference, the Commission also directed the Mass Media Bureau to suspend processing of applications and channel allotment petitions for new analog stations on Channel 59, but to allow affected parties to file channel allotment rulemaking petitions to specify another channel, if available.[123]

42. The majority of those commenters who address this issue support measures to grant pending applications. Only CTIA and Qwest, both of which actively support the entry of new services into the band, express reservations with further station authorizations. CTIA argues that by authorizing new stations, the Commission would contribute to the complexity of and delay clearing of the Lower 700 MHz Band.[124] It suggests that we dismiss pending applications, or require applicants to propose a channel below

[118] *See* Mass Media Bureau Announces Window Filing Opportunity for Certain Pending Applications and Allotment Petitions for New Analog TV Stations, *Public Notice*, 14 FCC Rcd 19559 (1999) (*Analog TV Filing PN*). Allowed submissions during this filing window were (1) amendments (other than channel changes) to pending applications for new full-service NTSC television stations on Channel 2-59, (2) petitions for rule making seeking a new channel below Channel 60 for those applicants with pending applications for new full-service NTSC television stations on Channels 60-69, (3) petitions for rule making seeking a new channel below Channel 60 for those applicants with pending applications for new full-service NTSC television stations on Channels 2-59 at locations inside of the "TV Freeze Areas" and (4) amendments to pending rule making petitions to amend the TV Table of Allotments to add NTSC television allotments. *Id.*

[119] *See* Window Filing Opportunity for Certain Pending Applications and Allotment Petitions for New Analog TV Stations Extended to July 15, 2000, *Public Notice*, 15 FCC Rcd 4974 (2000).

[120] *Id.*; *DTV Second MO&O of the Fifth and Sixth Report and Order*s, 14 FCC Rcd at 1367-68, 1369, ¶¶ 40-42, 45; *Upper 700 MHz Reallocation Order*, 12 FCC Rcd at 22971-72 ¶ 40.

[121] *Notice*, 16 FCC Rcd at 7291-92 ¶ 24.

[122] *Id.*

[123] *Id.*

[124] CTIA Comments at 3.

Channel 52.[125] Qwest asks that we minimize additional incumbency in the band "consistent with existing licensees' and applicants' statutory rights."[126] Several commenters urge us to grant the pending applications.[127] They cite a number of factors to support their claim that the public interest favors license grants, including applicants' expense in pursuing their applications,[128] the length of time some of the applications have been on file with the Commission,[129] and the history of the DTV transition and Upper and Lower 700 MHz Band proceedings – including the Commission's past actions that permitted applicants to propose replacement allotments in the Lower 700 MHz Band.[130] These commenters submit that, due to the incumbency in the band, granting the pending applications would have a "marginal" effect,[131] and predict little negative impact on our efforts to clear the band and to facilitate the provision of new wireless services,[132] or the DTV transition.[133] Several commenters identify independent public interest benefits in new analog stations, including increased viewpoint diversity in the television market,[134] additional sources of vital local information,[135] new opportunities for network affiliations for smaller networks,[136] and additional competition in the local advertising market.[137] Finally, several commenters predict that the Lower 700 MHz Band auction will be postponed, and suggested that that possibility should alter our approach in favor of the grant of pending applications.[138]

43. Commenters supporting favorable treatment of the pending applications also suggest that we should allow applicants broad leeway to further amend their existing applications. They state that such amendments would eliminate conflicts with other mutually exclusive applications and permit other curative amendments.[139] This approach would avoid the delay that would otherwise result from holding a contested allotment rulemaking proceeding,[140] and would serve the interest of equity,[141] they claim. These

[125] *Id.*

[126] Qwest Comments at 4.

[127] TCC Comments at 6; Pappas Comments at 2; Davis Comments at 5; Paxson Reply at 7-8.

[128] Paxson Reply at 7-8.

[129] Davis Comments at 6.

[130] Davis Comments at 5. Davis states that it applied for licenses on Channels 52-59 because no in-core channels were available. *Id.* at 6. *See also* TCC Comments at 5.

[131] Davis Comments at 6; Paxson Reply at 7-8; WB Comments at 9.

[132] WB Comments at 9.

[133] Pappas Comments at 4.

[134] TCC Comments at 5.

[135] Pappas Comments at 5.

[136] WB Comments at 5-6; TCC Comments at 5.

[137] TCC Comments at 5.

[138] Pappas Comments at 4. WB Comments at 28.

[139] WB Comments at 19. *See also* TCC Comments at 3-4; Pappas Comments at 6-8.

[140] WB Comments at 20.

commenters also support Commission grant of waivers for short-spaced analog allotment proposals,[142] and WB believes that applicants should be permitted to amend analog proposals to allow for digital operations outside the core.[143]

44. Discussion. We are addressing requests for new NTSC stations in the 698-746 MHz band in two parts: (1) petitions for new allotments and (2) applications for construction permits.[144] We are dismissing the pending petitions for new NTSC channel allotments in the 698-746 MHz band.[145] As a general matter, we believe that beginning the process pursuant to these requests of adding new analog television allotments or stations at this stage of the transition to digital television would be inconsistent with the DTV transition process. Indeed, the requested allotment proceedings, authorization of stations, and construction of these stations might not be completed until much later in the DTV transition. The new licensee might then have only a limited period of time to operate in analog before being required to transition to digital service. We note that the Balanced Budget Act of 1997 requires that analog television spectrum be reclaimed for new services. We do not believe that adding analog allotments or stations in the 698-746 MHz band would be consistent with the purpose of that Act nor would it foster the timely and efficient transition to digital television.[146] Petitioners may, however, refile a new DTV channel allotment petition on a core channel (2-51), subject to meeting the DTV spacing requirements.[147]

45. With regard to applications for construction permits, we recognize parties have made investments in these applications and that they are generally further along in the regulatory process and thus could potentially provide service to the public on a more near-term basis. We believe that these applications can be processed in a manner consistent with our DTV transition policies. However, as noted above, we do not believe that deploying service in analog format is consistent with our statutory mandate to reclaim this spectrum for new services or our DTV transition policies. Authorizing additional analog television operations at this stage in the DTV transition, when we are near the date when commercial broadcast stations are required to be operating on their digital allotments – *i.e.* May 1, 2002 – would be inconsistent with our goal of achieving a rapid conclusion of the transition. In this regard, we do not wish to encourage the expansion of analog television service. Digital deployment on the allotments for which we have pending analog applications will introduce new digital services and promote the acquisition of digital receiving equipment by consumers. In addition, this approach will avoid the complications that could arise in requiring licensees to convert their analog operation to digital operation relatively soon after they

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[141] TCC Comments at 5.

[142] WB Comments at 20 (suggesting that these waivers be granted under the same criteria that are applied in traditional applications); Pappas Comments at 9-10 (suggesting that these waivers be granted if the applicant demonstrates that no interference will occur).

[143] WB Comments at 13 & 15.

[144] Some of these applications may also include requests for modifications of the allotment such as changes in frequencies to cure interference to new DTV operations or as a replacement channel for channels in the Upper 700 MHz Band (*i.e.* channels 60-69).

[145] In this regard, we note that the staff previously dismissed a number of petitions for rulemaking for new station allotments on channels 52-58 as defective, and petitions for reconsideration have been filed. Given our decision to dismiss *all* petitions on these channels, the pending petitions for reconsideration are now rendered moot and will be dismissed.

[146] *See* 47 U.S.C. § 309 (j) (14).

[147] *See* 47 C.F.R. §§ 73.622(a), 73.623(d).

commence analog operation. Further, we believe that new service providers may be able to co-exist more easily with digital television stations given that such stations operate with lower power and their signals may generally be less susceptible to interference than analog television signals. Accordingly, we are providing a 45-day opportunity for these applicants to request a change in their pending applications for a construction permit or petition for rule making.[148] The 45-day window will be effective upon release of this Report and Order. Applications can be modified in one of two ways: (1) to provide analog or digital service in the core television spectrum, *i.e.*, channels 2-51 or (2) to provide digital service in the 698-740 MHz band, *i.e.*, channels 52-58.[149] At the end of the 45-day period, we will dismiss any pending application that does not meet either of the above conditions. Finally, because of the adjacent channel interference that new stations on channel 59 could cause to new licensees in the adjacent Upper 700 MHz Band, the Commission will no longer accept or grant any application for channel 59, and parties with outstanding applications that specify channel 59 and who have not yet filed a channel allotment rulemaking petition to specify another channel must do so within the 45-day period. We will also amend our Section 73.622(a)(2) of our Rules to specify that petitions requesting a change in the channel of an initial DTV allotment may only be amended to specify channels 2-58.

(ii) Low Power Stations

46. Background. At the time the *Notice* was adopted, there were 835 licenses and 244 construction permits for LPTV operations on Channels 52-59, and an additional 607 pending applications for LPTV stations on those channels. Although we must clear all LPTV operations from the Upper 700 MHz Band at the end of the transition, we have additional flexibility with respect to operations in the Lower 700 MHz Band. In the *Notice*, the Commission asked whether there were additional measures it should consider for LPTV operations in the Lower 700 MHz Band.[150]

47. Discussion. KM proposes that the Commission continue to accept and process applications for additional LPTV stations in this band.[151] To ensure the continuation of television service, we will continue to permit LPTV and TV translator stations to request the use of channels 52-69 in order to eliminate or avoid conflicts with NTSC and DTV stations or allotments. We recognize that these "displacement relief" stations may be in very rural areas of the country where the 700 MHz Band could be used by these stations with little chance that they would again be displaced in the near future. We will take a measured approach with regard to the filing and processing of applications seeking new LPTV and TV translator stations to operate on channels 52-69. With respect to all such applications on file, namely those tendered in the August 2000 LPTV and TV translator filing window, we will process these applications and, if found acceptable, grant them. The proposed channel 52-69 operations will also be authorized on a secondary basis. Our interest in not unduly encumbering the 700 MHz Band further as the Commission proceeds to the DTV conversion, coupled with our desire to treat fairly all of the nearly 4,700 LPTV and TV translator applicants that filed during the August 2000 window, prompt us now to revise our LPTV displacement relief policies somewhat and to modify 47 C.F.R. § 73.3572(a)(4) consistent therewith.

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[148] Requests to provide analog or digital service in the core spectrum will require the filing of a petition for rulemaking to amend either the TV Table of Allotments (47 C.F.R. § 73.606) or the DTV Table of Allotments (47 C.F.R. § 73.622) or an amendment to such a petition if the applicants have already filed one. The Mass Media Bureau will set forth these procedures in a soon-to-be released Public Notice.

[149] In this limited circumstance, we will not treat these application amendments to provide digital service in channels 52-58 as new DTV allotments under 47 C.F.R. § 73.622(a)(1).

[150] *Notice*, 16 FCC Rcd at 7293 ¶ 28.

[151] KM Comments at 2.

Future LPTV and TV translator permittees and licensees that tendered new station applications during or subsequent to the August 2000 filing window and have been authorized to operate in the 700 MHz Band (TV channels 52-69) will be entitled to displacement relief only in order to eliminate or avoid interference conflicts. Priority over pending Class A TV, LPTV or TV translator station applications will not be afforded to the displacement applications of these future LPTV or TV translator permittees or licensees solely by virtue of their authorization to operate in the 700 MHz Band. With respect to future filing windows, we will also retain the discretion to geographically restrict or preclude altogether the filing of applications for new LPTV and TV translator stations seeking to operate on channels 52-69.

48. Accordingly, the Mass Media Bureau will continue to accept and process LPTV and TV translator applications until the end of the transition, in accordance with the principles outlined above. We will also permit secondary operation of LPTV stations below channel 60 after the end of the transition. Contrary to Qwest's assertion, we do not see a statutory bar to continued LPTV operations in this band.[152] The Balanced Budget Act provisions that Qwest cites describe conventional television operations administered under Part 73 of our rules. By contrast, LPTV is administered under Part 74, Subpart G of the rules.[153] The only statutory prohibition on LPTV service after the transition is for those stations that operate on TV Channels 60-69.[154]

49. Throughout the DTV and related proceedings, the Commission has recognized that the transition and reallocation of spectrum will significantly affect LPTV. We conclude that the rule changes we have previously adopted in the DTV proceeding, in conjunction with our decision to allow continued LPTV operations in the Lower 700 MHz Band and the additional measures previously addressed strike the appropriate balance between facilitating the DTV transition and reallocating the spectrum as required by law and permitting continued LPTV operations outside the core channels.[155]

b. Interference Protection for TV Services

50. Background. In the *Notice*, the Commission outlined a methodology that had been adopted in the Upper 700 MHz Band proceeding for the protection of analog TV stations. In the Upper 700 MHz Band, co-channel land mobile base station transmitters will be limited to a maximum signal strength at the assumed TV Grade B contour that is 40 dB below the 64 $dB\mu$ Grade B contour signal strength value, or 24 $dB\mu$. Adjacent channel land mobile transmitters are limited to a maximum signal of 64 $dB\mu$ at the TV station assumed Grade B contour of 88.5 km. The *Notice* sought comments on whether to employ the same method for protecting analog TV stations in the Lower 700 MHz Band.

51. In the *Notice*, the Commission also reviewed the methodology adopted for the protection of

[152] *See* Qwest Comments at 4 (asserting that the Balanced Budget Act of 1997 prevents the Commission from allowing LPTV operations to remain in the Lower 700 MHz Band after December 31, 2006).

[153] Similarly, Qwest is mistaken insofar that the Balanced Budget Act prohibits certain activities "under any circumstances" after December 31, 2006. As discussed above, there are statutory provisions that may extend the DTV transition period if certain criteria have not yet been met.

[154] *See Notice*, 16 FCC Rcd at 7293 ¶ 27. *See also Upper 700 MHz Reallocation Order*, 12 FCC Rcd at 22967 ¶ 29 (stating that the Budget Act gives the Commission no latitude in clearing LPTV stations from the Upper 700 MHz Band at the end of the DTV transition).

[155] *See supra* para. 28.

Upper 700 MHz Band DTV stations adopted in the Public Safety proceeding.[156] In that decision, we determined that the same signal strength limits for land mobile operation criteria used for protection of analog stations (*i.e.*, 24 $dB\mu$ co-channel and 64 $dB\mu$ adjacent channel) would also apply for digital stations. The *Notice* sought comment on whether the Commission should adopt the same criteria for protection of DTV stations as it uses for protection of analog stations in the Lower 700 MHz Band, with particular interest in the provisions for transmissions that may have the characteristics of a wide-band-noise emission. It sought comment on whether digital, wide-band emissions from land mobile services in the Lower 700 MHz Band could cause interference to co-channel DTV operations in that band, such that more restrictive criteria need to be imposed than those provided under Section 90.545 of the Commission's rules.[157] In particular, it sought comment on the adequacy of 17 dB for co-channel protection of DTV from wide-band transmissions or whether we should consider more conservative protection levels.

52. None of the comments oppose the provision of full protection to incumbent TV licensees in the Lower 700 MHz Band. In fact, several comments propose additional measures to protect incumbents. MSTV proposes that the Commission assess the potential co-channel interference threat to incumbent broadcasters that might be caused by digital wide-band emissions.[158] APTS suggests adopting a 90-day test period during which interference concerns could be evaluated and resolved.[159] Block advocates against imposing any technical requirements on broadcasters in the Lower 700 MHz Band that do not apply to broadcasters on Channels 2-51.[160] HIC advocates a blanket requirement that prior to the end of the DTV transition all new service licensees in the band demonstrate that they will not cause interference to incumbent broadcasters located in and adjacent to the band prior to commencing operations.[161] HIC further proposes requiring the 40 dB D/U of protection for Channel 52, and creating a guard band near the lower edge of the Lower 700 MHz Band.[162] Cox proposes using a guard band and an interference protection protocol similar to that adopted for the Upper 700 MHz Band, to provide full interference protection for adjacent and co-channel broadcast operations (including LPTV and translators) against new services in the band.[163] NAB suggests requiring new licensees in the band to submit a full description of the technology that will be employed, along with a detailed technical showing that illustrates how the new service will protect incumbent broadcast services.[164]

53. One commenter, Shared Spectrum, suggests that we can relax the restrictions on new licensees and still provide full protection to incumbents. Shared Spectrum claims that there are actually many areas

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[156] *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State, and Local Public Safety Agency Communications Requirements through the Year 2010, WT Docket No. 96-86, *First Report and Order and Third Notice of Proposed Rulemaking*, 14 FCC Rcd 152, 221 ¶ 152 (1998) (*Public Safety Service Rule Order*).

[157] 47 C.F.R. § 90.545.

[158] *See* MSTV Comments at 9.

[159] *See* APTS Comments at 4.

[160] *See* Block Reply at 4-5.

[161] *See* HIC Comments at 6-7.

[162] *See* HIC Comments at 6-7.

[163] *See* Cox Reply at 2-4.

[164] *See* NAB Comments at 5.

where new licensees in the Lower 700 MHz Band would not interfere with incumbent TV broadcasters, making those licenses more viable. Shared Spectrum proposes that the Commission revise its maps depicting the Grade B contours of Channels 52-59 using the actual field strength criteria based on new field measurements. Shared Spectrum argues that we could use this data to obtain a precise geographic description of each TV protection zone, and develop a consolidated database of the TV transmitters to enable interference calculations outside the protected zones. Shared Spectrum suggests that we use its technology which "dynamically detects and removes/restricts nodes that have line-of-sight signal propagation into the protected zones." Shared Spectrum submits that if the above actions are taken, the Grade B contours for incumbent broadcasters can be reduced from those in the *Notice*, and the process of sharing spectrum can be facilitated, making a spectrum auction viable. However, HIC Broadcasting (in reply comments) argues that Shared Spectrum's data on Grade B contours are flawed, and that its proposal would be costly and would require the Commission to duplicate information that is already available.

54. Discussion. The operating limits for land mobile base stations adopted for the Upper 700 MHz Band in the *Public Safety Service Rule Order* were based on the rules that had been previously adopted for the 470-512 MHz band for the sharing of spectrum by broadcasting and land mobile services.[165] In that decision, a co-channel interference protection criterion of 40 dB D/U and a criterion of 0 dB for adjacent-channel protection were adopted to protect incumbent broadcasters from interference by land mobile services. The limits on power and antenna height that follow from these protection criteria are codified in Section 90.309 of the Commission's rules.[166] These limits are based on the results of a thorough experimental study of land mobile interference to analog television conducted many years before the advent of digital television, and they properly apply only to analog television.[167] We are adopting these same protection criteria for analog TV stations in the Lower 700 MHz Band.

55. However, for the reasons explained below, it is not necessary or appropriate to apply the same interference protection for the DTV stations in the Lower 700 MHz Band as in the Upper 700 MHz Band. In the *Public Safety Service Rule Order*, the Commission determined that the same signal strength limits for land mobile operation used for protection of analog stations should apply for the protection of digital television service in the Upper 700 MHz Band.[168] Those signal strength limits result in the same land mobile-to-TV separation distances for digital TV as for analog TV stations, and they were considered to represent a reasonable balance between the needs of both DTV stations and new services.[169] As noted in the *Notice*, however, the D/U ratio of 17 dB for co-channel interference to digital stations should be 23 dB for protection of DTV from wideband land mobile transmissions since, as demonstrated by the table in Section 73.623(c)(3)(ii), DTV receivers treat interference from wideband co-channel signals as an increase in the noise floor of the desired signal. At the edge of the DTV (noise-limited) service area, where the DTV S/N ratio is small, the value of D/U is 23 dB for co-channel interference protection from another DTV station (*i.e.*, the desired signal must be at least 23 dB greater than the undesired signal). A wideband land

[165] *See Public Safety Service Rule Order*, 14 FCC Rcd at 221 ¶ 152.

[166] 47 C.F.R. § 90.309.

[167] *See generally* Amendment of Parts 2, 89, 91, and 93; Geographic Reallocation of UHF-TV Channels 14 Through 20 to the Land Mobile Radio Services for Use Within the 25 Largest Urbanized Areas of the United States, Docket No. 18261, *First Report and Order*, 23 F.C.C. 2d 325 (1970).

[168] We set 24 $dB\mu$ as the maximum field strength of co-channel land mobile transmissions, and 64 $dB\mu$ as the maximum adjacent-channel field strength, permitted at borders of television service areas. *See Public Safety Service Rule Order*, 14 FCC Rcd at 221 ¶ 152.

[169] *Public Safety Service Rule Order*, 14 FCC Rcd at 222-223 ¶ 155.

mobile or digital broadcast signal will increase the noise floor for the DTV reception just as though it were a DTV transmission. Therefore, we conclude that new land mobile systems operating in the Lower 700 MHz Band employing wide band noise-like signals need to provide co-channel DTV stations with an additional 6 dB of protection.[170]

56. In the Lower 700 MHz Band we are applying the more conservative criterion (as described above) for co-channel interference from wideband systems. Specifically we are adopting a D/U ratio of 23 dB corresponding to a maximum land mobile or broadcast field strength of 18 $dB\mu$ for co-channel transmissions. This criterion will best protect existing broadcast operations, which will likely remain in operation until the end of the transition to DTV, which may extend beyond the 2006 target date.[171] We believe that this more conservative approach is warranted because the number and density of incumbent TV stations in the Lower 700 MHz Band is greater than those in the Upper 700 MHz Band. Moreover, a major factor that led to the specific protection standards adopted in the Upper 700 MHz Band—the goal of maximizing the utility of the new public safety allocation—is not present in this case. For the protection of DTV stations against adjacent channel interference, we adopt the criterion of -23 dB D/U, the same as we applied for DTV stations in the Upper 700 MHz Band.

57. We are not persuaded that an effort to revise our Grade B contour predictions/broadcast television protections based on new field strength measurements as suggested by Shared Spectrum would substantially extend the areas in which new service licensees could operate without adversely affecting the service of broadcast stations. We believe that any such ad hoc re-evaluations of broadcast protections could inadvertently lead to loss of service by viewers. In this regard, we note that television signal strength and the availability of service often vary within very short distances, in some cases less than the distance between residences or from one end of a home's roof to the other. We also find that Shared Spectrum's proposal would be costly and time-consuming, and that there is no reason to believe that the data that would be obtained through the suggested field measurements would be more accurate or reliable than that provided by our existing data bases and prediction models. We therefore are not adopting Shared Spectrum's suggestion for modifying our TV Grade B contours.

c. Coordination with Canada and Mexico

58. Background. The *Notice* tentatively concluded that licenses issued for this band would be subject to whatever future agreements the United States develops with these two countries. It further tentatively concluded that, until such time as existing agreements are replaced or modified to reflect the new uses, licenses in this band will be subject to existing agreements and the condition that harmful interference not be caused to, and must be accepted from, TV operations in those countries.[172]

59. Discussion. No party commented on these proposals. Because the United States is obligated under existing agreements to protect the signals of Canadian and Mexican TV broadcast stations located in

[170] 6 dB is the difference between the D/U ratio of 17 dB that applies to the Upper 700 MHz Band and the value 23 dB that we find is necessary to fully protect DTV from wideband transmissions. The corresponding maximum field strengths are 18 $dB\mu$ and 64 $dB\mu$ respectively for co- and adjacent-channel land mobile transmissions. Fields no stronger than these will be permitted at the DTV service contour where the DTV signal strength is 41 $dB\mu$.

[171] *See supra* para. 3 (describing the transition process and the events which would extend the transition beyond December 31, 2006).

[172] *Notice*, 16 FCC Rcd at 7296 ¶ 34.

the border areas,[173] we will adopt our proposal and subject new licensees' use of the band to any future agreements that the United States establishes with Canada and Mexico. Until that time, new licensees in the band will be subject to existing agreements and the condition that harmful interference not be caused to, and must be accepted from, television broadcast operations in those countries.

B. Service Rules

60. We now turn to the specific service rule decisions required by our reallocation of the Lower 700 MHz Band to fixed, mobile, and broadcast services. In the *Notice*, the Commission sought comment on the various service rules necessary to conduct an auction and issue authorizations for new services in this band.[174] These rules include the definitional, technical, licensing, operating, competitive bidding, and band-clearing rules and policies that will apply to new services in the Lower 700 MHz Band.

61. In the *Notice*, the Commission identified considerations that would be important to its service rule determinations for the Lower 700 MHz Band. The Commission tentatively concluded that the service rules for this spectrum should implement a market-based approach that allows flexible use for the full range of allocated services, consistent with necessary interference requirements.[175] The Commission also recognized that any service rules must consider the presence of incumbent broadcasters in the Lower 700 MHz Band and the processes that the Commission has established in its DTV proceeding for relocating incumbent broadcasters into the DTV core spectrum, including the statutory provisions that may permit incumbent broadcasters, both analog and digital, to continue to operate on channel allotments in this band until at least December 31, 2006, or beyond.[176] In addition, the Commission stated its intent to craft a regulatory scheme that will facilitate, rather than hinder, the clearing of incumbent broadcasters from this spectrum in a manner consistent with its policy goals in the *Spectrum Reallocation Policy Statement* and DTV proceeding.[177]

62. These considerations have led us to generally apply the Part 27 licensing and operational rules that the Commission applied previously to the Upper 700 MHz Commercial Band.[178] We believe that the

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[173] *See id.*

[174] *Id.* at 7297-98 ¶¶ 35-38

[175] *Id.* at 7297 ¶ 35. In reaching this conclusion, the Commission was guided by the principles underlying its recent decisions, such as the *Spectrum Reallocation Policy Statement* and the *Secondary Markets Policy Statement*, where the Commission has implemented its statutory directives under Section 309(j) of the Communications Act by addressing spectrum management through approaches consistent with general market-based principles. In establishing service rules for the Upper 700 MHz Commercial Band, the Commission was guided by the conclusion in the *Spectrum Reallocation Policy Statement* that a flexible, market-based approach is the most appropriate method. *See Upper 700 MHz Third Report and Order* at ¶ 3 (citing *Spectrum Reallocation Policy Statement*, 14 FCC Rcd 19868). In a like manner, the Commission stated in the *Secondary Markets Policy Statement*, that for competition to bring consumers the highest valued services in the most efficient manner, competing users of spectrum need flexibility to effectively respond to market forces and demand. *See Secondary Markets Policy Statement*, 15 FCC Rcd at 24180-81 ¶ 8.

[176] *See* 47 U.S.C. § 309(j)(14)(A). In this regard, the *Notice* stated that the service rules for the Lower 700 MHz Band must provide for the protection of incumbent television stations during the DTV transition period. *See Notice*, 16 FCC Rcd at 7297 ¶ 36.

[177] *Notice*, 16 FCC Rcd at 7297 ¶ 37.

[178] *See infra* sections III.B.3 and III.B.4. The "Upper 700 MHz Commercial Band" is the spectrum from 747-762 MHz and 777-792 MHz. New services in the Upper 700 MHz Commercial Band will generally be regulated (continued….)

general application of the same Part 27 licensing and operating rules to the 700 MHz Band as a whole will help promote flexible and efficient use of the spectrum. In the *Spectrum Reallocation Policy Statement*, the Commission explained that flexibility can be promoted by harmonizing the rules for like services.[179] We continue to believe that regulatory neutrality and operational uniformity across the 700 MHz Band will permit the marketplace to achieve the highest valued end use of the spectrum. These Part 27 rules will enable the broadest possible use of this spectrum consistent with the spectrum management obligations and objectives identified in our *Spectrum Reallocation Policy Statement*.

63. While we generally adopt the same Part 27 framework established for licenses in the Upper 700 MHz Commercial Band, our service rules for the Lower 700 MHz Band also contain some distinctive elements based on our assessment of similarities and differences between these spectrum resources. These include the specific record pertaining to the band, the potential demand for these licenses, the nature of the spectrum resource (*e.g.*, propagation characteristics), statutory considerations, various external constraints (*e.g.*, degree of incumbency, scarcity of spectrum suitable for mobile applications), and several longer-term policy objectives (*e.g.*, the pace of the DTV transition, the feasibility of clearing the band). As a result, we have added definitional and technical rules to Part 27 to reflect what we believe to be the optimal initial scope of licenses for the Lower 700 MHz Band.

64. These service rules, along with the competitive bidding provisions that we adopt herein, derive from our statutory obligations under Section 309(j) of the Communications Act.[180] Section 309(j)(3) outlines a number of public interest objectives that the Commission must consider when establishing the characteristics of licenses that are to be assigned by competitive bidding and designing auction systems.[181] These statutory objectives include the development and rapid deployment of new technologies, products, and services for the benefit of the public, the promotion of economic opportunity and competition, the recovery of a portion of the value of the spectrum made available for commercial use, and the efficient and intensive use of the spectrum.[182] Further, Section 309(j)(14)(c) of the Act directs the Commission to reclaim, reorganize, and auction this spectrum well before broadcasters are required to vacate the band at the end of the DTV transition period.[183] We believe that adopting flexible, market-based service rules is the most appropriate approach for implementing our Section 309(j) statutory directives.

1. Scope of Licenses

65. The *Notice* sought comment on the three sets of issues that define the scope of licenses for the Lower 700 MHz Band: the permissible licensed services, the size of spectrum blocks, and the size of licensed service areas.[184] To this end, we initially address the extent to which our service rules for this band should permit flexible use among the full allocated range of possible broadcast and wireless services. We

(Continued from previous page)
under Part 27 of the Commission's rules. *See* 47 C.F.R. Part 27; *Upper 700 MHz First Report and Order*, 15 FCC Rcd 476; *Upper 700 MHz MO&O and FNPRM*, 15 FCC Rcd 20845.

[179] *Spectrum Reallocation Policy Statement*, 14 FCC Rcd at 19870 ¶ 9.

[180] *See generally* 47 U.S.C. § 309(j).

[181] *Id.* § 309(j)(3).

[182] *See id.* § 309(j)(3)(A)-(E).

[183] *See id.* § 309(j)(14)(C). Section 309(j)(14) also establishes the deadlines that define the end of the DTV transition period. *See id.* § 309(j)(14)(A)-(B).

[184] *Notice*, 16 FCC Rcd at 7298 ¶ 40-64.

then address the appropriate band plan and service area sizes for geographic licensing in the Lower 700 MHz Band. By these decisions, we seek to define an initial scope of licenses that can be obtained and used by a wide range of entities and services. It is our intent that market forces assign this spectrum to its highest valued use and thereby determine the ultimate use of the band.

a. Permissible Licensed Services

66. Background. In the past, the Commission has described the range of services that it envisioned could be offered in the Lower 700 MHz Band. In the *Spectrum Reallocation Policy Statement*, the Commission noted that the Lower 700 MHz Band had the potential to make a variety of technologies and services available for flexible use, including, fixed, mobile, and broadcast services.[185] In the 3G proceeding, the Commission identified the band as suitable spectrum for deployment of advanced wireless services and for expansion of the capacities of cellular, personal communications services ("PCS"), and other commercial mobile radio services ("CMRS").[186]

67. Accordingly, in the *Notice*, the Commission considered whether to permit the full range of uses authorized by the spectrum's proposed reallocation to fixed, mobile, and broadcast services.[187] The Commission observed that such flexibility could be permitted through the use of relaxed service rules, which would allow licensees greater freedom in determining the specific services to be offered.[188] The *Notice* requested comment on service rules and assignment mechanisms that were not based on a prediction of how this spectrum may ultimately be used, but would instead enable the Commission to establish maximum practicable flexibility.[189]

68. To determine what was practicable, however, the Commission sought comment on interference and compatibility issues with potential uses as they relate to the scope of Lower 700 MHz Band licenses.[190] The Commission solicited comment, for example, on the extent to which its service rules can permit both new broadcasters, in particular DTV and other digital broadcast operations, and wireless services to operate in the Lower 700 MHz Band.[191] It also sought comment on whether certain technical and licensing rules could be established to increase flexibility for fixed and mobile wireless services using different technologies.[192]

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[185] *See Spectrum Reallocation Policy Statement*, 14 FCC Rcd at 19879-80 ¶ 25.

[186] *See 3G Notice*, 16 FCC Rcd at 612 ¶ 38 n. 74.

[187] *Notice*, 16 FCC Rcd at 7297 ¶ 35. Although the *Notice* did not make a specific proposal beyond the fixed, mobile and broadcasting services described therein, the Commission requested comment on whether it could accommodate other potential services. The *Notice* asked, for example, whether the Commission should permit deployment of satellite services in the event that an allocation is made in the band for that service. *See id.* at 7301 ¶ 45; *see also id.* at 7315-16 ¶ 88.

[188] *Id.* at 7298-99 ¶ 40.

[189] *See id.* at 7299 ¶ 41.

[190] *See, e.g., id.* at 7301-02 ¶ 47.

[191] *Id.* at 7300 ¶ 43.

[192] Noting the different requirements on which Frequency Division Duplex ("FDD") or Time Division Duplex ("TDD") services are based, the Commission requested comment on how to adopt a band plan that would accommodate both FDD and TDD based service providers. *Id.* at 7305-7 ¶¶ 60-62.

69. Commenters support use of this spectrum for fixed, mobile, and broadcast services. Broadcasting interests advocate the licensing of both two-way mobile services as well as broadcast and other broadband applications.[193] Wireless interests focus their comments on use of the band for fixed and mobile services,[194] although some advocate restrictions against certain types of broadcasting.[195] Only one commenter, Qwest, argues that the Commission should preclude all new broadcast services in the band.[196]

70. Discussion. We will apply Section 27.2 of the Commission's rules to define the permissible communications for the Lower 700 MHz Band and allow a multitude of fixed, mobile, and broadcast uses that the market may demand.[197] Consistent with the Commission's *Spectrum Reallocation Policy Statement*, this flexible use approach will allow the provision of services to the public that could include mobile and other digital new broadcast operations, fixed and mobile wireless commercial services (including FDD- and TDD-based services), as well as fixed and mobile wireless uses for private, internal radio needs.[198] The record in this proceeding demonstrates demand for expanded wireless services in the Lower 700 MHz Band, particularly in non-urban areas, for uses ranging from the implementation of next generation applications and extensions of existing mobile and fixed networks to the implementation of various innovative stand-alone technologies. It also demonstrates demand for certain broadcast and other broadband applications that could include two-way interactive, cellular, and mobile television broadcasting services. We therefore decline to adopt Qwest's recommendation to exclude all broadcast services and will instead allow any broadcast services that meet our Part 27 technical rules.[199] These technical rules will provide opportunities for existing broadcasters and others who wish to operate certain new digital television services in the Lower 700 MHz Band.[200] We do not wish to exclude competitors by adopting use restrictions on spectrum with characteristics suitable for new broadcast, wireless, and broadband services.[201]

71. This decision will permit market forces to effectively assign spectrum to its highest valued use as well as meet our statutory mandate under Section 303(y) to ensure harmful interference will not result

[193] *See* MSTV Comments at 5; NAB Comments at 2; Cox Reply at 7-9.

[194] *See, e.g.*, Leap Comments at 1; RTG Comments at 1-2; TCA Comments at 1; U.S. Cellular Comments at 1.

[195] *See, e.g.*, CTIA Comments at 2-3 (questioning whether it is technically feasible for advanced wireless services to share the Lower 700 MHz Band with full-power broadcast licensees).

[196] Qwest Comments at 5.

[197] *See* 47 C.F.R. § 27.2(a) (stating that a licensee may provide any service for which its frequency bands are allocated); *see also id.* § 2.106 (Table of Frequency Allocations). Because we have declined to reallocate the Lower 700 MHz Band for satellite use, we do not consider service rules for the deployment of satellite operations in this band.

[198] Although we have declined to reallocate all or a portion of the band exclusively for private radio services, we explain below that Part 27 Lower 700 MHz Band licensees are permitted to use their spectrum for private, internal communication needs, provided they so designate this status on their FCC Form 601. *See infra* section III.B.3.a.

[199] Broadcast and wireless services will be subject to the same technical rules. *See infra* section III.B.2.

[200] *See supra* para. 15.

[201] Cox Reply at 8.

from the permitted flexibility.[202] As part of our commitment to establish maximum practicable flexibility for services, we have determined and lessened the potential for interference by our power limit and other technical decisions set forth in section III.B.2 below.[203] We believe this approach affords maximum flexibility while promoting efficient use of scarce spectrum and preventing harmful interference between mobile wireless and broadcast applications using a variety of different technologies.

b. Band Plan

72. Background. In the *Notice*, the Commission sought comment on the appropriate division of the Lower 700 MHz Band. To determine the appropriate amount of spectrum for each license, the Commission requested comment on whether the spectrum should be licensed as a single 48-megahertz block or divided into two or more smaller blocks.[204] Given the requirements of various services and their technologies, the Commission also invited comment on whether some or all blocks should consist of paired segments or contiguous frequencies.[205]

73. In the Upper 700 MHz Band proceeding, the 36 megahertz of spectrum reallocated for commercial use was divided into paired spectrum blocks of 5 and 10 megahertz (resulting in one license of 10 megahertz and a second license of 20 megahertz).[206] The *Notice* stated that the options considered for the Lower 700 MHz Band included blocks in increments and/or combinations of 24 megahertz, 12 megahertz, six megahertz, or other amounts that commenters could demonstrate would be in the public interest.[207] The Commission also sought comment on whether smaller blocks may be preferable for rural and small carriers, whether a minimum size of spectrum block is needed to enable competitive commercial services, and whether spectrum blocks could be defined in such a size and/or alignment so as to facilitate band clearing and reduce potential interference with incumbent broadcasters.[208]

74. On the issue of a paired or unpaired band architecture, the *Notice* sought comment on the extent to which paired or unpaired blocks would be suited for new technologies, particularly to enable commercial wireless services on this spectrum.[209] Comment was requested on the extent to which power limits,[210] size of spectrum blocks, and size of service areas should affect any decision to adopt the use of

[202] *See supra* section III.A.1.a.

[203] *See supra* section III.B.2.b.

[204] *Notice*, 16 FCC Rcd at 7301 ¶ 46.

[205] *Id.* at 7306 ¶ 61.

[206] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 489 ¶ 30. The remaining 6 megahertz was defined as Guard Band spectrum and subjected to a non-traditional licensing scheme that no party has proposed be adopted for the Lower 700 MHz Band. *See generally Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5311-23 ¶¶ 26-51.

[207] *Notice*, 16 FCC Rcd at 7302 ¶ 48.

[208] *Id.* at ¶¶ 48-52.

[209] *Id.* at 7306 ¶ 61.

[210] The Commission sought comment on the extent to which certain power limits affect the adoption of a paired or unpaired band structure. In adopting paired spectrum blocks in the Upper 700 MHz Band proceeding, the Commission allowed 1000 watt ERP base and fixed stations in both the lower and upper segments, and 30 watt ERP mobile and control stations, as well as 3 Watts ERP portables, in both the upper and lower segments. It (continued….)

paired or unpaired bands.[211] The Commission asked commenters to address the particular requirements of the potential Lower 700 MHz Band services and their technologies, including transmission procedures such as FDD or TDD.[212]

75. All of the commenters support dividing the Lower 700 MHz Band into multiple spectrum blocks based on increments of 6 megahertz corresponding to TV Channels 52-59.[213] A large percentage of commenters recommend 6 and/or 12 megahertz blocks.[214] Only CROW and U.S. Cellular specifically advocate a block size larger than 12 megahertz,[215] and no commenter sought spectrum blocks larger than 24 megahertz. There were different views on whether the band should consist of paired or unpaired blocks;[216] however, three parties representing interests in both FDD and TDD systems – Qwest, CTIA, and ArrayComm – support a band plan that accommodates both paired and unpaired transmission technologies.[217]

76. Discussion. We adopt a band plan that divides the 48 megahertz of reallocated spectrum into three 12-megahertz blocks, with each block consisting of a pair of 6-megahertz segments, and two 6-megahertz blocks of contiguous, unpaired spectrum. Our decision to institute multiple paired and unpaired blocks in a combination of sizes and pairings accommodates the proposals of nearly all of the parties participating in this proceeding. Although CROW and U.S. Cellular advocated a larger initial allocation per spectrum block, their recommended sizes were not significantly larger than 12 megahertz. The block sizes that we adopt, therefore, should not burden their attempts to acquire more than 12 megahertz of spectrum in any given area. Moreover, our decision not to apply any spectrum aggregation limits to the Lower 700 MHz Band will permit parties seeking larger blocks to aggregate spectrum both at auction and in the secondary market.[218]

77. The size and placement of the five blocks reflect several important spectrum management considerations. The arrangement of the blocks relative to TV Channels 52-59 is presented in the following

(Continued from previous page)
found that such power limits would enable both base and mobile transmitters on both the upper and lower segments, and thus permitted TDD-based technologies to use either the upper or lower segments, or both, as circumstances warrant. *See Upper 700 MHz MO&O and FNPRM*, 15 FCC Rcd at 20851 at ¶ 10.

[211] *See Notice*, 16 FCC Rcd at 7306-7 ¶¶ 62-63.

[212] *Id*. at 7306 ¶ 61.

[213] *See* MSTV Comments at 6 (6 megahertz blocks); NAB Comments at 5-6 (6 megahertz blocks, or blocks based on multiples of 6 megahertz); Gila River Comments at 5 (smaller spectrum block sizes); Leap Reply at 13 (four 12 megahertz blocks); RTG Comments at 7 (four 12 megahertz blocks); SDN, *et*. a*l*. Comments at 2 (more than one block); CTIA Comments at 4-5 (sufficient licenses to allow for multiple competitors); Qwest Comments at 5-6 (combination of sizes, *e.g.*, three 12 megahertz and two 6 megahertz blocks); U.S. Cellular Comments at 2 (two or three blocks); CROW Comments at 2 (two 24 megahertz blocks); ArrayComm *Ex Parte* (August 16, 2001) ("ArrayComm *Ex Parte"*) at 5 (four 12 megahertz blocks).

[214] *See* MSTV Comments at 6; NAB Comments at 5-6; Leap Reply at 13; RTG Comments at 7; Qwest Comments at 5-6; ArrayComm *Ex Parte* at 5.

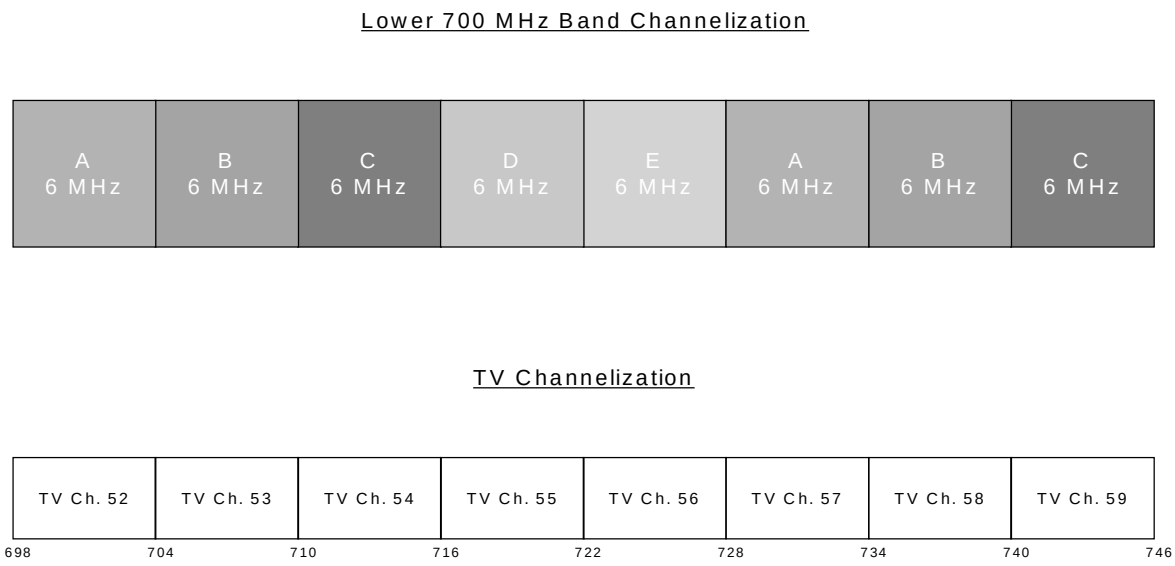
[215] *See* CROW Comments at 2; U.S. Cellular Comments at 2.

[216] *Compare* MSTV Comments at 6 *with* RTG Comments at 7.

[217] *See* Qwest Comments at 6; CTIA Comments at 5; ArrayComm *Ex Parte* at 5.

[218] *See infra* section III.B.3.c.

diagram:



78. As the diagram illustrates, each of these blocks corresponds with either one or two 6 megahertz television channels. We agree with NAB and MSTV that this will facilitate use of the Lower 700 MHz Band by analog and digital broadcasters as well as a variety of fixed and mobile wireless services.[219] In addition, this alignment will minimize the number of incumbent television licensees to which a new Lower 700 MHz Band licensee's operations would potentially cause interference.[220]

79. Placing the two unpaired 6-megahertz blocks at the center of the band plan has several advantages. It provides an opportunity for licensees to aggregate both licenses and thereby offer services with very wide emission types that may require more than 6 megahertz of contiguous spectrum. ArrayComm submits that 12 megahertz of contiguous spectrum would give licensees the flexibility to create internal guard bands and minimize frequency coordination with adjacent-channel systems using a different technology.[221] Centering these two blocks also results in 30-megahertz separation between the upper and lower segments of the 12-megahertz paired licenses. Such separation is consistent with licenses in the Upper 700 MHz Commercial Band and meets the requirements of many two-way technologies and equipment.[222]

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[219] *See* MSTV Comments at 6; NAB Comments at 6.

[220] As the Commission stated in the *Upper 700 MHz First Report and Order*, 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. *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 492 ¶ 37.

[221] ArrayComm *Ex Parte* at 5.

[222] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 490 ¶ 32.

80. Finally, the size and nature of each paired segment should make those portions of the spectrum equally suitable to firms employing technologies that rely on unpaired spectrum, as well as firms seeking to launch certain new broadcast operations. Each segment consists of 6 megahertz of contiguous spectrum, an amount cited by both broadcast interests and TDD advocates as instrumental to their operations.[223] In addition, all six segments are symmetric in size and will be subject to power limits based on usage rather than frequency, an approach that was adopted for the Upper 700 MHz Commercial Band in the *Upper 700 MHz MO&O and FNPRM*.[224] We agree with Qwest that by not imposing different restrictions on operations in upper versus lower segments, we increase the potential use of these segments by new technologies and new service providers that do not rely on paired spectrum.[225]

81. This flexible band plan offers five licenses in any given area that are of sufficient bandwidth to permit a variety of services. We have considered commenters' desires for multiple blocks by adopting smaller blocks of spectrum. We have balanced this demand, however, against our goal of enabling new broadband services and advanced wireless services on spectrum with propagation characteristics well suited for such applications.[226] In this regard, we note that CTIA states that licenses should be of sufficient bandwidth to offer CMRS providers broadband capability.[227] MSTV states similarly that each individual block of spectrum should be "broadband-ready."[228]

82. As compared to smaller block sizes, we believe that 12 megahertz paired blocks are required to afford sufficient capacity for the provision of many new services. Accordingly, we have adopted three 12-megahertz paired blocks to provide opportunities for augmentation of existing systems, especially CMRS systems, as well as for new systems. Leap states that such block sizes are sufficient to enable third generation wireless and other advanced services.[229] Paired 12-megahertz blocks are also sufficient to accommodate a single wideband CDMA channel, which can support a range of broadband services, including Internet access. This amount of spectrum may be useful both for members of RTG in need of additional spectrum to provide advanced services in rural areas[230] as well as those providers with nationwide services that may lack the capacity to provide advanced services in particular markets.

83. We also believe that 12-megahertz licenses could in some cases facilitate band clearing and new licensees' use of the Lower 700 MHz Band during the DTV transition. Relative to the use of smaller blocks, the use of 12-megahertz spectrum blocks may provide some flexibility for a new licensee to commence operations in a given geographic area despite the presence of an incumbent broadcaster on 6 of its 12 megahertz of spectrum. A licensee who has already commenced operations on a clear 6-megahertz

[223] *See, e.g.*, NAB Comments at 5-6; ArrayComm *Ex Parte* at 5.

[224] *See Upper 700 MHz MO&O and FNPRM*, 15 FCC Rcd at 20850-51 ¶¶ 7-10.

[225] Qwest Comments at 6; *see also* ArrayComm *Ex Parte* at 5; CTIA Comments at 5.

[226] We acknowledge that encumbrances by broadcasters may preclude such services in the near term. Nonetheless, we are committed to reorganizing the spectrum in such a way that our bandwidth assignments, at a minimum, can eventually support the deployment of the new technologies and services that we are bound to promote by statute. *See* 47 U.S.C. § 309(j)(3), (4), (14); *see also id*. 309(j)(4), (14)(C)(i)(II).

[227] CTIA Comments at 5.

[228] MSTV Comments at 6.

[229] Leap Reply at 13.

[230] RTG Comments at 7-8.

portion of its spectrum will have the option to then pursue a voluntary band clearing arrangement for the remaining 6 megahertz of encumbered spectrum.[231]

84. In addition to the three 12-megahertz paired blocks, we have adopted two 6-megahertz unpaired blocks because we believe they add flexibility to our band plan while offering the minimum capacity for the provision of additional new services, including certain broadband services. We find the combination approach that Qwest supports[232] is appropriate given the interest by Gila River and SDN, *et. al.*[233] in small spectrum block sizes,[234] the support by broadcasters for 6-megahertz blocks,[235] and our technical rule decisions below that permit certain new broadcast operations in the Lower 700 MHz Band.[236] MSTV states that 6-megahertz blocks are necessary to enable the adaptation of DTV technology for purposes of deploying new, innovative broadband services in the band.[237] In addition, several commenters support a flexible approach that creates opportunities for licensees to offer services such as those that use TDD-based technologies.[238] Thus, we conclude that a 6-megahertz contiguous block of spectrum is sufficient to allow for development and deployment of certain services including new broadcast services and fixed and mobile wireless services that do not depend on paired frequencies. Our plan also could promote competition by permitting two providers offering such services in any geographic area.

85. In providing a flexible band plan with multiple spectrum blocks and small sizes, we present ample opportunities for participation by rural telephone companies and small businesses. We therefore decline to adopt Gila River's proposal to set aside 10 to 12 megahertz in each geographic licensing area for designated entities.[239] No other commenter advocated a designated entity set-aside and one party that commented directly on the issue supported open eligibility.[240] As opposed to restricting certain firms' access to spectrum, we have created five smaller spectrum licenses in each geographic area of the United

[231] *See infra* section III.B.6.a.

[232] *See* Qwest Comments at 6 (supporting 3x12 MHz and 2x6 MHz blocks); *see also* ArrayComm *Ex Parte* at 5 (supporting 2x6 MHz and 1x12 MHz blocks).

[233] SDN Communications is a regional Interexchange Carrier (IXC) owned by thirty-five independent rural telephone companies that serve in South Dakota. SDN Communications and sixteen other parties have joined with other South Dakota carriers to provide centralized equal access through SDN. Each of these parties has filed individual comments or replies that are identical in substance and, accordingly, will be collectively referred to as "SDN, *et al*." Those parties encompassed by as "SDN, *et al*." include: Baltic, GWT, GWTC, Interstate, JVT, Kennebec, McCook, Midstate, RC, Roberts, Splitrock, SBTC, Union, Valley, Golden West, and West River.

[234] Gila River Comments at 5; SDN, *et. al*. Comments at 2.

[235] *See* NAB Comments at 6; MSTV Comments at 6-7.

[236] *See infra* section III.B.2.

[237] MSTV Comments at 6. Qwest states that 6 megahertz of this spectrum can support viable mobile wireless services. *See* Qwest Comments at 6.

[238] *See*, Qwest Comments at 6; CTIA Comments at 5; ArrayComm *Ex Parte* at 5.

[239] Gila River Comments at 10.

[240] *See* U.S. Cellular Comments at 2.

States.[241] Paired 12-megahertz blocks are specifically advocated by rural and small carriers.[242] The two unpaired 6-megahertz blocks appear well-suited for firms seeking smaller blocks of spectrum either because they do not have the resources to compete for larger blocks and/or do not need the additional capacity offered by 12-megahertz blocks. Firms with smaller networks that seek spectrum in local markets can also negotiate access to spectrum from the Lower 700 MHz Band auction winner(s) through the disaggregation provisions we adopt below.[243]

c. Size of Service Areas for Geographic Area Licensing

86. Background. In the *Notice*, the Commission tentatively concluded that it should adopt a geographic area licensing approach to assign licenses in the Lower 700 MHz Band.[244] Assuming that it adopted such an approach, the Commission sought comment on the appropriate size of geographic service areas over which to assign Lower 700 MHz Band licenses.[245] The options presented covered a wide range of service area sizes, including the use, exclusively or in combination, of nationwide licenses, the 6 EAGs, the 12 Regional Economic Area Groupings ("REAGs"), the 52 Major Economic Areas ("MEAs"), the 175 Economic Areas ("EAs") and EA-like areas,[246] or the 734 MSAs and RSAs.[247] The Commission sought comment on whether the approach it had adopted for the Upper 700 MHz Commercial Band would be appropriate for the Lower 700 MHz Band.[248] In the Upper 700 MHz Band proceeding, the Commission chose 6 EAGs to define the size of service areas for geographic area licensing of the 30 megahertz of spectrum in the Upper 700 MHz Commercial Band.[249]

87. All commenters that address the licensing of service areas support a geographic licensing approach to license assignment,[250] and most devote significant discussion to the issue of the appropriate

[241] In the alternative to a designated entity set-aside, Gila River supports the use of smaller blocks. Gila River Comments at 11.

[242] *See, e.g.*, RTG Comments at 7.

[243] *See infra* section III.B.3.f.

[244] *Notice*, 16 FCC Rcd at 7303 ¶ 53.

[245] *Id*. at ¶ 54.

[246] As discussed in the *Notice*, EAGs, REAGs, and MEAs are comprised of EAs. The U.S. Department of Commerce defines 172 EAs, while the Commission defines three additional EA-like areas. *See id*. at 7304 ¶ 56 n.125.

[247] The *Notice* also sought comment on whether the Commission should license a service area or service areas to cover the Gulf of Mexico. *See id*. at 7305 ¶ 58. While the 6 EAGs, 12 REAGs, 52 MEAs and 734 MSAs/RSAs all have licenses that cover the Gulf of Mexico, this is not the case with the 175 EAs. An additional license area would be necessary in order to assign spectrum across the Gulf of Mexico.

[248] *See id*. at 7304 ¶ 56.

[249] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 500 ¶ 56. For the remaining 6 megahertz of commercial spectrum in the Upper 700 MHz Band Guard Bands, the Commission adopted licenses based on the 52 MEAs. *See Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5329 ¶ 69.

[250] *See, e.g.*, MSTV Comments at 8; Cellular South Comments at 6; CROW Comments at 2; Gila River Comments at 4-5; Leap Comments at 1; NTCA Comments at 1-2; Qwest Comments at 7; RTG Comments at 4; SDN *et. al* Comments at 2; TCA Comments at 3-4. NAB does not specifically advocate a geographic licensing approach. *See* NAB Comments at 6-7 (focusing on issues related to interference protection for incumbent (continued….)

size of geographic license areas in the Lower 700 MHz Band. Two parties, Qwest and ArrayComm, contemplate licensing the Lower 700 MHz Band across nationwide and large regional areas.[251] U.S. Cellular provides an economic analysis outlining the advantages of MEAs but also notes that it would support a geographic licensing scheme based on smaller service areas.[252] Commenters representing interests in broadcast services support geographic area sizes that can accommodate Designated Market Areas ("DMAs"), although they take somewhat different positions on whether large areas should be used.[253]

88. The most common proposal among commenters is to assign licenses across small geographic areas, with MSAs and RSAs being recommended more than any other service area size. Commenters favoring the assignment of part or all of the Lower 700 MHz Band across MSAs and RSAs include Cellular South, CROW, Leap, NTCA, RTG, SDN, *et. al*, and TCA.[254] Gila River urges the Commission to use EAs to assign 10-12 megahertz of spectrum in the Lower 700 MHz Band set aside for designated entities ("DEs").[255]

89. Discussion. Consistent with the comments submitted in this proceeding, we adopt a geographic area licensing approach to assign licenses in the Lower 700 MHz Band. This is consistent with our past experience that geographic area licensing, as compared to site-specific licensing, offers licensees superior flexibility to respond to market demands.[256]

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broadcasters and the extent to which geographic service areas should accommodate incumbent television operations).

[251] Qwest suggests the use of nationwide service areas for 12 megahertz of the Lower 700 MHz spectrum, with the remainder of the spectrum licensed across six EAGs. *See* Qwest Comments at 7. ArrayComm suggests allocating a portion of this spectrum across national or "REA-based" allocations. *See* ArrayComm *Ex Parte* at 5.

[252] *See* U.S. Cellular Comments at 5-8, App. A; U.S. Cellular Reply at 3.

[253] NAB argues that licensing across large geographic areas would increase problems associated with interference and incumbency, as each new licensee would encounter multiple television broadcasters. NAB therefore recommends the use of geographic areas smaller than the 6 EAGs and notes that DMAs may be most appropriate. *See* NAB Comments at 7. MSTV believes that license areas should be large enough to facilitate the provision of all potential services and that the use of, at a maximum, 52 MEAs – or perhaps 6 EAGs – could be appropriate if structured such that no DMA would be divided across geographic license areas. *See* MSTV Comments at 8.

[254] *See* Cellular South Comments at 6; CROW Comments at 7-8; Leap Reply at 4; NTCA Comments at 2; RTG Comments at 5-6; SDN, *et. al* Comments at 2; TCA Comments at 4.

[255] *See* Gila River Comments at 10.

[256] The Commission has previously concluded with respect to many commercial services that geographic area licensing is a highly efficient licensing scheme. *See, e.g.*, Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems, WT Docket No. 96-18, *Second Report and Order and Further Notice of Proposed Rulemaking*, 12 FCC Rcd 2732, 2744 ¶ 15 (1997); *see* Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, *Report and Order and Further Notice of Proposed Rule Making*, WT Docket No. 99-87, 15 FCC Rcd 22709, 22724 ¶ 29 (2000) (*BBA Report and Order*). The Commission has also concluded that predetermined service areas provide a more orderly structure for the licensing process and foster efficient utilization of the spectrum in an expeditious manner. *See* Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, ET Docket No. 95-183, *Report and Order and Second Notice of Further Rule Making*, 12 FCC Rcd 18600, 18647 ¶ 101 (1997) (*39 GHz Report and Order*); *see also* Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR (continued….)

90. Regarding the size of each service area for geographic licensing, we have determined that the most appropriate configuration for the Lower 700 MHz Band is based on a combination of large regional areas and small geographic areas. We therefore will license the five blocks in the Lower 700 MHz Band plan as follows: the two 6-megahertz blocks of contiguous unpaired spectrum, as well as two of the three 12-megahertz blocks of paired spectrum, will be assigned over 6 EAGs;[257] the remaining 12 megahertz block of paired spectrum will be licensed over 734 MSAs and RSAs.[258]

91. Our assignment of 36 megahertz of spectrum in this band over EAGs complements the approach used for the Upper 700 MHz Commercial Band.[259] Such large areas can provide economies of scale to offer new technologies. This approach is consistent with the belief, expressed in the *Spectrum Reallocation Policy Statement*, that the Lower 700 MHz Band "can be used to make a variety of new technologies and services available to the American public."[260]

92. As the Commission observed in the Upper 700 MHz Band proceeding, EAGs can provide licensees significant flexibility to address issues associated with protection of incumbent TV stations.[261] This finding is supported by the comments of MSTV, which state that geographic areas must be large enough to contain broadcasters' DMAs.[262] We are not convinced by NAB's claims that licensing across large geographic areas might increase interference problems.[263] Rather we believe that any such risk is offset by avoiding the need for complicated agreements that could arise if spectrum were licensed in smaller

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Systems in the 800 MHz Frequency Band, PR Docket No. 93-144, *Second Report and Order*, 12 FCC Rcd 19079, 19087 ¶ 10 (1997) (*800 MHz Second Report and Order*); *BBA Report and Order*, 15 FCC Rcd at 22724 ¶ 29. Among other benefits, geographic area licensing facilitates aggregation by licensees of smaller service areas into seamless regional and national service areas, allows development of strategic and regional business plans, provides licensees with greater build-out flexibility and is efficient for the Commission to administer. *BBA Report and Order*, 15 FCC Rcd at 22724 ¶ 29.

[257] We will use EAGs as defined in the Upper 700 MHz Band proceeding. *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 500 ¶ 56. For the four Lower 700 MHz Band spectrum blocks assigned over these EAGs, the Gulf of Mexico is divided between EAG 3 and EAG 5. The line of demarcation 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 the east of that line of demarcation (MMS's Eastern and Central Planning Areas) will be part of EAG 3 and all services to the west (MMS's Western Gulf Planning Area) will be part of EAG 5.

[258] We will assign Block C in the Lower 700 MHz Band plan over the MSA and RSA definitions originally adopted for the cellular radiotelephone service. *See* 47 C.F.R. § 22.909 (reference to Public Notice Report No. CL-92-40, "Common Carrier Public Mobile Services Information, Cellular MSA/RSA Markets and Counties," dated January 24, 1992, DA 92-109, 7 FCC Rcd 742 (1992)). For cellular market 306, which covers the Gulf of Mexico, and for all MSAs and RSAs that border the Gulf, we make the following changes to the service areas as specified in 7 FCC Rcd 742 (1992): The license areas for MSAs and RSAs that border the Gulf will include, in addition to the license areas addressed in the above referenced Public Notice, the water area extending from the coastline to 12 nautical miles off the U.S. coastline; and the license area for cellular market 306 will begin 12 nautical miles off the U.S. coastline and extend seaward.

[259] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 500 ¶ 56.

[260] *Spectrum Reallocation Policy Statement*, 14 FCC Rcd at 19880 ¶ 25.

[261] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 501 ¶ 59.

[262] *See* MSTV Comments at 8.

[263] *See* NAB Comments at 7.

areas where several geographic service areas could overlap a TV protection zone.[264]

93. The use of EAGs establishes an initial license scope that provides flexibility and opportunities for a wide variety of fixed, mobile, and new broadcast services. In the Upper 700 MHz Band proceeding, the Commission noted that the ability to build nationwide service was an important advantage of EAGs, along with the opportunity EAGs offer providers to achieve economies of scale in their operations.[265] As we noted in the *Sixth Annual CMRS Competition Report*, the number of mobile telephone operators competing to offer nationwide service doubled, from three to six, in the two years from 1999 to 2001, a trend that may reflect how nationwide areas can help providers achieve these economies of scale.[266] Such efficiencies have allowed providers to offer or expand innovative pricing plans such as one-rate type plans, which in turn reduce prices to consumers.[267] Licensees may, therefore, use EAGs to build larger, even nationwide footprints. For example, ArrayComm, a supporter of TDD-based technology, recommends allocating half of the spectrum in the Lower 700 MHz Band to national or "REA-based" licenses.[268] Similarly, Qwest, a CMRS provider using FDD-based technology, recommends the use of EAGs to assign three 12-megahertz blocks with a nationwide license for a remaining 12 megahertz block.[269]

94. Despite the efficiencies associated with nationwide service, however, we believe the use of EAGs is preferable to the assignment of nationwide service areas. The vast majority of commenters recommend using much smaller geographic areas, and only two commenters recommend assigning any portion of this spectrum across a nationwide service area. Using EAGs instead of nationwide license areas facilitates the acquisition of spectrum by different providers with spectrum needs that are confined to their particular region or market. As the Commission observed in the Upper 700 MHz Band proceeding, EAGs are easier to partition than nationwide licenses, which also may help serve the needs of regional providers.[270] Furthermore, we believe aggregating EAGs into nationwide areas is an administratively straightforward process, and we note that this may be simplified through the auction process.[271] While any type of aggregation is not without cost, we believe that such costs are outweighed by the significant benefits associated with use of large regional areas, such as EAGs.

95. Our assignment of a 12-megahertz block of paired spectrum, 25 percent of the Lower 700 MHz Band spectrum, over MSAs/RSAs reflects our desire to promote opportunities for a wide variety of applicants, including small and rural wireless providers, to obtain spectrum. This is consistent with our congressional mandate to promote "economic opportunity and competition" and to disseminate licenses "among a wide variety of applicants, including small businesses, rural telephone companies, and businesses

[264] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 501 ¶ 59.

[265] *Id.* at 501-02 ¶¶ 59-60.

[266] *See* Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, *Sixth Report*, FCC 01-192, at 13 (rel. July 17, 2001) (*Sixth Annual CMRS Competition Report*).

[267] *See id.* at 13-14.

[268] *See* ArrayComm *Ex parte* at 5.

[269] *See* Qwest Comments at 7.

[270] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 502 ¶ 61.

[271] *See* discussion *infra* at para. 168.

owned by members of minority groups and women."[272] In contrast to the Commission's experience in the Upper 700 MHz Band proceeding, many commenters in this proceeding favor geographic areas that are smaller than the 6 EAGs used for the Upper 700 MHz Commercial Band. Licensing a portion of the Lower 700 MHz Band over these small geographic areas balances the playing field such that small and rural providers will have an opportunity to participate in the auction and the provision of spectrum-based services. We believe that a combination of large and small geographic service areas best accomplishes these various statutory objectives.

96. We, therefore, recognize the importance to small and regional providers of licensing a significant portion of this spectrum band across MSAs and RSAs.[273] We conclude that MSAs and RSA are the appropriate size for small geographic licenses based on the record in this proceeding, which indicates a strong preference for these areas over, for example, EAs or MEAs. MSAs and RSAs represent known area sizes to many business entities, especially small regional and rural providers. TCA observes that MSAs and RSAs "are already known and understood in the business and financial arenas."[274] These smaller areas also may correspond to the needs of many customers, including customers of small regional and rural providers. Specifically, MSAs and RSAs represent areas over which many customers may desire to receive the majority of their wireless or broadcast-type services and thus can be the focus of smaller carriers that do not wish to bid on or provide service to larger regions. Assigning a portion of the Lower 700 MHz Band across MSAs and RSAs may allow licensees to focus on consumers that seldom travel outside of these geographic areas and that do not place a high value on roaming or long distance services.[275] While some commenters recommend that all of the spectrum in this band be allocated to such small areas,[276] we decline to take such an approach. As we noted in the *Spectrum Reallocation Policy Statement*,[277] we seek to make this spectrum available for use by a variety of new technologies and providers. We believe that a combination of large and small geographic service areas, rather than an assignment comprised only of small service areas, best accomplishes these goals.

[272] 47 U.S.C. § 309(j)(3)(B). Specifically, in establishing policies regarding competitive bidding for spectrum licenses, Congress mandated that the Commission "prescribe area designations and bandwidth assignments that promote … economic opportunity for a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women." 47 U.S.C. § 309(j)(4)(C).

[273] The propagation characteristics of the spectrum in this band make it conducive to business models that are built on serving consumers over a large area. As CROW observes, the propagation characteristics of spectrum in the Lower 700 MHz Band allow larger geographic areas to be served from each antenna site than is possible with systems based on higher spectrum bands, such as 2 GHz and other high-band systems. *See* CROW Comments at 8.

[274] *See* TCA Comments at 4.

[275] For example, U.S. Cellular cites a study by Bain & Company which argues that it and other regional/rural providers can best compete against nationwide carriers by focusing on customers that value local services over long distance and roaming services. *See* U.S. Cellular Comments at App. A-14. CROW adds that another "niche" market may exist in providing wireless broadband and wireless local loop to residents with mobility needs that seldom extend beyond these smaller geographic areas. *See* CROW Comments at 8-9.

[276] *See, e.g.,* CROW Comments at 7-8; Leap Comments at 1; NTCA Comments at 2.

[277] *Spectrum Reallocation Policy Statement*, 14 FCC Rcd at 19879-80 ¶ 25.

2. Technical Rules

97. As indicated above,[278] we are permitting the provision of any service for which the Lower 700 MHz Band is allocated provided a licensee's operations meet certain technical requirements. In the interest of maximizing spectrum use, all new broadcast and fixed and mobile wireless operations in the Lower 700 MHz Band will be governed generally by the flexible technical standards contained in Part 27 of the Commission's rules. Licensees are subject, therefore, to Part 27's provisions relating to equipment authorization, frequency stability, antenna structures and air navigation safety, international coordination, disturbance of AM broadcast station antenna patterns, and protection from interference.[279] These technical rules apply to all licensees in the Lower 700 MHz Band, including licensees who acquire their licenses through partitioning or disaggregation.

98. Although Part 27 provides an appropriate technical framework for the development of both wireless and new broadcast services, we have revised certain provisions as they apply to the Lower 700 MHz Band so as to promote greater flexibility in the choice of licensed services. The discussion below addresses power limits and related requirements, co-channel interference control, and out-of-band emission limits for all uses of this spectrum.

a. Power Limits and Related Requirements

(i) Power Limits

99. Background. In the *Notice*, the Commission sought comment on whether the same power limits adopted for the Upper 700 MHz Commercial Band should apply to the Lower 700 MHz Band.[280] In the Upper 700 MHz Band proceeding, the Commission adopted a maximum power limit for all services of 1000 watts (1 kW) ERP for base and fixed stations, in addition to limits of 30 watts ERP for control and mobile transmitters and 3 watts ERP for portable or hand-held devices.[281] The *Notice* requested comment on the extent to which these power limits could permit Lower 700 MHz Band licensees to provide both wireless and new broadcast services, in particular DTV and other digital broadcast operations.[282]

100. In light of the interference concerns that were considered in the Upper 700 MHz Band proceeding for conventional, full-power Part 73 broadcasting, the Commission sought comment on whether a 50 kW ERP maximum limit for the Lower 700 MHz Band would permit both wireless services and certain new broadcast operations,[283] yet still allow efficient and flexible use of the spectrum without offsetting costs.[284] The *Notice* asked whether the possible technology or technologies used to provide

[278] *See supra* Section III.B.1.a.

[279] *See* 47 C.F.R. §§ 27.51, 27.54, 27.56, 27.57, 27.63, 27.64.

[280] *See Notice*, 16 FCC Rcd at 7312 ¶ 78.

[281] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 521-22 ¶ 111; *see also Upper 700 MHz MO&O and FNPRM*, 15 FCC Rcd at 20851 at ¶ 10.

[282] *See Notice*, 16 FCC Rcd at 7300 ¶ 43.

[283] An analog television transmitter operating at 50 kW would not provide service to a very large area, but a DTV signal, employing recently-developed DTV modulation schemes (8VSB or COFDM) could produce coverage over a larger area.

[284] *See Notice*, 16 FCC Rcd at 7300, 7312 ¶¶ 43, 78.

digital broadcast services, such as those using a cellular architecture, would be compatible with wireless services operating in the spectrum.[285] The Commission stated its objective of establishing a maximum practicable level of flexibility for the Lower 700 MHz Band that would permit the coexistence of the dissimilar transmissions traditionally associated with broadcast and wireless services.[286]

101. The main issue over which commenters are divided is whether to adopt power limits that permit conventional, full-power broadcasting in the Lower 700 MHz Band. MSTV, Cox, and NAB are interested in full-power broadcasting applications in the band,[287] while Qwest and CTIA state that it is not technically feasible for advanced wireless services to share the band with full-power broadcasters.[288] Qwest states that to the extent new broadcast services are permitted, they should be permitted only under the same technical conditions that currently apply to wireless services[289] (*i.e.*, a 1 kW limit). In contrast, MSTV contends that a 50 kW limit for broadcast operations would be a viable maximum power for purposes of limiting interference within and at the edge of service areas.[290] MSTV also states that licensees should be permitted to increase their power above 50 kW ERP within their service areas provided they do not cause co- or adjacent-channel interference to other users.[291]

102. Discussion. For all services operating in the Lower 700 MHz Band, we adopt a maximum power limit of 50 kW ERP subject to specific requirements regarding non-interference. Specifically, for those services operating base or fixed stations at power levels greater than 1 kW ERP, we adopt a power flux density ("PFD") standard as a way to address the interference potential, as well as a general notification requirement as described below.[292] Following the approach adopted for the Upper 700 MHz Commercial Band, we adopt a maximum power limit of 30 watts ERP for mobile and control stations, and 3 watts ERP for portable (hand-held) devices.[293] In addition, all operations 1 kW ERP or below will be subject to previously established requirements governing antenna height above average terrain ("HAAT").[294]

103. Our choice of a 50 kW maximum ERP limit will promote efficiency and maximize flexibility to the extent practicable by allowing the greatest number of different services to co-exist – and to serve more consumers – subject only to reasonable standards for non-interference. We believe such a power limit will produce the most efficient use of this spectrum resource. We disagree with comments suggesting that use of this spectrum should be limited to wireless applications, or that the 1 kW limit

[285] *Id.* at 7300 ¶ 43.

[286] *Id.*

[287] MSTV Comments at 4-6; Cox Reply at 7-9; and NAB Comments at 6.

[288] Qwest Comments at 5; CTIA Comments at 2.

[289] Qwest Comments at 5.

[290] MSTV Comments at 7.

[291] *Id*.

[292] *See infra* section III.B.2.a.ii.

[293] *See* 47 C.F.R. § 27.50(b)(2)-(3).

[294] Antenna heights above 305 m HAAT are permitted in accordance with Table 1 in Section 27.50 of the Commission's rules, 47 C.F.R. § 27.50.

applied to the Upper 700 MHz Commercial Band should be applied to the Lower 700 MHz Band.[295] In the Lower 700 MHz Band, unlike the Upper 700 MHz Band, there is no issue regarding the need to protect public safety spectrum from interference. In addition, we have been able to adopt 6 and 12 megahertz blocks for the Lower 700 MHz Band, a band plan that more readily accommodates new broadcast services. Therefore, we agree with MSTV that a 50 kW maximum ERP is suited to allow the provision of broadcast services without unduly restricting the provision of other services.[296] We note that providers of non-broadcast services may also operate at power levels up to 50 kW ERP, provided they comply with the same technical requirements associated with such operation. We believe that to promote flexibility and efficiency, it is important to create a consistent set of technical rules for all services operating in this band.

104. We recognize that establishing a power limit in excess of 1 kW ERP creates the potential for stations operating at such power levels to cause interference to systems on adjacent channels, especially those that operate at lower power levels. However, we believe that any risk that such interference will be harmful can be mitigated so as not to outweigh the added flexibility that is afforded by the higher power limit. Accordingly, in order to limit such interference and to make the various services compatible, we impose the following requirement on licensees operating at higher power levels: Licensees operating base stations at power levels in excess of 1 kW ERP must design their systems such that transmissions from their base station antenna produce PFD levels that are no greater than the PFD levels that would ordinarily occur from stations operating at power levels of 1 kW ERP or less. Specifically, we will require licensees operating base stations at power levels greater than 1 kW ERP to limit the calculated PFD of the signal from their base station to 3000 microwatts per square meter at any location at ground level within 1 km of their base station transmitter.

105. This PFD standard will minimize the likelihood of adjacent channel interference to ground-based devices by effectively limiting the energy received by such devices to levels no greater than what they would receive from adjacent channel base stations operating at 1 kW ERP or less. For UHF operations, antenna height tends to be a more important variable than output power in causing/mitigating interference, so the effect of a 50 kW ERP signal on adjacent channel devices operating on the ground will be minimized given the tower heights likely to be used. We have performed calculations that demonstrate, for example, how 50 kW ERP, high antenna broadcast operations can co-exist with lower-power/low antenna height land mobile operations.[297]

106. We believe that current technologies reasonably and practically allow certain measures to limit interference among various services that may be provided in this band. In Appendix D, we provide a table that describes the potential for interference that may be caused by a base station operating at 50 kW ERP to a nearby, adjacent channel base station receiver. Based on these sample computations, we conclude that a licensee operating a base station receiver could mitigate potential harmful interference through use of a selective vertical antenna pattern or by downtilting of its receive antenna. In addition to these antenna selections or adjustments, a licensee could mitigate interference through use of improved filtering, by avoiding the use of spectrum at the edge of its authorized block, or through other measures. In any bid for a license within this band, we expect that prospective licensees will take into account any costs that may be necessary to incorporate technical features to alleviate interference issues if adjacent channel licensees operate systems at power levels greater than 1 kW ERP.

107. We will not, however, permit broadcasting at power levels higher than 50 kW (*e.g.*,

[295] Qwest Comments at 5.

[296] MSTV Comments at 7.

[297] *See infra* Appendix D.

conventional full-power broadcasting under Part 73).[298] As the Commission found for the Upper 700 MHz Commercial Band, the contrasting technical characteristics of broadcasting at these higher power levels and wireless services effectively preclude the development of interference rules that would enable the practical provision of both sets of services on this spectrum.[299] We agree with CTIA that it is not technically feasible for these two services to share the band, and that spectrum for full-power terrestrial broadcast television service has been provided on Channels 2-51.[300] Since the adoption of the *Upper 700 MHz First Report and Order*, we have received no convincing evidence that contradicts the Commission's finding that Part 73 full-power broadcasting is too different technically from fixed and mobile commercial wireless services to permit a spectrum-efficient co-existence of these services in the Lower 700 MHz Band.[301] Those commenters who believe that these two services may coexist do not provide any specific engineering proposals and only offer generalized assertions that maximum flexibility should be ensured.[302] Maximizing flexibility without due consideration of harmful interference is not in the public interest. Accordingly, we conclude that a 50 kW ERP limit is practicable for maximizing both flexibility and freedom from harmful interference for the widest number of potential users.[303]

(ii) Notification Requirement

108. Background. In the *Notice*, the Commission asked for specific comment on the ramifications of adopting a 50 kW ERP limit for broadcast and wireless services.[304] It sought to investigate the extent of efforts that could be required to manage interference between such dissimilar transmissions.[305] It also requested comment on how innovative service rules can maximize use of this spectrum by different services.[306]

109. We did not receive any comments proposing specific new rules for 50 kW ERP operations in the Lower 700 MHz Band. Rather than addressing the requirements that should govern transmissions up

[298] Full-power for analog UHF stations is 5 megawatts and for new digital UHF stations is 1 megawatt. The minimum power allowed for full-power broadcasting is 50 kW, which is the same as the maximum power that would be allowed under the new Lower 700 MHz rules.

[299] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 484-85, ¶ 17. Because there are disparities between full-power broadcasting and wireless services in terms of their respective characteristic power levels and transmitter heights, we are concerned about the adequacy of either service if they share this band. *See id*.

[300] *See* CTIA Comments at 2-3.

[301] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 484-85, ¶ 18.

[302] *See, e.g.*, MSTV Comments at 4-6; Cox Reply at 7-9.

[303] We decline to adopt MSTV's proposal to let licensees increase their power above 50 kW ERP within their service areas provided they do not cause co- or adjacent-channel interference to other users. *See* MSTV Comments at 7. We are concerned that this additional flexibility will result in uncertainty as to how all potentially affected licensees (both co- and adjacent-channel) are made aware of a licensee's proposed higher-power and whether these licensees have consented to such operation. To the extent a licensee wants to exceed the 50 kW ERP limit, it may file a waiver request whereby the Commission can allow interested parties to participate and assess any potential interference problems. *See* 47 C.F.R. § 1.925.

[304] *See Notice*, 16 FCC Rcd at 7300, 7312 ¶¶ 43, 78.

[305] *Id.* at 7312 ¶ 43.

[306] *Id*. at 7299 ¶ 41.

to 50 kW ERP, commenters focus on whether broadcast operations should be permitted at power levels higher than 1 kW ERP.[307]

110. Discussion. To facilitate licensees' use of spectrum and prevent harmful interference, we will require licensees intending to operate base or fixed stations in excess of 1 kW ERP to file notifications with the Commission and provide notifications to all Part 27 licensees authorized on adjacent blocks in their area of operation.[308] Specifically, we shall require a licensee intending to operate a higher-power base or fixed station to provide notifications to all adjacent channel Part 27 licensees authorized to construct and operate base or fixed stations within 75 km of the higher-power base or fixed station. Licensees filing notifications with the Commission and adjacent channel licensees must provide the location and operating parameters of all base and fixed stations operating in excess of 1 kW ERP.[309] Such notification must be filed with the Commission and adjacent channel licensees at least 90 days prior to the commencement of station operation. Licensees operating at or below the 1 kW ERP will not be subject to this requirement.

111. This action will ensure that licensees will be notified that their base, fixed, mobile, or portable receivers could be situated in the vicinity of an adjacent channel, high-powered base or fixed station. As discussed above, we have concluded that, under appropriate regulations, a 50 kW ERP limit can be permitted without causing harmful interference among adjacent channel broadcasting and wireless operations.[310] This notification requirement provides an opportunity for licensees to take steps to mitigate potential interference to their stations – *e.g.*, by employing filters or modifying base station vertical attenuation patterns. In addition to notification, we believe that licensees could employ voluntary coordination to prevent harmful interference.[311]

(iii) RF Safety

112. Background. In the *Notice*, the Commission proposed to require that facilities and devices operating in the Lower 700 MHz Band be subject to the existing RF safety criteria and procedures applicable to facilities and devices having similar technical parameters and operating characteristics.[312] Section 27.52 of the Commission's rules[313] subjects licensees and manufacturers to the RF radiation exposure requirements specified in Sections 1.1307(b), 2.1091, and 2.1093 of the Commission's rules,[314] which list the services and devices for which an environmental evaluation must be performed. Other than Qwest's general support for the adoption of existing Part 27 technical rules, no other party to this

[307] *See supra* Section III.B.2.a.i.

[308] When applicable, this requirement includes notification to Part 27 commercial and guard band manager licensees operating on Channel 60 (746-752 MHz) in the Upper 700 MHz Band. *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 490 ¶ 32.

[309] Licensees will be required to provide the station's ERP, antenna coordinates, antenna height above ground, and vertical antenna pattern.

[310] *See supra* Section III.B.2.a.i.

[311] While we do not impose a mandatory coordination requirement on Lower 700 MHz Band licensees, we support the use of voluntary coordination as a possible measure that licensees might use to mitigate potential interference.

[312] *Notice*, 16 FCC Rcd at 7312 ¶ 79.

[313] 47 C.F.R. § 27.52.

[314] 47 C.F.R. §§ 1.1307(b), 2.1091, 2.1093.

proceeding addressed this issue in their comments or reply comments.[315]

113. Discussion. We will require transmitting facilities and devices in the Lower 700 MHz Band to comply with the existing RF safety criteria identified in Section 27.52 of the Commission's rules.[316] The Commission has provided guidance on complying with its RF safety exposure limits in OET Bulletin No. 65.[317] We are adopting these RF safety thresholds for this band because we regard them to be essential for the protection of human beings from exposure to radiated RF energy.

b. Co-Channel Interference Control

114. Background. In the *Notice*, the Commission observed that it has adopted flexible rules for flexible wireless services that employ one or the other of two methods for addressing the potential for interference between geographically adjacent systems using the same spectrum.[318] First, the Commission has employed a coordination requirement, which requires licensees in adjacent geographic areas to coordinate spectrum usage for facilities located within a certain distance.[319] Second, it has used a field strength limit, which requires licensees to ensure that the field strength of their signal does not exceed a specified value along the boundary of their licensed geographic area.[320]

115. In the Upper 700 MHz Band proceeding, the Commission adopted a field strength limit rather than a coordination requirement as the method of addressing the issue of co-channel interference among Upper 700 MHz Band licensees in adjacent geographic areas.[321] The Commission determined that the field strength limit in that spectrum would apply to base and fixed stations, and that the maximum field strength permitted along the geographic area borders is 40 dBµV/m.[322]

116. In the *Notice*, the Commission sought comment on whether it should adopt a field strength limit to address co-channel interference concerns in the Lower 700 MHz Band.[323] In the event that it adopted a field strength limit, the Commission requested comment on whether it should adopt a limit of 40 dBµV/m as it did in the Upper 700 MHz Band proceeding.[324] In the alternative, the Commission sought

[315] Qwest Comments at 7.

[316] *See* 47 C.F.R. § 27.52.

[317] OET Bulletin No 65 (Edition 97-01) was issued in August 25, 1997, and is available for downloading at the Commission's Web Site: www.fcc.gov/oet/rfsafety. Copies of OET Bulletin No. 65 also may be obtained by calling the Commission's RF Safety Line at (202) 418-2464.

[318] *Notice*, 16 FCC Rcd at 7308-9 ¶ 68.

[319] The coordination method is required, for example, in the Cellular Radiotelephone Service where the Commission's rules require that adjacent users coordinate spectrum usage by facilities within 121 kilometers (75 miles) of each other and to resolve technical problems that may inhibit effective and efficient use of the spectrum. *See* 47 C.F.R. §22.907.

[320] *See* 47 C.F.R. §24.256 (Personal Communications Services).

[321] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 515 ¶ 96.

[322] *Id.* at ¶ 97.

[323] *Notice*, 16 FCC Rcd at 7309 ¶ 70.

[324] *Id*.

comment on whether it should adopt a coordination requirement instead of a field strength limit.[325]

117. We received little comment on which approach, coordination or field strength limits, is more appropriate for the Lower 700 MHz Band. The one party who commented on this issue, Qwest, supported application of Part 27's existing rules on co-channel coordination[326] (*i.e.*, a 40 dBµV/m field strength limit).

118. Discussion. Consistent with our intent to maximize spectrum use through application of flexible technical standards, we are adopting a field strength limit to address co-channel interference in the Lower 700 MHz Band. We agree with Qwest that a field strength limit provides established, objective criteria for licensees to understand the co-channel interference environment in which to construct and operate facilities in the geographic edges of their service areas.[327] We are not adopting a general coordination approach because, as we determined in the Upper 700 MHz Band proceeding, such an approach could impose unnecessary coordination costs for facilities and could lead to possible anti-competitive activities.[328]

119. We adopt for the Lower 700 MHz Band a field strength limit of 40 dBµV/m,[329] the same field strength limit we adopted for the Upper 700 MHz Band and the 800 MHz EA-based and 900 MHz MTA-based SMR services.[330] We believe that using the same field strength limit that we adopted for these other bands will enable licensees in the Lower 700 MHz Band, including new broadcast providers, to provide effective service within their authorized geographic area, while minimizing co-channel interference to co-channel licensees in adjacent areas. We also note that Section 27.55 of the Commission's rules permits licensees, pursuant to mutual agreement, to use a different field strength limit.[331] This will provide licensees with increased flexibility in implementing their systems without increasing the risk of harmful interference.

c. Out-of-Band Emission Limits

120. Background. In the *Notice*, the Commission invited comment on whether it should adopt a rule applying its Part 27 attenuation requirement of 43 + 10 log P dB to control out-of-band emissions ("OOBE") in the Lower 700 MHz Band.[332] It also sought comment on the possibility of adopting more stringent attenuation requirements to the extent transmissions in the upper portion of the Lower 700 MHz Band pose a risk of interference to operations in the 764-776 MHz and 794-806 MHz public safety

[325] *Id*. at 7310 ¶ 71.

[326] Qwest Comments at 7.

[327] Qwest Comments at 8.

[328] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 515 ¶ 96.

[329] *See* 47 C.F.R. § 27.55. The predicted 40 dBu/v field strength shall be calculated using Figure 10 of Section 73.699 of this chapter, with a correction factor for antenna height differential of –9 dB. *See* 47 C.F.R. § 73.699, Fig. 10.

[330] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 515 ¶ 97.

[331] *See* 47 C.F.R. § 27.55.

[332] *Notice*, 16 FCC Rcd at 7311 ¶ 76.

bands.[333]

121. The two parties who commented on this issue disagree on the degree of attenuation that should be required. Qwest comments generally that the provisions of the Part 27 technical rules, including OOBE limits, should apply to the Lower 700 MHz Band.[334] ArrayComm states that OOBE limits should be 10 dB more stringent than current broadband PCS requirements.[335] It argues that the Lower 700 MHz Band will not be available for land mobile occupancy until sometime after 2006 and that any necessary advances in power amplifier and filter technology will be realized in that time frame.[336]

122. Discussion. We have determined that licensees operating in the Lower 700 MHz Band should be required to attenuate the power below the transmitter power (P) by at least 43 + 10 log (P) dB for any emission on all frequencies outside the licensee's authorized spectrum. We adopt this standard consistent with the requirements for many of our radio services, including services in the Upper 700 MHz Commercial Band, which limits OOBE to no more than 50 microwatts (50 μW) of transmitter output power over a typical instrument measurement bandwidth.[337] We note ArrayComm's preference for a stricter limit, but determine that in the absence of data and other support from the many parties to this proceeding, we should not increase OOBE limits given the potential adverse effects that may result on the commercial usefulness of the spectrum. If developments in the industry change significantly by 2006 or later, we can reconsider our OOBE limits at that time. We note, however, that Section 27.53(f) currently states that in the event of harmful interference the Commission may, at its discretion, require greater attenuation than specified in the rules.[338]

123. Although we adopted an additional 76 + 10 log P dB limit to apply to OOBE of Upper 700 MHz commercial licensees that might fall within the Upper 700 MHz public safety bands,[339] we see no need to apply this requirement to licensees in the Lower 700 MHz Band. Given the 18 megahertz of separation between the Lower 700 MHz Band and the Upper 700 MHz spectrum set aside for public safety, we believe that public safety will be adequately protected by the attenuation limits we have imposed on use of the Lower 700 MHz Band.

3. Licensing Rules

124. In the *Notice*, the Commission sought comment on licensing rules to provide a full range of possible licensees as much flexibility in the use of this spectrum as is consistent with the requirements of Section 303(y) of the Act.[340] Noting the similarity of issues involved, the Commission sought comment generally on whether the licensing rules for the Lower 700 MHz Band should be based on the Part 27 rules

[333] *Id.* at 7311-12 ¶ 77.

[334] Qwest Comments at 7.

[335] *See* ArrayComm *Ex Parte* at 3-4.

[336] *See id.*

[337] *See* 47 C.F.R. § 27.53; s*ee also Upper 700 MHz First Report and Order*, 15 FCC Rcd at 518 ¶ 103.

[338] *See* 47 C.F.R. § 27.53(f).

[339] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 519-20 ¶ 106; *see also Upper 700 MHz M&O and FNPRM*, 15 FCC Rcd 20855-56 ¶¶ 21-27.

[340] 47 U.S.C. 303(y); *see also Notice*, 16 FCC Rcd at 7312 ¶ 80.

adapted and applied to the Upper 700 MHz Commercial Band.[341] Part 27 was initially adopted to afford licensees in the 2305-2320 MHz and 2345-2360 MHz bands the flexibility to provide any fixed, mobile or radiolocation service contained in the Table of Allocations in Part 2 of the Commission's rules.[342] The regulatory framework of Part 27 includes, *inter alia*: (i) the limitation of eligibility requirements to foreign ownership restrictions set forth in Section 310 of the Communications Act; (ii) exclusion of Part 27 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 licensee's designation in their long-form applications; and (v) incorporation, with some exceptions, of the competitive bidding rules set forth in Part 1 of the Commission's rules.[343]

125. By our decisions below, we have decided to generally apply Part 27's existing rules on applications and licenses to all fixed, mobile, and new broadcast services offered in the Lower 700 MHz Band.[344] We find that the application of Part 27 licensing rules permits the flexible use necessary for the variety of services that are permitted by the band's reallocation. The Lower 700 MHz Band, like the Upper 700 MHz Band, is being reclaimed as part of the DTV transition and reallocation for uses that include both broadcast and non-broadcast operations.[345] Part 27 allows licensees to make determinations respecting the services provided and technologies to be used, including provision of the full range of FDD- and TDD-based wireless services, as well as possible new broadcast services.[346] Applying the licensing rules of Part 27 will promote innovative services and encourage the efficient use of the 700 MHz Band as a whole.

a. Regulatory Status

126. Background. In the *Notice*, the Commission tentatively concluded to adopt a Part 27 approach towards the regulatory status of services in the Lower 700 MHz Band.[347] The flexible licensing framework of Part 27 permits a licensee to provide a combination of services under more than one

[341] *Notice*, 16 FCC Rcd at 7312 ¶ 80.

[342] 47 C.F.R. Part 27. Part 27 was established to satisfy the requirement 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. *See* Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service ("WCS"), GN Docket No. 96-228, *Report and Order*, 12 FCC Rcd 10785 (1997); *see also* Omnibus Consolidated Appropriations Act, 1997, P.L. 104-208, 110 Stat. 3009 (1996).

[343] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 494 ¶ 44.

[344] The Part 27 rules that address applications and licenses provide a licensing framework for the common elements of regulation that are applicable to wireless and new broadcast services alike. Section 27.3 provides for the potential application of specific licensing provisions contained in other parts of the Commission's rules to the extent that they do not conflict with the supervening application of Part 27. *See* 47 C.F.R. § 27.3. Therefore, a Lower 700 MHz Band licensee could be subject, for example, to licensing aspects of Part 22 if providing public mobile services, to Part 73 if providing radio broadcast services, to Part 90 if providing private land mobile radio services, and to Part 101 if providing fixed microwave services. *See Upper 700 MHz NPRM*, 14 FCC Rcd at 11012 ¶ 10 n.19.

[345] *See supra* note 6.

[346] *See* 47 C.F.R. § 27.2.

[347] *Notice*, 16 FCC Rcd at 7313 ¶ 81.

regulatory status in a single license.[348] Part 27 licensees are permitted to provide any combination of services, anywhere within their licensed areas at any time, consistent with their regulatory status and interference protection requirements.

127. The Commission sought comment on whether licensees in the Lower 700 MHz Band should be subject to other Commission rules specifically applicable to the regulatory status of the service provided.[349] For example, the Commission considered whether Part 73 should apply to licensees to the extent they provide certain broadcast services.[350] It requested comment on any provisions in existing service-specific rules that may require specific recognition or adjustment to comport with the potential supervening application of Part 27.[351]

128. The Commission also sought comment on provisions relating to designation or changes in regulatory status.[352] It considered whether applicants and licensees in the Lower 700 MHz Band should be required to indicate to the Commission the regulatory status of any services that they choose to provide and whether they should be required to describe their proposed services.[353] The Commission considered whether it should permit licensees to change their service in such a way that it alters their regulatory status.[354]

129. Commenters endorse our tentative conclusion to adopt the flexible licensing framework of Part 27 for the Lower 700 MHz Band. Qwest, for example, supports a Part 27 approach that affords maximum flexibility to shift from service to service in accordance with the licensee's designation of its regulatory status on its FCC Form 601.[355] MSTV states that the Commission should define a flexible regulatory framework for this band that involves minimal restrictions and does not favor particular types of services.[356]

130. Discussion. We agree with the commenters and find that a Part 27 approach is likely to achieve efficiencies in the licensing and administrative process. Consistent with Section 27.10 of the Commission's rules,[357] Lower 700 MHz Band licensees will be permitted to provide any combination of services anywhere within their licensed areas at any time, consistent with the regulatory status specified by the licensee on its FCC Form 601 (*i.e.*, common carrier, non-common carrier, private internal

[348] *See* 47 C.F.R. § 27.10(a).

[349] *See Notice*, 16 FCC Rcd at 7313 ¶ 81.

[350] *Id.* at 7314 ¶ 83.

[351] *Id.* at 7313-14 ¶ 82.

[352] *Id.* at 7314-15 ¶¶ 84-86.

[353] *Id.* at 7314 ¶ 85.

[354] *Id.* at 7315 ¶ 86.

[355] Qwest Comments at 8-9.

[356] MSTV Comments at 8-9.

[357] 47 C.F.R. § 27.10.

communications,[358] and/or broadcast services) and with applicable interference protection requirements.[359] To fulfill our enforcement obligations and ensure compliance with the statutory requirements of Titles II and III of the Communications Act, we will require all Lower 700 MHz Band licensees to identify the regulatory status of the service(s) they intend to provide. Consistent with Section 27.10 of the Commission's rules, licensees in the Lower 700 MHz Band will not be required to describe their specific services, but only to designate the regulatory status of the service(s).[360] Licensees will also be required to notify the Commission within 30 days of service changes that alter their regulatory status.[361] Pursuant to Section 27.66 of the Commission's rules, 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.[362]

131. With respect to the provision of broadcast services, we are adopting the same regulatory approach for the Lower 700 MHz Band as the Commission did for the Upper 700 MHz Commercial Band. In the *Upper 700 MHz First Report and Order*, the Commission determined that the provision of new broadcast-type services under a Part 27 license does not alter the underlying broadcast nature of such services.[363] However, in the *Upper 700 MHz MO&O and FNPRM*, the Commission declined to apply the Part 73 regulatory regime to Part 27 new broadcast-type licensees in the Upper 700 MHz Commercial Band, stating that it would determine the applicable regulatory framework in the context of the offering of specific, actual new broadcast-type services.[364] We adopt this approach for the Lower 700 MHz Band and will allow any new broadcast services that meet our Part 27 power limits and other technical standards. New broadcast services offered under Part 27 will remain subject to the statutory provisions of the Communications Act governing broadcasting and we will determine the applicability of additional

[358] Because private radio services are permitted in the non-public safety portions of the 700 MHz Band, *see infra* para. 132, we are amending Section 27.10 of our rules to permit Lower 700 MHz Band licensees to designate the "private, internal communications" category on the FCC Form 601. *See Upper 700 MHz Reallocation Order*, 12 FCC Rcd at 22953 ¶ 20.

[359] Licensees operating in the Lower 700 MHz Band are subject to other FCC rule parts depending on the regulatory status of the services provided. *See generally* 47 C.F.R. § 27.3. For example, providers of CMRS must comply with applicable sections of Title II of the Communications Act, which governs common carrier service, as well as Part 20 of the Commission's rules.

[360] 47 C.F.R. § 27.10.

[361] *Id.* § 27.10(d)(2).

[362] *See id.* §§ 27.10(d)(2), 27.66.

[363] *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 494, ¶ 43 n.95 ("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.") In the *Upper 700 MHz First Report and Order*, the Commission determined that if new broadcast-type services are offered in the Upper 700 MHz Commercial Band, they will not necessarily resemble current radio and television broadcast services subject to Part 73 and Part 74 of its rules, but could still meet the statutory definition of "broadcasting." *Id.; see also* 47 U.S.C. § 153(6). Because such new broadcast-type services on these bands will necessarily use lower power levels than even existing low-power television service, and may differ significantly in both technical and public policy respects from conventional broadcasting, the Commission did not seek to anticipate or develop a regulatory framework beyond the technical and operational rules it adopted or that already apply to broadcast services generally. *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 494 ¶ 43 n.95; *see also id.* at 509 ¶ 81 n.188.

[364] *Upper 700 MHz MO&O and FNPRM*, 15 FCC Rcd at 20873 ¶ 68.

provisions from Part 73 on a case-by-case basis.

132. Consistent with the approach taken for the Upper 700 MHz Commercial Band, we are permitting private radio uses in the Lower 700 MHz Band.[365] In auctioning recaptured broadcast spectrum subject to Section 309(j)(14), Congress did not preclude use of the spectrum for private, internal communications.[366] Our reallocation of the Lower 700 MHz Band, therefore, includes the ability to provide private fixed and mobile radio services.[367]

b. Eligibility; Foreign Ownership Restrictions

133. Background. In the *Notice,* the Commission proposed that there be no restrictions on eligibility to hold a license in the Lower 700 MHz Band, other than the foreign ownership restrictions imposed under Section 310 of the Communications Act.[368] The Commission noted the potential benefits of opening this spectrum to as wide a range of applicants as possible.[369] It tentatively concluded to apply Section 27.12 of the Commission's rules,[370] which imposes no eligibility restrictions other than the foreign ownership restrictions set forth by statute.[371] One comment, supporting the Commission's proposal, was received on this portion of the *Notice*.[372]

134. Discussion. Consistent with our tentative conclusion in the *Notice*, we will apply Section 27.12's eligibility provisions to the Lower 700 MHz Band.[373] As we determined for the Upper 700 MHz Commercial Band, we believe that the benefits of open eligibility also apply to the Lower 700 MHz Band.[374] We agree with U.S. Cellular that open eligibility will enhance the opportunities for licensees to provide service in any market or combinations of markets.[375] A policy of open eligibility for the Lower 700 MHz Band will best serve the public interest by encouraging entrepreneurial efforts to develop new services and ensuring the most efficient use of the spectrum.

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[365] *See Upper 700 MHz Reallocation Order*, 12 FCC Rcd at 22953 ¶ 20 (determining that "[p]rivate organizations or industry groups … will have the opportunity to seek the desired spectrum by participating in the auction").

[366] *See generally* 47 U.S.C. § 309(j)(14); *cf. Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5317 ¶¶ 37-38.

[367] *See supra* section III.A.1.a.

[368] 47 U.S.C. § 310. *See Notice*, 16 FCC Rcd at 7316 ¶ 89.

[369] *Notice*, 16 FCC Rcd at 7316 ¶ 89.

[370] *See* 47 C.F.R. § 27.12; *see also id.* § 27.302.

[371] *Notice*, 16 FCC Rcd at 7302 ¶ 49.

[372] U.S. Cellular Comments at 2. Gila River sought to limit eligibility to designated entities on a portion of the Lower 700 MHz Band. *See* Gila River Comments at 10-11. We explain above that we decline to impose such a restriction because we are particularly concerned that such eligibility restrictions could impede efficient development of this spectrum. *See supra* section III.B.1.b.

[373] 47 C.F.R. § 27.12; *see also id.* § 27.302.

[374] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 497 ¶ 49.

[375] U.S. Cellular Comments at 2.

135. Because we are adopting a flexible approach to regulatory status, as discussed above, all licensees will be subject to the same requirements to file changes in foreign ownership information to the extent required by the Part 27 rules.[376] A non-broadcast applicant requesting authorization only for non-common carrier or private radio services will be subject to Section 310(a) of the Act but not to the additional prohibitions of Section 310(b). An applicant requesting authorization for new broadcast or common carrier services will be subject to both Section 310(a) and Section 310(b) of the Act. Regarding foreign ownership of common carrier licenses under Section 310(b)(4), we will continue to apply the foreign ownership precedent set forth in the *Foreign Participation Order* and related Commission decisions.[377]

c. Spectrum Aggregation Limits

136. Background. The Commission decided not to adopt any spectrum aggregation limits for the Upper 700 MHz Commercial Band. In the *Upper 700 MHz First Report and Order*, the Commission held that CMRS provided over that spectrum would not be subject to the CMRS spectrum cap that governs the amount of broadband CMRS spectrum that can be licensed to a single entity within a particular geographic area.[378] The Commission considered the option of including the Upper 700 MHz Commercial Band within an increased spectrum cap, but declined to do so based on the particular characteristics of the band.[379]

137. In the *Notice*, the Commission sought comment on whether spectrum in the Lower 700 MHz Band should be subject to any spectrum aggregation limits. The Commission considered in-band spectrum aggregation limits and sought comment on whether to restrict the amount of spectrum that any one licensee may obtain in the Lower 700 MHz Band in the same licensed geographic service area.[380] With respect to out-of-band spectrum aggregation, the Commission sought comment on whether to count the Lower 700 MHz Band against the CMRS spectrum cap.[381] In addition to the cap, the Commission sought comment on whether there should be any cross-band aggregation limits between the Upper 700 MHz

[376] In light of a Part 27 licensee's ability to provide common carrier, non-common carrier, private internal communications and/or broadcast services, the Part 27 rules require all licensees to report alien ownership to enable the Commission to monitor compliance. By establishing parity in reporting obligations, however, we do not establish a single substantive standard for compliance. *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 502-3 ¶ 64.

[377] *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 ¶¶ 97-132 (1997) (*Foreign Participation Order*); *see e.g.*, Application of Lockheed Martin Global Telecommunications, Comsat Corporation and Comsat General Corporation, Assignor, and Telenor Satellite Mobile Services, Inc. and Telenor Satellite Inc., Assignee, for Consent to Assign Licenses and Authorizations Pursuant to Sections 214 and 310(d) of the Communications Act and Petition for Declaratory Ruling Pursuant to Section 310(b)(4) of the Communications Act, *Order and Authorization*, FCC 01-369 (rel. December 18, 2001) at ¶¶ 21-36; Motient Services Inc. and TMI Communications and Company, LP, Assignors, and Mobile Satellite Ventures Subsidiary LLC, Assignee, *Order and Authorization*, DA 01-2732 (IB rel. Nov. 21, 2001) at ¶¶ 15-22.

[378] *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 497-8 ¶ 52.

[379] *Id.* at 497-98 ¶¶ 52-53.

[380] *See Notice*, 16 FCC Rcd at 7317-18 ¶ 93.

[381] *Id*. at 7317 ¶ 92.

Commercial Band and the Lower 700 MHz Band.[382]

138. The parties commenting on this issue express different views on whether spectrum aggregation in the Lower 700 MHz Band should be restricted. MSTV supports aggregation up to the entire 48 megahertz of spectrum in the Lower 700 MHz Band.[383] CTIA endorses the approach adopted for the Upper 700 MHz Commercial Band and states that the Commission should not apply in-band aggregation limits nor the CMRS spectrum cap to the Lower 700 MHz Band.[384] In contrast, Leap argues that the CMRS spectrum cap should apply to the Lower 700 MHz Band, maintaining that "the spectrum cap reaches certain potentially anticompetitive behavior that would not otherwise effectively be constrained, and it does so in a minimally-intrusive and administratively efficient way that provides relative certainty and predictability to parties."[385]

139. Subsequent to the *Notice* and period for filing comments and reply comments in this proceeding, the Commission adopted a Report and Order that eliminates the CMRS spectrum cap effective January 1, 2003.[386] The Commission stated that it would no longer rely on a prophylactic rule in its approach to the aggregation of CMRS spectrum, but instead decided to examine spectrum aggregation on a case-by-case basis along with enforcement of safeguards in cases of misconduct.[387] The Commission also noted that there are other tools to achieve goals other than competition previously advanced by the spectrum cap rule, including case-by-case review, as well as rulemaking proceedings, such as this one, regarding service rules adopted with respect to specific auctions. It further decided, on the basis of the current state of competition in CMRS markets, to raise the spectrum cap to 55 MHz in all markets for the duration of the spectrum cap's existence.[388]

140. Discussion. We will impose no specific limitations on the aggregation of spectrum in the Lower 700 MHz Band. Consistent with our *Spectrum Cap Report and Order*, we believe entities should have the flexibility to aggregate Lower 700 MHz spectrum subject only to the Commission's Section 310(d) public interest review.[389]

141. Accordingly, we will not adopt any Lower 700 MHz in-band or 700 MHz cross-band aggregation limits. We agree with MSTV that parties should be afforded flexibility at auction or in the secondary market to aggregate sufficient unencumbered spectrum and to commence new services.[390] We recognize that a single entity could acquire all 48 megahertz of the Lower 700 MHz Band spectrum in any given geographic area. We believe, however, that given the high level of incumbency in the band and the

[382] *Id*. at 7317-18 ¶ 93.

[383] MSTV Comments at 6.

[384] CTIA Comments at 4.

[385] Leap Reply at 14-15.

[386] 2000 Biennial Regulatory Review Spectrum Aggregation Limits for Commercial Mobile Radio Services, WT Docket No. 01-14, *Report and Order*, FCC 01-328, (rel. Dec. 18, 2001) (*Spectrum Cap Report and Order*).

[387] *Id.* at ¶ 3.

[388] *Id.*

[389] *Id.* at ¶ 6.

[390] MSTV Comments at 6.

need for flexibility to engineer around incumbent broadcasters, certain aggregations of spectrum may be in the public interest.

142. We have also determined that the Lower 700 MHz Band should not be subject to any out-of-band aggregation limits, including the CMRS spectrum cap. We disagree with Leap's claim that exempting this band from the spectrum cap would lead to excessive concentration of spectrum in the hands of CTIA's "mega-carrier" members.[391] Given the additional flexibility we are permitting for the provision of new broadcast services,[392] it is not clear that this spectrum will be used for CMRS. In addition, the Lower 700 MHz Band spectrum is significantly encumbered and is likely to remain so during the DTV transition, especially by the operations of DTV incumbents who await relocation to the core DTV spectrum.[393] Thus, compared to the Upper 700 MHz Commercial Band, there is even less reason to extend the spectrum cap to the Lower 700 MHz Band.[394] Moreover, to count this spectrum against the spectrum cap would be inconsistent with our decision to sunset the cap three months after the statutory deadline for auctioning Lower 700 MHz Band licenses.[395]

d. License Term; Renewal Expectancy

143. Background. In the *Notice*, the Commission sought comment on whether to adopt the same Part 27 license term and renewal provisions for the Lower 700 MHz Band that apply to the Upper 700 MHz Commercial Band.[396] Sections 27.13 and 27.14(b) of the Commission's rules contain the license term limits and renewal expectancy provisions for Part 27 licensees.[397] Section 27.13(b) provides that all non-broadcast licenses in the Upper 700 MHz Band extend until January 1, 2015, while a licensee providing broadcast services is limited to a term of eight years from commencement of operations.[398] Section 27.14(b) defines the renewal expectancy established for non-broadcast services.[399] In addition to seeking comment on these rule sections, the Commission considered alternatives such as a 10-year term for non-broadcast licenses.[400]

144. The one party commenting on this issue, Qwest, advocates adoption of a uniform 10-year license term beginning January 1, 2007, subject to the same renewal expectancy provided under Section

[391] Leap Reply at 15.

[392] *See supra* section III.B.2.a.1.

[393] *See supra* section III.A.1.

[394] *See also* CTIA Comments at 4.

[395] The CMRS spectrum cap rule will "sunset" effective January 1, 2003. *Spectrum Cap Report and Order* at ¶ 1. The statutory deadline for auctioning Lower 700 MHz Band licenses is September 30, 2002. *See* 47 U.S.C. § 309(j)(14)(C)(ii).

[396] *See Notice*, 16 FCC Rcd at 7320 ¶ 99.

[397] 47 C.F.R. §§ 27.13, 27.14(b).

[398] *See id.* § 27.13(b).

[399] *See id.* § 27.14(b).

[400] *See Notice*, 16 FCC Rcd at 7320 ¶ 99.

27.14(b) of the Commission's rules.[401] Qwest states that in no event should a Lower 700 MHz Band license term end prior to the *Notice*'s proposed January 1, 2015 date.[402]

145. Discussion. Consistent with Section 27.13(b) of the Commission's rules, we are establishing a license expiration date of January 1, 2015 for Lower 700 MHz Band licenses. Because licensees need additional time to develop and use this spectrum in light of its continued use by incumbent broadcasters, we have set an expiration date that is eight years after the earliest date that incumbent broadcasters may be required to vacate the Lower 700 MHz Band.[403] We believe that eight additional years will provide new licensees a reasonable period in which to comply with the performance requirements set forth below[404] and, therefore, decline to adopt Qwest's proposed 10-year license term. If the continued presence of a substantial number of incumbents remains beyond this date, we will consider whether extensions are warranted at that time. For licensees that elect to commence new broadcast operations prior to January 1, 2007, their renewal deadline will be set at the end of an eight-year term following commencement of such broadcast operations.[405]

146. We also are adopting the right to a renewal expectancy established in Section 27.14(b),[406] for non-broadcast services. To claim a renewal expectancy, a Lower 700 MHz Band renewal applicant involved in a comparative renewal proceeding must demonstrate, at a minimum, the showing required in Section 27.14(b) of the Commission's rules.[407] In the event that a license is partitioned or disaggregated, we will permit any partitionee or disaggregatee to hold its license for the remainder of the original licensee's license term and obtain a renewal expectancy on the same basis as other licensees in the Lower 700 MHz Band.[408] All licensees meeting the Lower 700 MHz Band's performance requirements discussed below[409] will be deemed to have met this element of the renewal expectancy requirement regardless of which of the construction options, described below, [410] the licensee has chosen.

e. Performance Requirements

147. Background. In the *Notice*, the Commission sought comment on whether it should require licensees in the Lower 700 MHz Band to provide substantial service by January 1, 2015 and whether it

[401] Qwest Comments at 10.

[402] *Id.*

[403] Although the date for DTV transition (December 31, 2006) 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, *see* 47 U.S.C. § 309(j)(14)(B), we are setting a definite license term that terminates January 1, 2015.

[404] *See infra* section III.B.3.e.

[405] *See* 47 C.F.R. § 27.13(b). The Communications Act imposes an eight-year term limit on licenses issued for broadcast services. 47 U.S.C. § 307(c).

[406] 47 C.F.R. § 27.14(b).

[407] *Id.*

[408] *See id.* § 27.15(d).

[409] *See infra* section III.B.3.e.

[410] *See generally* 47 C.F.R. § 27.15(e).

should adopt any safe harbors for Lower 700 MHz Band licensees.[411] Section 27.14(a) of the Commission's rules requires licensees to provide "substantial service" in their service areas within their prescribed license term.[412] Licensees in the Upper 700 MHz Commercial Band must provide substantial service to their service areas no later than January 1, 2015. Failure to meet this performance requirement results in forfeiture of their license.[413] In the *Upper 700 MHz First Report and Order*, the Commission established population-based safe harbors for meeting the substantial service requirement when providing fixed point-to-point services, fixed point-to-multipoint services, and mobile services in the Upper 700 MHz Commercial Band.[414]

148. We received some support for the application of Section 27.14(a) to the Lower 700 MHz Band. Qwest endorses a construction requirement of substantial service at the end of the license term.[415] Other commenters disfavor the use of such performance requirements. RTG states that stricter performance requirements should be adopted to ensure that rural areas are sufficiently served.[416] NTCA states that the build-out rules promote spectrum hoarding and allow carriers to ignore rural areas.[417] Leap states generally that build-out rules do not motivate certain licensees to serve secondary and rural markets.[418]

149. Discussion. Consistent with the Commission's approach towards the Upper 700 MHz Commercial Band, we will apply the construction requirement in Section 27.14(a) of the Commission's rules to the Lower 700 MHz Band.[419] Accordingly, a licensee must provide "substantial service" to its license service area no later than the end of its license term.[420]

150. Section 27.14(a)'s construction requirement provides the flexibility required to accommodate the new and innovative services that are permitted by the Lower 700 MHz Band's reallocation. The substantial service standard is particularly appropriate for the Lower 700 MHz Band given the highly-encumbered nature of this particular spectrum.[421] We disagree with those commenters that advocate stricter standards such as an unserved area approach.[422] Because new licensees in different geographic areas will not be similarly situated due to the varying levels of incumbency, specific

[411] *See Notice*, 16 FCC Rcd at 7322 ¶ 104.

[412] 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." Id.

[413] *Id*.

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

[415] Qwest Comments at 10.

[416] RTG Comments at 10.

[417] NTCA Comments at 4.

[418] Leap Comments at 3.

[419] 47 C.F.R. § 27.14(a).

[420] *Id.*

[421] *See* Qwest Comments at 10 (noting the uncertainties of relocating incumbent broadcast licensees).

[422] *See, e.g.*, RTG Comments at 10.

benchmarks for all new licensees would be inequitable. In contrast, the substantial service standard provides us with flexibility to consider the particular circumstances of each licensee and how the level of incumbency has had an impact on the licensee's ability to build-out and commence service in its licensed area.

151. We adopt the following safe harbors for licensees in the Lower 700 MHz Band to demonstrate substantial service: (1) the construction of four permanent links per one million people in the licensed service area of a licensee that chooses to offer fixed, point-to-point services; (2) the demonstration of coverage for 20 percent of the population of the licensed service area of a licensee that chooses to offer fixed, point-to-multipoint services; and (3) the demonstration of coverage for 20 percent of the population of the licensed service area of a licensee that chooses to offer mobile services.[423]

f. Partitioning and Disaggregation

152. Background. In the *Notice*, the Commission tentatively concluded that it would permit Lower 700 MHz Band licensees to partition and disaggregate their licenses.[424] The Commission sought comment on whether to permit geographic partitioning of any service area defined by the partitioner and partitionee and whether to permit spectrum disaggregation without restriction on the amount of spectrum to be disaggregated.[425] It noted that these proposals are consistent with its decisions regarding partitioning and disaggregation in the Upper 700 MHz Commercial Band.[426] The Commission also proposed to adopt the methods adopted in the *Upper 700 MHz First Report and Order* for parties to partitioning, disaggregation, or combined partitioning and disaggregation agreements to meet construction requirements.[427] Finally, it sought comment on the extent to which it should permit licensees to lease their licensed spectrum usage rights in accordance with the proposals it may adopt in the Secondary Markets proceeding.[428]

153. No commenter states that the Commission should restrict a Lower 700 MHz Band licensee's ability to alter the initial scope of its license in the secondary market. Qwest supports allowing licensees to liberally disaggregate and partition their licenses.[429] Qwest and Gila River also support allowing licensees to lease spectrum.[430] A number of commenters state, however, that partitioning and disaggregation have not been successful in achieving greater participation by rural telephone companies and small businesses.[431] These commenters, including Leap and NTCA, maintain that "mega-carriers" lack

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

[424] *Notice*, 16 FCC Rcd at 7322-23 ¶ 106.

[425] *Id.* at 7322 ¶ 107.

[426] *Id.*

[427] *Id.* at 7323-24 ¶ 108.

[428] *Id.* at 7315 ¶ 87.

[429] Qwest Comments at 9.

[430] *See* Qwest Comments at 9; Gila River Comments at 14.

[431] Cellular South, CROW, Gila River, Leap, NTCA, RTG, SDN, *et. al*. and TCA all question the effectiveness of partitioning and disaggregation of spectrum. *See* Cellular South Comments at 3; CROW Comments at 5-6; Gila River Comments at 5-7; Leap Comments at 5-6; NTCA Comments at 3-4; RTG Comments at 9-10; SDN, *et. al*. Comments at 2; and TCA Comments at 5.

incentive to partition to small carriers and would rather hold spectrum in reserve for future population growth.[432] Some commenters argue that the Commission should not depend solely or primarily on spectrum leasing to assist rural telephone companies and small businesses in obtaining access to new spectrum.[433]

154. Discussion. We will permit licensees in the Lower 700 MHz Band to partition their service areas and to disaggregate their spectrum in accordance with Section 27.15 of the Commission's rules.[434] Compared to an approach that restricts such transfers in the secondary market, we believe that permitting partitioning and disaggregation in the Lower 700 MHz Band improves smaller entities' ability to overcome barriers to entry. We do not agree with Leap and other commenters that allowing licensees to partition and/or disaggregate their licensed spectrum fails to provide opportunities for small entities to enter and compete.[435] As a part of our broader policy to facilitate efficient use of spectrum by its highest valued use, these allowances provide a mechanism by which all parties, including small businesses and rural telephone companies, can negotiate agreements to modify the geographic or spectral scope of any given license in the Lower 700 MHz Band. Our decisions to adopt multiple blocks of spectrum and MSA/RSA-based service areas for 25 percent of the spectrum are specifically designed to identify an efficient starting point for small entities in this band.[436]

155. Section 27.15 of the Commission's rules permits licensees in the Lower 700 MHz Band to partition their licensed geographic service areas or disaggregate their licensed spectrum at any time following the grant of their licenses.[437] We will permit geographic partitioning of any service area defined by the partitioner and partitionee. We also will permit spectrum disaggregation without restriction on the amount of spectrum to be disaggregated, and combined partitioning and disaggregation. 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.[438] Partitioning and disaggregation will be subject to the provisions that protect against unjust enrichment set forth in Section 27.15(c).[439]

156. As is the case in the Upper 700 MHz Band, parties to partitioning and disaggregation agreements will have a certain amount of flexibility for meeting the construction requirements of Section 27.14(a).[440] Specifically, parties to partitioning and disaggregation agreements may choose between the options in Sections 27.15(e)(1)[441] and 27.15(e)(2),[442] respectively, for satisfying their construction

[432] *See* Leap Comments at 5-6; NTCA Comments at 3-4.

[433] *See, e.g.*, RTG Comments at 9.

[434] *See* 47 C.F.R. § 27.15; *see also Upper 700 MHz First Report and Order*, 15 FCC Rcd at 506 ¶ 74.

[435] *See* Leap Comments at 5; CROW Comments at 5, Gila River Comments at 5; NTCA Comments at 3.

[436] *See supra* section III.B.1.b.

[437] *See generally* 47 C.F.R. § 27.15.

[438] *Id*.

[439] *Id.* § 27.15(c).

[440] *Id.* § 27.14(a).

[441] *Id*. § 27.15(e)(1). Under the first option, the partitioner and partitionee each certifies that it will independently satisfy the substantial service requirement for its respective partitioned area. If a licensee fails to (continued….)

requirements.

157. Finally, a number of commenters recommend that the Commission permit spectrum leasing in the Lower 700 MHz Band. We find that a Lower 700 MHz Band licensee's right to lease its spectrum usage rights will be subject to decisions we make in the Secondary Markets proceeding.[443]

4. Operating Rules

158. In the *Notice*, the Commission considered what operating rules should apply to licensees in the Lower 700 MHz Band.[444] The Commission sought comment on whether licensees should be subject to streamlined operating rules contained in Part 27 and/or operating rules contained in other parts of its rules.[445] We have considered operating rules for a full range of possible licensees in the Lower 700 MHz Band and believe Part 27 provides an appropriate licensing framework for this spectrum.[446]

a. Forbearance

159. Background. In the *Notice*, the Commission sought comment on whether it should consider additional forbearance initiatives that are targeted specifically to new licensees that will operate in the Lower 700 MHz Band.[447] Pursuant to its authority under Section 332(c)(1)(A), the Commission has

(Continued from previous page)
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. *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 507 ¶ 76.

[442] *Id.* 47 C.F.R. § 27.15(e)(2). Under the first option, the disaggregator and disaggregatee each certifies that it will share responsibility for meeting the substantial service 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 will 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. *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 507-8 ¶ 78.

[443] Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, WT Docket No. 00-230, *Notice of Proposed Rulemaking*, 15 FCC Rcd 24203 (2000) (*Secondary Markets NPRM*).

[444] *Notice*, 16 FCC Rcd at 7324-25 ¶¶ 110-11.

[445] *See Notice*, 16 FCC Rcd at 7324 ¶ 111. Part 27 contains minimal regulations that govern a licensee's operations. *See, e.g.*, 47 C.F.R. § 27.66.

[446] The Part 27 rules provide for the potential application of specific operating provisions contained in other parts of the Commission's rules. *See* 47 C.F.R. § 27.3; *see also supra* note 359.

[447] *See Notice*, 16 FCC Rcd at 7325 ¶ 113. Pursuant to Section 10(a) of the Communications Act, 47. U.S.C. § 160(a), we are directed to forbear from applying any regulation or provision of the Act to a telecommunications carrier or service, or class of telecommunications carriers or services, in any or some of its geographic markets, if it determines that: (1) enforcement of such regulation or provision is not necessary to ensure that the charges, practices, classifications, or regulations by, for, or in connection with that telecommunications carrier or telecommunications service are just and reasonable and are not unjustly or unreasonably discriminatory; (2) (continued….)

already decided to forbear for CMRS from certain of the obligations imposed on common carriers by Title II of the Communications Act.[448] Common carriers that are providing services under Part 27, which are classified as CMRS must adhere to the Title II provisions required under Part 20.15(a) of the Commission's rules.[449]

160. Discussion. We decline to adopt additional forbearance initiatives in this proceeding. Although we solicited comment on the proper application of our forbearance authority with respect to the Lower 700 MHz Band, we received no comments on the appropriate interpretation of the forbearance criteria in this context and only general proposals concerning additional forbearance from regulatory provisions applicable to service providers operating on this spectrum.[450] We continue to invite suggestions on ways in which we can alleviate or streamline regulations that would otherwise be applicable to Lower 700 MHz Band services.

b. Equal Employment Opportunity

161. Background. In the *Upper 700 MHz First Report and Order*, the Commission declined to include specific Equal Employment Opportunity (EEO) provisions in Part 27 for application to the Upper 700 MHz Commercial Bands.[451] The Commission's EEO rules are service-specific; different EEO rules govern different services. In the *Notice*, the Commission tentatively concluded that, for the Lower 700 MHz Band, an applicant's EEO requirements will be determined by the type of service an applicant chooses to provide.[452] No commenter addressed this issue.

162. Discussion. Consistent with the approach adopted in the *Upper 700 MHz First Report and Order*, we find that an applicant's EEO requirements will depend on the type of service the applicant chooses to elect on its FCC Form 601.[453] As explained in section III.B.3.a., above, our FCC Form 601

(Continued from previous page)

enforcement of such regulation or provision is not necessary for the protection of consumers; and (3) forbearance from applying such provision or regulation is consistent with the public interest. In determining whether forbearance is consistent with the public interest, we are directed to consider whether forbearance will promote competitive market conditions, including whether it will enhance competition among existing telecommunications service providers, and a determination that forbearance will promote competition may be the basis for a finding that forbearance is in the public interest. *See id.* § 160.

[448] Common carriers classified as CMRS are not required to, for example, file contracts of service, seek authority for interlocking directors, or submit applications for new facilities or discontinuance of existing facilities, and are prohibited from filing tariffs for interstate service to their customers or for interstate access service. *See* 47 C.F.R. § 20.15(b).

[449] *Id.* § 20.15(a).

[450] CTIA Comments at 4.

[451] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 513 ¶ 92.

[452] *See Notice*, 16 FCC Rcd at 7325-26 ¶ 114.

[453] All CMRS providers are subject to the Commission's EEO requirements in 47 C.F.R. § 22.321 and 47 C.F.R. § 90.168. We also note that CMRS providers are generally subject to the Commission's common carrier EEO obligations in 47 C.F.R. § 1.815. A licensee that provides broadcast service will be subject to the Commission's EEO rules contained in 47 C.F.R. § 73.2080. The U.S. Court of Appeals for the D.C. Circuit held a portion of the broadcast EEO rule unconstitutional and vacated the rule in *MD/DC/DE Broadcasters Associations v. FCC*, 236 F.3d 13 (D.C. Cir.), *rehearing denied*, 253 F.3d 732 (D.C. Cir. 2001), *pet. for cert. filed, MMTC v. MC/DC/DE Broadcasters Ass'n*, No. 01-639 (October 17, 2001). The Commission thereafter suspended the EEO program requirements (but not the nondiscrimination requirement) for broadcasters, cable entities, and (continued….)

enables an applicant to choose one, or several, regulatory statuses, including common carrier, non-common carrier, private internal communications and/or broadcast services.

5. Competitive Bidding Procedures

163. As we have discussed above, pursuant to statutory mandate, competitive bidding procedures will be used to assign licenses for spectrum in the Lower 700 MHz band.[454] In particular, Section 309(j)(14) of the Communications Act of 1934, as amended requires the Commission to assign spectrum recaptured from broadcast television as a result of the transition from analog to digital transmission systems by competitive bidding.[455]

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

164. Background. The *Notice* proposed to conduct the auction of initial licenses in the Lower 700 MHz Band using the general competitive bidding rules set forth in Part 1, Subpart Q, of the Commission's rules.[456] We also sought comment in the *Notice* on a range of issues regarding the implementation of our existing Part 1 competitive bidding rules, including whether any of our Part 1 competitive bidding rules or other auction procedures would be inappropriate in an auction for licenses in the Lower 700 MHz Band.[457]

165. We received only one comment on our proposal to use the Part 1 rules. Gila River states that most of the Part 1 rules are appropriate for the Lower 700 MHz Band, but insists that the Commission should not attribute casino gaming revenues in determining eligibility for small business preferences.[458] In addition, U.S. Cellular and Leap express views on the ultimate auction design.[459]

166. Discussion. Consistent with our proposals, we will use the general competitive bidding rules set forth in Part 1, Subpart Q, of the Commission's rules to conduct the auction of initial licenses in the Lower 700 MHz Band.[460] Our decision to adopt the Part 1 rules is consistent with our ongoing effort to

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multichannel video program distributors ("MVPDs") until further order of the Commission. *See* Suspension of the Broadcast and Cable Equal Employment Opportunity Outreach Program Requirements, *Memorandum Opinion and Order*, 16 FCC Rcd 2872 (2001). That suspension order is still in effect. The Commission recently adopted a *Second Notice of Proposed Rulemaking*, proposing new EEO requirements for broadcast, cable and MVPDs that would be consistent with the court's decision in *MD/DC/DE Broadcasters Associations*. *See* Review of the Commission's Broadcast and Cable Equal Employment Opportunity Rules and Policies, MM Docket No. 98-204, *Second Notice of Proposed Rulemaking*, FCC 01-363, 2001 WL 1644626 (rel. Dec. 21, 2001). Thus, licensees who elect to provide broadcast services will be required to comply with the nondiscrimination requirement currently in effect and any other EEO requirements that may subsequently be adopted by the Commission.

[454] *See* BBA 97 §§ 3003, 3007. *See also Notice*, 16 FCC Rcd at 7280 ¶ 1.

[455] *See* 47 U.S.C. § 309(j)(14)(C)(ii).

[456] *See Notice*, 16 FCC Rcd at 7326 ¶ 116.

[457] *See id.*

[458] *See* Gila River Comments at 13-14.

[459] *See* U.S. Cellular Comments at 7; Leap Reply at 15-16.

[460] *See* 47 C.F.R. § 1.2101 *et. seq.* (Part 1, Subpart Q -- Competitive Bidding Proceedings).

streamline our general competitive bidding rules for all radio services that are subject to competitive bidding and increase the efficiency of the competitive bidding process.[461] Application of the Part 1 rules will be subject to any modifications that the Commission may subsequently adopt.[462]

167. Although it believes that most of the Part 1 rules are appropriate for the Lower 700 MHz Band, Gila River insists that the Commission should not attribute casino gaming revenues in determining eligibility for small business preferences.[463] Our Part 1 rules include an attribution rule that requires auction applicants to include gaming revenues in the calculations used to determine eligibility for small business status.[464] Gila River mischaracterizes the basis for this policy when it claims that the "primary rationale for this rule is to prevent Indian tribes from unfairly using casino revenue to outbid other Indian tribes that do not have gaming revenue."[465] Rather, the Commission adopted this policy in recognition that gaming revenues are "exceptional revenues" that, if not attributed to the applicant, "could create an unfair competitive advantage" with regard to all other applicants, and not just other Indian tribes.[466] Further, Gila River argues that the Commission is unfairly "prevent[ing] some tribal governments from taking advantage of designated entity provisions simply because these tribes operate a casino."[467] We disagree. The

[461] The Commission has previously observed that "our general competitive bidding rules are intended to streamline our regulations and eliminate unnecessary rules wherever possible, increase the efficiency of the competitive bidding process, and provide more specific guidance to auction participants." Amendment of Part 1 of the Commission's Rules — Competitive Bidding Procedures; Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, *Third Report and Order and Second Further Notice of Proposed Rule Making*, 13 FCC Rcd 374, 376 ¶ 1 (1997) (modified by Erratum, DA 98-419 (rel. March 2, 1998)) (*Part 1 Third Report and Order*). Further, continual changes and improvements "advance our auction program by reducing the burden on the Commission and the public of conducting service-by-service auction rule makings." *Id.*

[462] In the Part 1 proceeding, the Commission has engaged in an on-going effort to clarify and amend its general competitive bidding rules for all auctionable services. *See* Amendment of Part 1 of the Commission's Rules — Competitive Bidding Procedures, *Order on Reconsideration of the Third Report and Order, Fifth Report and Order, and Fourth Further Notice of Proposed Rule Making*, 15 FCC Rcd 15293 (2000) (*Part 1 Order on Reconsideration, Fifth Report and Order, and Fourth FNPRM*) *recons. pending*. The Commission has also recently amended its prohibition on collusion in competitive bidding, which is found in Section 1.2105(c) of the Commission's rules. *See* Amendment of Part 1 of the Commission's Rules — Competitive Bidding Procedures, *Seventh Report and Order*, WT Docket 97-82, 16 FCC Rcd 17546 (2001). *See also* 47 C.F.R. § 1.2101 *et seq.* (Subpart Q -- Competitive Bidding Proceedings).

[463] *See* Gila River Comments at 13-14.

[464] *See* 47 C.F.R. § 1.2110(c)(5)(xi).

[465] *See* Gila River Comments at 13.

[466] Amendment of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, *Fifth Memorandum Opinion and Order*, 10 FCC Rcd 403, 428-9 ¶ 44 (1994). Gila River also seems to suggest that the Commission should take steps to put other Indian tribes on par with Alaskan tribes, which are exempt from the attribution rules. *See* Gila River Comments at 13. However, the benefits accorded Alaskan tribal concerns were specifically authorized by Congress under the Alaska Native Claims Settlement Act and are narrowly tailored to apply only to those entities. *See* 43 U.S.C. § 1626(e). Congress could have provided the same relief to all applicants, but instead Congress chose to narrowly tailor the specific relief. Notably, Congress left intact the statutory directive of Section 309(j)(4)(E), which directs the Commission to "require such transfer disclosures and antitrafficking restrictions and payment schedules as may be necessary to prevent unjust enrichment as a result of the methods employed to issue licenses and permits." 47 U.S.C. § 309(j)(4)(E).

[467] *See* Gila River Comments at 14.

Commission's attribution rules make no distinction among the types of businesses from which an attributable entity's gross revenues might arise, nor do they consider whether that entity is profitable.[468] Gila River also acknowledges that gaming revenues are available for telecommunications uses, but claims that this money is spent almost entirely on other crucial infrastructure and social programs, leaving little available for telecommunications projects.[469] Given that gaming revenues are available for telecommunications uses, we find no basis to grant tribal entities an exemption from the attribution rule for gaming revenues. To the extent that Gila River and other tribal entities seek licenses with the intention to serve tribal lands, however, they may benefit from the Commission's policies and rules under which we will award bidding credits in future auctions, including the Lower 700 MHz auction, for winning bidders who use licenses to deploy facilities and provide service to federally-recognized tribal areas that are either unserved by any telecommunications carrier or that have a telephone service penetration rate below 70 percent.[470]

168. U.S. Cellular and Leap urge the Commission not to use combinatorial bidding procedures when holding an auction of licenses in the Lower 700 MHz Band.[471] As the *Notice* explains, combinatorial (or "package") bidding is an auction methodology that may take many forms.[472] Under the design that the Wireless Telecommunications Bureau ("WTB") has developed for Auction No. 31 (involving commercial licenses in the Upper 700 MHz Band), bidders are not restricted to placing bids on individual licenses, but may also place all-or-nothing bids on packages of licenses.[473] U.S. Cellular contends that package bidding procedures "will bias auction outcomes … towards nationwide and/or super-regional aggregation,"[474] and that the Commission's normal (non-package) simultaneous multiple round bidding methodology permits bidders the opportunity to aggregate licenses.[475] Similarly, Leap urges further study of combinatorial bidding before any decision is made with regard to auction procedures for the Lower 700 MHz Band.[476] We acknowledge these concerns, but regard them as speculative at this time. We note that, consistent with

[468] *See* 47 C.F.R. § 1.2110(n) (definition of gross revenues).

[469] *See* Gila River Comments at 13-14.

[470] *See* Extending Wireless Telecommunications Services to Tribal Lands, *Report and Order and Further Notice of Proposed Rule Making*, WT Docket No. 99-266, 15 FCC Rcd. 11,794 (2000). *See also* "Wireless Telecommunications Bureau Announces Availability of Bidding Credits For Providing Wireless Services To Qualifying Tribal Lands: Tribal Land Bidding Credits To Be Available Beginning In Auction No. 36 (800 MHz Specialized Mobile Radio (SMR) Lower 80 Channels) And In Future Auctions, *Public Notice*, DA 00-2219 (Sept. 28, 2000).

[471] *See* U.S. Cellular Comments at 7; Leap Reply at 15-16.

[472] *See Notice*, 16 FCC Rcd at 7302-03 ¶ 50, n. 120.

[473] *See* Auction of Licenses in the 747-762 and 777-792 MHz Bands Scheduled for September 6, 2000; Procedures Implementing Package Bidding For Auction No 31, *Public Notice*, 15 FCC Rcd 11526 (2000) (describing package bidding procedures for 700 MHz band auction). As an example, under that approach, a bidder desiring to inaugurate a regional service could bid on a package of licenses that covers the entire region and not face the risk of winning only some of the desired licenses and paying more than the bidder values those licenses by themselves (without the other licenses needed to provide regional coverage).

[474] *See* U.S. Cellular Comments at 7.

[475] *See id.* at 7, Attachment A at 18-20.

[476] *See* Leap Comments at 15-16.

statutory obligations,[477] WTB will seek comment on auction-related procedural issues, including auction design, prior to the start of the Lower 700 MHz auction pursuant to WTB's existing delegated authority.[478] This will provide WTB with an opportunity to weigh the benefits and disadvantages of any particular bidding design, among other auction-specific issues (*e.g.* minimum opening bids), prior to the start of the Lower 700 MHz Band auction. We are confident that WTB will take concerns like those raised by U.S. Cellular and Leap into account when it makes future determinations about the appropriate competitive bidding procedures to be used to auction Lower 700 MHz Band licenses.

b. Provisions for Designated Entities

169. Background. The Commission proposed in the *Notice* to follow the approach it had taken for the EAG-based licenses in the Upper 700 MHz Commercial Band in which we adopted definitions of "small" and "very small" businesses.[479] That proposal was based upon its tentative conclusion that capital requirements for the Upper 700 MHz Commercial Band were likely to be similar to the capital requirements for Lower 700 services.[480] The *Notice* also sought comment on whether an additional small business definition should be created for entities with average annual gross revenues for the three preceding years not exceeding $3 million.[481]

170. No commenters directly addressed the *Notice*'s proposal to apply the two small business definitions here that we adopted for the Upper 700 MHz Commercial Band. Gila River, however, advocates the adoption of the third small business definition for entities with average annual gross revenues for the three preceding years not exceeding $3 million.[482] NTCA and CROW criticize the Commission's designated entity preference program on the ground that it has not been successful in meeting its objectives.[483]

171. Discussion. We will extend bidding preferences to small business entities that seek an opportunity to participate in an auction of Lower 700 MHz Band licenses. The Commission has long

[477] *See* 47 U.S.C. § 309(j)(3)(E)(i)(obligation to permit notice and comment on proposed auction procedures before issuance of bidding rules).

[478] *See* 47 C.F.R. §§ 0.131(c) (functions of WTB); 0.331 (authority delegated to WTB); 0.332 (actions taken under WTB's delegated authority); 1.2103 (competitive bidding design options, including simultaneous multi-round and combinatorial bidding auctions, among others); 1.2104 (competitive bidding mechanisms). *See also* Amendment of Part 1 of the Commission's rules—Competitive Bidding Procedures, *Order, Memorandum Opinion and Order, and Notice of Proposed Rule Making*, 12 FCC Rcd 5686, 5697-98 ¶ 16 (1997).

[479] *See Notice*, 16 FCC Rcd at 7328 ¶ 120. Pursuant to Section 3 of the Small Business Act (15 U.S.C. § 632(a)) and the regulations of the U.S. Small Business Administration ("SBA") (13 C.F.R. §121.902(b)), the Commission sought, and obtained SBA approval of, the size standards proposed in the *Notice*. *See* Letter from John Whitmore, Acting Administrator, Small Business Administration, to Margaret W. Wiener, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, dated March 26, 2001.

[480] *See Notice*, 16 FCC Rcd at 7328 ¶ 120. *See also Upper 700 MHz First Report and Order*, 15 FCC Rcd at 529-30 ¶ 133.

[481] *See Notice*, 16 FCC Rcd at 7328-29 ¶ 121.

[482] *See* Gila River Comments at 11-12.

[483] *See* NTCA Comments at 4-5; CROW Comments at 5-7.

recognized that bidding preferences for qualifying bidders provides such bidders with an opportunity to compete successfully against large, well-financed entities.[484] The Commission has also found that the use of tiered or graduated small business definitions is useful in furthering our mandate under Section 309(j) to promote opportunities for and disseminate licenses to a wide variety of applicants.[485]

172. We will adopt the same two small business definitions for the EAG-based licenses in the Lower 700 MHz Band that were applied to the EAG-based licenses in the Upper 700 MHz Commercial Band. Specifically, with respect to all EAG-defined licenses in the Upper and Lower 700 MHz Bands, we will define a "small business" as any entity with average annual gross revenues for the three preceding years not exceeding $40 million, and a "very small business" as any entity with average annual gross revenues for the three preceding years not exceeding $15 million.[486] Although we received no comments directly addressing the *Notice*'s proposal to apply the two small business definitions here that we adopted for the Upper 700 MHz Commercial Band, we believe that the considerations that formed the basis for our decision there are equally applicable with respect to the larger, EAG-based licenses that we are establishing in this decision. Generally, in developing these definitions for purposes of bidding preferences, the Commission evaluates the likely characteristics and capital requirements of the specific service.[487] The new services on the EAG-sized licenses in this band may be very capital-intensive relative to the services deployed using smaller-sized licenses, and may attract large and well-funded bidders that seek to use these licenses in conjunction with services being deployed in the Upper 700 MHz Commercial Band.[488] As with the Upper 700 MHz Commercial Band, we believe that these two definitions will provide businesses seeking to provide a variety of services in the larger EAG-based license areas with opportunities to participate in the auction of licenses for this spectrum.[489]

173. We conclude that a third small business definition should be extended to those Lower 700 MHz Band licenses that are defined on the basis of MSAs and RSAs. In light of the expressions of interest in this proceeding by small business and rural interests in favor of smaller license areas, we agree with Gila River that the use of the third small business definition that was suggested in the *Notice* should allow "small business and rural telecommunications providers to participate more meaningfully" in a Lower 700 MHz Band auction.[490] We anticipate that new services that may be deployed in the smaller, non-EAG

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[484] *See, e.g.*, Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems; Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, WT Docket No. 96-18, PR Docket No. 93-253, *Memorandum Opinion and Order on Reconsideration and Third Report and Order*,14 FCC Rcd 10030, 10091 ¶ 112 (1999).

[485] 47 U.S.C. § 309(j)(3)(B), (4)(C)-(D).

[486] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 529-30 ¶ 133.

[487] *See Part 1 Third Report and Order*, 13 FCC Rcd at 388 ¶ 18; Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, *Second Memorandum Opinion and Order*, 9 FCC Rcd 7245, 7269 ¶ 145 (1994).

[488] For example, a winning bidder for Lower 700 MHz EAG-based licenses may seek to provide mobile services to a regional area, or may obtain combinations of Upper and Lower 700 MHz EAG-based licenses as part of a plan to develop a nationwide communications network. Such entity would face post-auction capital costs of establishing and running a communications network, and might also encounter additional costs if it chooses to enter into voluntary arrangements with incumbent broadcasters to clear the spectrum early.

[489] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 529-30 ¶ 133.

[490] *See* Gila River Comments at 11-12.

license areas could have different characteristics and capital requirements. Many of the same considerations that led us to adopt smaller-sized licenses in the Lower 700 MHz Band also favor the use of a third small business size standard for those non-EAG licenses. Some new services that may be deployed in the smaller license areas may have lower capital requirements than for the larger EAG-based licenses. For example, these smaller license areas may be suited to applications with relatively low costs, such as fixed broadband wireless services which use only the "white areas" of a heavily-encumbered, smaller license area. In this regard, we believe that this situation is analogous to that of the 24 GHz service, in which license areas were defined on the basis of EAs and a broad range of services were permitted; in that service, the Commission found that "[b]ecause the capital costs of operational facilities in the ... band are likely to vary widely, we believe that the use of three small business definitions will be useful in promoting opportunities for a wide variety of applicants."[491] For these reasons, we will use three small business definitions for the MSA and RSA-based licenses in the Lower 700 MHz Band, and will adjust the terms for size standards in this service accordingly. Thus, for services in the Lower 700 MHz Band, we define a "small business" as any entity with average annual gross revenues for the three preceding years not exceeding $40 million, a "very small business" as any entity with average annual gross revenues for the three preceding years not exceeding $15 million, and an "entrepreneur" as any entity with average annual gross revenues for the three preceding years not exceeding $3 million.[492]

174. NTCA and CROW criticize the Commission's designated entity preference program on the grounds that it has not been successful in meeting its objectives.[493] However, these commenters do not supply any statistical or other factual support for their claims. For example, NTCA disputes the *Notice*'s tentative conclusion that the Commission's small business provisions are sufficient to promote participation by businesses owned by minorities and women and rural telephone companies, and it urges the Commission to perform an analysis of recent auction winners to assess the success of small businesses and rural telephone companies.[494] Our analysis of the results of our auction of licenses in the 39 GHz band demonstrates that small businesses can and will successfully compete for licenses. In that auction, entities that had average gross revenues of not more than $40 million for the three preceding years (including those that had average gross revenues of not more than $15 million for the preceding three years) successfully bid for 849 licenses, or almost 40 percent of the licenses sold.[495] Such small businesses also successfully bid for 21 of the 46 licenses in the largest EAs (defined for this purpose as the top 25 percent of the EAs, as ranked by population).[496] Here, we believe that the use of a third small entity definition may result in the dissemination of licenses among an even wider range of small business entities, consistent with our

[491] Amendment to Parts 1, 2, and 101 of the Commission's Rules To License Fixed Services at 24 GHz, WT Docket No. 99-327, *Report and Order*, 15 FCC Rcd 16934, 16967 ¶ 77 (2000) (*24 GHz Report and Order*).

[492] As discussed above, however, the very small business definition and associated bidding credit will not be extended to bids on EAG-based licenses in the Lower 700 MHz band.

[493] *See* NTCA Comments at 4-5; CROW Comments at 5-7.

[494] NTCA Comments at 4-5.

[495] Auction results and related data may be found on the Commission's Web site at: <http://www.fcc.gov/wtb/auctions>. *See also* "39 GHz Band Auction Closes," *Public Notice*, Report No. AUC-3D-E (Auction No. 30), DA 00-1035 (rel. May 10, 2000).

[496] *Id.*

obligations under Section 309(j)(3)(B) of the Act.[497]

175. In a similar vein, RTG urges the Commission to expand its program and adopt a bidding credit or other auction incentive for rural telephone companies, irrespective of how large or well-financed these entities may be.[498] We do not agree with RTG's contention that "Section 309(j) clearly states that the FCC shall establish bidding credits that promote the dissemination of licenses to rural telephone companies," and that our obligations under Sections 309(j)(3) and 309(j)(4) with regard to rural telephone companies amount to a "congressional mandate" that requires the Commission to "establish of an independent bidding credit for rural telephone companies irrespective of their size."[499] We recognize that the statute includes "rural telephone companies" among the wide variety of applicants to which the Commission is to disseminate licenses.[500] In addition, we note that Section 309(j)(4)(B) stresses the need for the Commission to encourage the rapid deployment of services to rural areas and to promulgate performance requirements that ensure prompt delivery of service to rural areas.[501] The Commission does, however, have great interest in ensuring that rural and underserved areas have access to competitive advanced telecommunications services.[502] Indeed, the Commission has implemented a number of initiatives

[497] Section 309(j)(3)(B) of the Act provides that in establishing eligibility criteria and bidding methodologies the Commission shall promote "economic opportunity and competition . . . by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women." *See* 47 U.S.C. § 309(j)(3)(B).

[498] *See* RTG Comments at 8-9; RTG Reply at 7-8.

[499] *Id.* We note that RTG's "clear language" reading of Section 309(j) has been explicitly rejected by the D.C. Circuit. In *Melcher v. FCC*, the court stated that "Section 309(j)(3)(B) does not state that rural telephone companies must be 'given the opportunity to participate in the provision of' spectrum-based services." *Melcher v. FCC*, 134 F.3d 1143, 1154 (D.C.Cir. 1998). Instead, the *Melcher* court recognized that Section 309(j)(3)(B) "is subject to a variety of reasonable interpretations," as it "requires the FCC to 'seek to promote''' a number of "potentially conflicting objectives." *Id.* Those public interest objectives include "promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women." *See* 47 U.S.C. § 309(j)(3)(B). The *Melcher* court has also disagreed with RTG's interpretation of 309(j)(4):

> Section 309(j)(4)(D) does not state that the FCC must "ensure" through its auction rules that licenses for … a spectrum-based service[] are actually disseminated to rural telephone companies. Instead, it insists only that rural telephone companies have "the *opportunity* to participate in the provision of spectrum-based services" and accordingly instructs the FCC to "consider the use of tax certificates, bidding preferences, and other procedures." 134 F.3d at 1154.

[500] *See* 47 U.S.C. § 309(j)(3)(B).

[501] *Id*. § 309(j)(4)(B).

[502] *See Id.* § 309(j)(3)(A). In addition, the Preamble to the Telecommunications Act of 1996 provides that its purpose is to promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies. *See* Telecommunications Act of 1996, Pub. L. 104-104, 110 Stat. 56 (1996). *See also* Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes, 16 FCC Rcd 4078 (2000); Virginia Tech Foundation, Inc. Petition for Reconsideration of Request for Waiver of Section 101.23 -- Auction No. 17, Local Multipoint Distribution Service, *Order*, 13 FCC Rcd 4535 (1998); (continued….)

toward achieving that goal.[503] As we noted in our *Part 1 Fifth Report and Order*, we will address issues affecting rural communities and underserved areas in other upcoming proceedings and believe a more extensive record can be developed at that time.[504] We plan to consider methods for enhancing the delivery of spectrum-based services in areas that traditionally have been underserved by telecommunications providers, and we encourage commenters to participate in such future proceedings.

176. However, we do not find that the statute requires us to adopt an independent bidding credit for large telephone companies that serve rural areas, as RTG demands. Our consideration of this issue is guided by a line of Commission decisions in which the Commission has consistently found no basis for establishing an independent bidding credit for large telephone companies in rural areas.[505] For instance, when initially considering this issue in 1994, the Commission found that rural telephone companies do not *per se* have the same difficulty accessing capital as other groups, such as small businesses.[506] There the Commission reasoned that the parties advocating the adoption of a rural telco credit had "failed to demonstrate a historical lack of access to capital that was the basis for according bidding credits to small businesses, minorities and women."[507] In subsequent decisions, large rural telcos have failed to

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Requests for Waiver of Section 101.1003(a) of the Commission's Rules Establishing Eligibility Restrictions on Incumbent LECs and Cable Operators in the Local Multipoint Distribution Service, *Order*, 13 FCC Rcd 18694 (1998).

[503] *See, e.g.*, Extending Wireless Telecommunications Services to Tribal Lands, WT Docket No. 99-266, *Report and Order and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 11,794 (2000); Federal-State Joint Board on Universal Service: Promoting Deployment and Subscribership in Unserved and Underserved Areas, Including Tribal and Insular Areas, CC Docket No. 96-45, *Twelfth Report and Order, Memorandum Opinion and Order, and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 12,208 (2000). In particular, in the Tribal Lands proceeding, we established bidding credits that will be available in future auctions in markets that contain qualifying tribal areas that have a telephone service penetration rate below 70 percent. To qualify for the credit, winning bidders must commit to use the license to deploy facilities and offer service to qualifying tribal areas, and must obtain tribal consent to such deployment. We also sought comment on whether to award bidding credits to carriers that commit to serve non-tribal areas with low penetration rates, whether to award transferable credits for use in future auctions to licensees in already-established wireless services that deploy facilities and provide service to unserved tribal communities, and whether to make credits available to licensees that enter into partitioning agreements with tribal authorities.

[504] *See* Amendment of Part 1 of the Commission's Rules -- Competitive Bidding Procedures, WT Docket No. 97-82, *Order on Reconsideration of the Third Report and Order, Fifth Report and Order, and Fourth Further Notice of Proposed Rule Making*, 15 FCC Rcd 15293, 15320-21 ¶ 52 (2000) (*Part 1 Fifth Report and Order*).

[505] *See* Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, *Fifth Memorandum Opinion and Order*, 10 FCC Rcd 403, 457-8 ¶ 100, 462-3 ¶ 111 (1994) (*Competitive Bidding Fifth MO&O*); Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems; Implementation of Section 309(j) of the Communications Act – Competitive Bidding, *Memorandum Opinion and Order on Reconsideration of the Third Report and Order*, 14 FCC Rcd 10030, 10091-92 ¶ 114 (1999) (*Paging Third Report and Order Reconsideration*) (noting that rural telcos may also qualify for financial benefits from the Rural Electrification Administration and the Universal Service Fund); *Part 1 Fifth Report and Order*, 15 FCC Rcd at 15320-21 ¶ 52 (2000); Amendment of the Commission's Rules to Establish New Personal Communications Services, Narrowband PCS; Implementation of Section 309(j) of the Communications Act – Competitive Bidding, Narrowband PCS, *Second Report and Order and Second Further Notice of Proposed Rule Making*, 15 FCC Rcd 10456, 10476-77 ¶ 41 (2000) (*Narrowband PCS Second Report and Order*); *24 GHz Report and Order*, 15 FCC Rcd at 16968-69 ¶ 81.

[506] *See Competitive Bidding Fifth MO&O*, 10 FCC Rcd at 457-8 ¶ 100 (1994).

[507] *Id.*

demonstrate any barriers to capital formation similar to those faced by other designated entities.[508] We find nothing in RTG's filings or in the record that would suggest otherwise. Indeed, rural telcos have access to low-cost financing through the National Rural Utilities Cooperative Finance Corporation,[509] and may seek below-market rate lending through the Department of Agriculture's Rural Utilities Service.[510] These financing options suggest that rural telephone companies may have greater ability than other designated entities to attract capital. We also note that, in conducting the aforementioned analysis of our 39 GHz auction, all six qualified bidders that identified themselves on their short-form applications as rural telephone companies were successful at auction.[511] Of course, rural telephone companies that qualify as small businesses are eligible for bidding credits.

177. Gila River also urges the Commission not to apply unjust enrichment penalties to assignments or leases of this spectrum, particularly if large EAG license areas are used.[512] Congress has, however, directed the Commission to establish rules that prevent unjust enrichment.[513] Having recognized the potential for abuse of its designated entity preference policies, the Commission has established unjust enrichment rules to safeguard against speculation in the auction process and participation by entities that lack *bona fide* intent to offer communications services.[514] Gila River argues that it is unfair to "essentially revoke" bidding credits by applying unjust enrichment penalties when a small business licensee partitions or disaggregates some of its spectrum.[515] However, the Commission does not rescind the entire bidding discount from a designated entity that partitions or disaggregates portions of its license to a non-qualifying entity. Rather, in such cases, the licensee is required to remit an unjust enrichment payment only in an amount equal the proportion of the population in the partitioned area.[516] In adopting provisions to permit such transactions between small businesses and entities that do not meet the same small business definition, the Commission found that proportional unjust enrichment payments "strike the proper balance between promoting economic opportunities for entrepreneurs while preventing abuse of" the designated entity

[508] *See, e.g.*, *Part 1 Fifth Report and Order*, 15 FCC Rcd at 15320-21 ¶ 52; *Paging Third Report and Order Reconsideration*, 14 FCC Rcd at 10,091-92 ¶ 114 (1999); *Narrowband PCS Second Report and Order*, 15 FCC Rcd at 10476-77 ¶ 41 (2000); *24 GHz Report and Order*, 15 FCC Rcd at 16968-69 ¶ 81.

[509] The National Rural Utilities Cooperative Finance Corporation is a not-for-profit cooperative which declares that its mission is to provide its members with an assured source of low-cost capital, state-of-the-art financial products, and business management services. *See* http://www.nrucfc.org/aboutcfc/index.htm <viewed Dec. 11, 2001>.

[510] The Rural Utilities Service has recently extended its financial assistance programs to permit financing of rural telephone companies that seek to develop mobile telecommunications systems. *See* 7 C.F.R. Part 1735; 65 Fed. Reg. 42,615 (July 11, 2000).

[511] *See* Amendment to Parts 1, 2, and 101 of the Commission's Rules To License Fixed Services at 24 GHz, WT Docket 99-327, *Order on Reconsideration*, 15 FCC Rcd 11156 , 11160 ¶ 10 (2001).

[512] *See* Gila River Comments at 16.

[513] *See* 47 U.S.C. § 309(j)(4)(E).

[514] *See* Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, *Second Report and Order*, 9 FCC Rcd 2348, 2394 ¶¶ 258-59 (1994).

[515] *See* Gila River Comments at 16.

[516] *See* 47 C.F.R. § 1.2111(e)(3) (apportioning unjust enrichment payments).

benefits.[517] Finally, we note that the question of the applicability of the unjust enrichment rules to leasing situations is under consideration in our Secondary Markets proceeding.[518] Because that issue is outside of the scope of this proceeding, we defer our consideration of this issue to that proceeding.

178. We will use our standard schedule of bidding credits, which may be found at Section 1.2110(f)(2) of the Commission's rules.[519] The standard bidding credit schedule provides for the following levels of credits:

Average Annual Gross Revenues	Bidding Credit
Not to exceed $3 million	35%
Not to exceed $15 million	25%
Not to exceed $40 million	15%

These credits are not cumulative. For the reasons discussed above, the 35 percent bidding credit will not be extended to EAG-based licenses.[520] No commenters addressed the Commissions proposal to use the standard bidding credit schedule. As the Commission has previously recognized, the use of the standard Part 1 bidding credit levels tends to promote certainty for small business entities in advance of auctions about the size of available bidding credits.[521] As such, we conclude that these bidding credits will provide adequate opportunities for small businesses to participate in the Lower 700 MHz Band auction.

179. Further, we remain committed to meeting the statutory objectives of promoting economic opportunity and competition, avoiding excessive concentration of licenses, and ensuring access to new and innovative technologies by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women. In addition to helping rural telephone companies, we have previously recognized that bidding credits extended to small businesses also assist in meeting these objectives because many minority- and women-owned entities are small businesses and therefore qualify for these special provisions.[522] We note too that several studies have been presented to the Commission regarding barriers to entry faced by minority- and women-owned firms that wish to participate, or have participated, in Commission auctions.[523] In the *Part 1*

[517] *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, GN Docket No. 96-113, *Report and Order and Further Notice of Proposed Rule Making*, 11 FCC Rcd 21831, 21851-52 ¶¶ 32-34 (1996).

[518] *See* Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, WT Docket No. 00-230, *Notice of Proposed Rule Making*, 15 FCC Rcd 24203, 24222-23 ¶¶ 52-55 (2000).

[519] 47 C.F.R. § 1.2110(f)(2).

[520] *See supra* at ¶ 180 (discussing size standards for Lower 700 MHz EAG-based licenses).

[521] *See* 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, ET Docket No. 94-32, *Third Report and Order and Second Further Notice of Proposed Rule Making*, 13 FCC Rcd 374, 402-3 ¶ 45 (1997).

[522] *See 24 GHz Report and Order*, 15 FCC Rcd at 16969 ¶ 82.

[523] In this regard, we note that the Commission has hosted a public forum at which a series of studies examining the extent to which small entities and women- and minority-owned firms in the communications industry have (continued….)

Fifth Report and Order, the Commission stated that it will continue to track the rate of participation in our auctions by minority- and women-owned firms and evaluate this information with other data gathered to determine whether additional provisions to promote participation by minorities and women are warranted.[524]

c. Public Notice of Initial Applications/Petitions to Deny

180. Background. Following the conclusion of a spectrum auction, winning bidders are required to file long-form license applications.[525] As is required by statute and the Commission's rules,[526] the Commission then releases a public notice announcing that long-form applications have been accepted for filing. The release of such public notice begins a time period in which interested parties may file petitions to deny against the listed long-form applications.[527] Under Section 1.2108(b) of the Commission's rules, the period for filing petitions to deny against long-form applications is no more than ten days, and that period may be reduced to five days in exigent circumstances at the discretion of the licensing bureau. In the *Notice*, the Commission proposed to limit the time period for petitions to deny to five days.[528] Consistent with this proposal, the *Notice* also confirmed the Commission's intention to allow at least seven days following the issuance of the public notice that long-form applications have been accepted for filing before any such application would be granted.[529] We received no comments on our proposal to adopt these deadlines for licenses in the Lower 700 MHz Band.

181. Discussion. We intend to follow the time periods set forth under Section 1.2108 of the Commission's rules.[530] Thus, the period for petitions to deny shall not exceed ten days.[531] The Commission

(Continued from previous page)

encountered market entry barriers were presented. *See* Market Entry Barrier Studies Will Be Released At The Commission On Tuesday, December 12, 2000, *Public Notice*, DA 00-2788 (rel. Dec. 8, 2000). Among those five studies are two that relate directly to wireless licensing and spectrum auctions policies: Ernst & Young, LLP, *FCC Econometric Analysis of Potential Discrimination: Utilization Ratios for Minority- and Women-Owned Companies in FCC Wireless Spectrum Auctions* (Dec. 5, 2000) (developing utilization ratios as a means of measuring the participation and success of minority- and women-owned businesses in the Commission's spectrum auctions); and William D. Bradford, Ph.D., *Discrimination in Capital Markets, Broadcast/Wireless Spectrum Service Providers and Auction Outcomes* (Dec. 5, 2000) (exploring whether and to what extent discrimination in capital markets may have affected applicants for Commission licenses). All five studies may be found in various formats on the Commission's Web site at http://www.fcc.gov/opportunity/meb_study/. *See also* Staff Executive Summary (Dec. 5, 2000) (outlining purposes and findings of market barrier studies); Studies Indicate Need to Promote Wireless & Broadcast License Ownership by Small, Women- and Minority-Owned Businesses, Office of Chairman William E. Kennard, *News Release*, (rel. Dec. 12, 2000) (recommending steps to promote diversity of license ownership and summarizing major findings of market barrier studies).

[524] *See Part 1 Fifth Report and Order*, 15 FCC Rcd at 15319-20 ¶ 49. Any such race- or gender-based provisions must be consistent with constitutional standards. *See Adarand Constructors, Inc. v. Peña*, 515 U.S. 200 (1995); *United States v. Virginia*, 518 U.S. 515 (1996).

[525] *See* 47 C.F.R. § 1.2107(c).

[526] *See* 47 U.S.C. § 309(b)-(d); 47 C.F.R. § 1.2107(b)-(c).

[527] *See* 47 C.F.R. § 1.2107(b).

[528] *Notice*, 16 FCC Rcd at 7330 ¶ 124.

[529] *Id. See also* 47 C.F.R. § 1.2108(c) (long-form applications shall not be granted earlier than seven days following issuance of acceptance public notice).

[530] *Id.* § 1.2108(b)-(c).

has recognized that, in most cases, a ten-day filing period serves the public interest by providing parties, including small businesses, more flexibility in challenging license awards than a five-day period.[532] We also confirm, however, that WTB may, in its discretion, shorten that period to five days, if exigent circumstances exist.[533] In this regard, we note that the statutory auction deadline is approaching, and that it may be necessary to limit this period to comply with that deadline. In addition, the other time periods set forth in Section 1.2108 will apply, including the requirement to allow at least seven days following the issuance of the public notice that long-form applications have been accepted for filing before acting on any such application.[534]

6. Measures to Facilitate Early Clearing of the Lower 700 MHz Band and Accelerate the DTV Transition

a. Voluntary Band-Clearing Policies

182. Background. In the *Notice*, the Commission set an objective of establishing rules that will facilitate, rather than hinder, the clearing of incumbent broadcasters from this spectrum in a manner consistent with its DTV transition policy goals.[535] The *Notice* pointed out that, in the Upper 700 MHz Band proceeding, the Commission has authorized the use of several voluntary "band-clearing" mechanisms, including the use of comprehensive private band-clearing arrangements.[536] The Commission's voluntary clearing policy for the Upper 700 MHz Band was established in a series of decisions beginning with the adoption of the *Upper 700 MHz First Report and Order* in January 2000.[537] In the *Notice*, the Commission proposed to extend the rules and policies adopted in the Upper 700 MHz Band proceeding to voluntary clearing of the 698-746 MHz spectrum.[538] The *Notice* also recognized that different circumstances apply to the Lower 700 MHz Band, such as greater number of broadcast operations and the unique status of incumbents in this band relative to the Upper 700 MHz Band.[539] The *Notice* solicited comment as to

(Continued from previous page)

[531] *See id*. § 1.2108(b).

[532] *See 24 GHz Report and Order*, 15 FCC Rcd at 16966 ¶ 75.

[533] *See* 47 C.F.R. § 1.2108(b).

[534] *Id*. § 1.2108(c).

[535] *Notice*, 16 FCC Rcd at 7297-98 ¶ 37.

[536] *See id.* at 7332-34 ¶¶ 128-132.

[537] The Commission established its policies on voluntary clearing for the Upper 700 MHz Band in a series of orders. The Commission initially stated that it would "consider specific regulatory requests needed to implement voluntary agreements" between incumbent broadcasters and new licensees to clear the Upper 700 MHz Band early, if consistent with public interest. *See Upper 700 MHz First Report and Order*, 15 FCC Rcd 476. Subsequently, the Commission established a rebuttable presumption favoring the grant of requests that would both result in certain specific benefits and avoid specific detriments. *See Upper 700 MHz MO&O and FNPRM*, 15 FCC Rcd at 20870-71 ¶ 61. These policies were later extended it to "three-way" band clearing arrangements, in which non-Channel 59-69 broadcasters were also potential parties. *See Upper 700 MHz Third Report and Order*, 16 FCC Rcd 2703. Most recently, the Commission provided certain additional flexibility to facilitate voluntary agreements for early clearing and granted a request for relief from two specific DTV-related requirements. *See Upper 700 MHz Third Report and Order Reconsideration.*

[538] *See Notice*, 16 FCC Rcd at 7331 ¶ 126.

[539] *See id.* at 7331-32 ¶ 127.

whether these factors might require modifications to our existing voluntary band-clearing policies here.[540]

183. APTS and CTIA generally support our proposal to permit the use of voluntary band-clearing mechanisms in this band.[541] In addition, NAB does not oppose the use of voluntary agreements to apportion costs of early clearing so long as such arrangements are "truly voluntary."[542] NAB, MSTV, APTS, and Block emphasize that measures to promote the early clearing of the Lower 700 MHz Band must be voluntary.[543] We also received comments on other DTV-related issues,[544] and Cox Broadcasting addressed the proposal to permit spectrum sharing.[545]

184. Discussion. We agree with those commenters, including APTS, NAB, and CTIA, that argue that any efforts to clear this band must be purely voluntary.[546] However, in light of certain differences between the Upper and Lower 700 MHz Bands, we conclude that we should employ a different approach from that established for the Upper 700 MHz Band. For instance, there is no public safety allocation in the Lower 700 MHz Band,[547] and there is a significantly greater degree of broadcast incumbency relative to the Upper 700 MHz Band. In addition, we note that Congress has directed the Commission to reclaim the Upper 700 MHz Band for public safety and commercial use under an accelerated time frame, but did not accord the same priority to recovery of the Lower 700 MHz Band.[548] Therefore, rather than apply the presumptions that we established in the Upper 700 MHz Band for analyzing voluntary band-clearing proposals, we will not adopt any rules, and will instead rely on our basic responsibility to consider any regulatory requests related to band clearing in the Lower 700 MHz Band on a case-by-case basis, considering all relevant public interest factors.[549] Broadcasters seeking to implement

[540] *See id.* at 7333 ¶ 130.

[541] *See* APTS Comments at 5-6; CTIA Comments at 5.

[542] NAB Comments at 8-10.

[543] *See* NAB Comments at 8; MSTV Comments at 10; APTS Comments at 3; Block Reply at 2.

[544] *See* NAB Comments at 10-11; MSTV Comments at 12-13.

[545] *See id.*

[546] *See* APTS Comments at 3, 5-6; CTIA Comments at 5; NAB Comments at 8-10; MSTV Comments at 10; Block Reply at 2

[547] Congress allocated 24 megahertz of the Upper 700 MHz Band to public safety use. *See* 47 U.S.C. § 337(a)(1).

[548] Both the Congress and the Commission initially expected to license the Lower 700 MHz subsequent to the auction of the Upper 700 MHz Band. The BBA 97 directed the Commission to reallocate certain portions of the Upper 700 MHz spectrum from broadcast use to commercial use by December 31, 1997, (*see* 47 U.S.C. § 337(a) (as added by § 3004 of the BBA 97)), but not to commence competitive bidding for the commercial licenses on the reallocated spectrum before January 1, 2001 (*see* 47 U.S.C. § 337(b)(2)). That deadline was subsequently accelerated. *See* Consolidated Appropriations Act, 2000, Pub. L. No. 106-113, 113 Stat. 2502, App. E, § 213; 145 Cong. Rec. H12493-94 (Nov. 17, 1999). By contrast, the statutory deadline of September 30, 2002 by which the Commission is to reclaim and organize the spectrum currently used by broadcasters in the Lower 700 MHz Band has remained unchanged since it was first enacted in the BBA 97. *See* 47 U.S.C. § 309(j)(14)(C)(ii); *see also* BBA 97 § 3007 (reproduced at 47 U.S.C. § 309(j) note 3).

[549] We delegate to the Chief, Mass Media Bureau authority to evaluate in the first instance regulatory requests submitted in connection with band-clearing agreements. In considering such requests, we will consider whether grant of the request would result in public interest benefits, such as making new or expanded wireless services available to consumers or deploying wireless service to rural or other underserved communities. We intend to (continued….)

early band-clearing agreements must generally comply with existing broadcast rules and policies. Accordingly, we do not extend to the Lower 700 MHz Band the extended DTV construction period that was provided to certain single-channel broadcasters in connection with the arrangements for early clearing of the Upper 700 MHz Band.[550]

b. Other Issues

185. Although we did not seek comment in the *Notice* on broader issues relating the DTV transition process generally, a number of broadcast commenters urge the Commission to adopt proposals that they have been advocating in the Commission's DTV and DTV must-carry proceedings. NAB and MSTV, for example, argue that the Commission should not focus on relocating incumbents, but should instead adopt DTV must-carry and receiver requirements.[551] NAB also urges the imposition of inter-operability standards for DTV sets and cable systems.[552] We believe that these requests in this proceeding do not raise distinctive or additional factual or policy considerations that justify departure from the broad determinations made or under consideration in those other proceedings. We therefore defer consideration of those requests to the proper proceedings.

186. Cox Broadcasting supports the proposal in the *Notice* to permit incumbent broadcasters to share spectrum in time and/or bits in order to facilitate the efficient use of the Lower 700 MHz Band.[553] Cox observes that "[t]here is no reason to prohibit parties from inventing creative market solutions to promote efficient use of spectrum."[554] We agree that incumbent broadcasters and new 700 MHz Band licensees should not be constrained from developing new and innovative approaches to band clearing, however, we decline to adopt a rule of general applicability for approving sharing arrangements at this

(Continued from previous page)
weigh these benefits against any likely public interest costs, such as the loss of any of the four stations in the designated market area with the largest audience share, the loss of the sole service licensed to the local community, the loss of a community's sole service on a channel reserved for noncommercial educational broadcast service, or a negative effect on the pace of the DTV transition in the market. *Cf. Upper 700 MHz MO&O and FNPRM*, 15 FCC Rcd at 20868-72 ¶¶ 57-66 (consideration of public interest factors in review of regulatory requests to implement voluntary band-clearing agreements for the Upper 700 MHz band); *Upper 700 MHz Third Report and Order*, 16 FCC Rcd at 2709-2712 ¶¶ 13-17, 2716-17 ¶¶ 32-33 (public interest review and processing of "three-way" Upper 700 MHz band-clearing arrangements).

[550] *See Upper 700 MHz Third Report and Order Reconsideration* at ¶¶ 7-11. Pursuant to our recent decision in the *DTV Periodic Reconsideration Order*, we clarify that all broadcasters, including those in the Lower 700 MHz Band, must comply with the same "use-or-lose" replication deadline that will generally be applied to all other DTV broadcasters. *See* Review of the Commission's Rules and Policies Affecting the Conversion To Digital Television, MM Docket No. 00-39, *Memorandum Opinion and Order on Reconsideration*, 16 FCC Rcd 20594, 20597-98 ¶ 10, 20602-07 ¶¶ 20-33 (2001). In that order, we temporarily deferred the replication deadlines (*i.e.*, the deadline by broadcasters would have to replicate fully their analog service areas with DTV service or lose interference protection to unserved areas), and stated that we will establish a new firm date for all broadcasters in the next DTV periodic review proceeding. *See id.* The new replication deadline may be earlier, but will not be later than, the end of 2006 or the date by which a market meets the statutory 85 percent digital penetration target, whichever is later. *See id.* at 29603-4 ¶ 24.

[551] *See* NAB Comments at 10-11; MSTV Comments at 12-13

[552] *See* NAB Comments at 11.

[553] *See* Cox Reply at 9.

[554] *See id.*

time, particularly in light of the limited record before us.[555] While we do not adopt a general sharing rule at this time, we will consider any such proposal on a case-by-case basis.

IV. PROCEDURAL MATTERS

187. Final Regulatory Flexibility Act Analysis. As required by Section 603 of the Regulatory Flexibility Act ("RFA"),[556] an Initial Regulatory Flexibility Analysis ("IRFA") was incorporated in Appendix C of the *Notice of Proposed Rulemaking* in this proceeding.[557] The Commission sought written public comment on the proposals set forth in the *Notice*, including comment on the IRFA. Appendix C of this Report and Order contains the Commission's Final Regulatory Flexibility Analysis ("FRFA") in compliance with the RFA, as amended by the Contract with America Advancement Act of 1996 ("CWAAA"), Pub. L. No. 104-121, 110 Stat. 847 (1996).

188. Paperwork Reduction Act of 1995 Analysis. This Report and Order contains either a new or modified information collection. As part of our continuing effort to reduce paperwork burdens, we invite the public and other government agencies to take this opportunity to comment on the information collection contained in this Report and Order, as required by the Paperwork Reduction Act of 1995, Pub. L. No. 104-13. Public and agency comments are due sixty days from publication of this Report and Order in the Federal Register. Comments should address the following: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology. A copy of any comments on the information collections contained herein should be submitted to: Judy Boley, Federal Communications Commission, 445 12th Street, S.W., Room 1-C804, Washington, D.C. 20554, or via the Internet to jboley@fcc.gov, and to Edward C. Springer, OMB Desk Officer, 10236 New Executive Office Building, 725 17th Street, N.W., Washington, D.C. 20503 or via the Internet to Edward.Springer@omb.eop.gov.

V. ORDERING CLAUSES

189. Accordingly, IT IS ORDERED, pursuant to Sections 1, 2, 4(i), 5(c), 7, 201, 202, 208, 214, 301, 302, 303, 307, 308, 309, 310, 311, 314, 316, 319, 324, 331, 332, 333, 336, 614 and 615 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 154(i), 155(c), 157, 201, 202, 208, 214, 301, 302a, 303, 307, 308, 309, 310, 311, 314, 316, 319, 324, 331, 332, 333, 336, 534, 535, that this REPORT AND ORDER is hereby ADOPTED and Parts 2, 27 and 73 of the Commission's rules, 47 C.F.R. Parts 2, 27 and 73, ARE AMENDED to establish service rules for the 698-746 MHz band, as set forth in Appendix B, effective sixty (60) days after publication in the Federal Register. The information collections contained in these rules will become effective seventy (70) days after publication in the Federal Register, following OMB approval, unless a notice is published in the Federal Register stating otherwise.

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[555] We note that this idea was also proposed in the Upper 700 MHz Band proceeding. *See Upper700 MHz MO&O and FNPRM*, 15 FCC Rcd at 20885 ¶ 104; *Upper 700 MHz Third Report and Order*, 16 FCC Rcd at 2727-28 ¶¶ 57-59.

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

[557] *Notice*, 16 FCC Rcd 7349-7356 App. C

190. IT IS FURTHER ORDERED that AUTHORITY IS HEREBY DELEGATED to the Mass Media Bureau to implement the policies for the introduction of new wireless services and to promote the early transition of incumbent analog television licensees to DTV service TO THE EXTENT DISCUSSED HEREIN.

191. IT IS FURTHER ORDERED that a 45-day filing window period WILL COMMENCE on January 22, 2002 and WILL END March 8, 2002 for applicants to amend their pending proposals in accordance with the policies and procedures set forth in paragraph 45 of this Report and Order.

192. IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this Report and Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas
Secretary

APPENDIX A:

List of Parties Filing Comments in GN Docket No. 01-74

A. Comments

1. The Association for Maximum Service Television, Inc. ("MSTV")
2. Association of America's Public Television Stations ("APTS")
3. Baltic Telecom Cooperative, Inc. ("Baltic")
4. Cellular South Licenses, Inc. ("Cellular South")
5. Cellular Telecommunications & Internet Association ("CTIA")
6. Coalition for Rural Opportunities in Wireless ("CROW")
7. Davis Television Wausau, LLC, *et al*. ("Davis")
8. Gila River Indian Community ("Gila River")
9. Golden West Communications, Inc. d/b/a Vivian Telephone Company ("Golden West")
10. Golden West Technologies ("GWT")
11. Golden West Telecommunications Cooperative, Inc. ("GWTC")
12. HIC Broadcast, Inc. ("HIC")
13. Interstate Telecommunications Cooperative, Inc. ("Interstate")
14. James Valley Telecommunications ("JVT")
15. Kennebec Telephone Co. ("Kennebec")
16. KM Communications, Inc. and KM LPTV of Atlanta, L.L.C. ("KM")
17. KNME-TV / University of New Mexico ("KNME-TV")
18. Leap Wireless International, Inc. ("Leap")
19. McCook Telephone Cooperative, Inc. ("McCook")
20. Midstate Communications, Inc. ("Midstate")
21. National Association of Broadcasters ("NAB")
22. National Telephone Cooperative Association ("NTCA")
23. Pappas Telecasting of America, a California Limited Partnership ("Pappas")
24. Qwest Wireless, LLC ("Qwest")
25. RC Communications, Inc. ("RC")
26. Roberts County Telephone Cooperative Assn. ("Roberts")
27. The Rural Telecommunications Group ("RTG")
28. SDN Communications ("SDN")
29. Shared Spectrum Company ("Shared Spectrum")
30. Society of Broadcast Engineers, Inc. ("SBE")
31. Splitrock Telecom Cooperative, Inc. ("Splitrock")
32. TCA, Inc. ("TCA")
33. Television Capital Corporation ("TCC")
34. U.S. Cellular Corporation ("U.S. Cellular")
35. Valley Telecommunications Cooperative, Inc. ("Valley")
36. The WB Television Network ("WB")
37. West River Cooperative Telephone Co. ("West River")
38. WLNY-TV Inc. ("WLNY-TV")

B. Reply Comments

1. Block Communications, Inc. ("Block")
2. Cox Broadcasting, Inc. ("Cox")

3. HIC Broadcast, Inc. (“HIC”)
4. Leap Wireless International, Inc. (“Leap”)
5. Paxson Communications Corporation (“Paxson”)
6. The Rural Telecommunications Group (“RTG”)
7. Sully Buttes Telephone Cooperative, Inc. (“SBTC”)
8. Union Telephone Co. (“Union”)
9. U.S. Cellular Corporation (“U.S. Cellular”)

C. *Ex Parte* Communications

1. ACME Communications, Inc. (“ACME”)
2. ArrayComm, Inc. (“ArrayComm”)
3. National Telephone Cooperative Association (“NTCA”)
4. Pappas Telecasting Companies and Pappas Telecasting of America, a California Limited Partnership (collectively “Pappas”)
5. The Rural Telecommunications Group (“RTG”)
6. The WB Television Network (“WB”)

APPENDIX B: Final Rules

Parts 2, 27, and 73 of Title 47 of the Code of Federal Regulations are amended to read as follows:

PART 2 – FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

1. The authority citation for Part 2 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 302a, 303 and 336, unless otherwise noted.

2. Section 2.106, the Table of Frequency Allocations, is amended as follows:

a. Revise page 37.

b. In the International Footnotes under heading I., revise footnotes S5.293, S5.296, and S5.297.

c. In the list of non-Government (NG) Footnotes, revise footnotes NG149 and NG159.

The revisions read as follows:

§ 2.106 Table of Frequency Allocations.

*** * * * ***

470-849 MHz (UHF)					Page 37
International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
470-790 BROADCASTING	470-512 BROADCASTING Fixed Mobile S5.292 S5.293	470-585 FIXED MOBILE BROADCASTING S5.291 S5.298	470-608	470-512 BROADCASTING NG128 NG149 FIXED NG127 LAND MOBILE NG66 NG114	Public Mobile (22) Broadcast Radio (TV) (73) Auxiliary Broadcasting (74) Private Land Mobile (90)
	512-608 BROADCASTING S5.297	585-610 FIXED MOBILE BROADCASTING RADIONAVIGATION		512-608 BROADCASTING NG128 NG149	Broadcast Radio (TV) (73) Auxiliary Broadcasting (74)
	608-614 RADIO ASTRONOMY Mobile-satellite except aeronautical mobile-satellite (Earth-to-space)	S5.149 S5.305 S5.306 S5.307 610-890 FIXED	608-614 RADIO ASTRONOMY US74 LAND MOBILE US350 US246		Personal (95)
	614-806 BROADCASTING Fixed Mobile	MOBILE S5.317A BROADCASTING	614-890	614-698 BROADCASTING NG128 NG149	Broadcast Radio (TV) (73) Auxiliary Broadcasting (74)
				698-746 BROADCASTING NG128 FIXED MOBILE NG159	Wireless Communications (27) Broadcast Radio (TV) (73) Auxiliary Broadcasting (74)

INTERNATIONAL FOOTNOTES

* * * * *

I. *New "S" Numbering Scheme*

* * * * *

S5.293 *Different category of service*: in Canada, Chile, Colombia, Cuba, the United States, Guyana, Honduras, Jamaica, Mexico, Panama and Peru, the allocation of the bands 470-512 MHz and 614-806 MHz to the fixed and mobile services is on a primary basis (see No. S5.33), subject to agreement obtained under No. S9.21. In Argentina and Ecuador, the allocation of the band 470-512 MHz to the fixed and mobile services is on a primary basis (see No. S5.33), subject to agreement obtained under No. S9.21.

* * * * *

S5.296 *Additional allocation*: in Germany, Austria, Belgium, Cyprus, Denmark, Spain, Finland, France, Ireland, Israel, Italy, Libya, Lithuania, Malta, Morocco, Monaco, Norway, the Netherlands, Portugal, Syria, the United Kingdom, Sweden, Switzerland, Swaziland and Tunisia, the band 470-790 MHz is also allocated on a secondary basis to the land mobile service, intended for applications ancillary to broadcasting. Stations of the land mobile service in the countries listed in this footnote shall not cause harmful interference to existing or planned stations operating in accordance with the Table of Frequency Allocations in countries other than those listed in this footnote.

S5.297 *Additional allocation*: in Costa Rica, Cuba, El Salvador, the United States, Guatemala, Guyana, Honduras, Jamaica and Mexico, the band 512-608 MHz is also allocated to the fixed and mobile services on a primary basis, subject to agreement obtained under No. S9.21.

* * * * *

NON-FEDERAL GOVERNMENT (NG) FOOTNOTES

* * * * *

NG149 The frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz, 470-512 MHz, 512-608 MHz, and 614-698 MHz are also allocated to the fixed service to permit subscription television operations in accordance with Part 73 of the rules.

* * * * *

NG159 Full power analog television stations licensed and new digital television (DTV) broadcasting operations in the band 698-806 MHz shall be entitled to protection from harmful interference until the end of the DTV transition period. Low power television and television translators in the band 746-806 MHz must cease operations in the band at the end of the DTV transition period. Low power television and television translators in the band 698-746 MHz are secondary to all other operations in the band 698-746 MHz.

* * * * *

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

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

4. The table of contents for Part 27 is amended by adding subpart H as follows:

* * * * *

Subpart H – Competitive Bidding Procedures for the 698-746 MHz Band

5. Section 27.1 is amended by adding a subparagraph (3) to paragraph (b) to read as follows:

§ 27.1 Basis and purpose.

* * * * *
(b) * * *
* * * * *
(3) 698-746 MHz.
* * * * *

6. Section 27.3 is amended by redesignating paragraph (n) as paragraph (p), and by adding new paragraphs (n) and (o) to read as follows:

§ 27.3 Other applicable rule parts.

* * * * *
(n) *Part 73*. This part sets forth the requirements and conditions applicable to radio broadcast services.
(o) *Part 90*. This part sets forth the requirements and conditions applicable to private land mobile radio services.
* * * * *

7. Section 27.5 is amended by adding a new paragraph (c) to read as follows:

§ 27.5 Frequencies.

* * * * *
(c) *698-746 MHz band*. The following frequencies are available for licensing pursuant to this part in the 698-746 MHz band:
(1) Three paired channel blocks of 12 megahertz each are available for assignment as follows:

Block A: 698-704 MHz and 728-734 MHz;
Block B: 704-710 MHz and 734-740 MHz; and
Block C: 710-716 MHz and 740-746 MHz.

(2) Two unpaired channel blocks of 6 megahertz each are available for assignment as follows:

Block D: 716-722 MHz; and
Block E: 722-728 MHz.

8. Section 27.6 is amended by adding a new paragraph (c) to read as follows:

§ 27.6 Service areas.

* * * * *

(c) *698-746 MHz band*. WCS service areas for the 698-746 MHz band are as follows.

(1) Service areas for Blocks A, B, D, and E in the 698-746 MHz band are based on Economic Area Groupings (EAGs) as defined in paragraph (b)(2) of this section.

(2) Service areas for Block C in the 698-746 MHz band are based on cellular markets comprising Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs) as defined by Public Notice Report No. CL-92-40 "Common Carrier Public Mobile Services Information, Cellular MSA/RSA Markets and Counties," dated January 24, 1992, DA 92-109, 7 FCC Rcd 742 (1992), with the following modifications:

(i) The service areas of cellular markets that border the U.S. coastline of the Gulf of Mexico extend 12 nautical miles from the U.S. Gulf coastline.

(ii) The service area of cellular market 306 that comprises the water area of the Gulf of Mexico extends from 12 nautical miles off the U.S. Gulf coast outward into the Gulf.

9. Section 27.10 is amended by revising paragraphs (a) and (b), and subparagraph (1) of paragraph (c) to read as follows:

§ 27.10 Regulatory Status.

*** * * * ***

(a) *Single authorization*. Authorization will be granted to provide any or a combination of the following services in a single license: common carrier, non-common carrier, private internal communications, and broadcast services. A licensee may render any kind of communications service consistent with the regulatory status in its license and with the Commission's rules applicable to that service. An applicant or licensee may submit a petition at any time requesting clarification of the regulatory status for which authorization is required to provide a specific communications service.

(b) *Designation of regulatory status in initial application*. An applicant shall specify in its initial application if it is requesting authorization to provide common carrier, non-common carrier, private internal communications, or broadcast services, or a combination thereof.

(c) * * *

(1) * * *

(i) * * *

(ii) Add to the pending request in order to obtain common carrier, non-common carrier, private internal communications, or broadcast services status, or a combination thereof, in a single license.

* * * * *

10. Section 27.11 is amended by adding a new paragraph (d) to read as follows:

§ 27.11 Initial authorization.

* * * * *

(d) *698-746 MHz band*. Initial authorizations for the 698-746 MHz band shall be for 6 or 12 megahertz of spectrum in accordance with § 27.5(c) of this part.

(1) Authorizations for Blocks A and B, consisting of two paired channels of 6 megahertz each, will be based on those geographic areas specified in § 27.6(c)(1).

(2) Authorizations for Block C, consisting of two paired channels of 6 megahertz each, will be based on those geographic areas specified in § 27.6(c)(2).

(3) Authorizations for Blocks D and E, consisting of an unpaired channel block of 6 megahertz each, will be based on those geographic areas specified in § 27.6(c)(1).

11. Section 27.13 is amended by revising paragraph (b) to read as follows:

§ 27.13 License Period.

* * * * *

(b) *698-764 MHz and 776-794 MHz bands*. Initial authorizations for the 698-764 MHz and 776-794 MHz bands will extend until January 1, 2015, except that a part 27 licensee commencing broadcast services will be required to seek renewal of its license for such services at the termination of the eight-year term following commencement of such operations.

12. Section 27.50 is amended by redesignating paragraph (c) as paragraph (d), adding a new paragraph (c), and revising the heading of Table 1, which follows paragraph (d), to read as follows:

§ 27.50 Power and antenna height limits.

* * * * *

(c) The following power and antenna height requirements apply to stations transmitting in the 698-746 MHz band:

(1) Fixed and base stations are limited to a maximum effective radiated power (ERP) of 50 kW, with the limitation on antenna heights as follows:

(i) Fixed and base stations with an ERP of 1000 watts or less must not exceed an antenna height of 305 m height above average terrain (HAAT) except when the power is reduced in accordance with Table 1 of this section;

(ii) The antenna height for fixed and base stations with an ERP greater than 1000 watts but not exceeding 50 kW is limited only to the extent required to satisfy the requirements of § 27.55(b) of this part.

(2) Control and mobile stations are limited to 30 watts ERP.

(3) Portable stations (hand-held devices) are limited to 3 watts ERP.

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

(5) Licensees intending to operate a base or fixed station at a power level greater than 1 kW ERP must provide advanced notice of such operation to the Commission and to licensees authorized in their area of operation. Licensees that must be notified are all licensees authorized under this part to operate a base or fixed station on an adjacent spectrum block at a location within 75 km of the base or fixed station operating at a power level greater than 1 kW ERP. Notices must provide the location and operating parameters of the base or fixed station operating at a power level greater than 1 kW ERP, including the station's ERP,

antenna coordinates, antenna height above ground, and vertical antenna pattern, and such notices must be provided at least 90 days prior to the commencement of station operation.

(d) * * *

TABLE 1 – PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE AND FIXED STATIONS IN THE 698-764 MHZ AND 777-792 MHZ BANDS

* * * * *

13. Section 27.53 is amended by redesignating paragraph (f) as paragraph (g), and adding a new paragraph (f) to read as follows:

§ 27.53 Emission limits.

* * * * *

(f) For operations in the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(g) * * *

* * * * *

14. Section 27.55 is amended to read as follows:

§ 27.55 Signal strength limits.

(a) *Field strength limits.* For the following bands, the predicted or measured median field strength at any location on the geographical border of a licensee's service area shall not exceed the value specified unless the adjacent affected service area licensee(s) agree(s) to a different field strength. This value applies to both the initially offered service areas and to partitioned service areas.

(i) 2305-2320 and 2345-2360 MHz bands: 47 dBμ V/m.

(ii) 698-764 and 776-794 MHz bands: 40 dBμ V/m.

(b) *Power flux density limit.* For base and fixed stations operating in the 698-746 MHz band, with an effective radiated power (ERP) greater than 1 kW, the power flux density that would be produced by such stations through a combination of antenna height and vertical gain pattern must not exceed 3000 microwatts per square meter on the ground over the area extending to 1 km from the base of the antenna mounting structure.

15. Section 27.57 is amended by designating the existing text as paragraph (a) and adding a new paragraph (b) to read as follows:

§ 27.57 International coordination.

(a) * * *

(b) Operation in the 698-764 MHz and 776-794 MHz bands is subject to international agreements between Mexico and Canada. Unless otherwise modified by international treaty, licenses must not cause

interference to, and must accept harmful interference from, television broadcast operations in Mexico and Canada.

16. Section 27.60 is amended by revising introductory text, and paragraphs (a) and (b) to read as follows:

§ 27.60 TV/DTV interference protection criteria.

Base, fixed, control, and mobile transmitters in the 698-764 MHz and 776-794 MHz frequency bands must be operated only in accordance with the rules in this section to reduce the potential for interference to public reception of the signals of existing TV and DTV broadcast stations transmitting on TV Channels 51 through 68.

(a) * * *

(1) The minimum D/U ratio for co-channel stations is:

(i) 40 dB at the hypothetical Grade B contour (64 dBμV/m) (88.5 kilometers (55 miles)) of the TV station;

(ii) For transmitters operating in the 698-746 MHz frequency band, 23 dB at the equivalent Grade B contour (41 dBμV/m) (88.5 kilometers (55 miles)) of the DTV station; or

(iii) For transmitters operating in the 746-764 MHz and 776-794 MHz frequency bands, 17 dB at the equivalent Grade B contour (41 dBμV/m) (88.5 kilometers (55 miles)) of the DTV station.

(2) * * *

(b) *TV stations and calculation of contours.* The methods used to calculate TV contours and antenna heights above average terrain are given in §§ 73.683 and 73.684 of this chapter. Tables to determine the necessary minimum distance from the 698-764 MHz or 776-794 MHz station to the TV/DTV station, assuming that the TV/DTV station has a hypothetical or equivalent Grade B contour of 88.5 kilometers (55 miles), are located in § 90.309 of this chapter and labeled as Tables B, D, and E. Values between those given in the tables may be determined by linear interpolation. Distances for station parameters greater than those indicated in the tables should be calculated in accordance with the required D/U ratios, as provided in paragraph (a) of this section. The locations of existing and proposed TV/DTV stations during the period of transition from analog to digital TV service are given in Part 73 of this chapter and in the final proceedings of MM Docket No. 87-268.

(1) Licensees of stations operating within the ERP and HAAT limits of § 27.50 must select one of four methods to meet the TV/DTV protection requirements, subject to Commission approval:

(i) Utilize the geographic separation specified in the tables referenced below;

(ii) When station parameters are greater than those indicated in the tables, calculate geographic separation in accordance with the required D/U ratios, as provided in paragraph (a) of this section;

(iii) Submit an engineering study justifying the proposed separations based on the actual parameters of the land mobile station and the actual parameters of the TV/DTV station(s) it is trying to protect; or,

(iv) Obtain written concurrence from the applicable TV/DTV station(s). If this method is chosen, a copy of the agreement must be submitted with the application.

(2) The following is the method for geographic separations.

(i) Base and fixed stations that operate in the 746-764 MHz and 777-792 MHz bands having an antenna height (HAAT) less than 152 m. (500 ft.) shall afford protection to co-channel and adjacent channel TV/DTV stations in accordance with the values specified in Table B (co-channel frequencies based on 40 dB protection) and Table E (adjacent channel frequencies based on 0 dB protection) in § 90.309 of this chapter. Base and fixed stations that operate in the 698-746 MHz band having an antenna height (HAAT) less than 152 m. (500 ft.) shall afford protection to adjacent channel DTV stations in accordance with the values specified in Table E in § 90.309 of this chapter, shall afford protection to co-channel DTV stations by providing 23 dB protection to such stations' equivalent Grade B contour (41 dBμV/m), and shall afford protection to co-channel and adjacent channel TV stations in accordance with the values specified in Table B (co-channel frequencies based on 40 dB protection) and Table E (adjacent channel

frequencies based on 0 dB protection) in § 90.309 of this chapter. For base and fixed stations having an antenna height (HAAT) between 152-914 meters (500-3,000 ft.) the effective radiated power must be reduced below 1 kilowatt in accordance with the values shown in the power reduction graph in Figure B in § 90.309 of this chapter. For heights of more than 152 m. (500 ft.) above average terrain, the distance to the radio path horizon will be calculated assuming smooth earth. If the distance so determined equals or exceeds the distance to the hypothetical or equivalent Grade B contour of a co-channel TV/DTV station (*i.e.*, it exceeds the distance from the appropriate Table in § 90.309 of this chapter to the relevant TV/DTV station), an authorization will not be granted unless it can be shown in an engineering study (*see* paragraph (b)(1)(iii) of this section) that actual terrain considerations are such as to provide the desired protection at the actual Grade B contour (64 dBµV/m for TV and 41 dBµV/m for DTV stations) or unless the effective radiated power will be further reduced so that, assuming free space attenuation, the desired protection at the actual Grade B contour (64 dBµV/m for TV and 41 dBµV/m coverage contour for DTV stations) will be achieved. Directions for calculating powers, heights, and reduction curves are listed in § 90.309 of this chapter for land mobile stations. Directions for calculating coverage contours are listed in §§ 73.683-685 of this chapter for TV stations and in § 73.625 of this chapter for DTV stations.

(ii) Control, fixed, and mobile stations (including portables) that operate in the 776-777 MHz and 792-794 MHz bands and control and mobile stations (including portables) that operate in the 698-746 MHz, 747-762 MHz and 777-792 MHz bands are limited in height and power and therefore shall afford protection to co-channel and adjacent channel TV/DTV stations in the following manner:

(A) For control, fixed, and mobile stations (including portables) that operate in the 776-777 MHz and 792-794 MHz bands and control and mobile stations (including portables) that operate in the 747-762 MHz and 777-792 MHz band, co-channel protection shall be afforded in accordance with the values specified in Table D (co-channel frequencies based on 40 dB protection for TV stations and 17 dB for DTV stations) in § 90.309 of this chapter.

(B) For control and mobile stations (including portables) that operate in the 698-746 MHz band, co-channel protection shall be afforded to TV stations in accordance with the values specified in Table D (co-channel frequencies based on 40 dB protection) and to DTV stations by providing 23 dB protection to such stations' equivalent Grade B contour (41 dBµV/m).

(C) For control, fixed, and mobile stations (including portables) that operate in the 776-777 MHz and 792-794 MHz bands and control and mobile stations (including portables) that operate in the 698-746 MHz, 747-762 MHz, and 777-792 MHz band, adjacent channel protection shall be afforded by providing a minimum distance of 8 kilometers (5 miles) from all adjacent channel TV/DTV station hypothetical or equivalent Grade B contours (adjacent channel frequencies based on 0 dB protection for TV stations and -23 dB for DTV stations).

(D) Since control, fixed, and mobile stations may affect different TV/DTV stations than the associated base or fixed station, particular care must be taken by applicants/licensees to ensure that all appropriate TV/DTV stations are considered (*e.g.*, a base station may be operating within TV Channel 62 and the mobiles within TV Channel 67, in which case TV Channels 61, 62, 63, 66, 67 and 68 must be protected). Control, fixed, and mobile stations shall keep a minimum distance of 96.5 kilometers (60 miles) from all adjacent channel TV/DTV stations. Since mobiles and portables are able to move and communicate with each other, licensees must determine the areas where the mobiles can and cannot roam in order to protect the TV/DTV stations.

(iii) * * *

* * * * *

17. A new subpart H is added to read as follows:

Subpart H – Competitive Bidding Procedures for the 698-746 MHz Band

§ 27.701 698-746 MHz band subject to competitive bidding.

Mutually exclusive initial applications for licenses in the 698-746 MHz band are subject to competitive bidding procedures. The procedures set forth in part 1, subpart Q, of this chapter will apply unless otherwise provided in this part.

§ 27.702 Designated entities.

(a) *Eligibility for small business provisions.*

(1) An entrepreneur is an entity that, together with its controlling interests and affiliates, has average gross revenues not exceeding $3 million for the preceding three years. This definition applies only with respect to licenses in Block C (710-716 MHz and 740-746 MHz) as specified in § 27.5(c)(1).

(2) A very small business is an entity that, together with its controlling interests and affiliates, has average gross revenues not exceeding $15 million for the preceding three years.

(3) A small business is an entity that, together with its controlling interests and affiliates, has average gross revenues not exceeding $40 million for the preceding three years.

(4) A consortium of entrepreneurs, a consortium of very small businesses, or a consortium of small businesses is a conglomerate organization formed as a joint venture between or among mutually independent business firms, each of which individually satisfies the applicable definition in paragraphs (a)(1), (a)(2) or (a)(3) of this section. Where an applicant or licensee is a consortium of entrepreneurs, a consortium of very small businesses, or a consortium of small businesses, the gross revenues of each entrepreneur, very small business, or small business shall not be aggregated.

(b) *Bidding credits*. A winning bidder that qualifies as an entrepreneur or a consortium of entrepreneurs as defined in this section may use the bidding credit specified in § 1.2110(f)(2)(i) of this chapter. A winning bidder that qualifies as a very small business or a consortium of very small businesses as defined in this section may use the bidding credit specified in § 1.2110(f)(2)(ii) of this chapter. A winning bidder that qualifies as a small business or a consortium of small businesses as defined in this section may use the bidding credit specified in § 1.2110(f)(2)(iii) of this chapter.

PART 73 – RADIO BROADCAST SERVICES

18. The authority citation for Part 73 continues to read as follows:

AUTHORITY: 47 U.S.C. §§154, 303, 334 and 336.

19. Section 73.622 is amended to revise subparagraph (2) of paragraph (a) to read as follows:

§ 73.622 Digital television table of allotments.

(a) * * *

(1) * * *

(2) Petitions requesting a change in the channel of an initial allotment must specify a channel in the range of channels 2-58.

* * * * *

3. Section 73.3572 is amended by revising subparagraph (4) of paragraph (a) to read as follows:

§ 73.3572 Processing of TV broadcast, Class A TV broadcast, low power TV, TV translator and TV booster station applications.

(a) * * *

* * * * *

(4) * * *

(ii) * * * Where such an application is mutually exclusive with applications for new low power TV, TV translator or TV booster stations, or with other nondisplacement relief applications for facilities modifications of Class A TV, low power TV, TV translator or TV booster stations, priority will be afforded to the displacement application(s) to the exclusion of other applications, provided the permittee or licensee had tendered its initial application for a new LPTV or TV translator station to operate on channels 52-69 prior to the August 2000 filing window.

* * * * *

APPENDIX C: Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act ("RFA"),[1] an Initial Regulatory Flexibility Analysis ("IRFA") was incorporated in Appendix C of the *Notice of Proposed Rulemaking (NPRM)* issued in this proceeding.[2] The Commission sought written public comment on the proposals in the *NPRM*, including comment on the IRFA. Only one commenter, NTCA, addressed the IRFA directly.[3] This Final Regulatory Flexibility Analysis ("FRFA") examines the possible significant economic impact on small entities by the policies and rules adopted in this Report and Order and conforms to the RFA.[4]

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

2. In the Report and Order, the Commission adopts rules to reclaim and reallocate the 698-746 MHz band ("698-746 MHz band" or "Lower 700 MHz Band") currently used for television ("TV") Channels 52-59, for new commercial services as part of our transition of TV broadcasting from analog to digital transmission systems, consistent with the statutory directives enacted in the Balanced Budget Act of 1997.[5] This Report and Order reallocates the entire 48 megahertz of spectrum in the 698-746 MHz band to fixed and mobile services, while retaining the existing broadcast allocation. The Report and Order establishes technical criteria designed to protect incumbent television operations in the band during the digital television ("DTV") transition period, allows low power television ("LPTV") and TV translator stations to retain secondary status and operate in the band after the transition, and sets forth a mechanism by which pending broadcast applications may be amended to provide analog or digital service in the core television spectrum or to provide digital service on TV Channels 52-58. The decision to reallocate this band in a manner that will permit new licensees to provide a broad range of services was guided by the Commission's previously announced policies favoring flexible spectrum allocations.[6] This reallocation is also consistent with the Commission's obligations under Sections 303(y) and 309(j)(3) of the Communications Act of 1934, as amended (the "Act").[7]

3. The Report and Order also establishes service rules for the 698-746 MHz band using the flexible regulatory framework in Part 27 of the Commission's rules. In particular, the band plan for the Lower 700 MHz Band divides this spectrum into three 12-megahertz blocks (with each block consisting of a pair of 6-megahertz segments) and two 6-megahertz blocks of contiguous, unpaired spectrum. The Commission will license the five blocks in the Lower 700 MHz Band plan as follows: the two 6-megahertz blocks of contiguous unpaired spectrum, as well as two of the three 12-megahertz blocks of paired spectrum, will be assigned over six Economic Area Groupings ("EAGs"); the remaining 12 megahertz

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

[2] *See* Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), GN Docket No. 01-74, *Notice of Proposed Rulemaking*, 16 FCC Rcd 7278, 7349-7356 App. C (2001)(*Notice*).

[3] *See* NTCA Comments at 5-6.

[4] *See* 5 U.S.C. § 604.

[5] *See* Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (1997).

[6] *See* Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, *Policy Statement*, 14 FCC Rcd 19868, 19879-80 ¶ 25 (1999).

[7] 47 U.S.C. §§ 303(y), 309(j)(3).

block of paired spectrum will be licensed over 734 Metropolitan Statistical Areas ("MSAs") and Rural Service Areas ("RSAs"). The service rules have been designed to promote the objectives identified in Section 309(j) of the Act, including the development and rapid deployment of new technologies, products, and services for the benefit of the public; the promotion of economic opportunity and competition; the recovery of a portion of the value of the spectrum made available for commercial use; and the efficient and intensive use of the spectrum.[8]

4. Although the decisions in the Report and Order were patterned on the approach adopted for the Upper 700 MHz Band, the Report and Order adopts a geographic area licensing approach to assign licenses in the Lower 700 MHz Band that includes smaller license areas than were established for the Upper 700 MHz Band. As with the Upper 700 MHz Band, the Report and Order for the Lower 700 MHz Band also uses relatively small spectrum block sizes. As noted above, the 48 megahertz of spectrum that comprises the Lower 700 MHz Band will be licensed with two six-megahertz blocks of contiguous unpaired spectrum and two 12-megahertz blocks of paired spectrum over 6 EAGs. The remaining 12-megahertz block of paired spectrum will be licensed over 734 MSAs/RSAs.

5. The use of these small license areas also is intended to satisfy the Commission's obligations in prescribing characteristics of licenses to "promot[e] economic opportunity and competition and ensur[e] that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women."[9] Establishing such small license areas also furthers the Commission's obligation to "prescribe area designations and bandwidth assignments that promote … economic opportunity for a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women."[10]

6. The Report and Order also establishes competitive bidding rules and voluntary clearing procedures for the Lower 700 MHz Band. Consistent with the Commission's responsibility under Section 309(j) to promote opportunities for, and disseminate licenses to, a wide variety of applicants,[11] the Report and Order also adopts small business size standards and bidding preferences for qualifying bidders that will provide such bidders with opportunities to compete successfully against large, well-financed entities. In particular, for services in the Lower 700 MHz Band, the Commission has defined a "small business" as any entity with average annual gross revenues for the three preceding years not exceeding $40 million, a "very small business" as any entity with average annual gross revenues for the three preceding years not exceeding $15 million, and an "entrepreneur" as any entity with average annual gross revenues for the three preceding years not exceeding $3 million.[12] The Commission will use its standard schedule of bidding credits, which may be found at Section 1.2110(f)(2) of the Commission's rules.[13] The standard bidding credit schedule provides for the following levels of credits:

[8] *See id*. § 309(j)(3)(A)-(E).

[9] *Id.* § 309(j)(3)(B).

[10] *Id.* § 309(j)(4)(C).

[11] *Id.* § 309(j)(3)(B), (4)(C)-(D).

[12] The "entrepreneur" definition applies only to the MSA/RSA-based licenses, and not to the larger EAG-based licenses, in the Lower 700 MHz Band.

[13] 47 C.F.R. § 1.2110(f)(2).

Average Annual Gross Revenues	Bidding Credit
Not to exceed $3 million	35%
Not to exceed $15 million	25%
Not to exceed $40 million	15%

The entrepreneur standard and associated 35 percent bidding credit will, however, not apply to the larger EAG-based licenses in the Lower 700 MHz Band. Drawing on recent precedent involving another flexible-use service (the 24 GHz service), the Commission found that "[b]ecause the capital costs of operational facilities in the … band are likely to vary widely, we believe that the use of three small business definitions will be useful in promoting opportunities for a wide variety of applicants … ."[14] The Commission has concluded that these bidding credits will provide adequate opportunities for small businesses to participate in the Lower 700 MHz Band auction.

7. The Report and Order also establishes a policy of permitting incumbent broadcasters and new licensees to reach voluntary agreements that would result in the early clearing of incumbents from the Lower 700 MHz spectrum. These policies are intended to further the Commission's objective of establishing rules that will facilitate, rather than hinder, the clearing of incumbent broadcasters from this spectrum in a manner consistent with our DTV transition policy goals.[15]

B. Summary of Significant Issues Raised by Public Comments in Response to the Initial Regulatory Flexibility Analysis (IRFA)

8. Only one commenter, NTCA, specifically raises issues in response to the IRFA.[16] NTCA urges the Commission to assign spectrum in the Lower 700 MHz Band across small geographic areas, arguing that small businesses such as rural telephone companies cannot compete against large carriers in auctions for large geographic areas.[17] According to NTCA, assigning at least a portion of this spectrum across small geographic areas will allow small providers an opportunity to bid on, acquire, and develop service in the more limited areas in which they wish to operate.[18] In response to comments made by NTCA and other small business interests on this issue,[19] the Commission decided to use the smallest geographic area option that was described in the *NPRM*,[20] the 734 MSAs and RSAs, for 12 of the 48 megahertz of spectrum in the Lower 700 MHz Band.

[14] Amendment to Parts 1, 2, and 101 of the Commission's Rules To License Fixed Services at 24 GHz, WT Docket No. 99-327, *Report and Order*, 15 FCC Rcd 16934, 16967 (2000) (*24 GHz Report and Order*).

[15] *Notice*, 16 FCC Rcd at 7297-98 ¶ 37.

[16] *See* NTCA Comments at 5-6.

[17] *Id.*

[18] *Id.*

[19] *See* Cellular South Comments at 6; CROW Comments at 7-8; Leap Comments at 4; NTCA Comments at 2; RTG Comments at 5-6; SDN, *et. al*. Comments at 2; TCA Comments at 4.

[20] *NPRM*, 16 FCC Rcd at 7304-5 ¶¶ 56-57.

C. Description and Estimate of the Number of Small Entities To Which Rules Will Apply

9. The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities to which the rule will apply or an explanation of why no such estimate is available.[21] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction" under section 3 of the Small Business Act.[22] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[23] Under the Small Business Act, a "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.[24] According to SBA reporting data, there were approximately 4.44 million small business firms nationwide in 1992.[25] A small organization is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."[26] Nationwide, as of 1992, there were approximately 275,801 small organizations.[27] "Small governmental jurisdiction" generally means "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than 50,000."[28] As of 1992, there were approximately 85,006 local governments in the United States.[29] This number includes 38,978 counties, cities, and towns; of these, 37,566, or 96 percent, have populations of fewer than 50,000.[30] The Census Bureau estimates that this ratio is approximately accurate for all governmental entities. The Commission therefore estimates that, of the 85,006 governmental entities, 81,600 (96 percent) are small entities. Below, the Commission further describes and estimates the number of small entity licensees and regulatees that may be affected by the rules adopted herein.

10. The policies and rules adopted in the Report and Order and discussed in this FRFA will affect all entities, including small entities, that seek to acquire licenses in wireless services in the 698-746 MHz band, or are television broadcasters in this band.

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[21] *See* 5 U.S.C. § 604(a)(3).

[22] *See id.* § 601(6).

[23] *See id.* § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.

[24] *See* 15 U.S.C. § 632.

[25] *See* 1992 Economic Census, U.S. Bureau of the Census, Table 6 (special tabulation of data under contract to Office of Advocacy of the U.S. Small Business Administration).

[26] *See* 5 U.S.C. § 601(4).

[27] *See* 1992 Economic Census, U.S. Bureau of the Census, Table 6.

[28] *See* 5 U.S.C. § 601(5).

[29] *See* U.S. Dept. of Commerce, Bureau of the Census, "1992 Census of Governments."

[30] *Id.*

11. **Wireless services.** The policies and rules adopted in this Report and Order affect all small entities that seek to acquire licenses in wireless services in the Lower 700 MHz Band currently used for television broadcasts on Channels 52-59, or are incumbent television broadcasters on Channels 52-59.[31] As noted above, the Commission has adopted small business size standards that define a "small business" as any entity with average annual gross revenues for the three preceding years not exceeding $40 million, a "very small business" as any entity with average annual gross revenues for the three preceding years not exceeding $15 million, and an "entrepreneur" as any entity with average annual gross revenues for the three preceding years not exceeding $3 million. (As mentioned above, the entrepreneur standard does not extend to the larger EAG-based licenses in the Lower 700 MHz Band.) The SBA has approved this small business size standard for the Lower 700 MHz auction.[32] However, the Commission cannot know until the auction begins how many entities will seek entrepreneur, small business, or very small business status. The Commission will allow partitioning and disaggregation, yet it cannot determine in advance how many licensees will partition their license areas or disaggregate their spectrum blocks. In view of our lack of knowledge of these factors, it is therefore assumed that, for purposes of our evaluations and conclusions in the FRFA, all of the prospective licenses are small entities, as that term is defined by the SBA or the Commission's small business definitions for these bands.

12. **Television Broadcast.** The SBA defines a television broadcasting station as a small business where it is independently owned and operated, is not dominant in its field of operation, and has no more than $10.5 million in annual receipts.[33] Television broadcasting stations consist of establishments primarily engaged in broadcasting visual programs by television to the public, except cable and other pay television services.[34] Included in this industry are commercial, religious, educational, and other television stations.[35] Also included are establishments primarily engaged in television broadcasting and which produce taped television program materials.[36] There were 1,509 television stations operating in the United States in 1992, of which 1,155 (76.5 percent) produced less than $10.0 million in revenue.[37] As of May 31, 1998, official Commission records indicate that 1,579 full power television stations, 2,089 low power

[31] *See supra* text accompanying NPRM note 2.

[32] *See* Letter from John Whitmore, Acting Administrator, Small Business Administration, to Margaret W. Wiener, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, dated March 26, 2001 (approving the size standards proposed and described in the *Notice*). *See also* Letter from Hector V. Barreto, Administrator, Small Business Administration, to Margaret W. Wiener, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, dated January 14, 2002 (stating that final size standards comply with SBA regulations).

[33] *See* 13 C.F.R. § 121.201 (NAICS code 51312).

[34] Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1992 Census of Transportation, Communications and Utilities, Establishment and Firm Size, Series UC92-S-1, Appendix A-9 (1995).

[35] *Id.*

[36] *Id.*

[37] FCC News Release No. 31327, Jan. 13, 1993; Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, Appendix A-9. The amount of $10 million was used to estimate the number of small business establishments because the relevant Census categories stopped at $9,999,999 and began at $10,000,000. No category for $10.5 million existed. Thus, the number is as accurate as it is possible to calculate with the available information.

television stations, and 4,924 television translator stations were licensed.[38] Using the percentage of television broadcasting licensees that were small entities in 1992 (76.5 percent) and the 1998 records indicating 1,579 full power stations, we conclude that there are approximately 1,208 full power television stations that are small entities.

13. The rules adopted herein may affect approximately 1,663 television stations currently operating in the Lower 700 MHz Band, approximately 1,281 of which are considered small businesses.[39] In addition, the rules adopted herein will affect some 12,717 radio stations currently operating in this band, approximately 12,209 of which are small businesses.[40] These estimates may overstate the number of small entities because the revenue figures on which they are based do not include or aggregate revenues from non-television or non-radio affiliated companies. There are also 2,366 LPTV stations.[41] Given the nature of this service, we presume that all LPTV licensees qualify as small entities under the SBA definition.

14. **Auxiliary or Special Broadcast.** This service involves a variety of transmitters, generally used to relay broadcast programming to the public (through translator and booster stations) or within the program distribution chain (from a remote news gathering unit back to the station). The Commission has not developed a definition of small entities applicable to broadcast auxiliary licensees. The applicable SBA definition is that noted previously, under the SBA rules applicable to television broadcasting stations.[42] The Commission estimates that there are approximately 2,700 translators and boosters. The Commission does not collect financial information on any broadcast facility, and the Department of Commerce does not collect financial information on these auxiliary broadcast facilities. We believe that most, if not all, of these auxiliary facilities could be classified as small businesses if viewed apart from any associated broadcasters. We also recognize that most commercial translators and boosters are owned by a parent station which, in some cases, would be covered by the revenue definition of small business entity discussed above. These stations would likely have annual revenues that exceed the SBA maximum to be designated as a small business ($10.5 million for a TV station). Furthermore, they do not meet the Small Business Act's definition of a "small business concern" because they are not independently owned and operated.[43]

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

15. Entities interested in acquiring initial licenses for new services in the 698-746 MHz band will be required to submit short form applications (FCC Form 175) to participate in an auction and high bidders will be required to apply for their individual licenses. Also, commercial licenses will be required to make showings that they are in compliance with construction requirements, file applications for license renewals, and make certain other filings as required by the Communications Act and Commission regulations. Entities seeking to acquire licenses (or disaggregated or partitioned portions of licenses) from Commission

[38] FCC News Release, June 19, 1998.

[39] We use the 77 percent figure of TV stations operating at less than $10 million for 1992 and apply it to the 2000 total of 1,663 TV stations to arrive at 1,281 stations categorized as small businesses.

[40] We use the 96 percent figure of radio station establishments with less than $5 million revenue from data presented in the year 2000 estimate (*FCC News Release*, September 30, 2000) and apply it to the 12,717 individual station count to arrive at 12,209 individual stations as small businesses.

[41] FCC News Release, "Broadcast Station Totals as of September 30, 2000."

[42] 13 C.F.R. § 121.201 (NAICS code 51312).

[43] 15 U.S.C. § 632.

licensees in the post-auction market are also required to submit long-form applications (FCC Form 601) seeking Commission authority to complete any such transactions. In addition to the general licensing requirements of Part 27 of the Commission's rules, other parts may be applicable to commercial licensees, depending on the nature of service provided.[44] For example, commercial licensees proposing to provide broadcast services on these bands may be required to comply with all or part of the broadcast-specific regulations in Part 73 of the Commission's rules.

16. By this Report and Order, we require licensees to notify the Commission within 30 days of a change in regulatory status between common carrier and/or non-common carrier. In addition, because we consider partitioning and disaggregation to be a form of license assignment, we require such action to receive Commission approval via application for assignment on FCC Form 603. With regard to alien ownership, we require licensees to amend their FCC Form 602 to reflect any changes in foreign ownership information, together with the initial information required by FCC Form 601.

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

17. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its decision, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[45]

18. Commenters in this proceeding recommend a variety of steps the Commission may take to lessen the impact on small businesses while assigning spectrum in the Lower 700 MHz Band. For example, the majority of commenters advocate the use of small geographic license areas, especially MSAs and RSAs, so that small providers may avoid having to bid on areas that are larger than they need.[46] A few commenters suggest the Commission could benefit small providers in a similar manner by assigning the spectrum across multiple blocks,[47] and one party, Gila River Indian Community, urges a set-aside for small businesses.[48] Another commenter, Leap, argues that spectrum aggregation limits must be maintained so as to prevent an "excessive concentration of licenses" by large providers that may work against the interests of other competitors.[49]

19. With these RFA requirements and comments from the record in mind, the Commission adopts rules in the Report and Order that are designed to reduce regulatory burdens, promote innovative services and encourage flexible use of this spectrum. They increase economic opportunities to a variety of spectrum

[44] 47 C.F.R. § 27.3.

[45] 5 U.S.C. § 603(c).

[46] *See* CROW Comments at 7-8; Gila River Comments at 4-5; Leap Comments at 2-4; NTCA Comments at 2-3; RTG Comments at 4-7; SDN, *et. al*. Comments at 2; TCA Comments at 3-4; U.S. Cellular Comments at 2-5.

[47] *See* Gila River Comments at 4-5; Qwest Comments at 5-6; RTG Comments at 7-8; U.S. Cellular Comments at 2.

[48] *See* Gila River Comments at 10. Specifically, Gila River recommends that 10-12 MHz be set aside for designated entities, with assignment across Economic Areas.

[49] *See* Leap Reply at 14-15.

users, including small businesses. Specifically, the Commission reallocates the entire 48 megahertz of spectrum in the 698-746 MHz band to fixed and mobile services, while retaining the existing broadcast allocation. New licensees, including smaller entities, will enjoy flexible use for the full range of proposed allocated services consistent with necessary interference requirements.

20. In addition, the Commission adopts rules on spectrum block size and geographic areas that may be of even greater significance for small entities. For example, with respect to the size of spectrum blocks for licensees, we decline to allocate the 48 megahertz over a single block, instead choosing an allocation over multiple blocks of six and twelve megahertz each. The Commission also permits disaggregation and partitioning of these spectrum blocks. With respect to the size of geographic license areas, we allocate licenses over large regional EAGs as well as small MSAs/RSAs. As small business commenters have observed, a MSA/RSA-based license area may be a particularly appropriate alternative for small providers that wish to avoid having to acquire a larger license area that they must subsequently partition.[50] At the same time, consistent with our flexible approach, the Commission allows both partitioning and aggregation of all of these licenses, such that licensees may increase or decrease the size of their service areas to better meet market demands. Because the Commission believes that the use of multiple spectrum blocks and MSAs/RSAs effectively meets the needs of small providers, it therefore declines to adopt other suggested alternatives, such as spectrum aggregation limits, in this band.

21. We further note that the Report and Order adopts small business definitions and preferences for qualifying bidders in the 698-746 MHz band. These standards define an "entrepreneur" as any entity with average annual gross revenues for the three preceding years not exceeding $40 million, a "small business" as any entity with average annual gross revenues for the three preceding years not exceeding $15 million, and a "very small business" as any entity with average annual gross revenues for the three preceding years not exceeding $3 million. Although the Commission had initially proposed the adoption of only two small business definitions, it has found that the use of a third small business definition for MSA/RSA-based licenses will allow small business and rural telecommunications providers to participate more meaningfully in a Lower 700 MHz Band auction.

22. Finally, the Report and Order establishes a policy of permitting incumbent broadcasters and new licensees to reach voluntary agreements that would result in the early clearing of the Lower 700 MHz spectrum. Broadcasters electing to enter into such agreements may be required to seek Commission approvals in order to implement such agreements. Such regulatory requests may be submitted using existing application forms. Because the Commission's policy is entirely voluntary, broadcasters and new licensees, including small entities, are under no obligation to enter into such early clearing arrangements or to seek Commission approval of same.

23. The regulatory burdens contained in the Report and Order, such as filing applications on appropriate forms, are necessary in order to ensure that the public receives the benefits of innovative new services, or enhanced existing services, in a prompt and efficient manner. The Commission will continue to examine alternatives in the future with the objectives of eliminating unnecessary regulations and minimizing any significant economic impact on small entities.

24. **Report to Congress:** The Commission will send a copy of this Report and Order, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act, *see* 5 U.S.C. § 801(a)(1)(A). In addition, the Commission will send a copy of this Report and Order, including this FRFA, to the Chief Counsel for Advocacy of the Small Business Administration. A copy of the Report and Order

[50] *See* CROW Comments at 7-8; Gila River Comments at 4-5; Leap Comments at 2-4; NTCA Comments at 2-3; RTG Comments at 4-7; SDN, *et. al*. Comments at 2; TCA Comments at 3-4; U.S. Cellular Comments at 2-5.

and FRFA (or summaries thereof) will also be published in the Federal Register. *See* 5 U.S.C. § 604(b).

25. IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this Report and Order, including this Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the U.S. Small Business Administration.

APPENDIX D: Adjacent Channel Interference Considerations

1. The maximum power limit for services operating in the Lower 700 MHz Band is set at 50 kW subject to the condition that, for stations operating at power levels above 1 kW, there shall be a power flux density ("PFD") limit in the vicinity of the antenna mounting structure to mitigate the risk of interference to adjacent channels. This limit on power flux density levels has two effects. First, it insures that the field strengths received by ground-based portable devices from high power transmission facilities up to 50 kW are no greater than the field strengths received on the ground from 1 kW transmissions. Secondly, it effectively requires that higher-powered transmission facilities use less power at those lower heights where in the vertical plane they may more or less directly face the base station receiving antenna of a two-way cellular system. In this way, the PFD limitation imposes a degree of vertical separation between high-powered transmitters and such base receivers.[1]

2. The PFD limitation is a calculated value of 3 milliwatts per square meter not to be exceeded on the ground within 1 km from the base of the antenna mounting structure.[2] This PFD is the value theoretically produced on the ground by a half-wave dipole antenna transmitting 1 kW ERP at a height of 75 meters above ground (246 feet). There are no practical difficulties achieving low PFD values with transmitting power levels greater than 1 kW. In fact, transmitting antennas in common use for television broadcasting have vertical radiation patterns that reduce the PFD on the ground near the antenna site to low values. Sample computations using commonly available transmitting antennas show that no values exceeding 1 milliwatt per square meter would be produced on the ground by a transmitter of 50 kW at an antenna height of 384 meters above ground.

3. Possibilities of base-to-base interference arise at base receive stations that are close to high power transmitters operating on adjacent-channels. A relatively high powered transmitting antenna may more or less directly face the base station receiving antenna of a two-way cellular system operating in a low power regime. Special engineering provisions may be necessary in such cases to mitigate the risk of interference to reception at the base station of signals from low power, ground-based portable units. The 50 kW limit for transmitters operating in the Lower 700 MHz Band results in transmissions that are 17 dB higher than the ERP limit set for the Upper 700 MHz Band. However, this power discrepancy can be mitigated by providing a comparable degree of signal attenuation in the vertical pattern of the base receiving antenna. For maximum advantage, the attenuation should be aimed in the precise direction of the undesired transmitting antenna. This expedient is available because when the undesired adjacent channel transmitter is of higher power than the cellular base station, it will also be at a greater altitude due to the PFD limitation. Therefore, the direction of the higher power transmitter in the vertical plane will be upwards at an angle of no consequence to reception of calls from ground-based portable units.

4. The base-to-base interference consequences of a 50 kW limit in place of 1 kW can be offset by attenuation in vertical antenna patterns. We provide, in Table 1 below, sample computations demonstrating the use of the vertical pattern attenuation strategy for minimizing base-to-base interference. Attenuation generally in excess of the 17 dB difference between 50 kW and 1 kW is

[1] With any particular vertical pattern, power must be reduced in proportion to the square of the fractional decrease in height in order to maintain the same PFD on the ground. Thus the PFD limitation is equivalent to a power versus height table in keeping high power sources at greater altitudes than those of conventional cellular systems. Reduction in proportion to the square of the fractional decrease in height implies 6 dB in power for a reduction of 50 percent in height, or 3 dB for every reduction by 70 percent in height.

[2] The 3 milliwatt per square meter power flux density limit at distances up to 1 km may be calculated using the manufacturer specifications of the transmitting antenna to be used.

Environment	Distance from Base Station to Mobile Unit (km)	Hata Path Loss (dB)	Distance from Base Station to 50 kW Source (km)	Declination of Base Station from 50 kW Source (degrees)	Free Space Loss from 50 kW Source to Base Station (dB)	Relative Gain of Receiving Antenna in Direction of 50 kW Source (dB)	Relative Gain of 50 kW Source Antenna at Indicated Declination (dB)	Combined Relative Gain of Antennas (dB)	Desired Relative to Undesired Field Strength at Base Receiver (dB)
Urban	1	121	2	9.7	95.4	-30	-28	-58	-16.8
Urban	2	131	2	9.7	95.4	-30	-28	-58	-26.8
Urban	3	138	2	9.7	95.4	-30	-28	-58	-33.8
Urban	1	121	5	3.9	103.3	-30	-14.9	-44.9	-22.0
Urban	2	131	5	3.9	103.3	-30	-14.9	-44.9	-32.0
Urban	3	138	5	3.9	103.3	-30	-14.9	-44.9	-39.0
Urban	1	121	10	2.0	109.3	-30	-12	-42	-18.9
Urban	2	131	10	2.0	109.3	-30	-12	-42	-28.9
Urban	3	138	10	2.0	109.3	-30	-12	-42	-35.9
Suburban	1	112	2	9.7	95.4	-30	-28	-58	-7.8
Suburban	2	122	2	9.7	95.4	-30	-28	-58	-17.8
Suburban	3	128	2	9.7	95.4	-30	-28	-58	-23.8
Suburban	5	136	2	9.7	95.4	-30	-28	-58	-31.8
Suburban	1	112	5	3.9	103.3	-30	-14.9	-44.9	-13.0
Suburban	2	122	5	3.9	103.3	-30	-14.9	-44.9	-23.0
Suburban	3	128	5	3.9	103.3	-30	-14.9	-44.9	-29.0
Suburban	5	136	5	3.9	103.3	-30	-14.9	-44.9	-37.0
Suburban	1	112	10	2.0	109.3	-30	-12	-42	-9.9
Suburban	2	122	10	2.0	109.3	-30	-12	-42	-19.9
Suburban	3	128	10	2.0	109.3	-30	-12	-42	-25.9
Suburban	5	136	10	2.0	109.3	-30	-12	-42	-33.9
Open Area	1	93	2	9.7	95.4	-30	-28	-58	11.2
Open Area	2	104	2	9.7	95.4	-30	-28	-58	0.2
Open Area	3	110	2	9.7	95.4	-30	-28	-58	-5.8
Open Area	5	118	2	9.7	95.4	-30	-28	-58	-13.8
Open Area	10	128	2	9.7	95.4	-30	-28	-58	-23.8
Open Area	1	93	5	3.9	103.3	-30	-14.9	-44.9	6.0
Open Area	2	104	5	3.9	103.3	-30	-14.9	-44.9	-5.0
Open Area	3	110	5	3.9	103.3	-30	-14.9	-44.9	-11.0
Open Area	5	118	5	3.9	103.3	-30	-14.9	-44.9	-19.0
Open Area	10	128	5	3.9	103.3	-30	-14.9	-44.9	-29.0
Open Area	1	93	10	2.0	109.3	-30	-12	-42	9.1
Open Area	2	104	10	2.0	109.3	-30	-12	-42	-1.9
Open Area	3	110	10	2.0	109.3	-30	-12	-42	-7.9
Open Area	5	118	10	2.0	109.3	-30	-12	-42	-15.9
Open Area	10	128	10	2.0	109.3	-30	-12	-42	-25.9

Table 1. Sample Calculations

available according to manufacturer specifications for typical land mobile base station receive antennas (see Figure 1, for example). In fact, vertical attenuation values as great as 30 dB can be provided, and this value is assumed in the sample computations of Table 1.[3] The sample computations examine the desired-to-undesired (D/U) signal ratio at base station receivers with an antenna height of 38.1 meters (125 feet). The undesired adjacent channel signal source is assumed to be a 50 kW transmitting antenna at a height of 381 meters (1250 feet). The Hata propagation prediction model is used to estimate the strength of the signal received from handheld units of 600 milliwatts ERP at distances corresponding to various cell radii.[4] Under these circumstances, the D/U ratio is –39 dB or greater, a condition favorable for reception of flat

[3] We assume a 30 dB attenuation value for all cases because of the following. The main lobe of the base receiver is assumed to be pointed towards the edge of the station's service area, but when a mobile is located closer than this distance to the base station (*e.g.*, 1 km, 2 km), its signal is very near the center of the main lobe of the antenna. For distances inside of 1 km, the mobile signal will begin to depart from the main lobe, but at such distances, the Hata path loss will decrease at a rate greater than the reduction in antenna gain due to the mobile's departure from the main lobe. And when the reduction in antenna gain is as great as 20 dB (as occurs at a distance of about 75 meters), the reduction in Hata path loss at this distance will more than compensate for the antenna gain reduction.

[4] M. Hata, *Empirical Formula for Propagation Loss in Land Mobile Radio Services*, IEEE Transactions on Vehicular Technology, Vol. VT-29, No. 3, August 1980.

spectrum signals like digital television and wideband CDMA.[5]

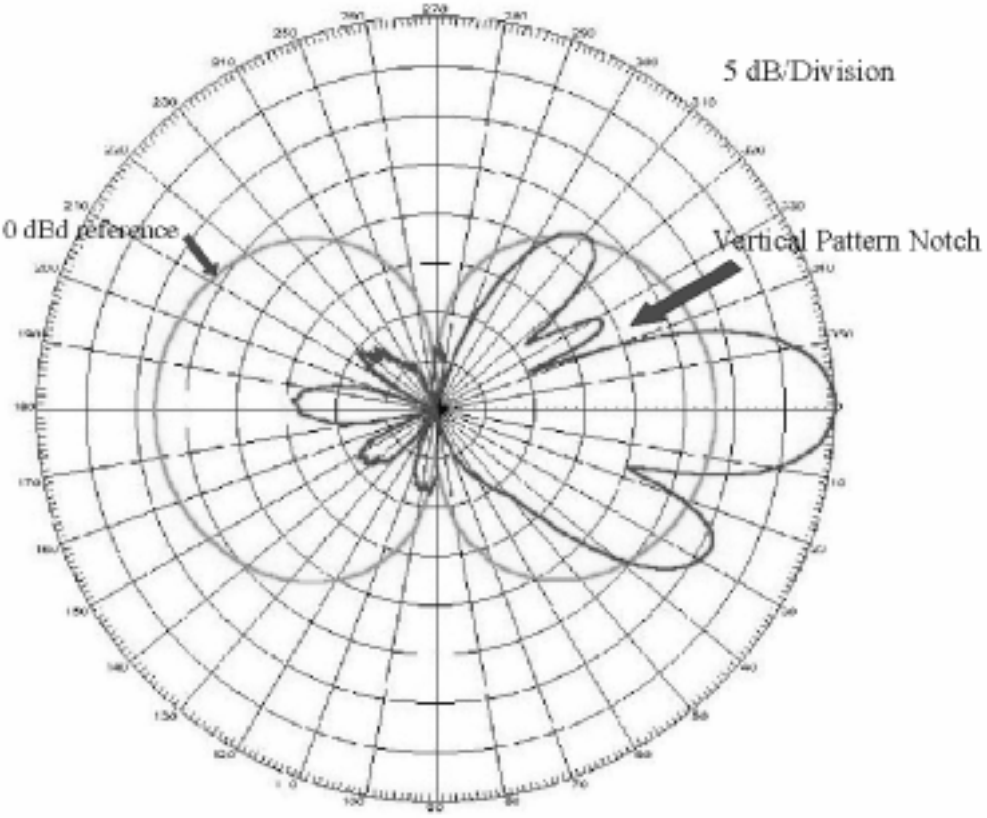

Figure 1. Typical Land Mobile Base Station Receive Antenna

[5] A thorough experimental investigation of adjacent-channel interference between flat spectrum digital signals found that the bit error rate is less than a few parts in 10^6 for a D/U ratio of –42 dB. *See* Advanced Television Test Center, Inc., *Record of Test Results for Digital HDTV Grand Alliance System*, Report to the FCC Advisory Group on Advanced Television Service, October 1995. Both desired and undesired signals in this investigation were 6 MHz wide, and interference into narrower channels would be expected to occur only at still more negative D/U ratios.

SEPARATE STATEMENT OF COMMISSIONER MICHAEL J. COPPS

RE: Relocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59 (GN Docket No. 01-14, Report and Order) (Rel. December 12, 2001).

I support today's *Order* because I believe that it balances two important goals: promoting the transition to digital television and establishing a pathway to making channels 52-59 available for new services as Congress instructed us to do.

Importantly, the *Order* furthers these goals without reducing our responsibility to conduct a public interest review of any proposed transaction that would clear an existing broadcaster from the band. Channels 52-59 occupy spectrum that I believe can support exciting new services throughout the nation. My hope is that this spectrum will someday contribute to bringing more broadband wireless services to rural America, but I do not underestimate the challenges that confront our path to that happy ending. I commend the many rural carriers who participated in this proceeding. Today we establish a band plan that includes the auction of Rural Statistical Areas, which many rural carriers believe will give them the ability to harness this spectrum for the good of small businesses and citizens in some of our most rural areas. Getting broadband to these areas is an important national priority.

Continued access to free over-the-air television is also a central concern of this Commission. Broadcasters serve a special and critical role in our communities and in the nation's marketplace of ideas. We must always work to maintain the viability of free over-the-air television, and protect this service for the millions of Americans who receive their news, entertainment, and so many other services solely from over-the-air broadcasting. Free over-the-air television will be just as critical in the digital era as it is right now in these early days.

By refraining from adopting the band-clearing incentives for channels 52-59 that the previous Commission adopted for channels 60-69, we guarantee that, as has always been the case in other bands, we will review band-clearing proposals with the understanding that "once in operation, a station assumes an obligation to maintain service to its viewing audience, and the withdrawal or downgrading of existing service is justifiable only if offsetting factors are shown which establish that the public generally will be benefited."[1] Therefore, we come down squarely on the side of a public interest review of each case rather than letting purely commercial transactions determine the future of this critical public spectrum.

[1] *Triangle Publications, Inc.*, 37 FCC 307, 313 (1964), *citing Hall v. FCC*, 237 F.2d 567 (D.C. Cir. 1954).

SEPARATE STATEMENT OF COMMISSIONER
KEVIN J. MARTIN
APPROVING IN PART, CONCURRING IN PART

RE: Relocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59 (GN Docket No. 01-14, Report and Order).

I support and approve most aspects of this item. I am disappointed, however, in the approach taken by the majority regarding pending applications for construction permits to broadcast in analog on channels in the lower 700 MHz band. Granting these applications would have resulted in substantial consumer benefits with little-to-no harm to the digital transition or the ability to auction the spectrum at issue. Indeed, in an era of increasing consolidation of the broadcasting industry, the majority has missed an opportunity to promote local origination, and has effectively denied numerous communities the chance to receive local broadcast services for the first time.

This item offers applicants seeking to construct new NTSC stations in the 698-746 MHz band a "Hobson's choice": Amend the application either (1) to specify an NTSC channel in the core (where there is no room), or (2) to build in digital from the start (significantly limiting potential viewership and increasing costs). I fear that for most applicants, both "options" are tantamount to an outright dismissal. Although I concur with the decision to *allow* applicants to build in digital from the start, I would not have constrained all of these applicants by strictly limiting them in this manner. I believe we should have permitted at least some of these applicants to broadcast in analog initially. Remaining concerns regarding the impact on the digital transition could have been addressed through more reasonable options, such as requiring a switch to digital by a date certain.

As a practical matter and on policy grounds, it seems that the more sensible approach would have been to allow analog broadcast today. Spectrum that has been lying fallow would be put to productive use more quickly. Consumers would benefit by having more viewing options. Indeed, nine communities would have had their own local channel for the first time.[1]

All of these benefits would have been at very little cost. I've been informed that only 16 of the pending applications are actually "grantable" from a technical perspective, and that all of them are in areas that are already encumbered. Indeed, the lower 700 band, with 100 analog and 165 digital stations in operation, is *four times* more encumbered than the upper 700 band. As a result, the impact of granting a few of these applications would have been minimal. It would have had little to no impact on the transition and no effect on the date when this band could be auctioned.

Furthermore, as the majority acknowledges, parties have already made significant investments of time, money, and effort in these applications. They likely did so in part because we earlier encouraged broadcasters who had applied for an analog station in channels 60-69 to modify their requests to apply for an allotment in a lower channel – including channels 52-59.[2] Indeed, we acknowledged in the notice to this proceeding that:

[1] These towns include Hammond, Louisiana; Blanco, Texas; New Iberia, Louisiana; Galesboro, Illinois; Waverly, New York; Warner Robins, Georgia; Franklin, North Carolina; Hampton, Virginia; and Fairmont, West Virginia.

[2] *See* Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, MM Docket No. 87-268, *Sixth Further Notice of Proposed Rule Making*, 11 FCC Rcd 10968 (1996)*;* Mass Media Bureau Announces Window Filing Opportunity for Certain Pending Applications and Allotment Petitions for New Analog TV Stations, *Public Notice*, 14 FCC Rcd 19559 (1999).

> this band was originally intended to remain principally a television band until the end of the transition and we recognize that it may be inequitable not to process these applications, or a subset of them. In addition, given the significant number of analog and DTV incumbents that already exist on this band, the impact on the provision of new services may be marginal.[3]

In sum, I believe that the approach taken by the majority with respect to these pending applications is unreasonable. It is simply not good policy to deny communities the opportunity to enjoy localized broadcast services when there is very little, if any, corresponding gain.

[3] Reallocation and Service Rules for the 698-746 MHz Spectrum Band, *Notice of Proposed Rulemaking*, GN Docket No. 01-74, 16 FCC Rcd 7278, ¶24 (2001).